A Study of the Life and Works of
Athanasius Kircher, 'Germanus Incredibilis'

# *Aries* Book Series

## Texts and Studies in Western Esotericism



VOLUME 12

*The titles published in this series are listed at brill.nl/arbs.*

# A Study of the Life and Works of Athanasius Kircher, 'Germanus Incredibilis'

## With a Selection of his Unpublished Correspondence and an Annotated Translation of his Autobiography

*By*

John Edward Fletcher

*Edited for publication by*

Elizabeth Fletcher

*Editorial adjustment for the Aries Book Series by*

Garry Trompf

BRILL

LEIDEN • BOSTON
2011

*On the cover*: The Subterranean Waters and the Central Fire of the Earth.
From Athanasius Kircher, Mundus Subterraneus (second edition, Amsterdam: Jansson, 1678), volume I, opposite p. 186. Reproduced by kind permission of Cornell University Library.

This book is printed on acid-free paper.

Library of Congress Cataloging-in-Publication Data

Fletcher, John Edward.
A study of the life and works of Athanasius Kircher, "Germanus incredibilis" : with a selection of his unpublished correspondence and an annotated translation of his autobiography / by John Edward Fletcher ; edited for publication by Elizabeth Fletcher ; editorial adjustment for the Aries book series by Garry Trompf.
p. cm. — (Aries book series, ISSN 1871-1405 ; v. 12)
Includes bibliographical references and index.
ISBN 978-90-04-20712-7 (hbk. : acid-free paper) 1. Kircher, Athanasius, 1602–1680. 2. Kircher, Athanasius, 1602–1680—Correspondence. 3. Jesuits—Germany—Biography. 4. Intellectuals—Germany—Biography. 5. Learning and scholarship—Europe—History—17th century. 6. Europe—Intellectual life—17th century. 7. Germany—History—1517–1648—Biography. 8. Germany—History—1648–1740—Biography. I. Fletcher, Elizabeth, 1942– II. Trompf, G. W. III. Kircher, Athanasius, 1602–1680. Vita admodum Reverendi P. Athanasii Kircheri. English. IV. Title. V. Series.

CT1098.K46F53 2011
943.03092—dc23
[B]

2011020720

ISSN 1871-1405
ISBN 978 90 04 20712 7

CONTENTS

## LIST OF ILLUSTRATIONS

Note: The illustrations are selected from the volumes of letters to and from Athanasius Kircher in the Archive of the Pontificia Università Gregoriana (APUG), Rome. They are reproduced by courtesy of the Kircher Correspondence Project. The project was commenced through the collaboration of the Istituto e Museo di Storia della Scienza in Florence, the Pontifical Gregorian University in Rome and the European University Institute in Fiesole, under the direction of Michael John Gorman and Nick Wilding. Since September 2000, the project has been rehoused at Stanford University, California, USA. URL http://archimede.imss.fi.it/kircher/index.html.

1. Letter in French from Nicolas Claude Fabri de Peiresc, Aix en Provence, 3 August 1633 (APUG 568, f. 370r). Peiresc, an antiquarian and early patron of Kircher, writes with news of publications and personalities in Arabic studies.

2. Letter in Italian from Carlo Filippo, Prince of Tunis, Tunis, 20 September 1650 (APUG 556, f. 268r). The prince, a Catholic convert from Islam, regrets his inability to move to Europe and asks for an Arabic treatise against the Quran.

3. Letter in Latin from Barthold Nihus, Amsterdam, 18 April 1651 (APUG 557, f. 201r). Nihus, a Catholic convert and apologist, writes about publishers, books, and the hazards of sea travel.

4. Letter in Latin from Andreas Kircher, Münster, 28 July 1651 (APUG 557, f. 58r). Andreas, a monk, was Athanasius' elder brother. He writes with news of their brothers Joachim and Johann, and reports the death of their sister Agnes.

5. Letter in German from Johann Jacob Froberger, Regensburg, 9 February 1654 (APUG 557, f. 309v). The composer and organist writes with news of his travels and employment, and asks for advice about going to Aden to seek the Philosopher's Stone.

## LIST OF ABBREVIATIONS

| | |
|---|---|
| Bib. Vat. | Bibliotheca Apostolica Vaticana |
| Brit. Lib. | British Library |
| BM | British Museum |
| BNC | Biblioteca Nazionale Centrale, Florence |
| BML | Biblioteca Medicea Laurenziana, Florence |
| Bib. Nat./BNP | Bibliothèque Nationale, Paris |
| COPAC | Union of British Libraries |
| GR | W. Gramatowski and M. Rebernik, *Epistolae Kircherianae* |
| GVK | Common Union Catalogue of German Libraries |
| HAB | Herzog August Bibliothek, Wolfenbüttel |
| JF | John Fletcher |
| OLIS | Pan-Oxford libraries |
| Pont. Univ. Greg./PUG | Pontificia Università Gregoriana |

# EDITOR'S PREFACE

Elizabeth Fletcher

John was conducting research at the Gregoriana Library and the Vatican Archives in Rome when we first met in the summer of 1964. He told me with enthusiasm about an extraordinary seventeenth-century Jesuit called Athanasius Kircher whose letters he was reading, and on whom he was writing a thesis. There was virtually nothing recent written about Kircher at that time, and John felt he had rediscovered Kircher himself.

Some months later he moved back to London to continue writing the thesis. There were problems—not with the thesis itself, but with the typing of such a massive work—900 pages in all. His typist knew no languages other than English and was also mystified, quite understandably, by John's famously cryptic hand-writing. This meant much proof-reading and re-typing of pages, a more laborious task then than it is now.

The thesis was accepted by Queen Mary College, University of London, in 1966. Its title was 'Athanasius Kircher, "Germanus Incredibilis": A study of his Life and Works with a Preliminary Report upon his Unpublished Correspondence'. The volume now being published presents the thesis largely in its original form and sequence, with some minor changes. After submitting his thesis, however, John accepted a position at Monash University, Melbourne, and moved to Australia. He subsequently went on to write some twenty articles about Kircher; almost all appearing in the bibliography of this volume. More significantly, John left an annotated translation of Kircher's autobiography (the *Vita*), and this we have been able to add to the thesis to form part of the present work.

In 1999, seven years after John's death, I was approached by Professor Garry Trompf of the School of Studies in Religion at the University of Sydney. He suggested that John's thesis should be published in book form, to make it available to a wider audience. Originally he had in mind *Gnostica: Texts and Interpretations*, with the *Vita* acting as the text previously untranslated into English. I blithely agreed to prepare the thesis and translation for publication, having no idea of the mountain of work this would entail. To begin with, it was necessary for me

to type up the whole of the thesis, since none of it was on disk and the text could not be scanned. Then I typed the handwritten annotations John had made over many years on the blank pages facing the text, and I must thank Wilma Sharpe, John's long-time Sydney typist, for help in this Herculean task. The typescript of annotations is lodged with the annotated thesis itself in the Herzog August Bibliothek, Wolfenbüttel, Germany. I must warn that it has been used as a guide only; John's handwritten notes were most difficult to decipher, and I do not guarantee my accuracy in interpreting them.

After this I made a first editing of the text. John's writing style in the 1960s can only be described as Baroque: he once observed that as a young man he had had no control over his own adjectives. Some simplification was necessary, but I changed as little as possible, since it was his panache that had attracted me to him in the first place.

When this was done, I submitted the manuscript to Venetia Nelson, who concentrated on correcting errors in bibliographic references and footnotes. The correspondence in Chapters 7–11 was checked against Wiktor Gramatowski and Marjan Rebernik, *Epistolae Kircherianae*[1]. Even though it is a list of correspondence held in the Gregoriana University in Rome where John did his research, not every one of his letter references is found in it; this is particularly the case with Kircher's own letters.

The bibliography begins with a list of Kircher's printed works and continues with a compilation of various reference lists appended to the original chapters. These were checked against online catalogues, mainly Oxford (OLIS), and the Common Union Catalogue (GVK) of German libraries; for reference to the latter I am indebted to Dr Jill Bepler of the Herzog August Bibliothek. The Gregoriana catalogue and COPAC (on-line British Libraries Catalogue) were also consulted, with help from Elizabeth James of the University of London Library.

The thesis contained many Latin quotations, most of which are given here in translation only. The translations were made by the late Fr Ian Falconer SJ, and by Colin Goodwin, who in his own scholarly work translates and writes commentaries on the texts of Thomas Aquinas. These scholars very generously gave their time for sheer love of the work. Both had occasion to emend the Latin texts, some of which had been altered through inaccurate typing from John's difficult hand. The

[1] Rome, Institutum Historicum S.I., 2001 (referred to as GR in the text).

quotations and translations presented here should be read against the originals. We should remember that John was often handling difficult seventeenth century handwritten texts which at that stage had not been transcribed.

Quotations, titles and names in German and French have been checked by Associate Professor Brian Taylor, Department of Germanic Studies at the University of Sydney. Professor Nerida Newbigin, Department of Italian Studies, also at the University of Sydney, has checked the Italian quotations and many of the bibliographic references. Both these scholars were life-long friends of John's, and I am indebted to them for their generous help. All of the above-mentioned corrections had then to be inserted in the text, and for help with this task I must thank our daughter, Georgina Fletcher.

John put great stress on the importance of a good index, and I am grateful to Neil Radford, the former University of Sydney Librarian and a long-standing friend of John's, who lavished his time and expertise on producing the index for this book.

My appreciation also goes to Professors Brian Taylor and Joscelyn Godwin for their encouragement and help in introducing this volume. And finally, I would especially like to thank Professor Garry Trompf who, as remarked earlier, first suggested that John's thesis be published, and who oversaw the whole task and made editorial adjustments for the *Aries* Book Series.

The difficulties of preparing a text when its writer cannot be consulted are obvious. All of us engaged on this project had innumerable questions about the text we would like to have asked John, but could not. It will be for others to correct further the details in my late husband's urbane and eloquent text.

June 2011

# A BIOGRAPHICAL SKETCH OF JOHN FLETCHER (1940–1992)

Brian Taylor

Born and raised a Yorkshireman, John Fletcher went on scholarship to Queen Mary College at the University of London, taking his Bachelor of Arts degree under some famous scholars of German, such as the mediaevalist A.T. Hatto and the Renaissance and Baroque specialist Leonard Forster, later Taylorean Professor of German at Oxford. He followed up the completion of his first degree with a Diploma in Education at the University of Durham, making him one of those relatively few university lecturers who had been trained also as teachers.

After Durham John returned to 'Queen Mary' on a postgraduate scholarship, intending to do his Masters of Arts by dissertation under Dr C.V. Bock, who had abandoned Nazi Germany before the War. John's thesis was the one herewith published for the first time on the seventeenth-century German polymath and polyglot Father Athanasius Kircher S.J. His first task was to come to grips with Kircher's vast body of writings on most branches of learning of his age. The second task Dr Bock set him was to edit the immense correspondence from and to Kircher. Both tasks were daunting, since virtually all of Kircher's writings were, of course, not in German, the language along with French that John had been trained in throughout his secondary school life, nor even in classical Latin, which John had only begun learning in the last couple of years of his schooling, but in the still more difficult Latin of the Baroque period. As well, he had to deal with primary and secondary literature in other languages, including early modern and contemporary Italian and Dutch, a reading knowledge of which he taught himself. John's thesis, completed in 1966, must have modelled itself on Kircher's volumes because it ended up in typescript as a huge tome of some 900 pages. These days he would most likely have received a Doctor of Philosophy degree for it, but then at London he received only his Masters as initially planned. In retrospect it seems to have been rather unjust.

John Fletcher continued his research into Kircher all his life and became a foremost authority on this Jesuit scholar. Taking up university appointments in Australia, first at Monash and then at Sydney, he

dug away in libraries both in the Antipodes and in Europe. Famous ones included the Vatican Library, the British Museum Library (or British Library as it is now called), but he discovered important local libraries, and above all made great use of the wonderful Herzog August Bibliothek, the Duke Augustus Library, in the lovely old north German town of Wolfenbüttel. John spent periods of leave there often, much of his research being funded through the award to him of a prestigious post-doctoral Alexander von Humboldt scholarship. He was also invited to organize the Library's international conference on Kircher and went on to edit and contribute articles to the resulting book, which appeared in 1988.

Surprisingly, considering his very considerable scholarly output, John never to my knowledge laid a finger on a typewriter key or a computer keyboard in his whole life. He wrote everything out by hand in a script that reduced every letter to its absolute minimum form. The wad of near-illegible pages was then passed to his typist, who in turn rendered them publishable. This probably accounts in great part for the plethora of errors in the typescript of his thesis that have given the main editor of the present book, his widow Elizabeth, and her helpers so much difficulty in preparing it for publication. For one thing, his typist back in England seems to have had no knowledge of foreign languages. And his imminent departure for Australia left him little time to do as thorough a check of her work as he would have wished before submitting his thesis for examination.

As a scholar, John was prolific, both in the breadth of fields he covered and the amount he published. He covered, apart from his work on Kircher, everything from German Baroque and Romantic literature via the history of science to bibliography and German-Australian connections. A checklist of his publications was compiled by his longtime friend and collaborator Dr Wallace Kirsop of Monash University and can be found in the *Bibliographical Society of Australia and New Zealand Bulletin*, 18, 2/3 (1994), 68–80, an issue dedicated to the memory of John Fletcher. The only omission of any significance concerns 'An unrecorded letter of Alexander von Humboldt' in *The University of Sydney Archives Record* 7 (1 May, 1979): 1–3.

# FOREWORD

Joscelyn Godwin

In the early 1960s, when John Fletcher chose the correspondence of Athanasius Kircher for his dissertation topic, almost no attention was being paid to the Jesuit polymath. If it had, the young Germanist might have been warned that the task was too big for a Master's candidate, and advised to concentrate on a limited aspect of it. But there is something about Kircher that tempts scholars to take on the whole man, and this is what Fletcher did, with a panache and thoroughness that have not yet been equalled.

Kircher's fascination operates at several levels. First, there is the idea that emerges most plainly from Fletcher's study: that of Kircher as the universal oracle, the sage who could be counted upon to answer any question. The fact that the answers were sometimes so right (as when he attributed the plague to infection by living organisms), and sometimes so wrong (as in his misreading of the Egyptian hieroglyphs), is irresistible to scholars, who can analyze both types of answer with all the benefits of hindsight. Second, there is his peculiar position in the history of ideas, halfway between mediaeval and early modern worldviews. On the one hand, he believed in dragons and demonic magic; on the other, he built precision instruments and tested his theories (for instance, in vulcanology) in field experiments. For a while he was in correspondence with the most eminent scientists of Europe. But while he still lived, the climate of the learned world shifted. The empirical method and the mechanical philosophy proved a more fruitful basis for scientific progress, and Kircher was left behind writing about Noah's Ark.

This brings us to a third reason to be fascinated by Kircher: the psychological state of a brilliant man with unshakeable convictions. Not for one moment in his long life does he seem to have questioned the fundamental, even fundamentalist, doctrines of Catholic Christianity. The Jesuits had hold of him by the time he was ten years old, and their ideals soon became his own. There is no doubt whatever of his sincere piety, of his devotion to the Virgin Mary, or of his zeal for converting Protestants to the Catholic faith. But his convictions circumscribed all

his researches, so that he was temperamentally unable to come to any conclusion incompatible with them. For example, although aware of ancient histories that exceed the biblical or rabbinic estimate of the age of the earth, Kircher did not lend them the slightest credence, to the detriment of his geological, historical, and linguistic studies. Admittedly, there is evidence that he favoured the Copernican cosmology, but could not publicly avow it in the atmosphere following Galileo's downfall. But this was a matter of opinion only, not of church dogma (though often mistakenly thought to be so). Kircher was no secret heretic.

The encyclopaedic breadth of Kircher's authority inspired awe among his contemporaries, and still does. His reputation would have been secured by his work in magnetism alone, or by his theory of light and darkness, his musicology, Egyptology, linguistics, geology, Orientalism, or bacteriology. How did he cover not one but all of these? Of course he had correspondents throughout the world, and some secretarial and research assistance towards the end of his life. And he had time, especially after he was relieved of teaching duties. As a religious, he never had to cook, clean, shop, look for a job, or have to do with women or children. But beyond this spare and dedicated lifestyle, his real secret must have been the gift of remembering all that he read and learned, instead of forgetting 90% of it, as most of us do.

Kircher's breadth impresses all the more today, when the disciplines are more sharply divided. Science is no longer a single field of "natural philosophy", and no Egyptologist writes a history of music. We, as spectators of this fragmentation, may well envy Kircher's freedom to range over the whole of human knowledge. One of the charms of studying him is that it gives one a temporary illusion of recapturing that universality. Whereas we cannot possibly master all his disciplines in their present form, we can leaf through nearly any of his books and get a fair understanding of what he has to teach. His encyclopaedism, with its detail and density of allusions, is another matter, but his own thought is not inherently complex; his scientific writing does not even require calculus.

The single best key to understanding Kircher is to recognize him as a Christian Hermetist, accepting the philosophy of the *Corpus Hermeticum* insofar as it did not interfere with his Catholicism. In cases of conflict, the Bible took precedence over the teachings of Hermes Trismegistus, as, for example, in Kircher's frequent mention of evil demons. Hermetism, being a pagan and polytheistic philosophy, populates its universe with gods, demigods, spirits, and daemons, all of

whom may have commerce with mankind. Its fundamental division, as in its parent philosophy, Platonism, is between the spiritual and the material world, with its ethical weight in favour of the former. Kircher's universe, on the other hand, is overshadowed by the fundamental dichotomy of God and Satan, each with his host of angels, vying for possession of human souls. The material world is not evil, but beautifully arranged for Man's benefit if only he will follow God's commandments. It is there to be enjoyed and explored, and the secrets of nature wait for man to discover and exploit them with 'natural magic'. The danger that Hermetism ignores is that evil spirits may seduce us with a simulation of this good magic, and thus gain a foothold in our souls. This made Kircher extremely cautious in his own practice of natural magic, avoiding all commerce with spirits and keeping within the boundaries of what we call technology.

Kircher's universe, too, is layered into material, spiritual, and intellectual worlds, all held together by a web of correspondences and all potentially accessible. This Hermetic chain of being, with its reflection of the macrocosm in the microcosm, is essential to his philosophy. It is the cause of the imprinting of images in stones and the spontaneous generation of insects. It causes the earth to be full of the 'signatures' of higher powers. And since the primary attribute of Kircher's God is Love, this, too, resonates down through all the levels of being, ending in the humble but astonishing phenomenon of magnetism, as the lodestone seeks and clings to iron. Like attracts like; the sunflower turns to face the sun, because it is marked by the solar signature. By the same token, sunflower seeds also turn to face the sun, and can be used to power a simple floating clock. The fact that Kircher and some of his correspondents owned such 'clocks', and believed them to tell the time, casts a shadow on the quality of their empirical science.

The paradox of Kircher lies in his being so broad in some respects, yet so limited in others. The tension reaches crisis point in his largest and, some say, most futile work, *Oedipus aegyptiacus*. Here his breadth is evident in the volume devoted to Egyptian history and geography, much of it published for the first time from Hebrew and Arabic sources. In the second volume, the horizon expands to twelve aspects of hieroglyphs, which include Kabbalah, both Hebrew and Arabic, as well as hieroglyphic medicine, music, and mechanics. In the third volume he writes a treatise on the Bembine Table of Isis (a spurious Roman concoction), then at last attacks the deciphering of the hieroglyphic inscriptions on obelisks and other Egyptian remains.

Here his narrowness appears. Although he possessed the ultra-rare instance of a genuine, ancient translation of an obelisk inscription, he had already pooh-poohed it: how could it merely hymn the praises of the Pharaoh Rameses? The obelisks were so grand, they *had* to be about the profound mysteries of Hermetic theology. And with this interpretive grid firmly in place, Kircher proceeded to mistranslate the hieroglyphs. The attempt was nothing short of heroic, and it made perfect sense to him.

Those who are attracted by the whole man will find ample grounds for their affection here. By his own standards, and by those of any earlier time, Kircher led an exemplary life, enriching the world of learning, furthering natural philosophy, and enjoining piety and respect for the wonders of God's creation. He was as generous a correspondent as he was a host in his own museum. When people began to laugh behind his back, he retreated with dignity into pious observance and fund-raising for his beloved shrine at Mentorella. He spent his last months in a state of second childhood, his memory gone. His great folios gathered dust in libraries, like megalithic foundation stones buried beneath the soil, on which others, almost unknowingly, would raise monuments to the grandeurs and follies of their own epochs.

# INTRODUCTION: ATHANASIUS KIRCHER AS ESOTERIC THINKER AND THE STATE OF KIRCHER SCHOLARSHIP

Garry Trompf

The late John Fletcher's Masters thesis must be one of the most sought after in the world. It opens windows on to Catholic scholarship in the Baroque period like no other study, showing the constant interactions between researchers and experimenters that made the so-called scientific revolution possible. Hitherto most post-War and contemporary studies have concentrated on the Protestant edge in the development of modern science in the seventeenth century, even if much attention has been given to Cartesianism. But Fletcher's thesis takes us into another world centred on Rome and the captivating influences of the Jesuit polymath Athanasius Kircher, whose work energized a host of figures across Christendom in fields as diverse as mathematics and music, optics and magnetism, epidemiology and Egyptology. Kircher will seem to many of us today as an index to Baroque extravagances, displaying an intellectual license that parallels the embellishments and dramatic motifs in the architecture and art of the time. Larger than life itself though he might seem, however, he was a founder figure of various disciplines—of geology (certainly vulcanology), musicology (as a surveyor of musical forms), museum curatorship, Coptology, to name a few—and might be claimed today as the first theorist of gravity and a long-term originator of the moving pictures (with his magic lantern shows). Through his many enthusiasms, moreover, he was the conduit of others' pursuits in the rapidly widening horizon of knowledge that marks the later Renaissance.

Since this book is included in a series focusing on texts and studies in western esotericism it is not inappropriate to ask at the onset if his role in such various spheres of knowledge justifies our attention to him as an esoteric thinker. It has recently been contended, in the authoritative *Dictionary of Gnosis and Western Esotericism*, that despite Kircher's attempts to unify all his work according to 'a pansophical logic', with all parts of knowledge unified 'according to combinatory and analogical principles,' his 'stance with respect to

esoteric sciences remains ambivalent'. There is still more a debate to be had, it seems, as to whether 'all attempts to recruit him for or against an esoteric viewpoint are in vain'.[1] If one were to assess his opus on the basis of preconceived categories about esotericism, indeed, or of being consonant with the *air de famille* the eminent Antoine Faivre has famously characterized, one might wonder whether Kircher quite passes the test.[2] For a start, he was an orthodox Jesuit to the core and kept a keen eye out for heresy; and since there were some expressions of seventeenth century esoteric thought that had strong associations with Protestantism, or with the risky business of finding teachers of Truth outside the Christian fold, we might already expect some of the reserve that scholars have already detected.[3] He was irritated by current defenders of alchemy, to take one attitude in point, and his theory of living nature, or of correspondences between the natural and ethereal orders was not as pronounced in his thought as is often supposed. His concerns with empirical observation and measurement are often given that special edge over his speculative tendencies to convey the deliberate impression of leaving certain styles of traditional thinking behind. More perhaps because he sought to resolve the inner contradictions of intellectual life of his time, Kircher nonetheless 'fits the bill' as someone engaged in currents of thought usually called 'esoteric'; for did he not play at being Cabbalist, Hermetist, even *magus*? As a Christian Cabbalist, he sought to prove that Catholicity and Trinitarian faith could be consolidated, not weakened, by embracing all spheres and lines of knowledge. In a 'mirror of mystical Kabbala' that he arranged schematically, for example, he saw the 72 identifiable languages of the world corresponding to 72 names of God in the Hebrew tradition, all centred around the divine tetragrammaton (which, given a middle letter *shin*, made up Jeshuah or Jesus as Logos). Elsewhere he was eager to list signs of Trinitarian thought in non-Biblical traditions; and in a diagram significantly entitled the 'Hermetic Theotechnia', he saw the twelve divinity-types of the pagan system reflecting aspects of the one Sun (and thus ultimately the monotheistic source) of religion.

---

[1] A.S. Kilcher, 'Athanasius Kircher', in W.J. Hanegraaff et al. (eds.), *Dictionary*, vol. 2, p. 667.

[2] A. Faivre, 'Questions of Terminology Proper to the Study of Esoteric Currents in Modern and Contemporary Europe', in idem and W.J. Hanegraaff (eds.), *Western Esotericism and the Science of Religion*, pp. 2 ff.

[3] See J.H. Brooke, *Heterodoxy in Early Modern Science and Religion.*

These are all signs of a sensibility scholars are currently marking out as 'esotericizing'.[4]

In any case, it is by now rather old-fashioned to quibble too much about 'boundary issues' or labour an essentialist position. If, as Wouter Hanegraaff wisely advises, Western esotericism acts as an 'umbrella' concept or 'general label' denoting 'a series of specific currents…that display certain similarities and are historically related,' then Kircher certainly pursued esoteric interests in this 'typological' sense. Put another way, his work shows one among a number of modes or styles of thought within a plurality (rather than uniform body) of esoteric traditions, following Nicholas Goodrick-Clarke's modelling.[5] To specify matters, Thomas Leinkauf has recently placed the Kircherian enterprise in the mould of a prevenient quest among European savants for a universal knowledge or wisdom,[6] and Kircher embodied this pursuit with eclectic gusto, expressing the interrelationships between branches of *scientia* with such evocative rhetorical inventions as 'Turris, Arca, Sphinx, Musurgia, Phonurgia, Magnes, Tariffa, Poligraphia, Lingua, Ars'.[7] As a result, the esoteric implications or signals of his way of thinking are clear enough: his world, and both his experiments and discoveries in it, are replete with mystery and the arcane. From mathematics to musical chords, hieroglyphs to subterranean waterways, the cosmos contains covert marvels waiting to be laid bare, and all his disclosures of surprise and enchantment bespoke for him the provident workings of God. The universe is indeed alive with possibilities, dynamic (indeed 'evolving') in its forms, which include the extraordinary accomplishments of humans, who construct instruments to test nature's secrets, who compose harmonies of song reflective of hidden principles of concord, or create systems of writing that, while looking to be an unruly Babel, still point to the divine Word. Kircher, we observe, is not a formulator of 'universal natural laws', on a quest paralleling that of Galileo, Descartes or Newton. He was prepossessed by the operations of things *per se*, for it was sufficient that light worked

---

[4] For background, see G. Scholem et al., *Kabbalistes Chrétiens* (Cahiers de l'Hermétisme). See below pp. 40, 147.

[5] W.J. Hanegraaff, 'Introduction', in *Dictionary*, p. xi; N. Goodrick-Clarke, *The Western Esoteric Traditions: A Historical Introduction*.

[6] T. Leinkrauf, 'Sapere e universalità: la struttura della scientia universalis all'inizio dell'età moderna'. In F. Vercellone and A. Bertinetti (eds.), *Athanasius Kircher: L'idea di scienza universale*, pp. 21–38.

[7] F. Vercellone and A. Bertinetti, 'Introduzione' in ibid., p. 7.

in certain ways, that normally imperceptible organisms produced sickness, that musical notation and hieroglyphs had to follow a certain order to produce beauty or intelligibility, and so on. If he acquainted himself with the works of famed 'occultists'—Dee, Drebbel and Fludd, to name but three—it was to test whether they were right experimentally (in their cases with regard to magnetism).[8] Some will want to characterize his as a pre-modern approach, yet such a move has become *démodé* as an interpretative stance; he was there with the best of his peers trying to isolate the specific properties and behaviour patterns of nature's components—from shifting shadows to molten lava—even while explanations he gave will now often seem over-speculative, and even though he kept up an interest in highly traditional subjects, such as Noah's ark. He was more a man of devices than general principles, and if, with his appeals to the idea of *ars magna*, we might see him as deciphering the hidden registrations of the cosmos like a mediaeval man, or in trying to surpass a Paracelsus and a Dee in upgrading the 'great arts', even in wanting his instruments deliberately designed to be open to metaphysical possibilities,[9] he was bent on unravelling God's mysteries with cutting-edge data and experimentalism. Everything that is lost is waiting to be found, or re-found, everything latent ready to be worked, albeit advisedly for God's not Man's glory.

However we define the limits of Kircher's esoteric propensities (especially with current expectations in mind), there can be no doubt that he breathed the same air as thinkers cast as esotericist by modern definitions—self-inscribing 'theosophists,' alchemists, Behmenists and the like—just as he did with those embracing a more conventional fideism and with more thoroughgoing protagonists of 'new science'. The evidence presented in this book about the mixture and sometimes blending of these currents clearly justify its inclusion in the Aries book series. This book is just as much about a small host of scholars in Kircher's ken as about the man himself. It is John Fletcher's re-creation of a whole *milieu*, indeed, that marks the brilliance of this study, with an extraordinary polymath (if partly among other polymaths) standing tallest in the middle of his fellow researchers and many captivated correspondents. Fletcher has reconstructed the intellectual theatre of such

[8] W. Hine, 'Athanasius Kircher and Magnetism'. In Fletcher (ed.), *Athanasius Kircher*, pp. 79–81; cf. M.K. Schuchard, *Restoring the Temple of Vision*, p. 409.

[9] Pace K. Vermeir, 'Athanasius Kircher's Magical Instruments', *Studies in History and Philosophy of Science* 38, 2 (2007): 380–382.

mental discovery, intensity and excitement, that the idea of 'natural magic' better sums up its ethos than the lamer terms of 'natural philosophy' or 'science' more associated with the alleged 'Enlightenment' to come.

What, now, of the current state of Kircher studies? Scholarship concerning his opus, as can be expected, has moved on beyond the time Fletcher's thesis was submitted in 1966, although not so quickly until quite recently. When in 2004 Paula Findlen put together a fine symposium entitled *Athanasius Kircher: The Last Man who Knew Everything* she put it aptly for the 1980s, the decade when she started researching Kircher, that interest in the great man was minimal outside 'the Internationalen Athanasius Kircher Forschungsgesellschaft (f. 1968) and the Australian scholar John Fletcher'.[10] In all fairness, perhaps that did not seem to account for the independent explorations of the Anglo-American Joscelyn Godwin, who, although confining his most serious study to Kircherian musicology, produced what is the best known and most popular book on the Jesuit, full of captivating iconography, including intimations of esoterica, from the illustrations in Kircher's large tomes.[11] Godwin was the one most concerned to examine Kircher *vis-à-vis* the 'occultist tradition' when Fletcher brought together specialists (mainly German Forschungsgesellschaft members) under the auspices of the Herzog August Bibliothek, Wolfenbüttel, in October 1980. The published results of this conference—coming out as late as 1988 in Fletcher's edited volume *Kircher und seine Beziehungen zum gelehrten Europa seiner Zeit*[12]—foreshadowed the spate of collective energy to come. By the late 1980s theses were well in the making to place Kircher in the history of scientific method, Martha Baldwin's look at his 'magnetic philosophy' being most relevant for the study of the esoteric tradition;[13] but most of the new published research on the great Jesuit's Herculean labours was to arrive in a flood around the turn of the millennium. Five 'archetypically placed' symposia followed in

[10] P. ix. See also p. 433, where, however, Fletcher's thesis is not listed.

[11] *Athanasius Kircher: A Renaissance Man* (note also the German trans., 1994); cf. J. James, *The Music of the Spheres: Music Science and the Natural Order of the Universe,* p. 134 on Kircher's theory of music in Godwin's work (cf., e.g., the latter's edited volume *The Harmony of the Spheres; Music, Mysticism and Magic*).

[12] Wolfenbüttler Arbeiten zur Barockforschung, 17.

[13] M. Baldwin, 'Athanasius Kircher and the Magnetic Philosophy'. See also J.A. Bach, 'Athanasius Kircher and his Method: A Study in the Relations of the Arts and Sciences in the Seventeenth Century'.

succession. In 2000 came *Magie des Wissens: Athanasius Kircher 1602-1680*, made possible by the collaboration of newly interested German scholars—Christoph Daxelmüller dominant among them—when the University of Würzburg secured German-wide institutional support to honour one of her most famous professors.[14] Then Findlen and others organized a Stanford conference to mark Kircher's 400th birthday, whose results, published in 2001 and 2004, convey the impression of a 'new' Kircher, one who had not been studied and appreciated enough.[15] With much of her own work concentrated on early modern Italian Museum Studies, Findlen knew well that the quadricentennial celebrations would also affect Rome, where there was an attempt to recreate the Museum Kircherianum, a *simposio* of useful articles and splendid illustrations being integral to the effort.[16] By 2007, after a conference at Udine two years earlier, the fifth symposium appeared, another Italian one, under the direction of Federico Vercellone and Alessandro Bertinetti, locating Kircher within the later-Renaissance, early-modern quest for *una scienza universale*.[17]

The idea of a new, reconsidered Kircher has much to do with the thriving industry on the so-called 'scientific revolution' of the seventeenth century. Some very strong positions have been taken in debates over the origins and development of modern science, and we should not be surprised that some have taken the presence of religious ideas in scientific thought as components that have been, or should have been, slowly left behind in a secularizing process. Some scholars consider religious elements real irritants: once, when I read a paper about how Newton's conservative approach to the Bible inspired his science, a philosopher soon walked out; he later said that he simply could not bear to think of so great a mind holding such views! Among those on the neo-Positivist side of the fence, seeing little of value in Kircher, we find the Florentine Paolo Rossi championing the strong opinion—

---

[14] Further subtitled: *Universalgelehrter, Sammler, Visionär* (eds. H. Beinlich et al.).

[15] See D. Stolzenberg (ed.), *The Great Art of Knowing: The Baroque Encyclopedia of Athanasius Kircher*, with Findlen's *Athanasius Kircher* (see above, n. 10).

[16] E. Lo Sardo (ed.), *Athanasius Kircher: Il museo del mondo*. For background, M. Casciato et al. (eds.), *Enciclopedismo in Roma barocca*; and for resurgent fascination with Kircher's lithographic illustrations as emblematic of Baroque aesthetics, see esp. S. Rastatt (ed.), *Universale Bildung im Barock: Der gelehrte Athanasius Kircher*; cf. (for interesting background) R. Wimmer (ed.), *'Benebenst feinen und neu-inventirten Kupffer-Stücken': Die Illustrationen der posthumen Grimmelhausen-Gesamtausgabe (1683–1713)*.

[17] *Athanasius Kircher* (see above ns. 6–7).

echoing Andrew Dickson White's old view of a 'warfare' between science and theology—that scientific progress always occurs when investigators shed reliance on traditional religious beliefs.[18] In a little less negative position, but nonetheless selectively treating only those aspects of Kircher's work that connect with mediaeval preconceptions, lies the eminent historian of science Lynn Thorndike.[19] Other analysts, picking up on a by-now long-term cue from works by Sir Herbert Butterfield, Alistair Crombie and others, have come to take the constant interchange between religious and scientific scholarly endeavour almost for granted.[20] Failing to admit, for example, that the Jesuits made an immense contribution to modern science, however questionable a reputation they have received in anticlerical quarters, would be for the best critical scholars a kind of methodological anachronism, making old partisan outlooks stick when studied empathy and careful 'placement' of minds should now be the order of the day.[21] And of course there remains an outlook Dame Frances Yates is famous for having defended with flair, that modern science could not have emerged independently of 'traditional', more especially esoterico-Hermetist, interests.[22] One only has to read Betty Jo Dobbs on Newton's ponderings of the *Emerald Tablet* of Hermes Trismegistus, or Robert Wikman on the thoroughly Hermetic methods of Linnaeus, to appreciate her case.[23] This debate between competing interpretations about the nature of science and modernity will go on, and assessments of Kircher's wide-reaching work will be inevitably entailed. When classicist Isaac Casaubon famously punctured the ancient date for the

---

[18] See the tenor of the essays in J.L. Heilbron (ed.), *Advancements of Learning: Essays in Honour of Paolo Rossi*, cf. Rossi's *The Dark Abyss of Time: The History of the Earth and the History of Nations*, esp. pp. 7–9, 20–23, 241–245. Note White, *A History of the Warfare of Science with Theology in Christendom*, vol. 1, p. 38; vol. 2, p. 173n.

[19] *History of Magic and the Experimental Science*, vols. 7–8: *The Seventeenth Century*, passim.

[20] M.J. Osler (ed.), *Rethinking the Scientific Revolution*, noting esp. ch. 11. For background, e.g., Butterfield, *The Origins of Modern Science, 1300–1800*; Crombie, *Augustine to Galileo*, 2 vols.; Brooke, *Science and Religion: Some Historical Perspectives*.

[21] M. Feingold (ed.), *Jesuit Science and the Republic of Letters*, noting esp. [ch. 7].

[22] Yates, esp. *Giordano Bruno and the Hermetic Tradition*.

[23] Dobbs, 'Newton's Commentary on the *Emerald Tablet* of Hermes Trismegistus: Its Scientific and Theological Significance'. In I. Merkel and A.G. Debus (eds.), *Hermeticism and the Renaissance*, pp. 178–190; K.R. Wikman, *Lachesis and Nemesis: Four Chapters on the Human Condition in the Writings of Carl Linnaeus*, esp. chs. 1, 3. Note also W.H. Brock, *The Fontana History of Chemistry*, ch. 1.

*Corpus Hermeticum*, for example, reading it as Hellenistic philosophy, Kircher went on merrily as if nothing had happened.[24] Casaubon's findings only made the grounds for his historical speculations unsteady; he could still be justified in receiving inspiration for his science from Hermetic insights and methods. For another example, consider the pressure on Kircher not to speak in favour of the Copernican model of the universe, after Galileo's silencing and house arrest (1633-42).[25] Yet the Father cunningly conveyed his heliocentric views in a piece of visionary fiction, *Itinerarium exstaticum coeleste* (1656), and in doing so he taught that stars were like suns in an overwhelmingly vast universe and that our sun unleashed the 'panspermic' powers of the earth (shades of the controversial Bruno), showing better than anyone else at the same time—and it is a neglected point—that pro-Copernicanism was not usually espoused simply out of 'scientific rationalism'.[26]

Because of the very extent of his polymathy, an extolling of Kircher's greatness will surely persist, as shows in an acclamation of him not so long ago as a man with 'a voracious appetite for knowledge and an original mind' that 'earned him 'the reputation as the German Leonardo da Vinci'.[27] In the more recent Findlen collection, though, some very cautious notes are sounded. Peter Miller for one, gauges that Kircher's approach to language study, more particularly Coptology, was magico-mystagogical and incautious, and clearly not suiting the more critical mind of his friend and sober *savant* Nicolas Claude Peiresc, who wrote of him that he had an unfortunate 'habit of letting himself be persuaded by all things at the slightest appearance'.[28] On many scores, Kircherian promises—about a sunflower clock, the

---

[24] Kircher, *Oedipus aegypticus*, Rome (V. Mascardi), 1652–1654, vol. 1, p. 103; vol. 2, p. 506; cf. Yates, *Giordano Bruno*, pp. 416–423, and also P. Harrison, *'Religion' and the Religions in the English Enlightenment*, p. 136.

[25] The same applied to Giovanni Battista Riccioli (cf., e.g., his *Astronomia reformata*, 1665), who was sympathetic to the Copernican theory but felt constrained to state his opposition to it publicly. After being at first supporters of Galileo, the curia's verdict soon resulted in a negative shift among Jesuits; cf. B.H. Domingues, *Tradição na modernidade e modernidae na tradicão*, ch. 4.

[26] H. Siebert, *Die große kosmologische Kontroverse: Rekonstruktionsversuche anhand des* Itinerarium exstaticum *von Athanasius Kircher SJ (1602–1680)*, chs. 2, 5, cf. 6; I.D. Rowland, 'Athanasius Kircher, Giordano Bruno, and the *Panspermia* of the Infinite Universe', pp. 192–193; cf. her *The Ecstatic Journey: Athanasius Kircher in Baroque Rome*.

[27] R. Kohn, *Curious Obsessions in the History of Science and Spirituality*, p. 33 and ff.

[28] P. Miller, 'Copts and Scholars: Athanasius Kircher in Peiresc's Republic of Letters'. In Findlen (ed.), *Athanasius Kircher*, p. 142 (quoting Peiresc to Claude Saumaise).

secrets of the Egyptian hieroglyphs, the universality of magnetism, for three—lacked substantiation; but in an extraordinary range of spheres Kircher was always provocative and, whether unwittingly or convincingly, commonly 'on the mark'.[29]

However the ongoing debates pan out as research goes on, John Fletcher's overview of Kircher's labours as we have it in this present work has two advantages. First, nothing exists anywhere else in print that covers so many of the fields of knowledge embraced by Kircher's researches, and no work better contextualizes the great churchman's accomplishments within the scientific endeavours of his day.[30] Secondly, Fletcher executes a remarkable balancing act in giving credit to Kircher where it is due on the one hand and warning about the better claims of others to the discoveries often alleged to be his on the other. To be sure, Fletcher shows little concern for some quite fascinating items on the 'incredible' German's agenda, dealing with his 'steganographic' interest in a coded writing for rulers, for instance, more in connection with his correspondence, and saying virtually nothing about Kircher's political theory.[31] Yet the Anglo-Australian's almost total encompassment of the extraordinary range of Kircher's interests is simply unparalleled as an individual effort,[32] let alone the ordering and digestion of the mass of the Jesuit's correspondence, well before the name and geographical indices by the Eastern Europeans Wiktor Gramatowski and Marjan Rebernik, with their 2001 *Epistolae Kircherianae*.[33]

---

[29] Best, see Findlen's own article 'The Last Man who knew Everything…or Did He?' In ibid., esp. pp. 10–19.

[30] Pace Leinkauf's pertinent interest in the Baroque pursuit of universal knowledge, in his Mundus Combinatus: *Studien zur Struktur der barocken Universalwissenschaft am Beispiel Athanasius Kirchers SJ (1602–1680).*

[31] Yet cf. N. Malcolm, 'Private and Public Letters: Kircher, Esotericism, and the Republic of Letters'. In Findlen (ed.), *Athanasius Kircher*, p. 305; N. Wilding, '"If You Have a Secret, Either Keep it, or Reveal It"'. In Stolzenberg (ed.), *Great Art*, pp. 302–307 (cryptography); F. Englmann, *Sphärenharmonie und Mikrokosmos: Das politische Denken des Athansius Kircher (1602–1680),* on Kircher's *Principis Christiani Archetypon* (1672).

[32] By comparison, P.C. Reilly's *Athanasius Kircher: A Master of a Hundred Arts, 1602–1680,* Wiesbaden 1974, against which Fletcher could compare his own opus, was more a series of 'summaries.' Of the symposia, Beinlich's *Magie des Wissens* has the widest coverage.

[33] Subtited: *Index Alphabeticus; Index Geographicus*. Series: Subsidia ad Historiam S.I., 11. These two researchers were definitely needed, for Kircher's correspondence opens up important windows on to the riches of Eastern European scholarship in the seventeenth century.

To others must go the credit of exploring Kircher's thought in terms of the complex currents we have come to name 'esoteric'. Fletcher does not spot any temper or pursuit of wisdom that might go by that name, and characteristically skirts around the relevant issues. Unfortunately he did not live long enough to see Esotericism and Hermeticism developing into a crucial field in the discipline of Religious Studies.[34] Joscelyn Godwin, one of the makers of that field, led the way, and it is fitting that he celebrates the awesome learning in this book with his Foreword. He was indeed at the forefront of studying Kircher against the background of western esoteric traditions, most notably in an article within the collective volume edited by Fletcher in 1988. There, Godwin first discusses Kircher's theory of correspondences between the archetypal,[35] angelic, sidereal and elemental worlds, and then his ambiguous relations to magic, astrology, alchemy and Kabbala—initially negative, but nonetheless trying to recover something of them that could chime with Christian truth. Magnetism, bespeaking 'great energies which move the very World and its Soul', binding them in 'secret knots', gave the workings of the universe enough mystery and magic. That hardly sat ill at ease with the overall thrust of Christian messages about the wonders of Creation; and Kircher's contempt for beliefs about material gain and astrological influence in alchemy had much to do with Swiss-German Paracelsus's obfuscation of traditional mediaeval alchemy with which Kircher retained some affinity.[36] This does not make Kircher a mediaeval, mind you, but an empirical arbiter concerned to preserve what is most sensible in a great tradition and to hold on to it as not being out of kilter with any new findings of his time.

Godwin was mildly criticized for being something of a 'true believer', unnecessarily defensive about Kircheriana as a part of the whole history of occultism he became well known for exploring.[37] But he did

---

[34] Cf. for example A. Faivre and W.J. Hanegraaff (eds.), *Western Esotericism and the Science of Religion*; and R. Caron et al. (eds.), *Ésotérisme, gnoses et imaginaire symboliqie: Mélanges offerts à Antoine Faivre*.

[35] One forgets the importance of Kircher's interest in the Archetypal for Jungian psychoanalytical theory, see, e.g., C.G. Jung, *Archetypes and the Collective Unconscious*, p. 158n; *Aion: Researches into the Phenomenology of the Self*, pp. 262–263. For further background G. Hoefnagel, *Archetypa studiaque patris*.

[36] Cf. R. Bernoulli, 'Seelische Entwicklung im Spiegel der Alchemie und verwandter Disziplinen', *Eranos-Jahrbuch* 3 (1935): esp. 239–249. Cf. Stolzenberg, 'The Connoisseur of Magic'. In idem, *Great Art of Knowing*, [ch.5].

[37] E.g., Hine, 'Athanasius Kircher and Magnetism', p. 79.

allow space for considering the Jesuit in a whole trajectory of human thought frequently neglected by intellectual historians, just as Carl Jung had done in discussing Kircher's 'Gnostic' side, more particularly his view that at Creation God had to work with Chaos and that he chose to leave chaotic elements in the universe until the End of Time.[38] Godwin has now his opportunity to expound his views more fully in his large recently published study *Athanasius Kircher's Theatre of the World*, which *inter alia* acknowledges Fletcher's mastery of Kircheriana and seeks to complement his work.[39] Besides, much contemporary mental energy by others has clearly confirmed still more clearly that Kircher's *opera* can and should be examined within the richly veined history of Western esoteric thought. Among recent studies, Tara Nummedal has paid attention to the way Kircher's writings on geological or subterranean matters involved imagining cavernous 'metallic' and 'lapidifying juices' that strive towards perfection—in a way that, like the alchemists, allowed for transmutation in nature, and that took the German's justification of metallurgy into 'the dangerous territory of natural magic'.[40] Martha Baldwin, in her related work, always sensed that Kircher's theory of cosmic magnetism linked him to a large tradition of esoteric knowing;[41] and as Grantley McDonald nicely confirms, Kircher's musicology develops lines of Marsilio Ficino's Neoplatonic music theory as it was affecting German lands in the seventeenth century.[42] Daniel Stolzenberg rightly discerned that Kircher espoused a special version of *prisca theologia* or *sapientia*—for him true wisdom being traceable back to antediluvian Hermes (the biblical Enoch of Gen. 5:19-22, cf. Jude 14)—and thus he had his own ideas about using 'ancient non-Christian theologies' to confirm the true God's

---

[38] C.G. Jung, *Psychology and Religion West and East* (*Collected Works*, vol. 11) pp. 53–54n. There are analogies with the 'foundational figure of Christian theosophy' Jacob Boehme (and thus Hegel drawing from him) in Kircher's belief that 'God needed the world as much as the world needed God' (Rowland, 'Athanasius Kircher, Giordano Bruno', p. 197n). Cf. Boehme, *Aurora, das ist: Morgen Röthe im Auffgang und Mutter der Philosophiæ: Oder: Beschreibung der Natur, etc.*, ch. 23, sect 18. On Jung, cf. also above n. 35.

[39] See esp. [p.] 7 et passim.

[40] Nummedal, 'Kircher's Subterranean World and the Dignity of the Geocosm'. In Stolzenberg (ed.), *Great Art*, pp. 42–44. Cf. also H. Hirai, 'Kircher's Chymical Interpretation of the Creation and Spontaneous Generation'. In L.M. Principe (ed.), *Chymists and Chymistry*, pp. 77–88.

[41] Baldwin, 'Athanasius Kircher and the Magnetic Philosophy;' and her article 'Kircher's Magnetic Investigations'. In Stolzenberg (ed.), *Great Art*, [ch. 3].

[42] G. McDonald, 'Orpheus Germanicus', passim.

care of the nations in all of the world's history (or 'macrohistory', as I have called it).[43] Noel Malcolm has capped off matters by demonstrating how concerned Kircher was that sacred wisdom, such as the 'secret doctrines of the Egyptians' (as mystically understood according to his readings), should not fall into 'the wrong hands', and thus be kept hidden 'from the common people'.[44] Malcolm has reminded us, as Godwin did early on, that Kircher was much captivated by the arcane and recondite, and thus very often with the secretive; and this aspect of the Western esoteric tradition should never be underestimated. That is true especially for Kircher's case, because most of the profound, mystical truths he wanted to guard from the masses were more semeiological, more concerned with sensibly marvellous signs and symbols valuable for Biblical and Catholic authority, than they were with the interior search we associate with the likes of Boehme, Oetinger, von Eckartshausen and others who are often cherished as paragons of Christian esoterism.[45]

And so we are left with Fletcher's masterpiece, in need of context in ongoing scholarship as we have sought to give it here, but lasting in its monumental erudition, its balance and its breadth of approach to 'the incredible German'. Over and above his analysis of Kircher's achieve-

---

[43] D. Stolzenberg, 'Kircher among the Ruins: Esoteric Knowledge and Universal History'. In Stolzenberg (ed.), *Great Art*, pp. 313–314; cf. Trompf, 'Macrohistory'. In Hanegraaff et al., *Dictionary*, vol. 1, pp. 707–712; D.P. Walker, *The Ancient Theology*. Kircher's ideas have been reinvoked in connection with arguments about the African and southeast Mediterranean origins of Greek culture, see M. Bernal, *Black Athena: The Afroasiatic Roots of Classical Civilization*, vol. 1*: The Fabrication of Ancient Greece, 1785–1985*, London, 1991 edn., pp. 163–171. Note that the contents of the pseudepigraphical books of Enoch were barely known to Kircher's time. He did find a fragment of I Enoch at Messina, which he took to be antediluvian and mediated by the Egyptians: see G.F. Frigo, 'Il ruolo della sapienza egizia nella rappresentazione del sapere di Athanasius Kircher'. In Vercellone and Bertinetti (eds.), *Athanasius Kircher*, p. 99. But Kircher apparently had not accessed the relevant Vatican Ms 71 or Peiresc's precious copy of Ethiopic Enoch. A. Dillman was suggesting in Kircher's day chapter and verse numbers for Ethiopic I Enoch by inserting them into a Berlin Ms, but publication of his efforts had to wait two centuries. The earliest printing of an Enochian text, in Hebrew and now known as 3 Enoch, was *Derus Pirqe Hekalot*, n.p., 1650. It was out of Kircher's ken.

[44] Malcolm, 'Private and Public Knowledge', p. 304, cf. pp. 302–307.

[45] To illustrate, see a recent short examination of Kircher's symbolic interpretation of the Holy Land and the astrologic signs of the Twelve Tribes, by J. Mitchell and C. Rhone, *Twelve Tribe Nations and the Science of Enchanting the Landscape*, pp. 148–150. On the esoteric as interior quest in Christian theosophical literature, e.g., A. Versluis (ed.), *The Wisdom of Jacob Böhme*; idem, *Wisdom's Children: A Christian Esoteric Tradition*; A. Faivre, *Eckartshausen et la théosophie chrétienne*.

ments, Fletcher supplies in these present volumes the fullest account of the Jesuit's world of correspondents and the subjects of interest he shared with them,[46] together with the first published translation of Kircher's autobiography. Perhaps, since the time Fletcher wrote his thesis, more work has been done on Kircher's collaborators,[47] and versions of the latter's books are now more accessible to scholars than in the decades just after the Second World War.[48] But this hardly detracts from the immense value of his researches.

I commend Elizabeth Fletcher for persisting with her late husband's unpublished materials and editing them in so able a way. It took great patience and care, while the typing and checking of foreign languages was not done without her financial generosity, all in honour of her husband's great learning. My own role in this production has been to adjust Fletcher's manuscript to meet the requirements of this Series. Many technical problems had to be handled. Where, in rare cases, grammatical problems arose, or bridges had to made between inadequately connected paragraphs, the text was slightly altered. When stylistic inconsistencies occurred, the author's own propensities were used, for example in the first citation of journal articles, where he more often than not spelt out all the details (and not just author, article title and page number). He preferred leaving capitalization of proper names in Latin when quoting sources, for another example, and this has now been consistently applied. The tendencies in the thesis have also dictated the degree of italicization: thus any quotation in a foreign language has been left in plain font. Where they had been omitted or with initials only the first names of scholars referred to in the text have been inserted, except for later writers (from the nineteenth century onwards).

Because John's original typist evidently did not know French or German, or at least not very well, there was much inconsistency in the spelling of these languages in the thesis. However, many quotations were in seventeenth and eighteenth century forms of these two languages, which were themselves not yet fully standardized. In checking

---

[46] Fletcher's early listing in his edited Athanasius Kircher, pp. 139ff.; Wilding, 'Kircher's Correspondence'. In Stolzenberg, *Great Art*, Append. I.

[47] Note, e.g., Miller, *Peiresc's Europe: Learning and Virtue in the Seventeenth Century*; M.J. Gorman, *La technica curiosa di Kaspar Schott*.

[48] E.g., I have noticed some editions of Kircher in reprint: *China monumentis, qua sacris qua profanis, etc.*, Amsterdam, 1667, by Minerva, Frankfurt am Main, 1966 (not referred to by Fletcher); and *Musurgia universalis*, the Rome 1650 edn., by Olms in Hildesheim, 1970.

the German names, titles and quotations, Professor Brian Taylor, who is a specialist in early modern German, mainly followed his own lights, though he did do some checking, for example, in Zedler's *Universal-Lexicon*, whenever he was uncertain of a spelling or form. In the case of early French, he followed the guidelines set out in J. Vianey's *Les Prosateurs du XVI^e^ siècle*.[49] The main feature in comparison with modern French is that accents were used far less on words, apart from on final syllables. Where I was uncertain about the absence or addition of accents, I was grateful to be able to consult Professor Taylor and so achieve as accurate a rendering as possible. His biographical sketch of John Fletcher published in this volume should also be acknowledged.

For assisting me to track down rare references in Italy, I am grateful to the late Prof. Cristiano Camporesi, Università di Firenze; and in Holland, to Mr Frans Janssen of the J.R. Ritman Bibliotheca Philosophica Hermetica in Amsterdam. For helpful criticisms and encouragement, I thank Professors Wouter Hanegraaff, Universiteit van Amsterdam, Thomas Leinkauf, Westfälische Wilhelms-Universität, Münster, Germany, and above all Joscelyn Godwin, Colgate University, United States of America.

[49] Paris: Librairie A. Hatier, 2nd edition, 1948. Cf. the section 'Orthographie', pp. 421–426.

# PART I

# KIRCHER'S LIFE AND WORKS

CHAPTER ONE

# A BIOGRAPHICAL SKETCH

Athanasius Kircher was born at three o'clock in the morning on 2 May, 1602 in Geisa in Thüringen.[1] It was the feast-day of St Athanasius, in the eleventh year of the pontificate of His Holiness, Pope Clement VIII. He was the seventh child and fourth son of Anna and Johannes Kircher.[2]

1602, at least, is the year Kircher provides in his autobiography. The matter is not, alas, so straightforward. Despite such definite evidence, there lurks some reasonable doubt between this and the preceding year of 1601. In his *Magnes, sive de arte magnetica*, Kircher gives the year of his birth as 1601. This was probably a typographical error, but 1602 is the date preserved in the Jesuit archives in Rome, and it was repeated in 1676 by Ribadaneira in his bibliography of Jesuit authors.[3] There can be little doubt that Kircher himself was consulted during the compilation of this work. Certainly he knew of its publication, since we find him promising in 1676 to send a copy to his Augsburg friend and follower, Hieronymus Ambrosius Langenmantel.[4]

It seems, however, that Kircher was genuinely uncertain of the date of his birth, an uncertainty that has survived to the present day. The day and month were patently obvious from Kircher's own Christian name: his parents would surely have told him the reason for their choice of name. Early in 1665, however, he enquired of the parish priest at Geisa the exact year, month, day and hour of his birth,[5] expecting this

---

[1] Geisa is in the district once called Buchonia, of which the chief city was Fulda.

[2] Information about Kircher's life is drawn from the *Vita*, p. 466, which is given in a translation by the author.

[3] P. Alegambe, *Bibliotheca scriptorum Soc. JESV*, p. 92.

[4] H. Langenmantel, *Fasciculus epistolarum R.P.A. Kircheri complectentium materius philosophico-mathematico-medicas*, pp. 73–77 [Hereafter, however, Kircher's letters will be cited almost exclusively from the archival collection in the Gregoriana University library, Rome, as indicated in the introduction to Kircher's correspondence in Part II below.—Ed.]

[5] This letter, preserved in the church records in Geisa, is undated, but answers a letter written to Kircher on 5 October 1664, Epistolae IX. [No.] 272. [Hereafter all such correspondence (=Epist.) will be marked simply by a latinate capital for the folio volume number, followed by the number of a particular letter, together bracketed

information to be preserved in the parish records. The priest, Fr Konrad Witzel, was unable to help, since parish records in Geisa dated only from 1637.[6]

Of Kircher's parents we know little beyond what he tells us himself. His father, Johannes Kircher, studied philosophy and theology in Mainz, where he subsequently gained his doctorate. Despite this combination of subjects, traditionally reserved for those entering the priesthood, Johannes Kircher remained a layman, and became, surprisingly, Professor of Theology at the Benedictine monastery in Seligenstadt. There are no grounds for supposing that he came originally from the district around Mainz: at that time he could not have studied philosophy in Fulda. Similarly, there is little evidence that he came from Fulda at all, apart from the frequency with which one comes across the name Kircher in this district.

Some time between 1570 and 1576, Johannes Kircher was called to Fulda by the Prince Abbot, Balthasar von Dernbach. Balthasar, who first introduced Jesuits into Fulda and successfully reconverted most of the city to the Church of Rome,[7] attempted during his years of office to attract into his sphere of administration as many able men as possible.[8] Johannes Kircher was one such man. He was appointed bailiff of Haselstein, a tiny community east of Hünfeld, which in 1633 numbered 36 households.[9] It would seem reasonable to suppose that much of Kircher's work lay in guiding these households back into the Catholic Church, using his considerable academic and pedagogic gifts.

---

place and date, if known. Thus the notations may not follow manners of listing in Langenmantel (see prevous note) and, except in the notes to the Commentary on the Vita, they do not even conform to the more recent listing in W. Gramatowski and M. Rebernik, *Epistolae Kircherianae: Index alphabeticus; index geographicus* (Subsidia ad Historiarum S.I., 11), Rome: Institutum Historicum SI., 2001 (hereafter GR) which is based exclusively on the Archives of the Gregoriana (APUG, hereafter abbrev. Pnt. Univ. Greg.). Where other library holdings are referred to (especially in chs. 13–15 below), they will be introduced, along with their abbreviations, in footnotes, e.g., Bibliotheca Apostolica Vaticana (abbrev. as Bib. Vat.).—Ed.].

[6] The decision that each parish in the diocese of Fulda should keep. its own records was reached by the first Synod of the Diocese of Fulda as late as 7 June 1629: *Fuldaer Geschichtsblätter* (1923): pp. 97ff.

[7] H. Heppe, *Die Restauration des Katholizismus in Fulda*, pp. 26–28.

[8] Johannes Kircher remains, however, unmentioned in the list of such men given by G. Komp in *Der Fuldaer Fürstabt Balthasar von Dernbach*, p. 4.

[9] K. Lübech, *Alte Ortschaften des Fuldaer Landes*, vol. 1, p. 72.

During this period, Johannes Kircher met and married Anna Gansek, the virtuous daughter of one of Fulda's more respected inhabitants.[10]

Kircher Senior was not to enjoy his official position in Haselstein for long. Although one could hardly accuse Balthasar of any lack of enthusiasm in his attempts to accelerate the Counter-Reformation in Fulda,[11] he seemed ignorant of the saying 'make haste slowly'. At Easter in 1573, at Balthasar's prompting, the parish priest of Fulda, Martin Göbel, denounced the practice of Protestantism from the pulpit. This of course included the practice of married clergy. His congregation immediately condemned Göbel's treachery. During his brief Protestant career, Fr Göbel had married his predecessor Dr Oethe's daughter. Although he now formally renounced his wife and returned to the state of celibacy,[12] this gesture was derided by his flock, who under the able leadership of their mayor, Hektor von Jossen, remained staunch Protestants.

Open rebellion and defiance against Balthasar and his Jesuits quickly flared and in the summer of 1576 Balthasar was peacefully and decisively deposed by Julius, Prince Bishop of Würzburg. Although fallen from power, Balthasar, who had retired to the castle of Biberstein near Fulda, remained a strong and persuasive influence in the diocese. Upon the collapse of his patron, Johannes Kircher in turn was deprived of his position at Haselstein and retired to Geisa, an obscure market town half a day's ride east of Fulda. It was here that Athanasius Kircher was born, the last and weakest of their seven children.[13]

Little is known of Athanasius Kircher's immediate relations. He himself tells us that his three brothers became monks in different religious orders, and that his sister married. One of these, Andreas, corresponded with his brother when Athanasius lived in Rome, and from these letters we learn that he was attached to a Clarist convent in Münster. The same brother, who was visited on his sickbed by the Papal Nuncio in Germany, Fabio Chigi, later Pope Alexander VII,[14] described in a letter to Kircher the activities of their two remaining

---

[10] *Vita*, p. 468.

[11] Kircher describes him as 'innocentissimus et honoris Dei selantissimus Princeps': *Vita*, CR.

[12] Heppe, *Restauration des Katholizismus*, pp. 28–36.

[13] The seven, that is, that survived; two of Kircher's elder brothers died in infancy, *Vita*, p. 469.

[14] Letter written by Chigi: II. 33 (Münster, 15 January 1650).

brothers, Joachim and Johannes.[15] His information is distressingly sparse: of Joachim he has no news at all, while Johannes, he writes, is living in seclusion in Austria: 'Where Joachim went is so far unknown, but I have a vague notion that he is living in Austria'.

Two of Kircher's sisters are known to us. Agnes, who died in 1646,[16] married a certain Georg Hagen, a tanner and a Calvinist, of Vacha, a small town some 12 miles north of Geisa. Kircher, her youngest brother, tormented himself constantly by wondering if she had died a good and faithful Catholic and if her burial had been effected with Catholic rites.[17] He worried too about the religious beliefs of her surviving son. The second sister was Eva. From Witzel's letter we hear of her marriage with one Hans Starck of Fulda. In 1641 the couple appear to have been ill and destitute, for in that year they were visited in the Spitalsmühle in Geisa by Fr Witzel with Fr Johann Meykrantz of Fulda, himself a native of Geisa. Soon after this, Eva and her husband followed their sons to the Rheingau where they both died.

Witzel reports, in an exhaustive letter,[18] that he had met one of their daughters, Kircher's niece, in the household of one Fr Kalb of Bingen. A second niece kept house for her brother Johannes, a deacon in Rüdsheim, whose death is also recorded by Witzel. A fourth child, Bernhard, had become the village priest in Kastell near Mainz. According to Witzel's information, he was still alive in 1665.[19] The name and life of the third sister, who was possibly the eldest and may have been named Anna after her mother, remain unknown. From two further letters written by Athanasius Kircher, we learn of his cousins, Simon Hill[20] and Melchior Wigand,[21] but both references are slight.

It is likely that most of Anna and Johannes Kircher's children were born and spent their childhood in Geisa. This tiny community boasts of a long and honourable history. The first authenticated lord of Geisa,

---

[15] III. 58 (Münster, 28 July 1651).

[16] Kircher learned this news from his brother Andreas in the letter quoted above: 'Our Agnes died a pious death as a good Catholic four years before mid-century'.

[17] Kircher's doubts were finally set at rest by Konrad Witzel; see X. 23. Geisa, 25 January 1665. Agnes died in the bosom of the Church and was buried according to Calvinist rites. Of her son's fate nothing was known.

[18] X. 23 (Geisa, 25 January 1665).

[19] This brother, Johann Bernard Starck, died in 1673. Johannes, on the other hand, died in 1662, after 30 years of priesthood; see J. Zaun, *Beiträge zur Geschichte des Landkapitels Rheingau*, pp. 25, 187, 232.

[20] Geisa church records (Rome, 7 May 1665).

[21] Landesbibliothek Fulda, [Ms] Jer. B. for viii. n. 8 (Rome, 7 December 1664).

one Gerlacus von Geysaha,[22] goes back to 1116. Writing in Kircher's own lifetime, the topographer Matthew Merian found little to say of the sleepy town and limited himself to describing its environment 'sie liegt am Zusammenfluß der Geis und der Ulster, auf einem Hügel in einer lustigen Gegend'.[23] Until 1803 Geisa belonged to the bishopric of Fulda and in 1816 was incorporated into Sachse-Weimar-Eisenach. Some nine-tenths of the present community are Roman Catholic. This proportion has preserved itself virtually unchanged since Kircher's day.

The people of Geisa are fiercely proud of their illustrious son and suffer acutely from the unneighbourly covetousness of the inhabitants of Fulda, who sometimes claim Athanasius Kircher as their own. Possibly Kircher himself is partly responsible for this fallacious attribution, since he often described himself on his title pages as 'Fuldensis' instead of the more accurate 'Buchonius'.[24] This tenacious admiration—even today, the people of Geisa, blissfully oblivious of the Jesuit vow of celibacy, pride themselves on being Kircher's lineal descendants—was first reported by one of Kircher's correspondents, Fr Andreas Wigand. This Jesuit described a visit he made to Geisa in 1659, when he noted the determination of the citizens to erect some suitable memorial to Kircher's memory after his death.[25]

Unfortunately, and very humanly, this worthy desire was not accompanied by decisive action. Only upon the tercentenary of Kircher's birth in April 1902 did the town council decide to rename part of the main street in Geisa in honour of their uncommemorated son.[26] In 1921 the same body again remembered the man who had spent his childhood in their town and, to aid a tottering economy, issued

---

[22] J. Schannat, *Corpus Traditionum Fuldensium*, p. 353.

[23] M. Merian, *Topographie von Heßen etc.*, p. 70.

[24] On 2 May 1963 the city council of Fulda opened its new Athanasius-Kircher-Volksschule, an event that momentarily focused public interest on the Jesuit's life and achievements; see *Fuldaer Monatsspiegel* (May 1963): 21–25; *Fuldaer Zeitung* 102 (3 May 1963): 6–8.

[25] See XIII. 121 (Worms, 7 November 1659: 'Then I went to Geisa, where all the citizens take pride in your Reverence and are for erecting something or other some time after your death as a memorial for posterity'.

[26] After much deliberation the town council amputated a stretch of the Hauptstraße running from the merchant J. Freüdenthal's establishment to the inn belonging to M.H. Bettmann and rechristened it 1–6 Athanasius Kircherstraße.

emergency banknotes bearing either a portrait of Kircher or a flattering attribution to him.[27]

At the time of writing (1966), largely through the efforts of a local landlord, Herr Gustav Möller, Geisa is more conscious of Athanasius Kircher than it has been in the centuries since his death. In 1953 a local museum was founded, housed in the castle at Geisa and dedicated to Kircher. It held a collection of his works and an exhibition of contemporary articles of more general interest. Since 1954, Geisa has also been able to boast of an actual memorial tablet erected in memory of 'dem Großen Sohn unserer Stadt'. The monument takes the form of a granite slab bearing a plate with the bust of a weary, anxious-looking Jesuit wearing perhaps a slightly more luxuriant moustache than Kircher ever knew. It bears the dates 1602–1680 and the simple lines:

> Der Wißenschaft zum Nutzen
> Unserer Stadt zur Ehre
> Und Allen zur Liebe
>
> Athanasius Kircher[28]

Let us return now from the twentieth century to the early summer of 1602. Kircher himself tells us that he was baptized in the parish church of Geisa, SS. Philip and James.[29] Of his subsequent childhood in Geisa we know little. His father was now firmly entrenched in his retirement, happily devoting himself to a quiet, pious and beneficent life. His time was enlivened by the absorbing task of educating his children and initiating them into the Catholic faith. When his former patron, Balthasar, was restored to power on 7 August 1602,[30] Johannes

---

[27] Of the three notes in the author's possession, the 25Pf. note is liberally sprinkled with hieroglyphs which surround the portrait of Kircher, with the legend 'Der Entzifferer der Hieroglyphen'. One 50Pf. note reproduces the illustration of the magic lantern found in Kircher's *Ars magna* (see Chapter 5), and declares, 'Lanterna Magica. Erfinder Athan. Kircher', while a second note of the same value bears Kircher's portrait and the dates '1602–1680'. All the notes, which were valid for one month only, were printed by J.A. Schwarz of Lindenberg in the Allgäu.

[28] This moving testimony to Kircher's memory was erected and paid for largely through the efforts of Gustav Möller, whose lion-hearted attempts to establish the exact role played by his fellow townsman in his various spheres of knowledge have throughout excited and encouraged the author.

[29] This information is contained in the undated letter written by Kircher from Rome to Fr Konrad Witzel in reply to his letter of 5 October 1664; see IX. 272 (Geisa church records). See, however, p. 509 below.

[30] Balthasar was not to enjoy for long the fruits of victory and vindication. He died on 15 March 1606.

Kircher remained at Geisa, seemingly detached for ever from public life.[31] Athanasius Kircher received his early education mostly from his father, who introduced his youngest son to the beauties of music, the rudiments of Latin and the intricacies of mathematics. The young boy also visited the Dame school in Geisa.

From Kircher's own account, we know that he escaped serious injury or death at least three times during his boyhood. On one occasion, while swimming, he rashly approached a mill-race and was sucked beneath the moving mill-wheel. A second time, while watching the annual 'riding the bounds' ceremony at Whitsuntide, he was jostled beneath the hooves of a phalanx of horse-riders. The third mishap was during a visit to Aschaffenburg, where he travelled with his fellow pupils to see a play (*comoedium*) performed at the residence of the Electoral Prince of Mainz. After the performance, the first he had ever seen, Athanasius resolved to return alone through the Speßart, at that time infested with wild bears and lurking outlaws. Among the gloomy, impenetrable trees, the young boy lost his way: 'I became confused by the large number of criss-crossing tracks and soon realized that the further I walked, the more I was straying from the right path'. He was compelled to spend the night in the safety of a tree's branches. Late the next day, tired, frightened and hungry, the tearful wanderer stumbled across a meadow and some harvesters, one of whom brought him home on horseback. Kircher emerged untouched from each of these accidents. In his autobiography he attributes his escapes from death and injury to the mercy of the Virgin, man's 'only solace'.

The house in which Kircher lived with his family was preserved until 1857,[32] when the greater part of the mediaeval township was ravaged by fire, a calamity from which the parish church alone emerged unscathed. In 1724 the house, which faced the marketplace and stood next to the town hall, was described by the Fulda antiquarian Schannat, who noted its wide and spacious windows and added the probably apocryphal story that Kircher was prompted by this fact to boast in later life of having issued from an 'enlightened house'.[33]

---

[31] Johannes Kircher's activities were now scholarly rather than political: 'He was, as I have said, very proficient in theology, interested however not so much in its controversial aspects but rather in church history, and in mathematics'. *Vita*, p. 469.

[32] Writing in 1829, Dr K. Wurzer of Marburg informs us that the house 'wird fortwährhrend allda Kirchers Haus genannt'; see J. Schneider (ed.), *Buchonia*, vol. 4, p. 148.

[33] Schannat, *Corpus traditionum*, p. 353.

At the age of ten, Kircher was sent by his father to the Papal Seminary in Fulda, at that time under the rectorship of Fr Christoph Brouwer, the noted and voluminous historian of Fulda and Trier. This Jesuit academy, which was to grow famous in Germany for the excellence of its teaching and the brilliance of its pupils, opened its doors in 1572. At this time, seventeen Jesuits called in by Prince Abbot Balthasar took over a building known as the 'Müntz' and began teaching.[34] In 1584 Pope Gregory XIII endowed the Seminary with a grant for the accommodation and teaching of 40 noble sons and 60 *studiosis pauperibus*. By 1628 the number had risen to 300 pupils.[35]

Some of the early alumni of the Seminary remained firm patrons for the rest of their lives and actively encouraged their subsequent charges to attend the academy. Consequently, in 1612, the year that Kircher himself was accepted by the Jesuits, we find boys at the academy who were under the auspices of the Abbot of St. Blasien in the Black Forest and ironically, from Halberstadt, two brothers, Christoph and Heinrich Luther, distant relations of Martin Luther. These two boys were sent by another former pupil, Mattias von Oppen, deacon of the cathedral in Halberstadt.[36]

Kircher tells us little of his six years' stay in Fulda. In his first year at the Seminary he found himself under the care of one Fr Johann Altink,[37] whose piety and learning made a deep impression on the sensitive child.[38] Kircher was able to consolidate his growing knowledge of music, Latin and mathematics; here he began his acquisition of Greek and Hebrew and tentatively explored the dark delights of trigonometry. By this time, Kircher had developed into a quiet, introspective youth, suspected by his teachers of backwardness and slow to respond to questions or commands. Kircher himself on several occasions in his autobiography hints at this sluggish reticence. Kircher's limited account of his stay in Fulda, though, is balanced by an excellent if slightly exaggerated description of events occurring during this period in the Fulda Chronicle compiled by Gangulf Hartung. This homely

[34] K. Schmitt, 'Das Minoritenkloster', in Schneider (ed.), *Buchonia*, vol. 3, p. 182.
[35] Schannat, *Dioecesis Fuldensis*, p. 222.
[36] Komp, *Die zweite Schule Fuldas*, pp. 33–34.
[37] Kircher calls him 'meus in inferioribus studiis magister', *Vita*, p. 470.
[38] Presumably Kircher wrote his biography during the 1670s. From the distance of 50 years he recalls of Fr Altink: 'in pietatis et divini cultus studiis [fuit] peritissimus'.

version of events in Fulda from 1607 to 1666 pays minute attention to various meteorological phenomena and describes with relish the suicides and murders of half a century.[39]

The year 1613 was remarkable for a fearful wind which dumped the tower of the newly built Frauenburg church some two miles away. Curiously, the wind was followed by an outbreak of plague, during which over 400 people died in Fulda alone. From another source, we learn that during the epidemic, the pupils of the Seminary were safely transferred for several months to the township of Geisa.[40] The boys and their priest tutors were boarded out at various homes in the town. There can be little doubt that Kircher was for a short time reunited with his family. Special kindness was shown to the temporary refugees by the mayor of Geisa, Melchior von Dernbach, brother of the Seminary's founder, Balthasar, and by an unnamed Lutheran nobleman of the district.

The following year Fulda was devastated by fierce floods, the likes of which had not been seen for 70 years. 1615 was even more wondrous, characterised by savage storms, drought, and the appearance on Wednesday, 1 April, of three suns. The year was remarkable too for its 'trefflicher gutter Wein' and curious for the birth, in nearby Schinterling, of a monstrous child, 'das hatt gehabt 2 kopff, 4 arm 4 bein 2 geseß undt 1 Nabell', of which Hartung regretfully reports, 'undt isst halt gestorben'.

In 1616 Fulda sweltered beneath a scorching summer, in a long and wearing drought. On 8 September—'dem Donnerstag des Festtags der geburt Mariä'—the summer culminated in an extensive fire which destroyed the great *mensa* of the Papal Seminary. The blaze was started by a pupil's careless handling of his wax-candle in the traditional procession in honour of the Virgin. Only through the frantic efforts of pupils, priests and townspeople, including the local Jewish population, were the surrounding houses and Jesuit church saved. Hartung describes the damage at great length and reports a frightening discovery made after the fire had died down: the great beams in the roof had been rotten and decayed and were on the point of

[39] This chronicle covers the period in Fulda from 1607 to 1666. The manuscript is in the Archives of the Episcopal Vicariat in Fulda. In 1863 this manuscript was edited and published by J. Gegenbaur as a *Programm… des kurfürstlichen Gymnasiums zu Fulda—23/24 März.*

[40] Komp, *Die zweite Schule Fuldas*, p. 35.

collapse: 'bei der Besichtigung bekanten die baumester, die gütliche vorsehung habe hier gewaltet'. This terrible accident remains unnoted by Kircher, although there can be little doubt that he took part in the fire-fighting.

It is probable that about this time, if not earlier, Kircher made the decision to enter the Society of Jesus. There is some evidence that in this year, 1616, he journeyed to Mainz where he was examined by Fr Johann Copper, Moderator of the Rhenish Province.[41] That Kircher should choose to become a Jesuit[42] is convincing proof of his religious faith. One wonders, however, how aware he was of the implications of becoming a Jesuit, at that time and place. He was not yet a man: his few years had been spent in the shelter of his family and in the kindly care of the Jesuit fathers in a predominantly Catholic city. But in Kircher's generation Jesuits, 'die Gottlos Sect',[43] were universally hated, feared and despised, indeed sung about as 'Jesuwider',[44] 'Bapstisches Ottergezicht'.[45] In one of many current songs, Lucifer was made to say in horrified awe:

> Hab' nicht können glauben
> Sag's euch ohne Spott—
> Daß mit Lügen, Rauben,
> Man mich überbot.[46]

Every sin, every perversion, every vice known to Man was attributed to the Jesuits.[47] Their recognized role in Germany before and during the Thirty Years' War (1618–1648), which gave birth to their description as the 'shock troops of the Counter-Reformation', aroused a glowing hatred in Protestants, who firmly believed that in France the Jesuits had inspired St Bartholomew's Night, in England the Gunpowder Plot, and in Germany the 'Prager Fenstersturz'. Their villainy passed

---

[41] F. Reiffenberg, *Historia Societatis JESV*, vol. 1, p. 587.

[42] In 1600 there were 1111 Jesuits, including lay brothers and novices in Germany and Austria (704 in Germany) in 26 centres (21 of these in Germany); see J. Müller *Das Jesuitendrama*, vol. 2, 43. In 1679 there were 17,655 members of the Society, of which 7,870 were priests, scattered throughout the world in 160 missions; see *Catalogus Provinciarum Soc. JESV*, p. 6.

[43] E. Weller (ed.), *Die Liede des 30. jhr. Krieges*, p. 3.

[44] K. Bartsch (ed.), *Die historisch-politischen Volksliede des dreissigjährigen Krieger* No. 31.1.21.

[45] Weller, *Die Lieder*, p. 5.

[46] Bartsch, *Volkslieder*, No. 4, verse 12.

[47] E. Schroeder, *Das historische Volkslied Liede des 30. jhr. Krieges*.

into the current coin of proverbs: 'Ein Jesuit ist mit dem Teufel in die Schule gegangen' and the standard accusation 'Der Jesuit spricht: vergis dich selber nicht!'[48] It is therefore uncertain how great a part of Kircher's decision derived from rosy visions of cloistered studies or the facile conversion of gratified oriental potentates. What is certain is that he was soon to learn exactly what being a Jesuit entailed.

Probably late in 1616, Kircher heard that his application to enter the Society had been successful. However, as he himself wryly notes, fresh personal troubles were soon to appear above his academically wide but otherwise narrow horizon. For Hartung, the year 1617 was unremarkable save for the suicide of Landgrave Otto von Hessen, but for Kircher it was disastrous. In January 1617, while skating,[49] he fell awkwardly, sustaining a serious abdominal hernia. Shortly before this, an ulcer had broken out on his leg, caused, he readily admits, by protracted cold during the long winter evenings when he studied and meditated. His last eighteen months at the Seminary in Fulda cannot have been happy. Doubtless he spent most of the time in study. Exercise, even walking, gradually became more and more painful, as his injuries became more aggravated—'my hernia grew larger and larger, and the rash on my legs increased'.

If Kircher was still in Fulda on 8 September 1618, he may very well have attended the Jesuit performance of Gottfried Lemius' *Irene: Drama Hospitale*, which was played on that date before the Bishop of Bamberg.[50] In any event, he arrived in Paderborn, to begin his novitiate of two years in the Jesuit College, on 2 October of the same year. According to his own testimony, Kircher arrived at the college in a state of virtual physical collapse. Certainly the journey from Fulda to Paderborn, possibly by foot, can only have further exacerbated his injuries and greatly taxed his physically weakened body. Both the rupture and the ulcer were in an advanced state of morbid degeneration. Inevitably, his injuries were discovered. The young entrant to the Society was delivered the considered opinion of his Superior: if the injuries did not improve within a month, he would have to return home.

---

[48] R. Eckhart, *Die Jesuiten in der deutschen Dichtung und im Volksmund*, pp. 149–150.

[49] Kircher refers in fact to 'ludi', *Vita*, p. 473.

[50] This text is preserved in the Fulda Landesbibliothek, Cod. B.15; see J. Müller, *Das Jesuitendrama*, vol. 2, p. 62.

That night Kircher walked with painful steps to the chapel and there prostrated himself before the statue of the Virgin. During the night, in answer to his plea 'ut Filio tuo ae Tibi servire sine impedimento possem' ('so that I might be able to serve your Son, and You, without hindrance'), he heard a soft and compassionate voice whispering: 'Confide fili, non demitteris' (Have confidence, my son, you will not be disappointed).[51] Throughout his life, Kircher maintained that the Virgin had interceded for him that night and that a miracle had occurred. In the morning, the ugly suppurating wounds had healed, to the uneasy astonishment of the college surgeon and Father Hermann Baving, the Superior.[52] From Kaspar Schott's elaborate account,[53] we gather that there were two further witnesses to this miracle, Fr Ricquinus Göltgens and one of Kircher's subsequent correspondents, Fr Melchior Cornaeus, who went on to become respectively Moderator of the Province of the Upper Rhine and Rector of the Jesuit College in Würzburg.[54]

The college in Paderborn where Kircher spent two years was of recent origin. Although the Jesuits had been active in the city since 1580 and had opened a grammar school there in 1585,[55] the college was not called into being until 10 September 1614, when the Prince Bishop, Theodor von Fürstenberg (1546–1618), formally presented the deeds of the College to Fr Schering, Moderator of the Province. With the deeds came a handsome gift of 15,000 thaler.[56] The College possessed only two faculties. The philosophical faculty opened in 1614

---

[51] A detailed account of this miraculous intervention was given by Kaspar Schott in his *Physica curiosa*, Würzburg 1662, vol. 1. This occurs under the heading 'Mirabilis Hominum' (Bk III) and is further subheaded 'Sanitas miraculose restituta Fr Athan. Kircheri' (Bk II, p. 540). Schott proceeded from Kircher's own account ('eundem autographo suo confirmavit ipsemet Fr Kircheris') and gives the date as 1619.

[52] Further accounts of this occurrence are to be found in Fr Wilhelm Gumppenberg's *Atlas Marianis*, pp. 373–374 (in the form of a letter written to Gumppenberg by Fr Matthias Franck of Paderborn); and in Fr Johannes Eusebius Nierenberg's *Trophaea Mariana*, Bk VI, ch. 59.

[53] [Schott is variously referred to as Kaspar and Gaspar, both by JF and in catalogue entries. I have opted for Kaspar throughout.—Ed.]

[54] Schott, *Physica curiosa*, p. 540.

[55] Reiffenberg, *Historia Societatis JESV*, pp. 377–380.

[56] The foundation of the college was confirmed by Pope Paul V on 2 April 1615 and by the Emperor Matthias on 14 December 1615. The college was ceremoniously declared open on 13 September 1616. The novitiate was transferred in 1620 to Trier with the full permission of the Fürstenberg family. But the Jesuit novitiate had room for only 21 candidates: G. Bessen, *Geschichte des Bisthums Paderborn*, p. 127.

with 46 students, while the theological faculty started courses as late as 1621.[57] Among the original intake in 1614 were seven Benedictines and five Jesuit novices. The teaching standards and stringent discipline of the fledgling university attracted the sons of many Protestant merchants and other middle-class citizens,[58] to such an extent that in time a considerable reaction against Protestantism began to be felt.[59]

Kircher himself tells us little of his stay in Paderborn, but we know the accepted Jesuit procedure for novices, and the studies and spiritual exercises undertaken by students. For all Jesuits, the critical two-year novitiate rested on the basic aims of self-denial, contemplative prayer and stringent adherence to the Society's rules. The young novice must be purged of worldly thoughts: his temporal world was to shrink as his spiritual horizon enlarged. His meditations and actions must be constantly directed towards the thoughts, words and deeds of Christ. The novice's academic studies moved in tandem with a strict ascetic regime. Twice a year, a three-day period of self-preparation was followed by a renewal of the first vow of poverty, chastity and obedience, while every year all novice Jesuits underwent a week of prayer and vigil.[60]

Integrated into this monastic code of conduct were Kircher's studies in philosophy. His scholastic pursuits now embraced the classics, Hebrew, and oriental languages. He also studied mathematics, physics and the natural sciences. One observation from the last of these areas of study, made during his stay in Paderborn, is preserved in his *Mundus subterraneus*: he discusses the local Bollerbrunn as an example of an intermittent spring, and attempts to locate the true source of the River Pader.[61]

The tranquillity of Kircher's studies was soon to be violently disturbed. The distant growling of dissension in Bohemia and the abrupt outbreak of violence and anti-Habsburg feeling, which culminated in the cruelty of the 'Prager Fenstersturz', had repercussions throughout Germany. The angry swirl of mixed loyalties that typified the Holy Roman Empire during the Thirty Years' War soon manifested itself in

---

[57] A. Herte, 'Die Universität und Akademie Paderborn'. In *Festschrift aus Anlass der Erhebung des Bistums Paderborn zu Erzdiozese*, pp. 71–73.
[58] E. Zirngiebl, *Studien über das Institut der Gesellschaft Jesu*, p. 312.
[59] F. Weddigen, *Paderbornsche Geschichte*, p. 25.
[60] R. Fülöp-Miller, *Macht und Geheimnis der Jesuiten*, Preface.
[61] *Mundus subterraneus*, Amsterdam, 1664[–5] edn., II, IV, p. 282a.

Westphalia. There was an armed clash between the Lutheran Bishop of Halberstadt, Christian von Braunschweig, who styled himself 'Gottes Freund, der Pfaffen Feind' and enjoyed the soubriquet 'der tolle Christian', and the Electoral Prince of the Palatinate, Friedrich V, the Calvinist *Winterkönig*. Paderborn, which now lay before the Protestant army, found itself suddenly threatened, and the city was hurriedly garrisoned and fortified by the new Prince Bishop, Ferdinand of Bavaria. The Jesuits were in a desperate plight: Protestant factions menaced them within the town, and the forces of the notoriously anti-Papist Christian[62] menaced them without. Shortly before the city fell to Bishop Christian's undisciplined troops, the Jesuit College dissolved in utter confusion.

Of the 80 inmates of the College, some fled to Hildesheim and some to Münster and Cologne. Five of the older priests remained in Paderborn and were never heard of again.[63] Kircher found himself in a serious predicament. It was the height of winter, and he and his three companions, without money and adequate, were reduced to begging.

> The snow lay deep, and we were only lightly clad. All the paths were covered with snow, and as a result we strayed form the roads. It was impossible to find the right path again. After two days like this, we were seized with a raging hunger, since we had no more provisions. Finally, we came to an inhabited place. After lengthy negotiations, I finally obtained a loaf of bread of the most miserable kind. But it tasted so sweet in our hungry mouths that I cannot recall ever in my life having eaten anything more tasty…[64]

Starving, cold and miserable, the small band eventually reached Münster. Here they rested for a week in the Jesuit College before travelling to Cologne.

During this second journey, crossing the frozen Rhine near Düsseldorf, the young men were treacherously directed onto a layer of thin ice. Kircher, warily walking ahead of the others, was separated from his companions when the ice broke, and he drifted helplessly downstream on a precarious raft of ice. All four men fell on their knees to implore the protection of Heaven, as Kircher vanished into the dull February dusk. Kircher's small ice-floe came to rest among mountainous piles of drifting ice which blocked the river. His hands frozen and

---

[62] Kircher describes Christian as 'the heretical bishop of Halberstadt, a most bitter persecutor of the Catholic faith': *Vita*, p. CR.

[63] Reiffenberg, *Historia Societatis JESV*, p. 543.

[64] *Vita*, p. 476.

bleeding, he scrambled and slipped to the far bank, which he finally gained, exhausted, after swimming across the last barrier of icy water.[65] After a three-hour walk through biting cold, in wet clothing, Kircher finally arrived at Neuss, where he was reunited with his brother Jesuits. It was 2 February, the Feast of the Purification of the Virgin.

From Neuss, the four refugees travelled to Cologne, where, in the recently rebuilt Jesuit College[66] they found a warm welcome from the Rector, Fr Hieronymus Scheren. Kircher now remained in Cologne and immersed himself in the study of physics[67] and the natural sciences. His religious exercises continued with unabated fervour, strengthened rather than weakened by his recent ordeals. After the completion here of his three-year course in philosophy, Kircher was sent by Fr Copper to teach Greek at the Jesuit College in Coblenz, founded in 1580. At this stage in his autobiography, Kircher reveals somewhat regretfully that he was obliged to shed his mantle of modesty and emerge as a scholar of ability and promise. He stresses to his readers that he took the decision not for his own sake but to preserve the reputation of the Society, so notably a teaching order.

Most of Kircher's time in Coblenz was devoted to the study of Demosthenes, Homer, the Attic poets and the works of Euclid. Here too Kircher first revealed his undoubted ability in music,[68] trying his hand at several compositions. Before he left the city, moreover, a new and cunningly designed sundial gleamed in the forecourt of the Jesuit college.[69] Less pleasant for Kircher were the voices of various detractors. We are told little of this, but it was a recurring aspect of Kircher's public life; later in life he faced a virtual army of sniping critics.

---

[65] 'To go back was impossible, to go forward immensely difficult. It would however have been suicide to have stayed where I was—in the depths of winter, exposed to the cutting cold, drained by fear, mental agony and physical exertion, with fingers torn by grasping sharp-edged ice-floes. I had no choice but to swim. That is what I then did'. *Vita*, p. 479.

[66] The college, including the church and library, had been razed to the ground the preceding April (1621) by a fire simultaneously starting in four different places; see Reiffenberg, *Historia Societatis JESV*, p. 521.

[67] In 1646 Albert Spieh SJ wrote to Kircher reminding him of their mutual studies in Cologne: 'sub P. Adamo Kasen in Physica': Epist. XIII. 251 (Coblenz, 22 April).

[68] See his *Musurgia universalis*, Rome 1650, Praef.

[69] This sundial, noted by Reiffenberg, *Historia Societatis JESV*, p. 257, was renewed in 1926. Square in shape, the device is marked from 7 a.m. to 7 p.m.; it is decorated with the signs of the Zodiac and bears the motto 'EA FUGIT UMBRA. FUGIT TACITO PEDE ET ANNUS ET AETAS' ('There flees the shadow. On silent foot do flee both year and age'); see E. Zinner, *Alte Sonnenuhren an europäoischen Gebäuden*, p. 111.

Towards the end of 1623, Kircher was sent to Heiligenstadt, an inconspicuous town on the River Leine. It is likely that this move was part of the Jesuit tradition of preserving a mobile teaching force.[70] From Coblenz, Kircher travelled first to Fulda and probably Geisa, both districts devastated and impoverished by the mercenary armies encamped there the previous year.[71] In Fulda he was warned to travel dressed other than in his Jesuit robes. The suggestion, however kindly intended, was indignantly rejected: 'I would rather die dressed in my Order's habit than travel unmolested in secular clothing'.[72] He was to pay heavily for this single-minded loyalty to his Order, for between Eisenach and Marksuhl in the Höllental, Kircher and his companion were set upon by twelve of the ragged survivors of Bishop Christian's army, which had been decisively scattered by Tilly on 6 August 1623 at Stadtlohn. Ruthlessly, Kircher was stripped of his few possessions, of his books and his meagre sum of money. He was dragged to the nearest tree and saved from hanging only by the sudden compassion of one of his assailants. While the rest of his villainous companions scattered fearfully into the surrounding trees, this ringleader begged for Kircher's forgiveness and apologetically returned to him two Reichstaler.[73]

Two days later Kircher arrived in Heiligenstadt, where the Jesuits had maintained a school and seminary since 1575. His duties here were light and academically less exacting than in Coblenz. The number of pupils in the school was just over 200 and Kircher seems to have escaped with nothing more onerous than the teaching of elementary Latin.[74] When not actively engaged in teaching, Kircher divided his time between spiritual exercises and furious private study. As in Coblenz, he found time to design and erect a sundial, which he placed on the southern wall of the tower of the Marienkirche in the old part of the town.[75]

---

[70] J. Zedler, on the other hand, attributes this move to 'weil man ihn daselbst wegen seiner Erkänntniss in deren Wissenschaften sehr neidete und verfolgte wurde er dadurch genöthiget sich nach Heiligenstadt zu begeben': *Universal-Lexicon*, vol. 15, p. 756.

[71] In 1622, to avoid the sacking of the abbey, the Prince Abbot of Fulda was obliged to pay 40,000 Taler.

[72] *Vita*, p. 480.

[73] The incident is similarly described in J. Wolf, *Eichsfeldia Docta*, pp. 97ff.

[74] Wolf, *Geschichte und Beschreibung der Stadt Heiligenstadt*, p. 255.

[75] The dial is square and equipped with a projecting arm, surmounted by a tiny ball; see Zinner, *Alte Sonnenuhren*, p. 97. From a letter sent (25 July 1964) by Fr Kreb, then

While Kircher quietly pursued his studies, submerged in the anonymity of the junior reaches of the school, a political commission from the Electoral Prince of Mainz, Johann Schweichhart, arrived in the city. The purpose of this commission was to survey and help reorganise the cultural, political and religious life of the community. In honour of the occasion, the Jesuit authorities decided to present an address of welcome and a short theatrical display for the commission. Kircher was chosen to supervise the entire production. He achieved a remarkable success.[76] The welcoming speeches were composed in eight languages,[77] while the theatrical and mechanical tricks were so dazzlingly effective that some of Kircher's less mechanically gifted brothers talked darkly of witchcraft. The visitors were deeply impressed, and upon their return to Mainz communicated their excitement to the Electoral Prince.

Johannes Schweichhart acted swiftly on this intriguing information. A product of the German College in Rome, he worked through his father confessor, Johann Reinhard Ziegler SJ,[78] and as a result of their combined machinations, Kircher found himself transferred to the Electoral residence in Aschaffenburg. Of his stay here we know little. We may assume that, when not occupied in devising new and mysterious mechanical devices for the gratification of his patron, he spent most of his time in private study. From his own account we know that he took almost three months to survey and carefully map the ancient 'Bergstrasse'.[79] This was at the request of the Electoral Prince,

---

incumbent of the church, we learn that the faint outline of the hour markings can still be seen, and the metal parts of the construction are still intact.

[76] Despite the undoubted contribution made by Kircher to the Jesuit school, there is no mention of him in the archives of the present institution, control of which passed in 1773 into the hands of the state; see A. Behlau, *Athanasius Kircher: Eine Leibensskisse*, p. 5.

[77] J. Frechmann, *Historia Collegiani Geisanorum Heiligenstadtani*, pp. 123, 126.

[78] Fr Ziegler (1569–1636) was a noted mathematician and an inspired preacher. 'Il fut recteur à Mayence et à Aschaffenburg confesseur de l'Electeur de Mayence et y mourut le 24 juillet 1636'. Among other academic productions, he edited the works of Christopher Clavius; see *Christophori Clavii opera omnis*. It is perhaps of interest to note that Ziegler's letter of 13 April 1608 to Clavius, asking for permission to undertake this task, is preserved among Clavius' correspondence in the archives of the Gregoriana (I.244).

[79] This is the former Roman road from Bessungen (Darmstadt) to Heidelberg. Since 1463 it had belonged to the Palatinate, but on the death of the Electoral Prince Friedrich V, Johannes Schweikhart von Kronberg negotiated its successful return to his own principality.

and his appreciation was such that Kircher was rescued from a lifetime of cartographical survey only by his noble supporter's grave illness and subsequent death.

Towards the end of 1624 Kircher was sent by his superiors to Mainz, to the Jesuit College there, founded in 1561. He spent the following four years in the study of theology and oriental languages, in preparation for his ordination as a priest.[80] This period is mainly one of consolidation in Kircher's private studies and progress in his spiritual activities. We know little of the other events in his life at this point, though doubtless he remained in close contact with the Electoral Court in nearby Aschaffenburg. In his autobiography he informs us that he was placed in charge of the college choir, and it is possible that he taught a little Greek.[81] From a later published work we learn that here in Mainz Kircher first turned to the study of astronomy. He made his first observation on 25 April 1625 and noted twelve major and 38 minor sunspots.[82]

Some time in 1628, Kircher left Mainz and settled for his third probationary year in Speier. While working here in the library of the college, founded in 1587, Kircher tells us how he came across a work on the re-erection of the Egyptian obelisks in Rome under the pontificate of Sixtus V. The treatise is not named,[83] but Kircher describes in minute detail the feeling of awe the illustrated hieroglyphs aroused in him. This chance discovery, if we are to believe Kircher's own account, became a turning-point in the young priest's life, and gave the impetus for the dedicated years of toil that Kircher was to devote to the exposition and deciphering of Egyptian hieroglyphs.[84]

After almost a year spent in study and meditation in Speier, Kircher was sent to the Jesuit college at Würzburg, where he taught moral philosophy, mathematics and Hebrew. It was about this time, if we

---

[80] The exact date is not preserved in the Jesuit Archives in Rome. Kircher, however, tells us the year: 'Finito studio theologico et sacerdotio initiatus 1628': *Vita*, p. 483.

[81] Of his four years' stay in Mainz, Kircher says darkly, 'much happened in this period, but since I am loathe to sing my own praises, I will remain silent and say no more': *Vita*, p. 483.

[82] *Ars magna lucis et umbrae*, Rome 1646, pp. 3, 6, 8.

[83] Possibly it was *Degli obelischi di Roma*, Rome 1589, by Michele Mercati (1541–1593), a work which held the pessimistic view that Egyptian ideograms would never be translated.

[84] Kircher describes the decision he took at Speier in the prefaces to his *Prodromus coptus sive aegyptiacus*, 1636; *Oedipus aegyptiacus*, 1652–1654, I; and *Sphinx mystagoga*, 1676.

are to believe a more modern biographer, that Kircher volunteered for missionary work in China.[85] His request was refused and Kircher remained at his post in Würzburg. The College in Würzburg was opened, like that in Speier, in 1587. One of its greatest benefactors was the Prince Bishop of Würzburg, Julius, who died in 1617, leaving instructions that his heart be buried in the College chapel. Besides actively encouraging foreign scholars to settle in Würzburg, Julius employed his own considerable antiquarian and aesthetic tastes in the creation of a museum at that time unique in Germany.[86] There can be little doubt that such a collection would fascinate Kircher.

There is evidence that the teaching standards of the College during the first third of the seventeenth century were not sufficiently high and that not enough faculties were adequately taught or even represented.[87] On the other hand, a high proportion of Polish students in Würzburg preferred the German university to their own more venerable academies.[88] They especially favoured the Medical School, which enjoyed a European reputation. This faculty, ably fathered in the late sixteenth century by Adrian von Roomen, was dominated during Kircher's stay in Würzburg by two prolific medical writers, Christoph Upilo and Johann Theodor Schoenlein.[89] It is possible that Kircher's own interest in medicine was prompted by his academic colleagues in Würzburg.

Another, less pleasing feature of life in Würzburg was the constant prosecution of witch-hunts. The vehemence and cruel persistence of these regular purges was largely due to the fanaticism of Julius' successor, Philipp Adolf von Ehrenberg. In 1627, 219 individuals were tortured and burned to death for demonology. A nephew of the Prince Bishop himself, who was also a pupil of the Jesuit college, confessed under torture that he was a witch, and in 1629, the year of Kircher's arrival in Würzburg, two law students, Hir and Schwegler, were burned as 'malefici'.[90]

---

[85] This information is offered by A. Müller in his article on Kircher in the *Catholic Encyclopedia*, 1910 edn., vol. 8, p. 661. Similar details, but without a date, are given by A. Huonder, *Deutsche Jesuiten-missionare des 17 und 18 Jahrhunderts*, p. 12. Kircher never learnt Chinese.

[86] C. Bönicke, *Grundriss einer Geschichte von der Universität zu Wirzburg*, vol. 1, p. 53.

[87] Zirngiebl, *Studien über das Institut der Gesellschaft Jesu*, p. 368.

[88] Bönicke, *Grundriss*, pp. 64–65, with a eulogy of Kircher.

[89] G. Sticker, 'Die Medica Facultas Wirtzeburgensis'. In *Festschrift zum 46. deutschen Artzetag in Würzburg*, Würzburg 1927, p. 77.

[90] 'Medica Facultas', p. 81.

Against this backdrop Kircher's first published work, *Ars magnesia*, appeared. This tiny treatise emerged in academic garb and was defended as a thesis by one Johann Jakob Schweichhart, a student of law and mathematics. The book, dealing with the phenomenon of magnetic attraction and repulsion, was well received according to Kircher, and was later amplified into his deservedly popular work *Ars magnetica* (1631)—the title often given to the *Magnes…sive de arte magnetica*.

Of Kircher's performance on the teaching rostrum we know little. We do, however, find a solid testimony to his teaching skill in the later reputation of one of his pupils, Kaspar Schott, who followed Kircher into the Jesuit Order and subsequently worked with him in Rome.[91] Schott left Würzburg in 1631 but eventually returned in 1655 and became Professor of Theology and Mathematics at Palermo and an acknowledged scientific author of the day. Both his and Kircher's learning and teaching ability were fully recognized in retrospect in a motion passed by the university's governing body some 70 years after Kircher's death.[92]

As we may imagine, most of Kircher's time in Würzburg was spent either in teaching or private research, now made all the more meaningful by the excitement of having a work published. In 1631, mindful of the success he had enjoyed at Aschaffenburg, he devised an instrument capable of measuring at a distance any terrestrial or celestial object—'man könne mit demselben abmessen die Längen/Breiten/Höhen/Tieffen/Flächen/die irdischen und himlischen Cörper usw'.[93] He named this new multi-function tool the 'Pantometrum', and was careful to send an example to Ferdinand III, Archduke of Austria and later Holy Roman Emperor.[94] Much later the instrument was popularised by Kaspar Schott in a treatise of ten books devoted solely to explaining the

[91] Kircher's role as a lecturer is described in K.W. Justi and F.S. Mursinna, *Annalen der deutschen Universitäten*, pp. 505ff, 642ff.

[92] 'We earnestly desire that mathematics, in which our university once so excelled, under the celebrated Kircher and Schott, should be restored to its pristine dignity and splendour': F.X. von Wegele, *Geschichte der Universität Wirzburg*, vol. 2, p. 417.

[93] J.F. Reimmann, *Versuch einer Einleitung in die Historiam Literariam, etc.*, vol. 4, p. 179.

[94] C. Wegleiter, *Oratio de palmariis seculi nostri inventis*, p. 33.

use and manufacture of the 'pantometrum Kircheri'.[95] Kircher himself briefly describes the instrument in his *Ars magna* of 1646.[96]

Another personal tradition which Kircher continued was the construction and erection of two sundials.[97] Both examples survive to this day on the south and east sides of the central tower of the old university. They still possess their projecting arms and although their hour-markings have been weathered by three centuries, one can still, with determination and a little narrowing of the eyes, discern the time of day.

Events in the outside world were soon to impinge on the enclosed world of the College. On a warm night in the summer of 1631, Kircher dreamed of seeing armed and bearded men in the courtyard of the Jesuit College. Regarding it as a warning, he reported the dream to the Rector, yet found his advice politely but decisively laughed away.[98] His premonition was soon to become reality. On 17 September 1631, Tilly was defeated at the battle of Breitenfeld, near Leipzig, by the troops of Gustavus Adolphus.[99] As a consequence, the whole of Franconia and Central Germany lay open to the Protestant armies. Early in October news of their impending arrival reached Würzburg, and uneasily the city began to fortify itself.

With the approach of Protestant soldiers, the Jesuits faced not only discomfort and privation, but death. The Rector of the Würzburg community, Fr Peter Facies, seemed not to realize this. He made plans to evacuate only the junior members of the Order, preferring valour to discretion. Fortunately, his orders were overruled by the new

---

[95] Or, *Pantometrum, Kircherianum, etc.*, Würzburg 1660. This work is accompanied by a letter written from Kircher to Schott on 25 March 1656, testifying to Schott's fitness to write on this subject.

[96] *Ars magna lucis et umbrae*, II. II, ch. 3.

[97] E. Zinner, *Alte Sonnenuhren*, p. 219. Kircher may well have acquired his fascination with chronological devices from an early acquaintance in Geisa with a sundial (south wall SS Peter and Paul) dating from 1497, or indeed from the similarly still extant sundial on the Michaelskirche in Fulda, said to be the oldest (*ca.* 820) in Germany, and reputedly designed by Rhabanus Maurus; see Zinner, *Alte Sonnenuhren*, pp. 23, 86.

[98] Schott faithfully reports this same dream in his *Physica curiosa,* p. 218. The dream is given in German by von Wegele, *Geschichte der Universitat Würzburg*, vol. 1, pp. 327–329, and by Schott in Latin, *Physica curiosa*, vol. 1, p. 218.

[99] The carnage and loss of life, so much a feature of the Thirty Years' War, is described simply in the folksong written about this battle: Das Frankenland ist ein schönes Land,/Es hat viel schöne Strassen,/Es hat so mancher brave Soldat/Sein jungs Leben gelassen: L. Koberg, *Lieder und Taten, deutsche Volksgeschichte, etc.*, p. 193.

Prince Bishop of Würzburg, Franz Graf von Hatsfeld und Gleichen, and in a very short time indeed the whole Jesuit community was ready for flight.[100] Kircher describes the chaos and terror which marked his last hours in Würzburg: 'the whole College was dismantled within 24 hours, everyone in unbelievable confusion, stricken with terror as the enemy, it was said, would spare no Jesuit'.[101]

On 14 October 1631, after secretly burying their holy relics and silver chasubles, the Jesuits fled the city. After them, with eight horses, galloped their Prince Bishop, Franz von Hatsfeld.[102] The following morning the city was occupied by Gustavus Adolphus, and three days later the castle fell to his skilled and practised troops. The relics and chasubles were dug up, the Jesuit College became a warehouse, and the College books and manuscripts, including Bishop Julius' collection, were sent to swell the royal libraries in Sweden.[103]

Kircher had neither the time nor the inclination to recall the accuracy of his prophecy. He noted drily in his own account that many of his colleagues thought his prophecy to be the result of astrology. Far more important and annoying to Kircher were the manuscripts he was compelled to leave behind.[104] In his flight from Würzburg Kircher was joined by a fellow countryman (there is reason to believe that he came from near Fulda) and fellow Jesuit, Andreas Wigand.[105] They reached Mainz together and then, their safety threatened again, fled south to Speier. When once more danger became imminent, Kircher

---

[100] A. Ruland, *Series et vitae professorum SS. Theologiae qui Wirceburgi, etc.*, pp. 34ff.

[101] *Vita*, p. 485.

[102] G. Egelhaaf, 'Gustav Adolf in Deutschland (1626–1632)'. In *Schriften des Vereins für Reformationmsgeschichte* 18 (1901): 90.

[103] Egelhaaf, 'Gustav Adolf in Deutschland', 91; Bönicke, *Grundriss*, p. 67; F. Lucas, *Europäisches Helikon*, p. 257.

[104] We are given no further information on these papers. In the Badische Landesbibliothek in Karlsruhe there is, however, a manuscript work in Kircher's hand, dated 1630 on p. 167: 'Institutiones Mathmaticae/de Aritmetica/Computu Ecclesiast:/ Geometria/Aliisq. scientiis Mathematicis Auctore' (St Blasien 67). In this connection, it is of interest to note that there are, in Würzburg, neither Kircher manuscripts nor letters.

[105] Epist., XIII. 121 (Worms, 7 November 1659). In this letter, Wigand, in a postscript, recalls to Kircher their earlier meeting: 'your compatriot and companion on a journey to France'.

and Wigand left their native Germany and gained the comparative safety of Lyons in France.[106]

Kircher was never again to set foot on German soil. The apparent safety of Lyons proved to be illusory, and leaving the plague-stricken town behind him, Kircher travelled to Avignon, capital of the department of the Vaucluse. In this historic city, regarded as part of the Holy See, Kircher was to stay for almost two years. Avignon had a strong Jesuit tradition going back to St Ignatius himself, back in fact to 1555 when the apostolic administrator of the diocese, Cardinal Farnesi, requested the Jesuit presence.[107] At that time the city presented the Jesuits with the De La Motte Palace, intimately connected with the life of St Catherine of Siena, to be used as a college. It granted them a pension of 400 *scudi* a year,[108] which Pius V augmented with an additional 100. These revenues, combined with wealthy local priories and frequently opulent alms, succeeded in making the community at Avignon, by Kircher's arrival, one of the wealthiest in France.[109]

The Jesuit church in Avignon, begun in 1615, was modelled on the Gèsu in Rome, the church of the Collegium Romanum. Another building, which was given to the college in 1621 through the generosity of Monsignor Louis Belli, was a tower constructed for use as an observatory. The new and unmarked inner walls of this building inspired Kircher to new heights of ingenuity. He constructed a primitive but well-received planetarium,[110] designed sundials which told the time by reflected light,[111] and converted the interior of the tower into a coloured maze of astronomical and catoptrical intricacies. Kircher

---

[106] One of Kircher's friends in Lyons, who was later to correspond with him, was François Giliot, alias Franciscus Ximenez; see Epist. XIII. 4 (Angelopoli in Prov. mexicana, August 1656).

[107] A. Canron, *Le guide du pèlerin catholique dans Avignon*, p. 83.

[108] Canron, *Les Jésuites à Avignon: esquisee historique*, p. 47.

[109] J. Courtet, 'L'Ètat ancien de l'instruction publique dans Vaucluse', *Bulletin de Vaucluse* (1874): 463–464.

[110] M. Chossat, *Les Jésuites et leurs oeuvres à Avignon, 1565–1768*, p. 231.

[111] The question of priority in the exposition of this and similar devices led to a controversy with the Minorite Friar Fr Emanuel Maignan; see P. Capparoni, 'Il calamaio di Atanasio Chircher', *Rivista di storia critica delle scienze mediche e naturali* 6, 2 (1915): 345–354. Curiously, when English diarist John Evelyn visited the Trinità del Monte in Rome on 22 February 1645, he noted on the ceiling of the cloister 'Babylonish dials invented by Kircher the Jesuite': E.J. de Beer (ed.), *The Diary of John Evelyn*, vol. 2, 373. This, however, was the work of Fr E. Maignan. See Maignan, *Perspectiva horaria svie horographia gnomonica*, pp. 390–392; J.F. Niceron, *Thaumaturgus opticus*, pp. 178–179; P. Bayle, *Dictionnaire et critique*, vol. 3, pp. 282–283.

himself refers to this wonderful device as the 'astronomico-catoptric clock at Avignon, on which the whole movement of the first mover was shown by reflecting a ray of the sun'.[112] This is further explained and elaborated in the only work written by Kircher during his stay in Avignon, and dedicated in gratitude to the Senate of the city.[113]

During his stay in Avignon, Kircher's interest in astronomy led to a somewhat less enjoyable experience. Late one evening, while strolling in the grounds of the Priory of Montfavet some distance from Avignon,[114] he became so engrossed in studying the stars that he fell, for the second time in his life, into a mill-race. He was able to swim to safety and escaped with little more than a slight shock.[115]

Though he taught Jesuit students and private pupils outside the seminary, Kircher's duties were not onerous. He found time to visit various shrines in the region, such as the cave of St Mary Magdalen in Sainte-Baume, the grave of St Maximin in the town named after that saint, the sepulchre of St Lazarus in Marseilles and the tomb of St Martha in Tarascon.[116] He combined these devotional duties with an exact survey and cartographical projection of the whole district of Narbonne. It was during one of these scientific expeditions that the young Jesuit came into contact with a man who was to have a decided influence on his life.[117]

In Aix, some time in 1632, Kircher became acquainted with Nicolas Claude Fabri de Peiresc (1580–1637).[118] Peiresc was one of the foremost humanistic scholars of his age. He published little but maintained an extensive correspondence with scholars and scientists of European reputation, collecting everything, examining everything and spending

---

[112] This is the frontispiece illustration to a work published in Avignon by Kircher, containing similar examples in this sphere of science. The 'primum mobile' is a technical term, used in the medieval version of Ptolemaic astronomy to denote the outermost of the concentric spheres spinning all the other spheres containing Sun, Moon, planets and stars around the earth every 24 hours.

[113] *Primitiae gnomonicae catoptricae, etc.*, p. 228.

[114] Canron, *Les Jésuits à Avignon*, p. 49.

[115] *Vita*, p. 487.

[116] *Vita*, p. 486.

[117] Similarly, in 1632 Kircher was visited in Avignon by Johann Heveliusz; see Heveliusz' letter to Kircher; Epist., III. 346 (Gdansk, 28 August 1647), where he somewhat belatedly thanks him for his kindness: 'humanitas tua, qua me Avenione Anne, 1632, excepisti'; see also E.F. MacPike, *Hevelius, Flamsteed and Halley*, p. 2.

[118] Through his contact with Peiresc, Kircher made the acquaintance of the Hebrew scholar and astronomer Rabbi Salomon Azubins de Tarascon: 'il s'attache deux savants, en manière de sécretaires, le Fr Kircher…et le rabbin Saloman': C. Cahen-Salvador, *Un grand humaniste Peiresc*, p. 160.

a life devoted entirely to the acquisition and dissemination of knowledge. His interests were chiefly antiquarian. He was intrigued and tantalised by the veiled secrets of the Orient and had, when Kircher first entered his life, amassed a considerable Egyptological collection. It would not be too much to say that Kircher became Peiresc's *protégé*.[119] The French scholar encouraged Kircher and inspired his determination to unlock the secrets of the hieroglyphs. The two scholars exchanged information[120] and Kircher visited his new patron at Aix whenever possible.

In the summer of 1622, Kircher was appointed court mathematician to Emperor Ferdinand II, in Vienna,[121] and he prepared for the journey to Austria. Peiresc, however, had other ideas. He approached the Cardinal Legate of Avignon, Francesco Barberini, in an attempt to procure for Kircher an alternative appointment in Rome.[122] Cardinal Barberini in turn appealed to his uncle, Pope Urban VIII, who conferred with the General of the Jesuits, Mutio Vitelleschi. It was decided that Kircher should go instead to Rome, and consequently the order for Kircher's transfer to Austria was rescinded. Details of the new decision were sent to Avignon, but only to arrive after Kircher's departure for Austria.

Kircher had of course to abandon Avignon at the bidding of his superiors, but he left with regret and commented[123] with sorrow on his untimely departure from a city so remarkable and a climate so favourable for astronomical observations, 'coelum Aegyptiacum…coelestium phaenomenorum observationi faventissimum'. We can imagine

[119] In his biography, Kircher calls Peiresc 'the most zealous patron of every scholar in Europe'. Elsewhere, Kircher talks of being 'persuaded by the urging of all my friends everywhere and most of all by the prayers of my dear friend Peiresc'; see his *Lingua aegyptiaca restituta*, 1643, Proem.

[120] Kircher also presented Peiresc with a clock of his own invention, in which the driving power emanated from the heliotropic rotation of a sunflower seed: P. Humbert, *Peiresc: un amateur français*, p. 252.

[121] However, in a letter written to his fellow Jesuit, Jean Ferrand, from Avignon on 4 June 1633, Kircher informs him that he is shortly going to lecture at the college in Trieste, 'primum ex Austriacae provinciae Collegis': Carpentras Library, Peiresc Collection, II. f. 402.

[122] At this time Peiresc was trying in vain to secure an appointment in Rome for the Capuchin Gilles de Loche, recently (1633) returned from missionary work in Abyssinia with a considerable collection of oriental incunabula. His appeal to Barberini was in this instance of no avail; see Fabri de Peiresc, *Correspondance avec plusieurs missionaries et religieux de l'ordre de Capuchins*, p. 270.

[123] Dedicatory epistle to the Senate of the city of Avignon printed in his *Primitiae gnomonicae catoptricae* and signed 10 May 1633.

too how reluctantly he said goodbye to Peiresc, his first real friend and supporter. Before leaving France, he spent a few last days with Peiresc in Aix. Then early in September, Kircher embarked at Marseilles for Genoa, intending to travel from Genoa overland to Venice and then on to his new post. The journey started inauspiciously.[124] The vessel in which Kircher and his fellow travellers[125] were sailing came to a sudden halt on a sand-bar three miles out of Marseilles. After paying heavily for the privilege, the marooned passengers were brought back to Marseilles in a fishing boat. They re-embarked in a felucca and headed for Genoa. On 15 September, the octave of the birth of the Virgin Mary, a violent storm arose and their boat was driven ashore, a day's march from Cassis. They set out on foot and reached Cassis early the next morning, their clothes torn, their shins bleeding and bruised. Eight days later the weary company finally struggled into Genoa, where Kircher and the other passengers rested for a whole fortnight. While in Genoa, they made a collective pilgrimage to the shrine of Our Lady in Loreto.[126]

At the end of the fortnight, feeling relaxed and confident, the group embarked again for Livorno. Once more the elements rose up against them. The ship came close to foundering off the rocky coast of Corsica and was driven off course, but eventually limped into the ancient harbour of Civita Vecchia, a convenient stepping-stone not for Livorno but for Rome itself. Exhausted and famished, Kircher finally found himself in Rome, where to his pleased confusion he found that he was daily expected, not as a visitor but as a permanent resident. It was now, if we are to accept Kircher's own chronology, early in 1634.[127]

---

[124] This odyssey is described at length by Kircher in the *Vita*.

[125] One of Kircher's fellow travellers on this boat was Johann Hellwig who, after making the acquaintance of Georg Harsdörffer in Nuremberg, wrote to Kircher wondering 'if you remember your companion in the black habit and musing…on our humane and erudite conversation': Epist. XIV. 109. Regensburg, 10 January 1655.

[126] 50 years later, a traveller in Italy could say of this pilgrim centre: 'le principal négoce de cette petite ville consiste en médailles, en rosaires, en grains-bénits, en images, en Agnus-Dei…et en autres semblables marchandises': F.M. Misson, *Nouveau voyage d'Italie*, vol. 1, p. 253.

[127] In a letter from Peiresc to Fr Gilles de Loche, written on 22 December 1633, we find the reasonable but apparently invalid assumption, 'le Fr Athanase Kircher est à ceste heure à Rome': Fabri de Peiresc, *Correspondance*, p. 218. In a letter written to Dom. de Four of Lyons from Rome on 14 August 1673, Kircher gives the date of his arrival in Rome as 1635. This probable misprint is in a letter later inserted in front of Kircher's *Sphinx mystagoga*.

Rome, in 1634, was a city of contrasts. Parts of the city were a haphazard jumble of mediaeval hovels and refuse-littered streets, swarming with illiterate, half-starved ruffians. In the narrow, foul alleys a man's property and often his life were of little account. This was a Rome that the visitors and pilgrims seldom saw. Other areas of the city were new and spacious. Wide thoroughfares linked pleasant squares and piazzas, often centring on an obelisk, and gleaming bridges were thrown over the Tiber. Since the reconstruction work done by Pope Sixtus V (1585–1590), certain areas of the city, especially the Monti district, were for the first time provided with an adequate water supply.

Elsewhere in the city, in even greater contrast, were the remnants of Imperial Rome: the Forum, the Colosseum and the Appian Way. Indiscriminately plundered by the Renaissance popes, these places were beginning to be recognized as valuable and noteworthy. The mediaeval sections of the metropolis were less lucky. Either they were ignored completely and abandoned to decay, or they were brightly refurbished with the convolute scrolls of High Baroque. When Kircher arrived in 1634, Rome was a city of artists and wealth. From the closing days of the Renaissance it inherited a taste for all things beautiful and aesthetically pleasing. Artists of the calibre of Annibata Caracci, Domenichino, Guido Reni and architects such as Bernini created under the guidance of their patrons a city of magnificent palaces and ornate villas, with stately fountains and immaculate gardens. Nor were beauty and taste confined to the outside of buildings. Sculpture, mosaics, frescoes, delicate creations in gold and silver, portraits, tapestries and porcelain ornaments, all objects of beauty and rarity, became standard furnishing in the new mansions, and in palaces such as those of the Borghese and the Barberini. The desire to create and collect things of beauty took hold, and the newly built churches in Rome competed with each other, each amassing new and startling treasures. Chief among these ecclesiastical rivals were the mother churches of the new religious orders. The Gèsu of the Jesuits consciously attempted to excel the Chiesa Nuova of the Oratorians; the Theatines and their S. Andrea della Balle strove to surpass the achievements of the Barnabites with their S. Carlo ai Catinari.[128]

[128] In 1649 Theodor Amyden listed in Rome: three Patriarchal Churches, eleven 'collegiate secolari', ten 'basiliche antiche unite a diverse collegiate', 106 parish churches, 43 monasteries, 27 churches of foreign nationals and 64 public oratories: Vatican MSS. *Varia-polit.* 150, p. 709.

This was the Rome where Kircher spent the rest of his life. It exercised a peculiar fascination for Germans.[129] Throughout his life in Rome, Kircher continually received visitors from his home country. One of them, Andreas Gryphius, expressed his feelings in lyrical form when he left Rome in 1646:

> Ade! Begriff der Welt! Stadt, der nichts gleich gewesen,
> Und nichts zu gleichen ist.
> Ihr Wunder der Gemähld', ihr prächtigen Palläst.
> Ihr Bücher, Gärten, Grüfft, ihr Bilder, Nadeln, Stein,
> Ihr, die diess und noch mehr schliesst in die Sinnen ein,
> Ade! Man kan euch nicht satt mit zwei Augen schauen.[130]

German interest in Rome was not confined exclusively to the various collections of antiques, ancient libraries and architecture referred to by Gryphius. German artists, poets, sculptors and tradesmen of all varieties swarmed to the capital city of Europe. Many of them worshipped in the German church known as the Anima[131] and became members of the German confraternity of the Campo Santo. This latter organisation, designed to preserve and foster the neglected patriotism of its members,[132] was presided over by Friedrich, Landgrave of Hesse, from 1666 to 1683. From 1650 to 1660 it had as treasurer another of Kircher's friends, the custodian of the Vatican Library, Lucas Holstenius.[133] A further German institution was the nobly founded and eminently respected Collegium Germanicum et Hungaricum,[134]

---

[129] That the French found themselves no less at home in Rome is evidenced by an anonymous pamphlet *Rome Françoise ou la France Romaine*, Paris 1663, beginning: 'Rome est encore le chef du monde/Nostre Chrétienne pieté/Rever son authorité/Avec Humilité Profonde'.

[130] Gryphius, *Lyrische Gedichte* (ed. H. Palm), Bk IV, Sonnet 41. A later French traveller's reaction, though expressed less eloquently, says simply, 'Rome est un monde, dont il est bien malaise de sortir': Misson, *Nouveau voyage d'Italie*, vol. 2, p. 121.

[131] As a Jesuit, Kircher would eschew the institutions of his more worldly minded compatriots: see A. Kerschbaumer, *Geschichte des deutschen National-hospizes, Anima zu Rom*.

[132] The Austrian poet Simon Rettenbacher castigated at length those Germans who were prepared to forget, however temporarily, their own nationality. He exclaims: 'Bei mir aber ist es nicht so. Ich bleibe auch in Rom ein treuer Sohn der Mutter Germania: denn verehrungswürdig und unvergesslich bleibt mir das Land, wo meine Wiege gestanden'; see T. Lehner, *Simon Rettenbacher*, p. 31.

[133] A. de Waal, *Der Campo Santo der Deutschen zu Rom*, pp. 115, 124, 134. On Holstenius, see Chapter 11.

[134] This, the oldest such institution in Rome, was founded in 1552 by Cardinal Johann Moron: J.C. Cordara, *Collegii Germanici et Hungarici Historia*, p. 5.

whose scarlet-gowned students attended the Jesuit college for most of their lectures.

The Jesuit College in Rome, where Kircher took up teaching duties early in 1634, was also known as the Collegium Romanum. It was a noble, impressive building, accounted one of the sights of Rome, and has remained unchanged to the present day.[135] In 1727 a German visitor to Rome described it with the words: 'Das Gebäue an sich darff an Schoenheit und Grösse dem besten Pallast nicht weichen: vielmehr erheben die darinnen befindliche ausbündige und nur erdenckliche Raritäten dieses herrlichen Collegium über alle andere in der Stadt'.[136] The library of the College, adjacent to which Kircher was later to house his celebrated Museum, was adequate but unspectacular.[137] Of the students at the institution we know little, apart from the solitary statistic that there were 200 studying theology.[138] Kircher taught Hebrew and Mathematics. It is possible that he spent some time wholly engrossed in his private studies before being appointed to this post.[139]

Kircher arrived in Rome during the pontificate of Urban VIII (1623–1644), uncle of his patron Francisco Barberini, and during the generalship of Mutio Vitelleschi (1615–1645). The Eternal City took little notice of the arrival of the young Jesuit scholar, but mention of his arrival—variously distorted—is to be found in two letters written from Rome to the great astronomer and scientist Galileo Galilei. These letters describe Kircher's horological invention, his sunflower seed clock,[140] an early version of which, it will be remembered, had been presented to Peiresc. The correspondent, writer of both letters[141] was the learned abbot Jean Jacques Bouchard, a priest who was later to scandalise Roman society by his unpriestly mode of life. He refers

---

[135] Unchanged, that is, in appearance. In 1871 it was confiscated by the state and has since housed both the National Library in Rome and a girls' grammar school: *Pontificia Università Gregoriana 1553–1953*.

[136] C.F. Neickel, *Museographia oder Anleitung zum rechten Begriff, etc.*, p. 93.

[137] 'La Bibliothèque est bonne et nombreuse, mais elle n'a ni manuscrits anciens, ni autre chose fort rare': Misson, *Nouveau voyage d'Italie*, vol. 2, p. 119.

[138] J.R. Sprenger, *Roma nova*, VII. 3, p. 148. A manuscript note adds, in (older) English: 'There is in the Colledge 8 professors, in which also there is schollers which study Philosophy or Divinity about 360'.

[139] This is suggested by Rosenkranz, 'Aus dem Leben des Jesuiten A. Kircher', *Zeitschrift für westfälische Geschichte und Alterthums-kunde* 18 (1858): 31.

[140] This curious device is described at length in Kircher's *Magnes, sive de arte magnetica*, Rome 1641, III.4.v, pp. 640–648, under the heading 'Horoscopium Botanicum, sive Horologium ope Heliatropiorum construere'.

[141] (18 March 1634).

to Kircher as 'un tal Giesuita Tedesco…il Fr Anastasio' and mentions, in further support of the new arrival's erudition, his linguistic prowess: 'molto versato nelle lingue orientali'.[142]

This simple statement is considerably amplified in the letter written by Raffaello Magiotti, a scholar of scientific leanings employed in the Vatican Library. Magiotti explains that Kircher has recently returned from the East, knows twelve languages, is an excellent geometrician and has perfected a master clock.[143] Kircher of course had not been to the Orient, but possibly Magiotti assumed he had done so because of the volume of oriental manuscripts Kircher brought with him from Peiresc, who had obtained them from the returning Capuchin monk Fr Minuti.[144] Magiotti describes Kircher's burden of Arabic and Chaldaic codices and mentions an additional 'copiosa espositione di ieroglifici' which, he assures the ageing, exiled Galilei, are said to contain 'in quelli scritti, gran segretti et istorie'.

It is not surprising that these early Roman descriptions of Kircher—however piously inaccurate they may be—should contain allusions to Kircher's work in oriental languages. Stimulated by Peiresc's enthusiasm and aided by manuscripts collected by the hot-blooded Pietro 'Peregrino' Della Valle, Kircher could now settle down in Rome to concentrate on reducing his voluminous notes to an instructive form palatable to the learned public.[145] The result was the first book published in Europe about the history, existence and philological mysteries of the Coptic language. This work, the *Prodromus coptus sive aegyptiacus*,[146] was published in 1636 by the Congregatio de Propaganda Fide, itself only recently reconstituted in Rome by Urban VIII in 1627. The work was dedicated to Cardinal Barberini.

---

[142] Galileo, *Le Opere di Galileo Galilei* (ed. A. Favoro), vol. 5, p. 46.

[143] 'Di nuovo, c'e in Roma un Gesuita stato gran tempo in Oriente, quale, oltre al posseder dedici lingue, buona geometria ecc…per horielo perfettissimo': Galileo, *Opere*, vol. 5, p. 65.

[144] Humbert, *Peiresc*, p. 179.

[145] Kircher was also helped by renewed Vatican activity in the field of oriental studies. Under the instructions of Urban VIII, manuscripts and codices from the Abyssinian hospice Santo Stefano degli Abessini, from the Capranica College, from the Minerva and from Assisi were transferred into the Vatican archives: L. von Pastor, *Geschichte der Päpste*, vol. 13, p. 913. In his *Prodromus*, 187–195, Kircher publishes a list of 24 Coptic manuscripts present in the Vatican: G. Levi della Vida, *Ricerche sulla formazione del più antico fondo dei Mss. Orientali, etc.*, 339; A. Hebbelynck and A. van Lantschoot, *Codices Coptici Bibl. Vaticanae*, I.xviii.

[146] *Prodromus*, esp. p. 338.

One must not overlook the prime mover behind this new work. Kircher maintained a vigorous correspondence with his patron and eager supporter in France, Fabri di Peiresc. From the French scholar's own correspondence we obtain a better view of the evolution of the *Prodromus*. From a letter written by the Nimes professor Samuel Petit to Peiresc in April 1634, we find that he too is eagerly awaiting Kircher's promised 'dictionnaire des Cophtes'.[147] Petit similiarly refers to an Arab manuscript written by the rabbi Barachina Nephy of Babylon, which Kircher may have promised to edit. At all events, Petit seems to have overlooked the fact that this codex was now in Peiresc's possession.[148]

In September of the following year, we find Peiresc questioning the Capuchin Cassien de Nantes on a Coptic vocabulary list he has found for sale.[149] Here Peiresc mentions another copy of this vocabulary at Rome, in the possession of Pietro Valle, which has been translated 'par un Père Jesuitte à mon indication'. He wonders, however, if it will be possible to print such a work: 'mais je ne scay si l'on se scaura resouldre en ce pays la de l'imprimer si tost comme l'oevre le meriteroit'.[150] Almost exactly a year later, in a letter to Fr Gilles de Loche, Peiresc described the safe arrival[151] of a copy of the *Prodromus coptus*, 'ou il y aura de bonnes choses'. Again the French scholar remarks on his own share in this production: 'je l'avois embarqué a cet ouvrage insensiblement par mes addresses au cardinal Barberini et au cavelliere Pietro della Valle, qui avoit le livre Mss'.[152] Three months later, Peiresc repeated this story in a letter to Fr Cesaire de Roscoff. He commences

[147] Petit in [J.P. Tamizey de Larroque (ed.)] *Les Correspondants de Peiresc*, vol. 2, p. 57.

[148] This manuscript was extracted by Kircher from the episcopal library in Mainz and donated to Peiresc. The Arabic text bears the heading 'Histoire, antiquités, origines, caractères hieroglyphiques, religions et obélisques des Egyptiens' (Carpentras Library, Collection Peiresc, Cod. No. LXXIX).

[149] This Capuchin monk was martyred in 1638 in Gondar, Abyssinia. His process of beatification was introduced in Rome but was allowed to lapse.

[150] Peiresc, *Correspondance*, pp. 192–193 (letter dated at Aix, 29 September 1635).

[151] This copy was sent to Peiresc by Holstenius. In his accompanying letter (Rome, 6 September 1636), the German scholar remarks: 'In my opinion, in this category of studies, nothing more learned has come out for many years'. In a second letter (Rome, December 1636), he says, 'Prodromi exemplaria Fr Kircherus a me accepit': L. Holstenius, *Epistolae* (ed. J.F. Boissonade), pp. 270–271.

[152] Peiresc, *Correspondance*, pp. 268–269 (Aix, 23 September 1636).

his statement with the decisive declaration 'j'ay esté instrument pour faire desterrer la langue des Cophtes…'.[153]

Kircher's communications with Peiresc were not exclusively devoted to their mutual interest in oriental literary monuments. On one occasion, for example, Kircher successfully introduced to his former patron in Aix a young Roman astronomer, Gaspara Berti,[154] who had brilliantly observed the recent lunar eclipse of August 1635.[155] It is both remarkable and moving to note the generous interest and support afforded by Peiresc to almost anyone he could help, a service to scholarship he zealously maintained until his death. With such support Kircher soon settled down to a steady routine in Rome. His time was fully taken up with his devotional duties, his lectures, his writing and his private research. Probably there was little to disturb the placid tranquillity of those early days. He may have attended the *Te Deum* sung in the presence of the Holy Father, Urban VIII, in the German College, to commemorate the victory of the Imperial troops at the battle of Nordlingen. This was on 21 September 1634.[156]

Late in 1635, on 2 November, there arrived in Rome the sixteen-year-old Landgrave Friedrich von Hessen-Darmstadt, son of the late Landgrave Ludwig V, called 'der Treue' (d. 1626). Kircher met this young German noble, and was instrumental in the youth's conversion to the Catholic faith.[157] On 11 January 1637, Friedrich received Holy Communion from Pope Urban VIII, choosing Athanasius Kircher as his confessor and spiritual adviser.[158] On 7 May he left Rome for Malta, having already received from the Pope the Grand Cross of the Order of the Knights Templars of Malta.

---

[153] Peiresc, *Correspondance*, p. 303 (Aix, 27 December 1636).

[154] Humbert, *Peiresc*, p. 226.

[155] This eclipse on 27–28 August 1635 was similarly observed by Kircher and his fellow Jesuit, the controversial figure of Melchior Inchofer; see M.G. Bigourdan, *Annales célestes du dix-septième siècle*, p. 107. This same authority notes too the readings obtained by Berti.

[156] Another event of this year to interest Kircher was the foundation of the Norbertine College by the Friesian canon Johann von Prench, an institution recognized by Urban VIII and designed to cater for the scientific work of Catholic priests.

[157] Two cardinals who showed special concern over the spiritual welfare of the young Landgrave were Maurice de Savoye and Francisco Barberini. That Kircher himself was directly responsible for the conversion is indicated by de Waal, *Der Campo Santo der Deutschen zu Rom*, 124, and A. Raess, *Die Convertiten*, vol. 5, p. 468.

[158] In explaining why he was chosen, Kircher tells us 'since I had been the cause of his conversion to the Catholic faith, the wish was expressed that I should be his first confessor'; *Vita*, p. 491.

The company embarked at Civita Vecchia, where Kircher had landed some three years earlier, and sailed via Naples and Messina to La Valetta, which they reached on 2 June, Whit Sunday. The journey was interrupted at Reggio when Kircher disembarked to take readings of the declination of the magnetic pole,[159] and it is possible that the voyage was similarly broken at Naples and in the Liparic Isles.[160] Apart from this, the journey seems to have been uneventful.

Kircher's departure from Rome did not remain unnoted. His temporary absence was reported to Galilei by Raffaello Magiotti, who had recorded Kircher's arrival in Rome three years earlier. Apparently in the intervening period Kircher had promised the keen-eyed scholar specimens of his sunflower seed, so appropriate in the manufacture of clocks. With Kircher's departure for Malta, Magiotti saw his own horological ambitions receding into the distance: 'quel buon Padre della radica, s'e partito all' improvviso per Malta con il Sig. Principe Langravio, ed io son restato senza la radica promessami'.[161] Notice of Kircher's impending voyage was also forwarded to Peiresc by Lucas Holstenius.[162] In his letter he describes the arrival in the city of several Ethiopians with manuscripts in their native tongue and notes that Kircher, caught in the bustle of impending departure, is unable to deal with them. Holstenius mentions, too, that Kircher has promised to send details of his journey 'cum illustrissimo Langravio Hassine' to Peiresc.

Kircher stayed in Malta until the early spring of 1638.[163] His spiritual duties with the newly converted Landgrave appear to have been light, and he was allowed to devote a large proportion of his time to natural observations of the island and its people. Among other things, he was fascinated by the cave-dwellers of the subterranean vaults and passages

---

[159] *Ars magna lucis et umbrae*, pp. 704–705.

[160] In a letter to Johannes Buxtorf, Professor of Theology and Hebrew in the University of Basel, Kircher comments: 'During this journey of mine I inspected Vesuvius. I went to the Liparic islands, I climbed Etna, I visited [the] islands scattered about in this Etruscan Sea' (University of Basel Archives). The letter was sent from La Valetta and is dated 6 January 1638. Kircher is therefore talking of his outward journey.

[161] Galileo, *Opere*, vol. 17, p. 80 (letter is dated at Rome, 16 May, 1637).

[162] Holstenius, *Epistolae*, p. 287.

[163] According to one of his biographers, Kircher here solemnly made the fourth and final vow of his Order. This was on the feast of SS Peter and Paul, 29 June 1637: H. Meurer, 'Aufsatz über Athanasius Kircher', *Beiblatt der Magdeburgischen Zeitung* 53 (1901): 138–140.

known as Ghar-Kabir. Here he found 167 people living in abject poverty and feeding on weird but often highly palatable combinations of marine and shore food; aptly he refers to these underground inhabitants as troglodytes.[164] He travelled to the neighbouring island of Gozo where he found a similar colony of hermit-like recluses.[165]

On another occasion he toured the salt-mines of the island,[166] observed the abundance of natural springs flowing from the driest rocks, 'ex siccissimis saxis',[167] and commented on the profusion of fossil remains and the surface irregularity of rock strata.[168] Nor did he ignore the extensive library of the Grand Prior of the Knights Templars, where he found valuable oriental and Greek manuscripts.[169]

Kircher himself celebrated his sojourn in Malta by devising a machine, shaped somewhat like a stumpy watchtower, which could quickly and accurately answer questions in mathematics, geometry, medicine and calculations of the calendar. On each side of this apparatus, which was a lineal descendant of the 'pantometrum' and a predecessor of the 'organum mathematicum', were wheels covered with specific questions. One adjusted the appropriate wheel or dial to the relevant enquiry and read off the answer.[170] Possibly Kircher perfected this machine on the request of the Grand Prior, Salvatore Imbrolio, who was perturbed at the imperfect scientific knowledge of his younger knights. This invention was described in Kircher's *Specula Melitensis* and published in 1638 in Messina under the pseudonym of this same Salvatore Imbrolio.[171]

Early in 1638 Kircher was recalled to Rome, possibly at the instigation of his patron, Cardinal Francisco Barberini. He sailed from La Valetta to Palermo in the company of two fellow Jesuits and two lay

---

[164] *Mundus subterraneus*, II. VIII, ch. 3.
[165] *Mundus subterraneus*, II. VII, ch. 9.
[166] *Mundus subterraneus*, I, p. 166.
[167] *Mundus subterraneus*, II. XI, ch. 7.
[168] F. Buonanni, *Musaeum Kircherianum*, Rome 1709, [catalogue] class. 12, ch. 9.
[169] In the letter to Johannes Buxtorf quoted above, Kircher says of his activities in Malta: 'I observed all the marvellous wonders of both nature and antiquity, and also about books in Arabic, Coptic and Greek which I have collected from here and there among flocks of manuscripts'.
[170] A specimen inquiry, Proposition LXIX: Cui morbo medendum data qualibet hora Planetaria ('What illness should be cured at any given hour of the Planetarium').
[171] The *Specula Melitensis*, Naples 1638, is the rarest of all Kircher's works. There are no copies either in Messina or Malta, nor did it prove possible to find a copy in 75 of the older Italian libraries. I have not succeeded in tracing a specimen. Fortunately the work was reprinted by Schott in his *Technica curiosa*, vol. 6, pp. 427–477.

brothers. In Palermo he visited Kaspar Schott and together they journeyed to Syracuse[172] where they carried out practical experiments to determine whether or not Archimedes could have ignited the Roman fleet of Marcellus with the aid of projected mirrors and lenses.[173] We know too that here in Sicily Kircher visited the ancient library of San Salvatore dei Greci,[174] a monastery near Messina, and that in the furtherance of his studies in the natural sciences he noted the renewed activity of Stromboli, to which he was later to attribute a series of earthquakes in Calabria.[175]

On 24 March 1638, Kircher left Messina for Rome. His journey coincided with renewed volcanic activity from Vesuvius, Etna and Stromboli, and only with the greatest difficulty did the Jesuit eventually reach home. Soon after leaving Sicily Kircher's craft was driven ashore by violent winds at Cape Peloro. On 27 March he embarked once more and despite heavy seas and gale-force winds, successfully landed in Tropea, where he and his travelling companions found the whole town wrecked by an earthquake. On Palm Sunday he arrived in Roccella, in the Bay of Pizzo, and found only a sulphurous lake on the site of the small town of Santa Eufemia. Here he saw a small boy, the solitary survivor, staring fixedly at the glistening waters which had engulfed his home. When Kircher spoke to the child, he plunged panic-stricken into the surrounding trees.[176] During this nightmare journey Kircher resolved that, should he survive, he would produce a work dealing with the phenomena of the earth's interior. He would eventually publish his *Mundus subterraneus* in 1665.

Two weeks later, Kircher sailed into the Gulf of Naples, saddened by the spectacle of 200 miles of desolated coastline, from Santa Eufemia to Belvedere. He devoted little time to Naples itself but visited, with a local and timorous guide, the rumbling crater of Mt Vesuvius where, unmindful of his guide's protestations, he had himself lowered into the boiling crater. With the help of his pantometer, he made a series of observations and measurements of the inner walls of the volcano's

---

[172] *Ars magna lucis et umbrae*, pp. 880–886.

[173] W.E. Knowles-Middleton, 'Archimedes, Kircher, Buffon and the Burning Mirrors', *Isis* 52 (1961): 533.

[174] Kircher, *Musurgia universalis sive ars magna, etc.*, I, pp. 213, 540–542.

[175] *Mundus subterraneus*, I, pref., p. 240. Kircher's seismological observations are briefly noted by E. Suess, *Das Antlitz der Erde*, vol. 1, p. 113.

[176] These details have been gleaned from the *Mundus subterraneus*, I, pref., chs 1–2 and pp. 99, 179, 186, 266, 291.

gaping mouth.[177] After being hauled to safety, Kircher continued his investigations by examining the layers of new and older lava.[178] His geological researches concluded, Kircher left Naples for Rome, where he probably arrived some time in May of 1638, after an absence of some twelve months. He was never to leave Rome again.

A few months after his return to Rome, his friend and patron Peiresc died at Aix, on 24 June 1637. His death was mourned throughout Europe being commemorated by a book containing praise and eulogies which appeared in Rome the following year.[179] This memorial is typical of the age and contains tributes in 26 languages. The Persian epitaph was contributed by Pietro Valle, the 'Elogium Saxonicum' by Lucas Holstenius, while Kircher was responsible for laudatory verses in Coptic,[180] Georgian, Samaritan, and more obscurely, an additional 'Elogium Targumicum'.[181]

As the years slipped by and the list of his printed works lengthened, Kircher came to be accepted as the standard authority, the court of final appeal in the solution of countless problems, conundra and riddles. Visitors to Rome first went to St Peter's and hoped to catch a glimpse of the Pope. From there they progressed to the Collegium Romanum where they invariably saw Kircher, the black-robed oracle of Rome, who would smile with deprecating modesty at their effusions of admiration and perhaps reveal to them some choice new secret from his workshop and gallery. Admittedly, this image was not created overnight. In 1638 after his return from Malta, Kircher was comparatively unknown. Fame came gradually, and then accelerated with the successive publication of his learned works.[182]

Within a year of his arrival in Rome, Kircher was visited in the Collegium Romanum by the English astronomer John Greaves (1602–1652), recently returned from the Near East where he had made a scientific study of Persian. Greaves subsequently became Professor

---

[177] *Mundus subterraneus*, pref., ch. 3.

[178] *Mundus subterraneus*, pp. 178, 179.

[179] J.J. Bouchard (ed.), *Monumentum Romanum Nicolao Claudio Fabricio Perescio, etc.*

[180] There is some comment that Kircher's Coptic contribution was largely written in Greek: M. Chaîne, 'Une composition oubliée du Père A. Kircher en l'honneur de Peiresc', *Revue de l'Orient Chrétien* Ser 3, 9 (1933–1934): 207–208.

[181] Bouchard, *Monumentum*, pp. 88, 90, 93, 96.

[182] 'In Rome the Chair of Mathematics in the Roman College was entrusted to me, and it was while I held this Chair that I produced those works relevant to this subject already known to the world': *Vita*, p. 491.

of Astronomy in Oxford (1640–1648)[183] and visited, besides Kircher, Lucas Holstenius and the young astronomer Gasparo Berti.[184] Meetings such as this, between scholars of different nationalities and contrasting faiths, formed a valuable but often hidden contribution to seventeenth-century scholarship.

During the same year Kircher made an astronomical observation of the solar eclipse, on 1 June 1639.[185] Although he zealously observed any celestial phenomena visible from Rome and eagerly collected similar reports of eclipses and comets from his correspondents, astronomy was never more than a hobby for him. Of more practical interest were his observations of various magnetic declinations, and of the curious workings of the lodestone and other natural substances endowed with magnetic attraction or repulsion. In the following year, 1640, he published one of his most popular works in Rome, the bulky amplification of his earlier *Ars magnesia*, his *Magnes, sive de arte magnetica*. This single work did much to establish Kircher's European reputation. It also trebled the volume of his correspondence.

This same year was also especially significant for the Jesuits. On 2 August, under the directions of their General, Mutio Vitelleschi, they celebrated the centenary of the founding of their order. A pageant was held at the Collegium Romanum, epigrams were composed, eulogies were proclaimed, and every Jesuit in Rome was made keenly conscious of the responsibilities their Order bore to the world of teaching and learning.[186] Late the following year, Kircher was briefly visited by Holstenius' friend the German polymath Johann Friedrich Gronovius (1611–1671) from Hamburg, with whom he later corresponded.[187] On 30 December of that year, Kircher's patron and friend, Landgrave Friedrich von Hessen-Darmstadt, left Rome for Vienna on the first steps of a career that eventually led to a cardinal's hat and the princely

[183] *Dictionary of National Biography*, vol. 8, pp. 481–482.

[184] T. Birch, *Miscellaneous Works of Mr. John Greaves*, vol. 1. See T. Smith, *Vita Joannis Gravii, etc.*, p. 9.

[185] M.G. Bigourdan, *Annales célestes du dix-septième siècle*, 132. Kircher sent a copy of his observations the following day to Pierre Gassendi and promised in the same letter to report in greater detail the events during his journey from Malta to Rome: 'But there is much I shall have to write to you about the calamitous aftermath of my Malta journey'. See Gassendi, *Epistolae*, VI, p. 403.

[186] E. Rinaldi, *La fondazione del Collegio Romano*, pp. 120–121.

[187] J. Wilkens, *Leben des berühmten Joh. Friderici Gronovii*, p. 19.

archbishopric of Breslau. He too became one of Kircher's frequent correspondents.

Kircher's growing reputation among his own fellow Jesuits was marked in 1643 by a detailed list of his published and future works included in Pedro de Ribadaneira's bibliography of the Society.[188] Three of the promised works, although with intriguing titles, unfortunately failed to appear. These were 'Tractatus de prodigiosis Horologiis', 'Linguarum omnium, quas Auctor callet, Methodicae Instructiones', and 'Cabala Christiana'.[189] Surprisingly, this list omits Kircher's Egyptological work published in the same year. This is all the more mysterious since, in a short biography, the editors of the *Biblioteca* had stressed Kircher's present preoccupation with oriental studies.[190] Kircher's new work was his *Lingua aegyptiaca restituta*, which in many ways was a continuation and supplement of the *Prodromus* of 1636. In the *Vita*, Kircher refers with special gratitude to the support and material help offered by his friend and correspondent Pietro Valle.

Another indication of the growing esteem with which Kircher was then being regarded was his presence the following year on the board of scholars designated by a Congregation of Cardinals to explore the feasibility of translating the Bible into Arabic. The Congregation met twice a week during 1644 at the Palace of Cardinal Pallotta, and Kircher ('Pater Atanasio Chirker') was one of thirteen learned advisers.[191]

In November of the same year, Kircher was visited by the English diarist John Evelyn, who arrived in Rome on 5 November and appeared at the Collegium Romanum three days later, where he was greeted by a modest but friendly 'Father Kercherus'.[192] Evelyn's first

---

[188] Alegambe, *Bibliotheca scriptorum Soc. JESV*, pp. 48–49.

[189] Similarly, this list mentions the forthcoming oriental works: a) Barnesiae Albeneph: Arabis Judaei liber de Sapientiam Aegyptiorum, eorumque symbolicam Philosophiam; b) Kabala Saracenorum—'arabice scripta, item quae ex Hebraicis'; c) (Hebr) Parabolas Vulpium Rabbi Nickdan—'liber jucundus et eruditus'; d) (Hebr) Liber cervorum, 'in quo de abditis naturae mysteriis agitur'—'auctore Rabbi Salamone Medico di Candia'. None of these titles appears to have been published.

[190] 'Now at Rome, wholly intent on work of general utility, he is devoting himself to making known Egyptian and other oriental languages', Alegambe, *Bibliotheca*, p. 48.

[191] *Analecta juris pontifica—Congregationes Cardinalices*, Vatican, 1886, col. 888: Some twenty years later, Kircher's linguistic gifts were again called upon by the Vatican when he and four others, including his correspondent and fellow Jesuit Luigi Marracci, translated the supposedly heretical Lead Books from Spain; see T.D. Kendrick, *St James in Spain*, p. 212.

[192] Using here Evelyn, *Diary* (ed. J. de Beer), Oxford 1955, esp. vol. 2.

descriptive passage of his visit gives us an early picture of the Kircher that so many visitors to Rome were to see.

> Here Father Kercherus (Mathematical Professor and of the Oriental Tongues) shew'd us many singular courtesies, leading us into thei Colledge and carying us into their Refactory, Dispensatory, Laboratory, Gardens: and finally (through an hall hung round with the pictures of such as their Order as had been executed for the pragmatical and busy adventures[193] into his owne study, where he with Dutch patience shew'd us his perpetual moations, Catoptrics, Magnetical experiements, Modells and a thousand other crotchets and devises, most of them since published, either by himself or his industrious Scholar Schotti.[194]

Evelyn was reminded of Kircher's other activities a few days later when contemplating the obelisk before San Giovanni di Laterano. In his musings on the secrets of the inscribed hieroglyphs, Evelyn includes in his entry in his diary the information that 'Father Kerter the Jesuite will shortly tell us in a booke hee is ready to publish all the recondite and abstruse learning of that people'.[195] Three days later Evelyn was again at the 'Jesuites Colledge'[196] and listened for a short while to a mathematics lecture given by Kircher: 'here I heard Father Athanasius Kercher upon a part of Euclid which he expounded'.[197]

Although Evelyn was not to see Kircher again, he remained mindful of the Jesuit's interest in hieroglyphs.[198] When he left Venice to sail to Turkey, he received from the captain of the ship, a Captain Powell, 'a stone…full of Hieroglyphics from the mummy-pitts'. His first thought was for Kircher. He drew up an exact scale-copy of the stone's engravings and sent it to a Mr Henshaw in Rome with instructions to forward it to Fr Kircher. The illustration consequently appeared

---

[193] Evelyn does not comment on the portrait here of Fr James Garnet, executed for complicity in the Gunpowder Plot of 1605. Garnet was depicted in the company of an angel gently guiding him towards the portals of Heaven: F.M. Misson, *Nouveau Voyage d'Italie fait en l'année 1688*, vol. 2, p. 119.

[194] Evelyn, *Diary*, vol. 2, p. 230 (entry for 8 November 1644).

[195] Evelyn, *Diary*, vol. 2, p. 270 (entry for 20 November 1644).

[196] 'The Jesuit's College again at Collegium Romanum, the front whereof gives place to few in Europe for its Architecture…ornaments of rich marble. It has within a noble Portico and Court sustained with stately columns': Evelyn, *Diary*, p. 283.

[197] Evelyn, *Diary*, vol. 2, p. 282 (entry for 23 November 1644).

[198] When Evelyn visited, much later, on 21 August 1655, 'the learned James Usher…this excellent Person', he was told that 'the Italians at present understood but little Greeke and Kirker a Mountebank'; Evelyn, *Diary*, vol. 3, p. 156 (entry for 21 August 1655).

in Kircher's *Oedipus aegyptiacus* (Evelyn says *Obeliscus Pamphilius*),[199] and of this insertion Evelyn comments somewhat irritably, 'though without mentioning my name at all'.[200]

Evelyn arrived in Rome only a matter of weeks after the election and coronation of Giambattista Pamfili. As Pope Innocent X (1644–1655),[201] this man was to prove a ruthless, intolerant reformer, dominated paradoxically by his sister-in-law, the objectionable Olimpia Maidalchini. This, however, only became obvious in succeeding years. In the October of 1644, at the beginning of his reign, Rome celebrated the papal coronation with enthusiasm. Before the Spanish Steps leading up to the Santa Trinità del Monte, the Spanish Ambassador Juan de Valasco erected a giant model of Noah's Ark, surmounted by a dove. In the Jesuit College, dramatic masques and public declamations celebrated the investiture of the new Holy Father.[202]

Two years later, in 1646, Kircher entered the field of optical research with the publication of his *Ars magna lucis et umbrae*, which, though soon superseded by treatises written by Descartes and Newton, remains a valuable compilation of the theory, science and practice of optics before 1640. In the same year, Kircher was visited by the German poet and dramatist Andreas Gryphius, an event discussed below in greater detail.[203] Gryphius arrived in Rome in the March of 1646 and soon became acquainted with Kircher. It is possible that Kircher accompanied Gryphius to several theatrical performances given by the Jesuits.[204] Through Kircher, Gryphius met Pietro Valle, the traveller, orientalist and eccentric from one of whose works[205] he was later to gain inspiration for his own *Katharina von Georgien*.[206]

Another visitor to Rome that year who met Kircher was the English antiquary and traveller John Bargrave (1610–1680). Bargrave came to

---

[199] *Oedipus aegyptiacus*, Rome 1652–1654, [vol.] II. [ch.] Ii, p. 456: Henshaw is mentioned (as Henschau) on p. 457.

[200] Evelyn, *Diary*, vol.2, 468–469 (entry for 8 August 1645). Evelyn saw the 'three vast volumes of Father Kircher's Obeliscus Pamphilius' at the home of William Dugdale (1605–1686) 'our learned Antiquarie' on 6 May 1656 in Deptford (vol. 3, p. 171)

[201] Elected 15 September, crowned 4 October 1644; died 7 January 1655.

[202] L. Banck, *Roma triumphans, etc.*, pp. 133, 136.

[203] Five years earlier, the poet Hofmann von Hofmannswaldau during his visit to Rome had visited Holstenius. There is no record of a meeting with Kircher. Cf. chapter 12.

[204] W. Flemming, *Andreas Gryphius und die Bühne*, p. 69.

[205] Valle, *Delle conditioni di Abbas Re di Persia*.

[206] L. Pariser, 'Quellen zu Gryphius "Katharina von Georgien"', *Zeitschrift für vergleichende Literaturgeschichte* 5 (1892): 212.

Rome after visiting the English recluse Robert Dudley in Florence,[207] and behaved in a manner traditional to all travellers of culture and breeding who were then streaming to Rome. In his description of the city,[208] Bargrave tells us how he broke off and carried away a fragment of the Caracella obelisk, now standing in the Piazza Navona but at that time lying recumbent in the Circus Maxentius. Of this monument Bargrave adds, 'The obelisk as it lay then…is full of Egyptian hyeroglifficks, of which Fr. Kercherius, that eminent Jesuit and of my acquaintance, hath writt a large folio'.[209]

Kircher's 'large folio' did in fact appear in 1650. It is an explanation of the hieroglyphic inscriptions noted by the English traveller. At the request of Pope Innocent X, he worked on this project in conjunction with the architect Bernini. In recognition of the Pope's interest, Kircher named his work the *Obeliscus Pamphilius* (after Innocent's family name, Pamfili).[210] Due mainly to the depredations of antiquarians such as Bargrave, several missing fragments of the inscriptions themselves had to be conjecturally replaced by Kircher, a fact which received wide public acclaim and is described in detail in the *Vita*.

The year before the appearance of the *Obeliscus Pamphilius*, Kircher's growing scientific reputation had attracted a challenge from Ferdinand II, Grand Duke of Tuscany. This patron of the arts and amateur scientist, who corresponded extensively with Kircher, had applied the principle of the Cartesian divers to the construction of a thermometer and had thereby devised an entertaining apparatus which involved glass bulbs floating in water.[211] This had puzzled many philosophers in Florence,[212] and the Grand Duke invited Kircher and Raffaello

---

[207] Robert Dudley (1573–1649) settled in Florence in 1610, occupied a remote villa and became a Roman Catholic. Despite his scientific interests, he had little contact with contemporary scholars. See V. Thomas, *The Italian Biography of Sir Robt. Dudley, Kt.*

[208] J. Bargrave, *Pope Alexander VII and the College of Cardinals*, p. 118.

[209] Bearing in mind Kircher's *Ars magna* of this year, we note that Bargrave on his way home from Rome had cause to recollect his acquaintance in Rome when meeting the optical mechanic 'Myn Here Westleius' in Nuremberg: 'The gentleman spoke bitterly to me against Father Kercherius a Jesuit at Rome (of my acquaintance) saying that it had cost him above a thousand pounds to put his optick speculations in practice, but he found his principles false, and shewed me a great basket of glasses of his failings': *Pope Alexander*, p. 133.

[210] *Obeliscus Pamphilius*, 1650, p. 560.

[211] H.C. Bolton, *Evolution of the Thermometer, 1592–1743*, pp. 31–32.

[212] G.T. Tozzetti, *Atti e memorie inedite dell'Accademia del Cimento*, vol. 1, pp. 160–161; J.C. Sturm, *Collegii experimentale sive curiosi*, vol. 2, pp. 60, 64, 67; Schott, *Mechanica Hydraulico-pneumatica*, p. 29.

Magiotti, the correspondent of Galilei, to publish the correct solution.[213] Both did so in 1649.[214]

In about 1645, Kircher was relieved of his teaching responsibilities, leaving him free to pursue research. Possibly this early release from his duties was responsible for the appearance soon after of one of his most popular works, the *Musurgia universalis*, a compendium and reference work of every aspect of music. This bulky encyclopaedia was published in Rome during the same year as the *Obeliscus Pamphilius* and was promptly followed in the years between 1652 and 1654 by the four massive volumes (amounting to exactly 2000 pages) of Kircher's *Oedipus aegyptiacus*, on the compilation of which Kircher claimed to have spent twenty years. The cost of printing and publishing this typographical leviathan was borne by the Emperor Ferdinand III, and to him the whole work is appropriately dedicated.[215]

The pattern was set for the remaining years of Kircher's life. Work on his subsequent books was interrupted only by devotional duties and the periodic visits of distinguished scientists, travelling nobles or high ecclesiastics. A glance at his list of correspondents in this period shows him exchanging letters with what seems at first glance to be the entire learned and high-born population of Europe.

Another aspect of his duties as a Jesuit, which was to bring him more fame, was his custodianship of the Museum of the Collegium Romanum. By 1650 Kircher's own private collection had, through the generosity of his patrons and correspondents, grown to considerable proportions. On 7 May 1651, Alfonso Donnini, a native of Tuscany but at that time resident in Rome as 'segretario del popolo Romano',[216] signed a document donating his own collection of statues, machines, pictures, marble tablets, vases of crystal, musical instruments and 'tutte sorti di pietre e frammenti d'antichità'[217] to the Jesuits of the Collegium Romanum. In return for this princely gift, Donnini stipulated that his body be buried in the Jesuit church of St Ignatius and that the tomb

---

[213] G. Pasch, *Schediama de curiosis hujus seculi inventis, etc.*, p. 108.

[214] R. Magiotti in his *Renitenza certissima dell'acqua alla compressione*, 182–191; Kircher in *Ars magnetica*, [Bk.] 1, [Pt.] I, Progyma 3, cf. *Mundus subterraneus*, vol. 1, p. 225 (in passing).

[215] The cost of printing, which included the expense of producing new lead type for the oriental characters, came to not less than 3000 *scudi*: *Vita*, p. 494.

[216] Rinaldi, *La fondazione del Collegio Romano*, p. 121.

[217] This 'instrumentum' is preserved among Kircher's correspondence in Rome under IV.142.

should bear the reassuring inscription: 'ALPHONSUS DONNINUS—CIVIS TUSCANENSIS—HIC RESURRETIONEM CARNIS EXPECTAT'. The decision to entrust the collection to Kircher was taken by the General of the Society, the unpopular Fr Goswin Nickel, and the Rector of the College, Fr Fabio Albergotti.[218]

From its humble inception, Fr Kircher's 'galleria' thus grew into the renowned 'Musaeum Kircherianum', a gratifying development which was accelerated by Kircher's own native application and the continued acceptance of gifts and exhibits from patrons, friends, admirers and Jesuit missionaries.[219] In the early days of the Museum's new existence—it was housed in a long corridor outside the library in the Collegium Romanum—Kircher enjoyed the collaboration and help of his former pupil in Würzburg, Kaspar Schott.[220] Schott, who remained in Rome from 1652 to 1655, had finished teaching in Palermo and would eventually return to Würzburg. During his stay in Rome, Schott also helped Kircher in the preparation of his *Oedipus aegyptiacus*.[221]

In the same year that he became custodian of Donnini's collection, Kircher was engaged in activity of quite a different sort. On 24 June the Duke of Hannover, Johann Friedrich, arrived in Rome. In his retinue came Johann Heinrich Blume, Professor of Ecclesiastical History in Helmstedt and his fellow academic Friedrich Ulrich Calixtus. Blume succumbed to the combined appeal of Rome and the subtlety of the Jesuits, and became a convert to the Roman Church.[222] Calixtus, though an ardent protagonist of unity within the Christian Church, remained true to his Protestant upbringing, and in July defended his beliefs in a long and hotly waged disputation with Kircher and Cardinal Pallotta. Present at this unsuccessful onslaught on Calixtus'

---

[218] C. Garrucci, 'Origini e vicende del Museo Kircheriano dal 1651 al 1773', *Civiltà Cattolica* Ser. 10, 12 (1881): 727.

[219] In his commentary on the history of the Museum, G.A. Battarra notes exhibits 'which our Kircher increased partly through his own efforts and partly through the munificence of various princes': *Rerum naturalium historia…existentium in Museo Kircheriano* (ed. P. Bonnanio), p. 35.

[220] It was probably about this time that Kircher, during the course of a serious illness, prescribed for himself a secretly compounded sleeping draught, and after taking it dreamed that he had been crowned Pope, only to wake up the following day fully cured! This dream is related by Schott in his *Physica curiosa*, vol. 3, p. 524. It is also quoted, to prove the treachery of the Jesuits, by F. Mayer, *Päpstliche Vernunftlose Schluss-kunst, etc.*, p. 128.

[221] *Oedipus aegyptiacus*, Rome 1652–1654, I, Pref.: 'Benevolo Lectori Auctoris in re literaria socius Fr Gaspar Schottus e Soc. JESV'.

[222] E. Bodemann, *Der Briefwechsel des G.W. Leibniz*, p. 18.

evangelical integrity were the convert Lucas Holstenius, who was to become custodian of the Vatican Library on 1 October 1654,[223] and a Jesuit from Ingolstadt, Nicholas Wysing.

It is perhaps worth noting here that Kircher's earlier and more august convert, Landgrave Friedrich von Hessen-Darmstadt, received the cardinal's hat from Innocent X on 19 February of the following year, 1652. Both he and his fellow countryman Holstenius were to play an important role some three years later in securing one of the century's most illustrious converts to the Church of Rome. Pope Innocent X died during the first week of 1655. His successor was Kircher's friend, correspondent and patron, Fabio Chigi, who chose the title Alexander VII and was crowned on 18 April of the same year.[224] The pontificate of this indolent but personally noble pope, who preferred to delegate rather than wield authority, had a promising start. As Cardinal Chigi, the new pope had been in correspondence[225] with Christina, Queen of Sweden and only child of Gustavus Adolphus II, whose ravages in Germany during the Thirty Years' War had earned him the title Lion of the North. It was this warrior who caused Kircher's precipitate flights from Paderborn and Würzburg, and who so ruthlessly fought against the Church of Rome. From the Jesuit Fr Antonis Macedo, confessor of the Portuguese ambassador in Stockholm, Pinto Pereira, Cardinal Chigi had heard of Christina's leanings towards the Catholic Church.[226]

Years of intrigue followed. In utter secrecy, Jesuit advisers moved between Stockholm and Rome. Finally on 24 June 1654, Christina abdicated from the throne of Sweden and the Wasa line of royal succession came to an abrupt end. Christina, erudite and proud, who delighted in recounting that at her birth she had been mistaken for a boy,[227] made a regal progress southward to Rome. Her arrival in Hamburg and Paris was the occasion for general rejoicing. In Innsbruck she was received

---

[223] Lucas Holstenius (1596–1661) was a brilliant classical scholar who converted to the Church of Rome in 1627 after being passed over in the appointment of a Rector to the Joannisschule in Hamburg. His relationship with Kircher appears to have been more formal than cordial. Kircher is invariably omitted from any list of Holstenius' acquaintances; see G.J. von Eggs, *Pontificum Doctum*, Cologne 1718, p. 883, and T.C. Felginer, *Leben des gelehrten Lucae Holstenii, etc.*, 34–35.

[224] Once more the Jesuits found themselves celebrating the coronation of a new pope; see H. Vechius, *Imago Vechiana Alessandro VII, etc.*

[225] H. Szasz, *Christine von Schweden*, p. 113.

[226] L. von Ranke, *Die römischen Päpste*, vol. 4, p. 91.

[227] Ranke, *Römischen Päpste*, p. 84.

into the Roman Church by Lucas Holstenius and Cardinal Friedrich, Landgrave of Hessen-Darmstadt.

At seven o'clock on the morning of 22 December 1655, Christina, dressed in a simple suit of silver armour, entered the Eternal City.[228] Rome welcomed Christina with unbelievable pomp and pageantry. Her torchlit procession was greeted by the Pope himself. Cardinals, princes and the higher echelons of Roman society competed for Christina's approbation in a frenetic whirl of masques, balls, pageants and eulogies.[229] No expense was spared—the papal treasury was drained.[230]

The Jesuits, who regarded Christina's conversion with proprietary pride, did not abstain from the universal junketing.[231] When Christina visited them on Boxing Day of that year, she was greeted in the Gésu by the General of the Society, Fr Goswin Nickel, and in the Casa Professa by a Latin eulogy from each professor.[232] At her arrival in the Collegium Romanum, 22 student priests saluted her in 22 languages and Athanasius Kircher presented her with a miniature obelisk bearing her praises in 34 different languages,[233] inscribed: 'To the great Christina, Isis come to life, A.K.S.J. erects, dedicates, and consecrates this obelisk inscribed with arcane characters of the ancient Egyptians'.[234] Kircher had intended to welcome Christina with an animated, talking statue but according to Schott, this project fell through. The reason is

[228] On her way to Rome, Christina visited the shrine of Our Lady in Loreto and left there as an offering her golden crown set with diamonds and a massive golden sceptre encrusted with rubies: Szasz, *Christine von Schweden*, p. 118.

[229] Christina's reception is interestingly described by Bolton, 'The Porta Magica, Rome', *Journal of American Folk-lore* 8 (1895): 73ff.

[230] L. von Pastor, *Geschichte der Päpste*, vol. 14, p. 347.

[231] G.F. Mostrada, *Festosi applausi fatti nella Sapienza*.

[232] O. von Wertheimer, *Christine von Schweden*, pp. 270–271.

[233] 'Linguae fuerunt Hebraea, Graeca, Chaldaica, Turchumica, Latina, Osca, Syriaca, Arabica, Coptica, Aegyptica, Samaritana, Americana, Persica, Malabarica, Brachmana, Nubiana, Africae, Gallica, Anglica, Italica, Germanica, Hispanica, Turcica, mexicana, Bohemica, Lusitana, Hyberica, Sardu, Belgica, Dalmatica, Canadensis, Hungarica, Hieroglyphica': G. de Sepi, *Romani Collegii Societatis JESV MUSAEUM CELEBERRIMUM*, vol. 1, p. 12

[234] De Sepi, *Romani Collegii*.

not given,[235] although a later authority suggests that Kircher was afraid of being accused of black magic.[236]

Christina came again to the Collegium Romanum on 18 January 1656. She arrived after dinner and was shown a vivid mural painting representing the various empresses and queens who had previously travelled to Rome to honour the Vicar of Christ The praises of these sublime predecessors were described on miniature pyramids. Christina must have met Kircher again on this occasion, since she also visited the various faculties of the College, 'in every one of which she was welcom'd by one of the most eminent Scholars with a short Epigramme'.[237] It was, however, on the third visit to the College on 1 February that she had her first chance to talk to Kircher. This time she toured the library, noting with appreciation 'the vast number of choyce volumes'. She then moved into the adjacent gallery 'where Father Athanasius Kircherius the great Mathematician had prepared many curious and remarkable things, as well in nature, as art, which were in so great a number that her Majesty said more time was required and less company to consider them with due attention'.[238] Christina's attention was especially caught by Kircher's phoenix herb, 'which resembling the Phoenix grew up in the waters perpetually out of its own ashes',[239] his fountains and his horological experiments, 'clocks, which by vertue of the load-stone turn about with secret force'.[240]

Probably some time in 1656, Christina caused a medallion to be struck bearing her head as Minerva on the obverse and on the reverse the figure of a phoenix rising from the flames, surmounted by the word 'MAKELOS'. According to several authorities, Christina chal-

---

[235] Kircher discusses these artefacts in his *Ars magna*, Rome 1646 edn., III, ch. 4, p. 463, and X, ch. 3, p. 889. Schott describes the scene in his *Magia universalis*, vol. 2, [Bk.] III, p. 161. The incident is described as having taken place by J. Kraus, *Geistlich curieuze Nachrichten*, p. 132 and G. Pasch, *Schediasma de curiosis hujus seculi inventis, etc.*, p. 176.

[236] G. Tetzel quoting, interestingly, C.F. Paullini, in *Monatliche Unterredungen einiger guten Freunde, etc.*, p. 765 (for May 1656).

[237] G. Priorato, *History of Her Majesty Christina Alexandra Queen of Swedeland* (trans. K. Burbery), vol. 7, p. 425.

[238] Priorato, *History of Her Majesty*, p. 430. The Italian original (Venice 1656) prints Kircher's name correctly.

[239] Priorato, *History of Her Majesty*, p. 431.

[240] Kircher's plant palingenesis and the scholarly reaction to it of men such as Kenelm Digby and Quercetan is fully described in L. de Vallemont, *Curiositez de la nature, etc.*, Brussels 1734, vol. 1, p. 265. For the actual experiment see Kircher's *Mundus subterraneus*, I. XII. IV. 5, Exp. 1.

lenged Kircher and other scholars to explain the meaning of this word.[241] All were nonplussed, or concocted weird and wonderful etymologies: 'welche, nachdem sie alle ihr Wörterbücher und deren Ausleger durchgeblättert, einer immer lächerlichere Auslegungen, als der andere zur Welt brachten, und die Königinn dadurch ungemein belustigten'.[242] The riddle was eventually explained by Christina as being the transliteration into Greek of the Swedish word *makellos*, which referred to Christina herself as being both incomparable and virginal. Kircher seems to have been unmoved by the whole affair. In the course of 1656 he presented Christina with an Arabian psalter accompanied by his own translation.[243] As a more permanent tribute, he dedicated to the Queen his *Itinerarium exstaticum*,[244] a lengthy work dealing in a vague and fanciful fashion with the stars and planets, which were even more so in the seventeenth century the ideal sphere for unbridled imagination.[245]

Christina's considerable impact on Roman society and learning soon weakened. Although both she and Kircher enjoyed each other's mutual respect,[246] their respective paths, having once briefly crossed, were not to touch again.[247] While Christina gravitated from court to court, incurring daily deeper debts, Kircher turned his attention to the virulent plague that raged in Rome in 1656. He came to the conclusion that fine invisible worms in the air might be responsible for the spread of disease. He published this speculation, based on microscopic observations, in his *Scrutinium pestis* of 1658.[248] The remaining two years of the decade passed quietly. From his own writings we learn that he spent part of 1658 in a series of field trips into the Roman Campagna,[249]

---

[241] J. Arckenholz, *Historische Merkwürdigkeiten die Königin Christina, etc.*, vol. 2, 97, 166; Koehler, *Historische Münz-Belustigung*, 431; C.N.D. Beldt, *Les Médailles romaines de Christine de Suède*, 47; L.L. Moréri, *Le grand dictionnaire historique*, p. 457.

[242] Arckenholz, *Historische Merkwürdigkeiten*, vol. 2, p. 97.

[243] This is preserved Bib. Vat. [Ms] Ar. 8; cf. G. Levi della Vida, *Ricerche sulla formazione del pio antico fondo*, p. 431.

[244] *Itinerarium exstaticum*, 464.

[245] Christina herself was keenly interested in astronomy and was later to summon Gian Domenico Cassini and Giovanni Borelli to Rome to aid her in her night-long observations made from the balcony of the Palazzo Chigi. Christina herself needed remarkably little sleep: Szasz, *Christine von Schweden*, p. 163.

[246] W.H. Grauert, *Königin Christina und ihr Hof*, vol. 2, 317.

[247] An interesting account of Christina's conversion and her dealings in Italy is given by G.G. Claretta, *La Regina Cristina di Svezia in Italia.*

[248] *Scrutinium pestis*, p. 252.

[249] *Mundus subterraneus*, I, p. 165.

while the following year he directed his modest explorations towards Etruria and Tuscany.[250] He undertook these journeys while collecting material for his forthcoming *Mundus subterraneus*, published in Amsterdam in 1665.

The ten years from 1660 to 1670 were possibly the busiest years in Kircher's long life. On all sides people were appealing for his help and advice, while he himself was writing, supervising the printing of his works, answering his correspondents, writing to new figures, conducting visitors around his Museum and, of course, attending to his devotional duties as a Jesuit. It must be realized that of all Kircher's visitors, the few mentioned here are but a tiny fraction of the real number. In the spring of 1660 Kircher was visited by the German orientalist Hiob Ludolf (1624–1704), who questioned him closely on matters relating to the language and customs of Ethiopia.[251] Fortunately, Kircher was able to direct the Erfurt scholar to the learned Ethiopian monk Abbot Gregorius, then resident in Rome.[252]

The following year we find that Kircher's gallery was visited on 8 February by the Margrave of Brandenburg, Christian Ernst, who took special notice of a picture in the entrance of the museum that showed 'die Stadt Jerusalem mit ihrer Gegend (wie sie zur Zeit der Passion unsers Heilandes gestanden)'.[253] On 12 February, Kircher and a fellow Jesuit, Fr Gulielmo Montesias, visited the Margrave and his retinue in the gardens of the Villa Farnese, and on the following day Kircher was present at a recital of music in the Apollinari attended by Christian Ernst and Johann Friedrich, Duke of Holstein.[254] At the Margrave's departure from Rome, on 30 March, he was attended by both Cardinal Friedrich, Landgrave of Hessen-Darmstadt and Kircher, who 'offerirte einige Bücher die er neulich in Druck hervorgegeben hatte'.[255]

Some time during the summer of 1659, Kircher had spent a few weeks in Florence as guest of the Grand Duke of Tuscany, Leopold. In a letter written shortly afterwards, Kircher comments on the kindness and respect shown to him and on the unique scholastic facilities offered

---

[250] *Mundus subterraneus*, I, 292; II, 98.
[251] C. Juncker, *Commentarius de Vita…Iobi Ludolf*, p. 21.
[252] A. Dillmann, *Grammatik der aethiopischen Sprache*, p. 10.
[253] S. von Birken, *Hochfürstlicher Brandenburgischer Ulysses*, p. 124.
[254] von Birken, *Hochfürstlicher Brandenburgischer*, p. 126.
[255] von Birken, *Hochfürstlicher Brandenburgischer*, p. 157. [The book offered was perhaps *Iter exstaticum coeleste*, the 1660 reprint of *Iter exstaticum*, Rome 1656. —Ed.]

within the galleries, museums and libraries of the city.[256] Another visitor to Kircher's gallery during 1661, who himself had recently been received by the Tuscan Grand Duke, was the Englishman Robert Southwell. This friend and emissary of Robert Boyle was later to be knighted by Charles II and elected president of the Royal Society.[257] Southwell inspected Kircher's exhibits some time in November and noted, among others, an illustration of the Cartesian diver and 'Asshes of Bayes putt in a glass and filled with water and that water frozen, all the leaves of the Bayes appear'.[258] Southwell was especially fascinated by Kircher's 'universall dyall' and, greatly impressed by what he had seen, was moved to define the Jesuit as 'Father Kirker, Calld Bacon for his Excellence, Mago Naturalis'.[259]

During 1661 a further work was published by Kircher[260] which brought a refeshingly rational approach to a problem worrying the people of Naples. Mysterious crosses had been appearing on clothing and all manner of fabrics. In this *Diatribe de prodigiosis crucibus* Kircher proved that the suspected indication of heavenly wrath was little more than the presence in the air around Vesuvius-dominated Naples of minute specks of volcanic ash, settling on the texture of woven cloth (see Chapter 5).

Two years later, in 1663, Kircher dedicated to Emperor Leopold his attempt to initiate and popularise a universal language.[261] This work, which aroused curiosity, admiration and envy throughout Europe, greatly pleased Pope Alexander VII, who subsequently granted Kircher a yearly pension of 50 scudi.[262] In the same year Kircher was visited by his newly converted friend and correspondent Margrave Gustavus

---

[256] Kircher thanks the Grand Duke for his hospitality in a letter written from Rome, 28 October 1659, preserved in the Biblioteca Nazionale in Florence. Similarly, in a letter to Kircher, Fr Johann Schega SJ comments: 'I have received what Your Reverence has written to me at length about your journey to Florence, the honour and various signs of benevolence shown you by the Grand Duke, and the memorable things you saw there': Epist. VII. 91 (Bratislava, 28 November 1659).

[257] Birch, *The Life of the Honourable Robert Boyle*, p. 125.

[258] These details are taken from a manuscript account of his travels in Italy preserved in the British Library (Egerton 1632) and loosely entitled 'Memoranda Sir Robt. Southwell', p. 40.

[259] 'Memoranda Sir Robt. Southwell', p. 57.

[260] *Diatribe de prodigiosis crucibus*, Rome 1661, see p. 103.

[261] *Polygraphia nova et universalis*, Rome 1663, esp. p. 148.

[262] We learn this in a letter from Kircher to the Prince Abbot of Fulda, written from Rome, 15 September 1663: see Meurer, 'Aufsatz über Athanasius Kircher', 139.

Adolphus von Baden,[263] by the lawyer Johann Theodor Sprenger, in whose conversion Kircher played a prominent role,[264] and by the Hamburg scholar Petrus Lambeck, the recently converted nephew of Lucas Holstenius.[265] Other later visitors from Germany were Sophie von Hannover, who talked with Kircher on religious matters in April 1664,[266] and, in October of the same year, Ernst-August, Duke of Hannover, who visited Kircher's gallery in the company of his wife Sophie and their travelling companion, Ezekiel von Spanheim.[267] Early the following year, on 14 January, the Collegium Romanum was inspected by Maximilian Philipp, Duke of Bavaria, who declared himself delighted by Kircher's 'so genannte Galeriam oder schöne Kunstkammer'.[268]

About this time, in January 1665 or slightly earlier, Kircher received a letter from the parish priest of Geisa, Fr Konrad Witzel.[269] In the letter Kircher found news of his native village and family friends and a politely hopeful request that Kircher might, through his friendship with Pope Alexander VII, 'sanctissimus Pater noster', secure some holy relics for the parish church of Geisa and the annex of St Gangolph. Kircher was moved and flattered by this appeal and, after a further exchange of letters, succeeded in obtaining relics from the Cemetery of St Priscilla in Rome. These were despatched to Geisa in the care of a trusted messenger on 7 May 1665[270] and arrived in Fulda on 12 June.[271]

On 10 August, the feast of St Laurence, the relics were triumphantly borne through Rastorf to Geisa and installed in the parish churches of SS Peter and Paul and the Gangolphskapelle. The proceedings were long, solemn and noisy. At regular intervals in the contemporary

---

[263] Using *Akten der Bayerischen Gesandtschaft zu Rom* (in Geh. Staatsarchiv zu München, Kiblau. 71/72); C. von Rommel, *Leibniz und Landgraf Ernst v. Hessen-Rheinfels*, p. 17.

[264] J.R. Sprenger, *Roma nova delineata*, p. 44.

[265] F.L. Hoffmann, *Fr Lambeck*, p. 39. Hoffmann mentions that Lambeck himself says of Kircher 'quem in hoc itinere bis salutavi'.

[266] A. Koecher, *Memoiren der Herzogin Sophie*, Leipzig 1879, p. 81.

[267] E. Bodemann, *Briefwechsel der Herzogin Sophie von Hannover*, p. 27.

[268] M. Strich, *Das Kurhaus Bayern im Zeitalter Ludwigs XIV*, vol. 1, p. 99.

[269] Epist. IX. 272 (Geisa, 5 October 1664).

[270] Kircher's letter and the certificate of authentication attested by the Augustinian Bishop of Porphyreon, Ambrosius Landucci, are preserved in the Parish Church Archives of Geisa.

[271] Epist. VIII. 41 (Geisa, 22 June 1665).

account[272] of the festivities are sentences such as 'draussen auf dem Kirchhof wird von allen Musquetiren Salve gegeben'.[273] A sermon was given by Fr Carolus Utsch, a Jesuit from Fulda and a subsequent correspondent of Kircher,[274] on the theme 'Und du Bethlehem bist nicht die geringste',[275] and on a temporary altar stood portraits of the Pope and of Kircher.[276] At the end of High Mass, two Geisa angels approached Kircher's likeness and directed towards it their heartfelt thanks for this signal honour:

> Pater Athanasius, wohlerwürdiger Herr:
> Von Dir kommt zu uns dise Ehr:
> Was macht's, das Dich hierzu antrieb
> Deiness Vaterlandes, Deiner Landsleut Lieb?[277]

For Kircher, however, 1665 was a year devoted to intensive literary activity, with the appearance in rapid succession of three of his works. The first was the long awaited *Mundus subterraneus* (published in Amsterdam), which dealt with minerals, petrifacts, volcanoes, tides, and in fact with everything terrestrial. It included a spirited attack on the follies of alchemy. This huge folio tome, dedicated to Leopold I, was followed by the *Arithmologia* (published in Rome), which refuted the interpretations that the cabalistic and mystical tradition gave to certain numerical quantities. This book, invariably overshadowed by its bulkier companion, was dedicated to the ill-fated Count Franciscus de Nadasdi, who, after a lifetime of intrigue and virtual treason in Hungary, was executed on 30 April 1671.

The third production to appear in 1665 was the compact *Historia Eustachio-Mariana*, a work which may be seen more as a personal

---

[272] This account is preserved in the Benedictine Convent in Fulda and is entitled 'Abschrift einer alten so betitelen Verzeichniss was und wie sichs zugetragen bei Abholung unsers Heiligtumbs von Rastorff nachher unserer Burgstatt Geisa den 10 August in festo s. Laurentii martyris'.

[273] 'Abschrift', p. 107: with this sound of gunfire, provided by 30 citizens and four officers, was mingled that of music, 'Nach ihnen gingen die Musicanten mit Zincken und Posaunen, jubilirten' and, more frequently, 'es musicierten hierauf die Musicanten'.

[274] Epist. X. 322 (Fulda, 16 September 1676).

[275] 'Abschrift', p. 108.

[276] 'Abschrift', p. 110.

[277] 'Abschrift', p. 120; pp. 112–120 of the manuscript are devoted to 'Etliche Sprüche, so bei Einbringen und Aufweisung der hl.14 Martyrer Reliquien von der Geysischen Schul Knaben in dasiger Pfarrkirchen coram populo aufgesagt worden in Versen'.

manifesto.[278] In 1661, while searching in the neighbourhood of Tivoli for the ruins of Empolitana, the Roman city mentioned by Livy, Kircher had stumbled across a derelict abandoned church, originally dedicated to St Eustace and the Virgin and first erected in the time of Constantine. Kircher, moved by the deserted but consecrated site, vowed to rebuild the church. The *Historia* was an attempt on the Jesuit's part to publicise his cause and attract donations from his various patrons. This decision and the subsequent rebuilding of the church are fully described in his *Vita*. Extra chapels were added, and murals depicting the life of St Eustace inside the main building were painted by the papal artist, the Austrian Johann Paul Schor.[279] Kircher's appeal for funds was so successful[280] that the surplus provided enough money for the construction of five additional pilgrims' resting stations.[281]

The church, perched on the Apennine mount of Sant'Eustachio near Mentorella, was reconsecrated on the Feast of St Michael in 1664, and ever since, on 29 September, the Jesuits have celebrated an Apostolic Mission (a formal series of Masses) there. During the last fifteen years of his life Kircher was to retire more and more to the solitude of his little church on the hill. Kircher's new-found sanctuary, however, did not at first appreciably slow the tempo of his life.[282] In February 1666 he was visited by one of his correspondents, the Danish humanist and poet Vitus Bering.[283] Another visitor that year was Fr Heinrich Roth SJ, newly returned from India where he had persuaded an elderly

---

[278] *Historia Eustachio-Mariana*, Rome 1665, p. 184.

[279] 'Ja der berumbte Fr Kircher gibet in seinem von ihme selbst beschriebenen Leben, so ich in Copia besitze mit folgender Nachricht chlar zu verstehen, dass der eine diser Brüder Johann Paul gar Pabstlicher Hoffmahler gewesen sey, allermassen da er von dem Eustachianischen gefundenen Kirchlein in Kloster in monte Volturno redet Unserem Kunstler alldort ruhmvolles Gezeugnis gibt': Anton Roschmann, manuscript account of the history of Innsbruck (1742 vol. 2, p. 77) (Ferdinandeum Innsbruck).

[280] In the *Vita*, p. 496, Kircher enumerates the following benefactors who responded to his appeal: Duke of Brunswick-Lünneburg: 400 Scudi; Emperor Leopold I: 1000 Imperial thalers; Electoral Duke of Bavaria: 400 Scudi in gold; Johann Friedrich, Graf von Wallenstein: 700 scudi; Pedro de Aragon, Viceroy of Naples: 100 scudi. In recognition of Johann Friedrich, Graf von Wallenstein's response, Kircher subsequently dedicated to him the second edition of the *Ars magna lucis et umbrae*, Amsterdam 1671.

[281] In the dedication of his Museum, Kircher notes these 'five country shrines to be built for the devotion of pilgrims': cf. de Sepi, *Romani Collegii*, [p. 1].

[282] Kircher's activity in Mentorella is described by A. Vermeersch, *Le Sanctuaire de la Mentorella et de P. Kircher*; and G. Marii, 'Il sanctuario della Mentorella e il Pr A. Kircher', *Civiltà Cattolica* 4 (1915): 692–705; 1 (1916): 168–176, 563–577.

[283] J.G. Boehme, *De Vita Borrichii Historia*, p. 378.

Brahmin to teach him Sanskrit. Kircher was to include several of Fr Roth's observations in his *China illustrata*.[284] We may note here that Roth's visit to Kircher was merely one of many made to the Jesuit by his fellow brethren in the Order. From such visitors, Kircher gleaned valuable first-hand information which he later used in his own works.[285] More usually, of course, such information was conveyed by letter.

In the early summer of 1666, an Egyptian obelisk was discovered recumbent and shattered during excavations beneath the Campo Marzo in front of the palace of Cardinal Aquaviva. On the request of the Pope, Kircher crawled among the underground workings to record the markings now visible on three sides of the obelisk.[286] Having duly reported his findings, Kircher retired to Tivoli to avoid the extreme heat of the summer and from there, according to his own testimony, forwarded a copy of the inscriptions that would be seen on the still-hidden fourth side. This forecast was sent to Giuseppe Petruccio, 'meo in studiis Aegyptiacae antiquitatis Coadjutori', who showed the letter to several prominent scholars, including some Dominicans. When the obelisk was eventually exhumed and erected by Bernini in front of Santa Maria sopra Minerva, Kircher's hieroglyphic prophecy was found to be correct in every detail, an amazing fact which promoted among uncharitable spectators' uneasy talk of witchcraft. The obelisk was placed on the sturdy back of a marble elephant, and the pedestal bears a simple but sententious inscription composed by Kircher, still visible today: 'Whoever sees this, understand its teaching, that the hieroglyphs of the wise Egyptian sculpted on the obelisk are born on the back of a war-elephant, strongest of beasts: it takes a strong mind to bear the weight of complete wisdom'. In a work published the same year and dedicated to Pope Alexander VII, Kircher set forth his explanation and translation of the obelisk's hieroglyphic inscriptions.[287]

---

[284] This help is acknowledged in *China illustrata*, 1667 edn., Proem; cf. *Magnes sive de arte magnetica*, 1654 edn., 314ff; *Oedipus Aegypticus*, vol. 1, 396–398; and de Sepi, *Romani Collegii*, pp. 3, 8, 23, 65–67.

[285] This is noted by A. Huonder, *Deutsche Jesuitenmissionare des 17. und 18. Jahrhunderts*, p. 89; F. Max Müller, *Lectures on the Science of Language*, vol. 1, p. 175; J. Duhlmann, *Die Sprachkunde und die Missionen*, p. 18.

[286] The Pope's interest in this archaeological field is made clear in a letter written by Kircher to Alexander VII on 28 July 1666, and printed in A.M. Bandino, *De obeliscis Caesaris Augusti e Campo Martii, etc.*, p. 102.

[287] *Ad Alexandrum VII, etc.*, p. 146.

To express his pleasure and approval, Alexander summoned Kircher to the Vatican and granted him any one wish. When it was pointed out that this was expressly against the rules of the Order, it was arranged that the sum of 900 Roman thales should be credited to the funds of the church at Mentorella. When Alexander VII died on 22 March 1667, Kircher lost a patron and a friend. Even when he was Papal Nuncio in Germany, Fabio Chigi had admired and liked the learned Jesuit, feelings which lost none of their warmth on his elevation to the Apostolic chair. During his pontificate, Alexander VII gave financial and moral support to Kircher and received in return a regular flow of learned articles on a wide range of subjects: the origin of numbers, the draining of the Pontine marshes, Egyptian scarabs, and reviews of sundry learned works.[288]

It would not be fanciful to see in Alexander's death something like the *initium finis* of Kircher's own public life, even though his literary activity continued unabated and was in fact actively encouraged by the new Pope, Clement IX.[289] Slowly, gradually, Kircher was retiring from the eyes of the world. Only a cynic would see in two of his last works, both of which dealt with biblical subjects, a conscious awareness of the inevitability of death.[290] Nevertheless, as Kircher entered his eighth decade his thoughts were turning more and more towards his last hours. This is not, of course, to say that he ceased all literary and scholastic activity. Nor did he renounce his own empirical exercises in the exploration of the curious and the useful, or sink completely out of sight against the backcloth of the Eternal City.

The best description of these last years may be gained from a short analysis of a series of letters written by Kircher to his Augsburg friend

---

[288] These short essays are preserved in the Vatican library in manuscript; see 'De origine eorum numerorum, quos Typhoas vulgo vocant, quibus hoc tempore in computa verum omnes uti solent' (MS Chigi. J. 6.225); 'Ager Pomptinus sive Judicium de Paludum Pomptinarum ad pristinam culturam revocandarum modo ratione et industria, in quinque discursus digestum' (Chigi. J. 6. 225); 'Scarabaeus Hieroglyphicus' (Chigi. J. 6. 225); 'Diatribe Arithmetica de Priscis Numerorum notis earumque origine et Fabrica' (Chigi. F. IV. 64); 'Erimanno: de astrolabi composition' (Chigi. F. IV. 48); 'Galfridus de Vino Salvo Poetria Nova illustrate e corretta dal Padre Atanasio Chircher' (Chigi. J. VI. 229). Kircher's scholastic interaction with the Holy Father is praised in a letter to Alexander VII, written by Fr Giovanni Oliva on 20 April 1662 (Chigi. C. III. 63).

[289] Pastor, *Geschichte der Päpste*, vol. 14, p. 536; A. Beani, *Clemente IX*, pp. 110ff., 196.

[290] *Arca Noë*, 240; *Turris Babel*, p. 219.

and admirer, Langenmantel.[291] These letters may help to give us a general impression of the interests, thoughts and activities of Kircher's last years, and form a more rounded picture of the complete man. Kircher's first two letters to Langenmantel deal in part with the Augsburg scholar's proposed *Dictionarium mathematicum*. Kircher, who learned, 'with great satisfaction', of Langenmantel's intentions, describes at length the various earlier attempts on this theme by Fr Hugo Sempilius, a Scotsman resident in Madrid and one of Kircher's own correspondents,[292] and another by Fr Kaspar Schott, 'my one-time disciple in mathematics'.[293] Of the success and eventual publication of these embryonic works, Kircher can add very little. He had, apparently, written to the Rector of the seminary at Würzburg after Fr Schott's death to inquire of any manuscript remnants 'in Musaeo Fr Scotti' but had, unhappily, received a negative reply—'they reply that they have found nothing except an "Organum Mathematicum"'.[294]

Kircher repeats much of this information in his second letter to Langenmantel written over a year later, and adds a list of authorities which might prove useful. He includes, too, a short list of his own future works[295] and mentions a proposed second edition of his *Mundus subterraneus*. However, the bulk of this second letter consists of a spirited denunciation of those fervent alchemists who raised their polemical voices against this work. He dismisses Salomon Blauwenstein as 'a phoney screech-owl and an unhooded monk' and classifies him, together with other opponents such as the Paduan professor Valerianus Brancinus—'he has written against me and so have others' as perverted scientists. 'As for what I think of the Alchemists, they are as worthless as flat wine, and I consider them not worth refuting'.[296]

The mathematical dictionary would seem to have been completed by May 1669. Kircher mentions, in a letter written in this month, his expectation of receiving the work. Much of this letter describes

---

[291] These letters, among others which are dealt with below, were collected and published by Langenmantel in his *Fasciculus epistolarum R.P.A. Kircheri complectentium materias philosophico-mathematico-medicas*.

[292] Sempilius wrote to Kircher in 1652, two years before his death; see Epist. III 442 (Madrid, 27 February 1652).

[293] Langenmantel, *Fasciculus epistolarum*, p. 31 (Rome, 18 February 1668).

[294] This work was written by Kircher (Würburg 1670) and re-edited posthumously by Schott in 1688.

[295] This list mentions *Ars magna sciendi* (published in Amsterdam 1669) and *Latium* (again in Amsterdam 1669).

[296] Langenmantel, *Fasciculus epistolarum*, p. 34 (Rome, March 1669).

various experiments with lead and mercury and includes a reference to Kircher's planned *Arca Noë* as being 'a new and curious work and one provided with magnificent illustrations'.[297] In a subsequent letter describing works being currently printed by Janson, this description is toned down somewhat to 'opus grande et curiosum'. From this same letter we learn the grand total of Kircher's works: 'thirty books, printed largely in folio, the rest in quarto'. These works, Kircher assures Langenmantel, are readily available in Augsburg 'in publica Bibliothecam vestram'. Copies in Rome, he adds, are dwindling rapidly in face of overwhelming demand from princely visitors to his museum.[298]

Two days later Kircher again wrote to Augsburg. Probably both letters were sent together, since Kircher describes how he had already sealed the first letter when he received Langenmantel's request for a good-quality telescope and microscope made by Eustachio Divini. Apparently Langenmantel's request was rather unrealistic. Kircher informs him that six-lensed telescopes are not really practicable and suggests he takes one with four lenses. He feels similarly obliged to warn Langenmantel of the price, which is 50 scudi. In the same vein, the Jesuit asks Langenmantel to inform him of any monetary arrangements he might make.[299] Kircher himself seems to disapprove of this large price. He suggests, diffidently, that Langenmantel may prefer to order his instruments from Kircher's confrere in the Collegium Romanum, Fr Francisco Gottignes, 'our mathematician, who is himself also an expert in the art of [making] telescopes and is a close friend of the aforesaid Eustace'.

Two years later, Kircher wrote rather excitedly to his friend in Augsburg to describe his latest experiment. He tells Langenmantel how he had constructed a speaking-tube fifteen palms in length and had taken it with him 'ad montem Eustachianum' the day before Whit Sunday. Then, by means of the infant megaphone, he had relayed to the surrounding countryside details of the following day's Mass. Kircher gives his estimate of the distance reached: 'with the sound of only this tube, we spoke with castles, towns and villages two, three, four and five miles away'. The effect was, quite literally, magical: 'On the following day up to 2000 people appeared, as if excited by a voice from heaven. We

[297] Langenmantel, *Fasciculus epistolarum*, pp. 37–38 (Rome, 4 May 1669).
[298] Langenmantel, *Fasciculus epistolarum*, pp. 38–40 (Rome, 24 June 1670).
[299] Langenmantel, *Fasciculus epistolarum*, pp. 40–42 (Rome, 26 June 1670).

fed them all with the bread of heaven, and as the news spread people came to us even from distant places, not so much out of devotion but as people driven by desire to see the tube'.

In a postscript, Kircher expresses his regret at being unable to procure for Langenmantel a copy of 'Fr Grienbergeri Tabulas'[300] and in an attempt to soften this blow describes, somewhat selfishly, the continued progress in the printing of his works in Holland, despite the wars there.[301] Possibly, Langenmantel recoiled at the expense involved in purchasing a hand-made telescope. In Kircher's next letter we find him sympathetically considering a request from Augsburg for the correct way of making such an instrument. Because of the difficulties involved, Kircher must regretfully leave the request unanswered. In an attempt to console his correspondent, he appends full details on the manufacture of a speaking-tube. He adds that such information is to be found in his *Phonurgia nova*[302] and describes his own experiences with the invention: 'as I have learnt from experience, one can project one's voice in one of these [speaking-tubes] as far as almost sixteen Italian miles, which are equivalent to four German miles—of immense usefulness in mustering armies'. Unfortunately the *Phonurgia* was yet to be printed. Kircher tells Langenmantel that he is seriously considering having the treatise printed elsewhere than Amsterdam, on account of the warlike situation prevailing there.[303]

Kircher's next letter was written, after a break of over two years, on his return to Rome from Vulturella 'ex monte Eustachiano reverso…'. It contains, as might be expected, an account of the progress of his latest works through the printing presses and, among others, mentions his proposed *Geometria Kircheriana practicis et universalis*, which he

[300] Possibly Christoph Grienberger, *Elementa trigonometrica*, Rome, Bartolomeo Zanetti, 1632—Ed.]

[301] Langenmantel, *Fasciculus epistolarum*, pp. 42–44 (Rome, 9 July 1672).

[302] On p. 229.

[303] Langenmantel, *Fasciculus epistolarum*, 44–46 (Rome, 13 August 1672). In a brief letter written three months later, Kircher thanks Langenmantel for suggesting Augsburg as an alternative to Amsterdam and describes his decision to choose Kempten, in Upper Bavaria. Disappointingly, Kircher seems to have been unable to find a patron and subsidy for this work: 'But since in such a large number of curious princes I find no Maecenas, I am compelled to have recourse to foreigners': Langenmantel, *Fasciculus epistolarum*, pp. 48–49 (Rome, 9 October 1672).

defines as 'destined for the use of princes'.[304] On more general lines, the Jesuit talks of having heard of the prodigious new speaking-tubes invented by the English. He refers indirectly to his visit to Florence, where he saw a novel but accurate clock. In his concluding paragraphs, Kircher discusses the rebellious outbreak in Messina and the consequent interference by the French. To curb this domestic wrangle, the Pope had dispatched 2000 troops and several 'occultae machinae' which were of such awesome power that they could well destroy the whole of Italy.[305] We are left, with Langenmantel, to muse on the possible catastrophic consequences of this action.

Kircher's next letter to Langenmantel was of a varied and informative nature. It was written during the last week of 1674 in the form of a scientific report with questions and answers neatly tabulated and answered. Certainly, Langenmantel could never complain that his queries remained unanswered.[306] In his reply, Kircher returns once more to the sought-after work by his predecessor at the Collegium Romanum, Fr Christoph Grienberger. For an explanation and summary of this astronomical treatise, he refers Langenmantel to his own *Ars magna lucis et umbrae*. Second, he informs Langenmantel that he does not know if his French Jesuit correspondent, Fr Georges Fournier, is still alive.[307] For his third point, he recollects Langenmantel's earlier query and details a learned list of recent authorities on optics.

Kircher's answer to what is apparently Langenmantel's fourth question gives us an intriguing glimpse of contemporary artistic life in the Italian capital, when Kircher estimates the number of painters and sculptors then resident in the Eternal City: 'The number of painters here at Rome amounts to 1500, besides the lesser national "gods of art" whose names, whether they be sculptors or architects, do not now occur. I shall therefore write about them quite fully elsewhere'. In his concluding paragraph, Kircher describes the all-enveloping devotion

---

[304] This work remained unprinted but is noted by N. Southwell, *Bibliotheca scriptorum Societatis Jesu*, 2 as having been published in Amsterdam. J.L. Pfaff, *Vita Athanasii Kircheri, etc.*, p. 37, remarks that the manuscript is preserved in Rome. If so, it seems to have been lost.

[305] Langenmantel, *Fasciculus epistolarum*, pp. 49–42 (Rome, 3 November 1674).

[306] Langenmantel, *Fasciculus epistolarum*, pp. 53–55 (Rome, 29 December 1674).

[307] Fournier's letters to Kircher had been written over 30 years previously; see Epist. XIII. 84 (Paris, 29 March 1642); XIII. 112 (Paris, 18 April 1642). Kircher's description of Fournier probably refers either to his *Hydrographie* or his *Geographia*; see Bibliography.

of the city as the Jubilee year of 1675 gradually comes nearer and the pilgrims begin to stream in—'a concourse of pilgrims gathering from the whole world'. In a postscript, Kircher returns doggedly to his own works and informs Langenmantel of the insertion in his *Technica curiosa*[308] by Kaspar Schott of Kircher's early and now incredibly rare work *Specula Melitensis*.

The following February Kircher wrote again to Langenmantel. This time we see no formally efficient scholar, firing off answers like a well-drilled automaton, but an aged authority of 72 years, gradually being suffocated under a never-ending avalanche of letters requesting his advice. We learn, too, of the contents of most of these letters: 'most difficult questions on Nature'. The general tone of the letter is one of good-humoured resignation. Another cause of complaint, stated with a kind of grudging pride, was the increasing number in this the Jubilee year of eminent figures who were daily visiting Kircher and his Museum. At long last, Kircher seems to have secured a relevant copy of Grienberger's work, which Langenmantel had been patiently awaiting for three years. The rest of the letter is taken up with a discussion on the ways and means of payment.[309]

Two months later, Kircher wrote again hastily to Langenmantel, possibly in the mistaken belief that his earlier letter had been lost, since both letters bear markedly similar contents. Kircher stresses again his state of extreme preoccupation with his work and his visitors. He is, he says, 'under pressure from the multitude and weight both of my own occupations and the visits of strangers, accompanied without respite by some health troubles'.[310] This letter is followed in turn by an exceedingly short note, 'laconum more', enclosing a catalogue of books edited by Fr Bartolo, possibly already requested by Langenmantel.[311]

On 3 September of that same year, Kircher was visited in his Museum by a German man of quality from Augsburg, 'un Cavaliere, di conditione assai ricordevole, di patria Augustano per vedere la nostra Galleria'. Apparently he knew and respected Langenmantel, 'signore di vita essemplare', and Kircher arranged with him that he should carry home with him Grienberger's *Nuova perspettiva delli asterismi*, the work mentioned above. Unfortunately, when Kircher came to relate

---

[308] *Technica*, pp. 427–477.
[309] Langenmantel, *Fasciculus epistolarum*, pp. 55–58 (Rome, 22 February 1675).
[310] Langenmantel, *Fasciculus epistolarum*, pp. 59–60 (Rome, 6 April 1675).
[311] Langenmantel, *Fasciculus epistolarum*, p. 61 (Rome, 30 July 1675).

these happenings to his patient correspondent later that same year, he found he had forgotten the nobleman's name, however much he might vaguely recollect the incident: 'ma quanto mi posso riflettere, fù uno o di Fuggari, o di Freiberg'.[312]

By the following March, Kircher had decided that this mysterious figure was, after all, a member of that famous Augsburg family of patricians, the Fuggers. In a detailed letter, he discusses Prosper Intorcetta's new sinological works. No doubt reminded by this topic, he mentions Muller's claim that Chinese or Japanese may be learned with ease. Kircher briefly describes his dismissive reply to this former governor of Berlin that such a notion is worthless vanity. Another work written by a 'medicus-chimicus Saxoniae' and published in Leipzig under the title *Lucernam luminis perpetui* is similarly dismissed without compunction by a terse Kircher and classed as equivalent to 'those other fantasies of the alchemists'.[313] In the accompanying list of Kircher's works, we note his proposed 'Atlas Thuscus sive Universalis Hetruriae Descriptio', which was apparently by this time complete. Kircher describes it as being in the hands of the Grand Duke's censors.[314] This catalogue is repeated almost word for word in a letter written the following month. On this occasion, Kircher pauses to digress on the calamities befalling the troubled world, and the dangers of travelling by land or sea.[315]

A more moving and personal statement is contained in Kircher's next letter to Augsburg, written three months later. We learn from this that Kircher has finally and irrevocably laid down his author's pen, reserving his energies for correspondence and the revision of his works.[316] Convincingly, he dismisses a rumour of his death then current in Germany and drily notes that there have been many such rumours during the last decade, but that with God's help he had always pulled through: 'For ten years now, more than a hundred times, I have every-

---

[312] Langenmantel, *Fasciculus epistolarum*, pp. 62–64 (Rome, 7 December 1675).

[313] Kircher is probably referring here to Johann Kunkel, an early discoverer of phosphorus, chemist to the Court of Saxony and author *of Noctiluca constans, etc.*

[314] Langenmantel, *Fasciculus epistolarum*, pp. 64–68 (Rome, 29 March 1676).

[315] Langenmantel, *Fasciculus epistolarum*, pp. 68–70, Rome, 25 April 1676.

[316] At this point we may perhaps note that Kircher's inkwell and sand-shaker were discovered in 1915 in the Castel Sant'Angelo in Rome. The inkwell is of bronze, of sixteenth-century design, 6.5 centimetres in height, 13 cm square and is inscribed 'ATHANASIUS KIRCHERUS ROMANUS PATER'. The sander is of alabaster: Capparoni, 'Il calamaio di Atanasio Chircher', loc. cit.

where been thought dead, and such is the goodness of God, I have always revived'. He reveals himself to be completely obedient to God's goodness and judgement: 'Whatever it may be, let it happen whenever God pleases: for there is no man living who does not die'.

We come now to a sincere and simple declaration of Kircher's faith, which, theologically stereotyped as it may be, is strangely moving in its trust and humility. I quote in full:

> Spe firma, futurum, ut post hoc exilium mundo, in quo nihil est nisi pura vanitas, et afflictio spiritus convolante ad meliorem vitam, id est, ad aeternae felicitatis patriam perductus, cum Christo semper existam, et hanc unicam semper philosophiam omnibus DEO devotis Literatis, sine qua omnia nostra studia nulla sunt.
>
> (This is my firm hope for the future: after this exile in the world, where all is mere vanity and affliction of spirit, taking flight to a better life, that is, led to the land of eternal felicity, I shall live for ever with Christ. Such is the one true philosophy for men of letters devoted to God: without it all our learned pursuits are nothing.)

His beliefs, unshakeable throughout his life, are gently summarised by an apposite quotation, given by Kircher, from St Augustine's *Confessiones*: 'Si discis Christum, satis est, si caetera nescis. Si nescis Christum, nihil est, si caetera discis' ('If you are coming to know Christ, it counts for nothing if you know naught else: if you know not Christ, it counts for nothing if you know all else'). Kircher seems to have felt himself particularly mortal on this occasion. In bidding farewell to 'mi amantissime Ambrosi' he begs him to remember his friend in his prayers and describes himself as 'wholly your slave in heart'.[317]

The next letter, among all those found in Langenmantel's *Fasciculus*, is undated. Kircher apologies for his long silence and attributes the delay to an unexpectedly cruel winter. The weather seems to have played havoc with the continued printing of Kircher's works in Amsterdam, where the paper-making machines froze solid. Otherwise the letter is unremarkable, being little more than an amplified list of Kircher's works. In the postscript, Kircher instructs Langenmantel on the correct procedure for obtaining a copy of the *Bibliotheca Soc. JESV*, 'edited some time ago by Fr Alegambe [and] published last year by Fr Nathanael Sotwel'.[318] Yet it would be wrong to think that Kircher

[317] Langenmantel, *Fasciculus epistolarum*, pp. 70–72 (Rome, 9 July 1676).
[318] Langenmantel, *Fasciculus epistolarum*, pp. 73–77 (Rome, n.d.).

was no longer actively concerned with scholarship, even though he had ceased writing. In July 1677, he wrote a short but excited note to Langenmantel informing him of a recent decision to form a new academy for students of natural philosophy, mathematics and the liberal arts: 'Academie sperimentali per tutte le Nationi, non ostante di così grand'acerbita de questo tempo Martiale'. His enthusiasm for the promotion of study and erudition overflows into the postscript, where he anxiously requests details of the new German periodical *Le nuove effemeridi*.[319] Kircher's next letter, moreover, is again devoted to the enumeration of his recent works. Still, the list is prefaced by the statement, made once again, that his active career as a writer has ended and at the conclusion of his letter, Kircher remarks, with words fraught with meaning, 'but not to bore you any more, I put down my pen'.[320]

Towards the end of his life, Kircher became more and more preoccupied with the Apostolic Mission in the church of St Eustace in Mentorella. In a letter to Langenmantel he describes one of the yearly missions there, and we read—this is in 1678—of the 12,000 pilgrims present at the Mass and Holy Communion, all enjoying the privilege of the indulgence granted by Pope Clement X.[321] There were 30 Jesuits present at the Mass, to assist in administering the Sacraments. Kircher draws Langenmantel's attention to his age, 77 years, and describes his present preoccupation with spiritual matters and gradual detachment from academic studies. Here too, in a letter remarkable for its piety and air of finality, we find the Jesuit's estimate of his published works: 'Forty-four volumes of my tomes have already been printed: all the rest of my works which have been completed and approved I have sent to my friend [Jan] Jansson [van Waesberghe], to be printed in order'. Mistakenly, Kircher looked forward to meeting his Augsburg friend once more time: 'I wait for both with great longing: that before I die I may be able to see you again face to face'. This was to be little more than a pious wish, as we gather from the last three words of the letter, 'Forgive my shaky hand'.[322]

This tone of patient resignation and increasing weakness is obvious in Kircher's penultimate letter to Langenmantel. He looks back

---

[319] Langenmantel, *Fasciculus epistolarum*, pp. 77–78 (Rome, 7 July 1677).

[320] Langenmantel, *Fasciculus epistolarum*, p. 78 (Rome, 26 February 1678).

[321] The indulgence was granted by Pope Clement IX. This is a misprint in Langenmantel's text.

[322] Langenmantel, *Fasciculus epistolarum*, pp. 84–87 (Rome, 9 November 1678).

on 44 years in Rome 'in hoc mundi theatro' and remembers the varied excitements, catastrophes and pleasures of almost half a century: 'so many great catastrophes, so many horrendous cases of misfortune and changes in conditions, not only in the ecclesiastical but also in the political and monastic sphere'. For a moment we glimpse the former scholar, as Kircher looks forward to receiving his *China illustrata* translated 'in belgicam linguam', or the improved second edition of that literary Goliath, his *Mundus subterraneus*, 'much augmented, with new proposals'. But this image soon fades and we see again the aged, bent priest tremulously wondering 'what finally you may be hinting to me, that you know that some book or other has come out attacking me and my studies'. In his last sentence, Kircher returns to his present day and age, when he attempts to hold Langenmantel to some written suggestion: 'and do not delay your visit to me in the autumn with your beloved Peutinger, as you write'.[323]

One year and one week after writing this letter, Kircher wrote again, for the very last time in his life. Fittingly, the letter was addressed to his friend and confidant in Augsburg. It is a simple document, completely lacking in histrionics, even though Kircher suspected that his end was near: 'This age of mine now in decline is close to its end, but my spirit is ready'. Speaking figuratively, Kircher went on to express a similar, possibly valedictory, sentiment: 'I therefore leave my Sparta to others in this class, and withdraw my shoulders from under this literary globe, placing that burden on someone greater than myself'. Kircher concludes this last letter with a moving admonition to his friend always to keep in mind the infinite goodness and mercy of God, 'who is the Alpha and Omega of all things; to serve whom is to rule, to love whom is the summit of all the sciences'. It is a belief, a way of life, that Kircher has adhered to throughout his life. His last written words to Langenmantel are simple but adequate: 'Vale ergo Vir Illustrissimus'.[324] They are words we might echo when taking leave of Kircher himself.

Kircher died on 27 November 1680 after a long and painful illness.[325] After his death some thirty gallstones were found in his lower abdomen

---

[323] Langenmantel, *Fasciculus epistolarum*, pp. 87–89 (Rome, 14 January 1679).

[324] Langenmantel, *Fasciculus epistolarum*, p. 89 (Rome, 20 January 1680).

[325] B. Duhr quotes: 'Altersschwäche warf 1679 den unermüdlichen Forscher aufs Krankenbett. Fr Athan. Kircher', so schreibt Fr Friedrich Ampringer von Rom am 19. August 1679, 'ist mit dem letzten Sakramenten versehen. Ohne irgendeinen

and bladder.[326] He died the same night that saw the death of his friend, the architect Bernini. This coincidence was recorded at the time in the following verses, written in elegaic pentameters:

> Berninum et Kirker vicino fundo raptos
> Roma dolet: geminum nox promit una jubar.
> Tempora conveniunt mortis, nec discrepat aetas:
> Et senio et studiis fossus uterque cadit
> Materia docti geminis fuit una laboris.
> In statuis alter vivere saxa jubet,
> Interpres Phasios obeliscos explicat alter.
> Et jubet in Latio barbara saxa loquit
> Hic vocem saxis, hominis dedit ille figuram.
> Sunt similes vita, sint quoque morte pares.

> (Bernini and Kircher Rome is mourning, snatched from bordering estates; one night a double radiance sheds. The times of death agree, not different is their age. Both fall, deep lined by age and toil. In one material laboured each one of the learned pair. One bids stone to come to life in statues, The obelisks of Egypt the other deciphers and explains. And bidding barbarian stones to speak in Latium, To stones the one gave voice, the other human features. Like are they in life, like, too, are they in death.)[327]

---

Schmerz, vollständig geistesgegenwärtig hört er allmählich mehr auf zu leben, als dass er stirbt. Es ist sehr angenehm, ihn zu sehen und zu hören. Speise nimmt er keine mehr zu sich, und kann auch keine behalten'. Dies hielt aber nicht an, denn 9 März 1680 meldet derselbe Pater: 'seit neun Monaten hat Fr Athan. Kircher das Bett nicht verlassen, sein Zustand gleicht dem der ersten Kindheit. Vollständig taub isst er wie ein junger Wolf': *Geschichte der Jesuiten in den Ländern deutscher Zunge*, vol. 3, p. 594. Duhr's authority for this statement is given as: Orig. Wien Stattsarchiv. Geistl. Akten. 467. Unfortunately, in the late 1920s, these archives passed into the hands of the Czechoslovakian authorities (see L. Bittner, *Gesamtinventar des Wiener Haus- Hof und Staatsarchivs, etc.*, 378) from whom, despite the friendly help of the Archivist of the Austrian State Archive in Vienna, I have been unable to obtain a copy.

[326] This statement, which we quote with some reserve, is taken from Pfaff, *Vita Athanasii Kircheri*, p. 32. It is echoed in German by Schneider, *Buchonia*, p. 606.

[327] Quoted in G.J. Rosenkranz, 'Aus dem Leben des Jesuiten A. Kircher': 54. The date of Kircher's death has been treated with unconcerned abandon by his various biographers. This is, however, the date preserved in the Jesuit Archives at Rome and is further given in a Vatican manuscript 'Necrolo Romano del MDLXII al MDCCLXI', Vat. Lat. 7890, fol. 78. Of the various alternatives offered in sundry accounts, that of 30 October 1680 seems to be most popular. This is the date favoured by Rosenkranz.

The last resting place of his body is unknown, but his heart was buried before the High Altar in the church of St. Eustace in Montorella, beneath a stone slab bearing the now worn inscription:

> Athanasius Kircher Sac. S.J.
> templi huius instaurator et sacrae
> quae heic quotannis celebratur expeditionis
> auctor, cor suum ad Arae Mariae D N
> pedes condi voluit, Obiit Romae
> Anno MDCLXXX aetatis LXXX

> (Athanasius Kircher, priest of the Society of Jesus, restorer of this church and author of the sacred ceremonies celebrated here each year, has wished that his heart should be buried at the altar of Mary, Our Lady. He died in Rome in the year 1680 at the age of 80.)

CHAPTER TWO

# THE HIEROGLYPH ENIGMA

The study of the deciphering of hieroglyphics in Europe is one of fact and frivolous fancy. Let us begin as factually as possible.

Hieroglyphs were widely used in ancient Egypt from the First Dynasty, *ca.* 3000 BCE. A late version of the language survived in a modified Greek script as Coptic. While the understanding of hieroglyphs died out during the early Christian era, they were still used for some time as stereotyped formulae on tombs, household utensils and jewellery, in the same way the Etruscan ampersand (&) is used today. One of the few accurate hieroglyphical dictionaries to have been made before Champollion (*c.* 1845) was compiled by one Chaereman, who, in the time of Augustus (27 BC–AD 14) was Keeper of the Library of the Serapeum. Thanks to the industry of the Byzantine monk Tzetzes (*ca.* AD 1000), fragments of this valuable work survive to the present day. The hieroglyphs received a smattering of attention from various Classical authorities.[1] The historian Diodorus in his *Aegyptiaca* explained certain symbols, while the itinerant Strabo found space for a few more. In Tacitus we find the translation rendered by the Priests of Hundred-gated Thebes of their monuments to Germanicus. After the fall of the Eastern Empire, wise men still talked darkly of the mysteries of the East, but little documentary evidence was forthcoming.

In the early days of the Italian Renaissance, there appeared under the name of Horapollon[2] two books on hieroglyphics, professing to be the translation from an Egyptian original into Greek by one Philippus. Whether the work is genuine Horapollon and therefore of fourth century AD provenance is extremely doubtful. The translation is patently

---

[1] In the third century AD an Egyptian priest, Hermappion, made a surprisingly accurate translation of the obelisk which now stands before S. Giovanni di Laterano. The historian Ammianus Marcellinus recorded the translation in Greek (*Historiae*, XVII, (using Antonius Dezallier edn., Paris 1681, ch. 4, pp. 162–163) but unfortunately Kircher chose to regard this as a literary fraud; see *Obeliscus Pamphilius*, p. 159 and *Oedipus aegyptiacus*, IV, p. 253.

[2] A Greek grammarian of Phaenebythis in Egypt (fourth century AD). According to Suidas, he wrote commentaries on Sophocles, Alcaeus and Homer, and Photius has him writing a history of Alexandria and several dramas.

late and has been ascribed to the fourteenth century AD. Perhaps more cogently, a mere 27 of the 178 symbols explained have been found to be correct.[3] The book contains no illustrations whatsoever, and is composed for the most part of question and answer, for example:

> Question: What sign do they use for a man eating?
> Answer: The sign they use for a man eating is to paint a crocodile with its mouth open.

Despite its questionable parentage, this rapidly became a standard reference work[4] and thereby, almost incidentally, postponed the possible solution of the hieroglyphs until the distant combination of a Rosetta Stone (discovered 1799) and a Champollion de Figeac. Horapollon insisted on the pictorial approach, which is undoubtedly the way the first hieroglyphs were born but not the way they were later used. Horapollon set a precedent for writing authoritatively on hieroglyphs. Cleator[5] says that this erudite game of blind man's bluff dated from the publication of Giovanni Bolzano's otherwise inconsequential *Hieroglyphica* in 1556. Published in Basel, this large, splendidly bound folio of 926 pages, devoid of illustrations, is densely packed with beautiful Latin print and owes more to the jurist Andrea Alciati than to Horapollon.

A book of similar nature, equally sumptuous, appeared at Lyons in 1576—by Ian-Pierre Valerian.[6] Completely lacking illustrations, it was, unusually for that time, written in French. It contained two extra books by Coelius Curio 'touchant ce qui est signifié par les diverses images et pourtraits des dieux et des hommes'. The opening dedication was a neat combination of flattery and tact, showing no mean flair in salesmanship: 'À Très illustre Prince Cosmo de Medicis Duc de Florence, de ce qui est signifié par le Lion, suivant les lettres sacrées d'Aegyptiens representées par la sculpture'.

These ponderous, leather-bound volumes were soon followed in Rome by a rash of pamphlets and small books on the obelisks of the Eternal City. These former Imperial war trophies were now, due

---

[3] The copy consulted was that of David Hoeschel: *Hieroglyphica Horapollinis a Davide Hoeschelio. Fide codicis Augustani ms. correcta. suppleta, illustrata*. Hoeschel (1556–1617) was the rector and librarian at Augsburg.

[4] An earlier British Library copy reads*: Ori Apollinis Niliaci hieroglyphica. Sub scuto Basiliensi 1521. 40. De notis hieroglyphicis per Bernardinum Trebatum Vincetinum.*

[5] P.E. Cleator, *Lost Languages*, p. 36.

[6] J.P. Valerian, *Commentaires hiéroglyphiques, etc.*

to papal ambition, being transported and re-erected, and the city's printing presses mirrored the vogue in architectural reconstruction. Chief among these works was the *Commentarium de obeliscis ad sixtum quintum* by Petrus Augustus Bargaeus, published in Rome by 1586. These books are devoid of all illustration, contain rather triumphal poems, list sundry Classical references to the obelisks, and in general ignore the hieroglyphic contents. Several were in Italian. We find, for example, *Trattato di Camillo Agrippa Milanese di trasportar la Guglia in su la Piazza di San Pietro*. In the same vein, but far more important, is *Degli obelischi di Roma* published in Rome in 1589 by Michele Mercati. Again not illustrated, this weightier book at least mentions the hieroglyphs themselves, though scorning the idea of their eventual decipherment. This may have been the book that first whetted Kircher's interest in the subject.[7] Meanwhile, in the field of symbolism and allegory, Heinrich Schwalenberg, keeping the name if not the notion of hieroglyphs alive, had been impressed by the *Commentaires hiéroglyphiques* of Valerian and Curio. In 1592 and again in 1605, Schwalenberg produced his *Aphorismi hieroglyphici* (published in Leipzig).

Along with their predecessors, such books as these fade into ephemerality when compared with the next publication. This is the first real book to give pictures of actual hieroglyphs, with inscribed obelisks shown in folio and complete with accurate measurements. It was the *Thesaurus hieroglyphicum e museo Ioannis Georgii Hervvart ab Hohenburg* (Augsburg 1610), by a councillor of the King of Bavaria. A specimen title of one of the plates reads: 'This obelisk is believed to have been situated formerly, in the time of Tarquin the Proud, in the Field of Mars. Now it stands in the garden of the Grand Duke of Tuscany'. Ancient coins were also depicted in this antiquarian's treasure trove. Yet George Herwart ab Hohenburg did not venture to offer any conjectural translations. The value of this work lies more in its illustrations and the consequent focus on historical and linguistic development in the East. This important treatise was soon followed by the significant and aptly titled *Arcana arcanissima* by Michael Mayer, alchemist extraordinary. Of the six books, the title of the first is translated: 'About Egyptian gods, hieroglyphs…wonderful works of the kings, the characteristics of individual animals and other spectacular monuments', but the reader's feeling of pleased anticipation is not to last. The next

[7] See E. Quatremère, in *Recherches critiques*, pp. 254ff.

chapter returns to more fitting and traditional speculations: 'About the allegories of the Greeks, above all the golden ones, such as Jason's Golden Fleece, the Golden Apples of the Hesperides, etc., [all of them] nothing but a golden drug'.[8] Any possible hieroglyphic gleanings vanish beneath a mediaeval medley of legend and literary hearsay.

Two earlier publications rather more to the point were compiled by Laurence Pignor. His *Vetustissimae tabulae hieroglyphicis* appeared in Venice in 1605, while his *Characteres aegyptii* appeared in Frankfurt am Main in 1608. Little can be said of the content of these works, so utterly have we lost the spirit of the early seventeenth century. Their chief value lay in the fact that the hieroglyphic tradition was not left to die, but on the contrary was nourished by what have now become literary and academic curiosities.[9] And one slightly later work, Nicolas Caussin's *Symbolica aegyptiorum sapientia*,[10] which wholeheartedly embraced the Horapollon school of adherents and indeed included the work of Horapollon, takes us rather conveniently to the year 1634, just two years before Athanasius Kircher's *Prodromus coptus* was published.

## Kircher and his Study of Hieroglyphs

Athanasius Kircher was, he tells us, interested in both languages and mathematics from his earliest days. When he was still an infant, his father, 'vir studiosissimus', began to teach him the elements of mathematics and a little Latin. 'He sent me to the Papal Seminary conducted by the Society of Jesus in Fulda, so that I could with the same zeal apply myself there to the study of grammar, as well as both Latin and Greek. Indeed he also arranged for a rabbi to instruct me in Hebrew, which stood me in good stead for the rest of my life'.[11] This aspect of his education was specially emphasised and broadened.

Bearing in mind the combination of general linguistics with his broad background of analytical mathematics,[12] it is not surprising that hieroglyphics should hold a special attraction for Kircher. His first

---

[8] 'De Graecorum allegoriis, inprimis aureis, ut aureo Iasonis vellere, aureis pomis Hesperidum, etc. nihil aliud quam aureum medicamentum denotantibus'.

[9] Pignor's posthumous work is also of interest; see *Mensa Isiaca, etc.*

[10] Paris 1634, although written in 1619.

[11] *Vita*, p. 469.

[12] Kircher occupied the Chair of Mathematics in Würzburg from 1629 to 1631.

acquaintance with Egyptian hieroglyphs is clearly marked in his autobiography. In Speyer, in 1628, in his third year of probation, Kircher found a book relating to the erection in Rome, by Pope Sixtus V, 'ad Nominis sui immortalitatem', of several 'obelisks from time immemorial'. But Kircher does not specify the book. It may have been Michele Mercati's *Degli obelischi di Roma*, published in 1589, unillustrated. Possibly it was the much smaller, anonymous pamphlet *Obeliscus Vaticanus Sixti V…ad perpetuitatem praeclaris eruditorum virorum litteros laudatus egregie*, which was published in Rome in 1587. A rash of such works had appeared.

A much more likely document is quoted by the editor of Peiresc's letters.[13] We are told that in the library at Carpentras, a manuscript is preserved in the Peiresc collection (Registre LXXIX), bearing the title 'Histoire, antiquités, origines, caractères hiéroglyphiques, religion et obélisques des Egyptiens rédigés en langue arabe par le rabbi Barachias Néphy, de Babylone'.[14] Further, we are informed that Kircher sent this manuscript to Peiresc in 1633, after acquiring it from the library of the Archbishopric of Mainz. If Kircher personally acquired this manuscript, it could hardly have been during his four years' (1624–1628) dedication to theological study that preceded his year at Speyer. It must have been soon after the dissolution of the Seminary at Würzburg (September 1631), when Kircher passed briefly through Mainz and Speyer on his way to Lyons and, eventually, Avignon. Kircher's active interest in Egyptology would seem to date from his sojourn in Avignon where the Jesuits had a flourishing community and where, according to Chossat,[15] 'Sous le ciel de Provence, il se crut en Orient'.[16]

Towards the end of 1632, two Egyptian mummies arrived at Marseilles in the course of their transportation to Aix. A certain Fr Brouzet[17] forwarded drawing and sketches to Kircher from Marseilles, and it was on this occasion that Kircher first made the influential acquaintance of Nicolas Claude Fabri de Peiresc, councillor of state, antiquarian and correspondent (he left some 20,000 letters), then resident in Aix-en-Provence. From another source,[18] we learn that the mummies,

---

[13] De Larroque (ed.), *Les lettres de S. Petit au Conseiller Peirsesc*, p. 57.

[14] Barachias remains uncited in B. d'Herbelot, *Bibliothèque orientale*, and in the later J.T. Zenker, *Bibliotheca orientalis*.

[15] M. Chossat, *Les Jésuites et leurs oeuvres à Avignon*.

[16] Chossat, *Les Jésuites* , p. 234.

[17] Chossat, *Les Jésuites*, p. 237.

[18] P. Humbert, *Peiresc, grand amateur français*.

together with a hoard of innumerable archaeological items,[19] including some Coptic books that were sent to the 'oratorien' Jean Morin, were brought back from Egypt by a certain Fr Minuti. The same source[20] tells us that Peiresc himself hardly dared touch the mummies, which were 'grandes, tout entières, encore enveloppées de leurs bandelettes', until the Papal Legate in Spain, Cardinal Bagni, passing through Aix,[21] persuaded him to unwrap one. (His idea that the Egyptians might have practised the Greeks' custom of putting coins in the mouth of the dead remained unproved.)

Probably the most objective version of Kircher's meeting with Peiresc is given by Gassendi.[22] The relevant passage, which gains by the contemporary English translation, follows:

> Meanwhile I was with him [in Marseilles] when he would needs invite Athanasius Kircherus, a very learned Jesuit, then residing at Avenion. He was reported to be exceeding skilful in the Mysteries of Hieroglyphicks: wherefore he both sent him divers Books to help him, and a Copy of the Table of Isis,[23] formerly described. And because he had by him a rare Manuscript, being Rabbi Barachias Abenephius, an Arabian Author, who was reported to have set down the manner of interpreting the Hieroglyphicks, therefore he entreated him, that at his coming he would bring with him, both the said Book, and some examples of Interpretations with his own Notes. Which when he had done it, it cannot be expressed with what Ardency he encouraged him, to finish the work which he had begun, and to hasten the printing thereof.[24]

There can be little doubt that both Kircher and Peiresc were flattered and mutually encouraged by their friendship. Perhaps Peiresc wanted more; indeed, in the eyes of one biographer, he achieved his aim: 'Peiresc s'est attaché deux savants, en manière de secrétaires: le Pr Kircher, jésuite érudit: plus spécialisé dans le déchiffrage des hiéroglyphes:

---

[19] These included 'de pleines caisses de mss.' and a statuette of Isis in bronze.

[20] See Humbert, *Peiresc*, p. 179.

[21] Peiresc's actual home was in Belgentier, near Aix.

[22] P. Gassendi, *Viri illustris N.C. Fabricii de Peiresc… vita*, pt. 1, p. 168.

[23] For Lessing's comments on this ancient inscription, see Chapter 7 below.

[24] Elsewhere Gassendi remarks: 'Peireskius and Kircherus were an example to all men, by so much Expense, Care and Labour advancing the common good…in these days of ours, in which there are few Kirchers and never a Peiresc' (*Peiresc...vita*, p. 287). Kircher himself did not remain unconscious of this public honour. In a letter to Gassendi from Rome, 13 February 1642, he writes 'Reverendae Dominationi Vestrae gratias habeo de honore et splendidis testimoniis, quibus me in vita D. Peirescii exornavit': Gassendi, *Epistolae*, in *Opera Omnia*, 1727 edn., vol. 4, p. 412.

le rabbin Salomon Azubius de Tarascon, très versé dans l'étude des textes hébraiques et des anciennes "Tables astronomiques"'.[25]

To Kircher, Peiresc gave both intellectual encouragement and material help. Upon the Jesuit's departure from Avignon, Peiresc assumed the role of a distant but paternal *éminence grise*. We may trace Kircher's early hieroglyphic progress in Rome through Peiresc's own letters. In a letter to Gilles de Loche[26] on 22 December 1633, Peiresc tells him in a postscript that 'Le Père Athanase Kircher est à ceste heure à Rome', a statement which, though made in good faith, can hardly have taken into account (or indeed known of) Kircher's storm-buffeted and much-delayed journey.[27] Kircher, in his autobiography, tells us 'it was in 1634 that I reached Rome where, though I was quite unaware of the fact, I had long been expected'. In a letter written to Peiresc in April 1634, Samuel Petit innocently remarks: 'C'est un de me plus grands souhaits que le Père Athanase Kircher nous donne bien tôst le R. Barachios et le Dictionnaire des Cophtes'.[28]

Cassien de Nantes appears to have been the purchasing agent in the projected purchase by Peiresc of a Coptic dictionary, for on 29 September 1635 Peiresc writes to him from Aix:

> Et si ce vocabulaire des Cophtes plus ample se trouve encore à vendre à prix tolérable, j'en ferois de bon coeur la dépense, combien qu'il y en a un exemplaire à Rome, chez le Sr. Pre della Valle, qui a esté traduict par un père Jésuitte à mon indication. Mais je ne scay si l'on se scaura resouldre en ce pays là de l'imprimer si tost, comme l'oeuvre le meriteroit.[29]

The slight hint of pride in this letter becomes more obvious in the following extract from a letter to Gilles de Loche on 23 September 1636, when we first hear of Kircher's newly published *Prodromus coptus*:

> L'on m'a envoyé de Rome le 'Prodromus Coptus' du R.Pr Athanase Kircher, jésuite allemand, sur la grammaire des Cophtes, in 4º, où il y aura de bonnes choses…Il promet le vocabulaire à la suite, qui sera encore meilleur. Je l'avois embarqué a cet ouvrage insensiblement, par

---

[25] L.C. Cohen-Salvador, *Peiresc*, p. 160.

[26] J.P. Tamizey de Larroque, *Lettres de Fabri de Peiresc aux Capucins*, p. 15. Gilles de Loche was a Capuchin of Lannion, who returned to France in 1633 after some nine years in Saïd and Cairo. In his home province he was a noted preacher.

[27] However, in a letter preserved in Paris from Kircher to Peiresc, we learn that the Jesuit arrived in Rome before 14 November 1633. See Bibl. Nat., Fonds français. No. 9538, f. 230.

[28] Tamizey de Larroque, *Les Lettres de S. Petit au Conseiller Peiresc*, p. 59.

[29] Tamizey de Larroque, *Lettres de Fabri de Peiresc aux Capucins*, p. 192.

> mes addresses au Cardinal Barberini et au cavalliere Pietro della Valle, qui avoit le livre Mss.[30] J'en ay, depuis, recouvré un semblable (obviously Cassien de Nantes' bargaining was successful) à peu pres, sur lequel un autre entreprendra de travailler, qui ne laisra pas de glaner de bonnes choses aprez ce bon Père.[31]

Two months later, on 27 December 1637, Peiresc is still spreading the good news, this time to Césaire de Roscoff:

> J'ay esté instrument pour faire desterrer la langue des Cophtes, ou anciens Egyptiens, dont j'ay faict venir les grammaries et vocabulaires du Levant: et j'ay des plus grandz hommes du siècle desjà bien avancés en besoigne, le R.Pr Athanase Kircher ayant fait à mon instigation le voyage de Rome pour c'est effect, où il y a desjà imprimé un beau volume sur ce sujet, qui sera bien tost suivy d'autres d'importance, de mesme matière, et d'autres personnes.[32]

In this way Peiresc marks Kircher's baptismal work on hieroglyphs.

Peiresc's last instructions to Kircher were probably given on his impending visit to Malta (Kircher left Rome on 7 May 1637). These are recorded by Gassendi:

> And to what end should I relate, how ardently he solicited Kircher . . . that he would endeavour to procure the Altitudes of the Pole, and that he would curiously observe such things as are commonly reported of Etna, and bring back with him Indexes of the Principal Libraries; and especially of the Manuscripts of the Abbott of Caëta.[33]

---

[30] These manuscripts formed the basis of Kircher's *Lingua aegyptiaca restituta*. They were first entrusted to F. Thomas Obicini in 1630 but he left little evidence of any completed work when he died on 7 November 1632. This was found in 1938 by Arnold von Lantschoot, who, with little original thought, at once contested Kircher's right 'd'avoir frayé la voie qui allait conduire l'Europe à la connaissance de la vieille langue d'Égypte' in his *Le Pr Thomas Obicini*. The other person referred to here by Peiresc is, no doubt, G. Saumaise, who, as an ardent Protestant, was incensed at Kircher's preferment and wrote to Peiresc: 'Je suis des moins jaloux: j'ai pourtant quelque petit remords que la gloire, à laquelle je prétendois, de découvrir le premier et mettre au jour une langue si noble et si hautement, que de premier abord l'on nous fournisse une moisson toute entière, sans aucune réserve d'y trouver seulement de quoi glaner: cela me met au désespoir' (C. Saumaise, *Epistolarum* (ed. A. Clement), pp. 177–178). The use of 'glaner' by both Peiresc and Saumaise is interesting.

[31] Saumaise, *Epistolarum*, p. 268.

[32] De Larroque, *Lettres de Fabri de Peiresc aux Capucins*, p. 303. Césaire de Roscoff returned from Cairo with Gilles de Loche and together they visited Peiresc in Aix in July 1633. In 1636 he became superior of the Capuchin monastery in Lannion.

[33] Gassendi, *Peiresc...vita*, p. 286.

Unfortunately, Peiresc died during Kircher's first month in Malta.[34] The following year in Rome, in a commemorative polylingual testimonial to Pieresc, Kircher contributed *ad memoriam* poems in Coptic, Samaritan and Georgian, and a cryptically titled 'Elogium Targumicum'.[35] Lucas Holstenius, the Vatican librarian, born a Protestant in Hamburg and one of Kircher's subsequent correspondents, contributed an 'Elogium Saxonicum'. However dazzling Kircher's command of dead languages appears to have been,[36] we must remember the warning uttered by M. Chaîne, who analyzed Kircher's *Tristrophum cophtum*:[37] 'aussi on ne doit pas s'étonner si sa composition n'ait de copte que le nom et que ce copte soit encore fort vacillant'.[38] But to his contemporaries Kircher was known as 'a man famous particularly for his linguistic skills'.[39]

To return to specifically hieroglyphical studies, we mention two more important publications, the *Lingua aegyptiaca restituta* of 1643 and the equally bulky *Obeliscus Pamphilius* of 1650. Both these volumes were dwarfed by the subsequent *Oedipus aegyptiacus* (1652–1654). The four volumes of this work contained exactly 2000 pages and Kircher claimed to have spent over twenty years on its preparation. More than any other, except perhaps the *Mundus subterraneus* of 1665, it was to be remembered and commented on by posterity. In 1666 Kircher's *Obelisci aegyptiaci nuper inter Isaei Romani rudera effossi interpretatio hieroglyphica* appeared, and the hieroglyphical series was completed by the *Sphinx mystagoga sive diatribe hieroglyphica* of 1676.

When in 1648 Innocent X decided to move the obelisk formerly standing in Caracalla's Hippodrome to the 'foro argonali',[40] he turned to Kircher for advice. Kircher tells us that the obelisk, 'which lay prostrate and fractured into five pieces by the ravages of time', was incomplete. Several small pieces were missing. Undaunted, Kircher applied

---

[34] Kircher landed in Malta on Whit Sunday, 2 June 1637; Peiresc died on 24 June 1637.

[35] D. Bouchard (ed.), *Monumentum romanum Nicolao Claudio Fabricio Peirescio*, pp. 88, 90, 93, 96 (for the Kircher items).

[36] See also Kircher's Hebrew *Testimonium* as the preface to J. de Plantavit de la Pause's *Netâ ha-gefen: Planta vitis, seu thesaurus synonymicus Hebraeo-Chaldaico-Rabbinicus*.

[37] *Tristrophum Cophlum*, published in Monumentum Romanum Periscio Factum, Rome: Typis Vaticanis, 1638, p. 96.

[38] Chaîne, 'Une composition oubliée de Père A. Kircher', 207–208.

[39] Buonanni, *Musaeum Kircherianum Romae*, Praef.

[40] This is the classical name of the modern Piazza Navona.

himself to the task of replacing the missing pieces.[41] Two hundred years later, in 1842, Ungarelli reported that the missing fragments had been found. They corresponded exactly with Kircher's suggestions.[42] This is a similar feat to Kircher's description of the hidden side of the Chigi obelisk in 1666 (see Chapter 1).

With the circulation of stories such as this, Kircher's fame and learned reputation spread throughout Italy and Europe. He became one of the accepted wonders of the age,[43] one of the sights of Rome, and, inevitably, the butt of several practical jokes. On one occasion, Jean François Niceron relates, some youths engraved strange markings on a stone and buried it on an excavation site. The stone was subsequently exhumed and carried to Kircher, who was 'für Freude ausser sich'. Kircher immediately set himself the task of deciphering it. Apparently he succeeded: 'war endlich nach vieler Mühe so glücklich, ihnen den besten Verstand von der Welt zu geben'.[44] Another early eighteenth-century authority tells the same story, with embellishment: 'Kircher sprang vor Freuden in die Höhe und wuste ohne Verzug alle Circul, Creutze u. übrigen Merckwürdigen Figuren so geschükt und künstlich auszulegen, dass nichts drüber seyn konte'.[45] There is a certain Dickensian humour in such stories.

Mencke goes on to repeat an equally libellous story about Kircher, but one this time with a definite moral. Apparently a friend brought Kircher a piece of silk paper with what seemed to be Chinese characters scribbled on it. After the credulous Kircher had spent 'viel vergebne Mühe' in trying to solve the enigma, the good friend calmly showed him the reflected script in a mirror. In ornate Latin scrawl, it simply advised: 'Do not devote yourself to trivia or waste time on unprofitable trifles'. A similar story is told about Kircher and Andreas Müller, orientalist and Governor of Berlin, whose letters, admiring for the most part, are discussed in Chapter 11. Although such stories are

---

[41] He points out that his inspiration for this novel exercise was derived 'ex Divinae Gratiae Lumine'.

[42] A.M. Ungarelli, *Interpretatio obeliscorum urbis*, vol. 1, p. 17.

[43] Kircher's *Oedipus* was supposed to have been translated into Russian and other Slavonic tongues; see the journals *Acta Eruditorum* (June 1709): 288) and *Mémoires de Trevoux* (Paris 1710, p. 354). However, this is doubtful, and is discountenanced in D. Cyzevsky, 'Literarische Lesefrüchte', *Zeitschrift für slavische Philologie* 13 (1936): 56–59.

[44] Niceron, *Nachrichten von den Begebenheiten und Schriften*, vol. 21, p. 364.

[45] J.B. Mencke, *Zwey Reden von der Charlatanerie, etc.*, Leipzig 1716, p. 83.

apocryphal, and have their origins in malice, they are telling illustrations of Kircher's childlike trust and naïveté. These qualities, remarked on by commentators, often led to his being duped. Robert Southwell, writing to Robert Boyle from Rome, gives in his letter what is probably a fair and accurate glimpse of the Jesuit:

> Father Kircher is my particular friend and I visit him and his gallery frequently. Certainly he is a person of vast parts and of as great industry. He is likewise one of the most naked and good men that I have seen, and is very easy to communicate whatever he knows: doing it, as it were, by a maxim he has. On the other side he is reputed very credulous, apt to put in print any strange, if plausible, story, that is brought unto him. He is philosopher enough, to give some kind of reason or other for whatsoever you will demand of him.[46]

Philosopher or not, Kircher was not above recording in his autobiography the constant attacks of the critics, especially in the matter of hieroglyphics. We find, for example, 'they not only cast doubts on my credibility but also slandered me with whatever calumnies they could, calling me a Thraso [i.e. a braggart] and an impostor', and again, 'in self-defence I published my *Prodromus coptus* under the patronage of Cardinal Barberini'.[47]

This, then, was in part the public image of Kircher, the great hieroglyphic figure of the seventeenth century. But what of his books? What did they contain? The publication of the first, *Prodromus coptus sive aegyptiacus* in 1636, has already been mentioned. The work is dedicated to Cardinal Francesco Barberini and includes as a prefatory testimonial a 'Doctorum Orientalium de Prodomo Copto Testimonia Encomiastica' in Syrian, Arabic, Samaritan, Armenian, Chaldaic, Hebrew and Ethiopian.

The word 'prodromus' means harbinger or herald, and the contents of the book are far-ranging. They include the origin and development of the word 'Copt', Coptic colonies in Africa and Asia, sundry Coptic institutions, chapters on 'De utilitate linguae Coptae', and one of Kircher's favourite theses, that the Coptic or ancient Egyptian language was once akin to Greek. At the end of the book are to be found the Pater Noster and the Salutatio Angelica in Coptic. An account is also

---

[46] Southwell letter, dated 30 March 1661 in Boyle, *Works*, vol. 6, p. 299.
[47] *Vita*, pp. 491, 492.

given of the Nestorian mission to China in the eighth century. There is, finally, a short Coptic grammar.[48]

The whole book was the first to 'répandre en Europe des notions exactes sur la langue copte'.[49] Many of Kircher's theories and postulations were in fact erroneous (for example, the alleged mutual affinity of Greek, Hebrew and Coptic),[50] but his basic assumption (on the connection between the old Pharaonic Egyptian and the more modern Coptic) was fundamentally correct. The initial impetus provoked by this work in the field of Egyptological studies entirely compensates for its numerous errors. Posterity's debt to Kircher in this respect was aptly described by Champollion: 'L'Europe savante doit en quelque sorte à Kircher la reconnaissance de la langue copte: et il mérite, sous ce rapport, d'autant plus d'indulgence pour ses erreurs nombreuses, que les monuments littéraires des Coptes étaient plus rares de son temps'.[51] Many of the errors in the above work, which were to give eighteenth-century critics fuel in their searing attacks on Kircher, were corrected in his next work, the *Lingua aegyptiaca restituta* of 1643. This book contained the eagerly awaited 'scala magna', the great vocabulary and grammars of the Pietro della Valle manuscripts.[52] We find remarks by Kircher on the essence of the Coptic language, a digression on the hierarchy of the Coptic Church, a short geography, and, above all, a valuable Latin index of all the words in the 'scala magna': 'A large alphabetical list, that is, an Egyptian-Arabic lexicon, together with a Latin translation by A. Kircher' (pp. 41–272). This work became an accepted reference book, and even as late as 1775 parts of it were incorporated in Scholtz and Woide's 1775 edition of *Lexicon Aegyptiaco–Latinum* by Lacroze.

In 1650, at the suggestion of Pope Innocent X, Kircher published his *Obeliscus Pamphilius*, a huge, lavishly illustrated work containing for the first time his theories on the meaning and significance of

---

[48] Substantial extracts from this work are preserved in manuscript in the Roman Biblioteca Angelicana; see Ms 631 (Q.2.3.).

[49] J.J. Champollion-Figeac, *Notice sur deux grammaires de la langue copte*, p. 2.

[50] A smaller, less controversial Coptic work was Kircher's 'Rituale ecclesiae Aegyptiacae sive cophtitarum'; see V. Allacci, *Opusculorum Graecorum et Latinorum*, pp. 236–237. Kircher's manuscript of this work is in the Civic Library in Parma.

[51] Quoted in an article on Kircher in J.F. Michaud (ed.). *Biographie universelle*. vol. 21, s.v.

[52] Using here the 'Lingua Aegyptica restituta', pp. 275–463, the special parts still preserved in manuscript in Biblioteca Angelicana, Rome. See MS 631. m. 0. 285.

the Egyptian hieroglyphs. The first book deals with obelisks generally, with their dimensions, origins and sites. It includes chapters on 'De libris Scriptoribus primis post diluvium' ('the first books of Scripture [written] after the Flood', and the mediaevally Hermetic 'Concerning Hermes Trismegistus…and about the books he wrote in the Egyptian language'. The second book is devoted to the Pamphilian obelisk (a name given to it by Kircher, from Innocent's family name Pamfili). A third book discusses 'Mystagogia Aegyptiaca' and ponders the origin and development of the Egyptian pantheon of gods. From Kircher's standpoint, these gods eventually evolve into Greek and Latin deities. The fourth and last book, 'As many hierogrammatic ideas as are contained on the Pamphilian obelisk set out separately and illustrated from every kind of teaching', deals with symbols and hieroglyphs and, indeed, makes clear the Kircherian interpretation of the hieroglyphs. Kircher saw the Egyptian ideograms as symbols, therefore excluding alphabetic, syllabic or logographic readings. Finally, an alphabetical list of some 320 authorities is quoted.

Kircher's Egyptological life-work, his *Oedipus aegyptiacus*, was published in four volumes, totalling 2000 pages, between 1652 and 1654. It is impossible to get to grips with this work. It is a valuable compendium of erudite oriental information (it includes an essay on the origin of the Nile),[53] but it is also a completely jumbled sequence of random facts and haphazard fancies which might delight the collector of curious oddities but must surely drive the scholar to despair.[54] Of Kircher's work, Quatremère says: 'Il a réellement travaillé dans les sillons, où il faut manger la poussière mais il en a été étouffé intellectuellement'.[55] It is impossible to convey the feeling of futility which this book elicits in the reader.[56] It might have been so much more. It is not a question of deriding Kircher. He had his system and he kept to it. But Marestaing sums it up when he writes: 'C'est l'un des travaux les plus considerables des temps modernes…qui produit les sentiments contradictoires

[53] This is reproduced in I. Vossius, *Dissertation sur l'origine du Nil*.

[54] Of this work, E. Fourmont writes in his *Réflexions sur des anciens peuples*, vol. 1, p. 377: 'l'Oedipé de Kircher doit être regardé comme un ouvrage profond, hardi, magnifique…de tous les livres composés sur l'Égypte, c'est l'écrit dont on tirera les plus grandes lumières'.

[55] See E. Quatremère, *Recherches critiques*, p. 254ff.

[56] Book II (1653) of this work is in manuscript form in the Biblioteca Nazionale in Rome; see MS Gesuit 1235.

d'en imposer à première vue, et de laisser une indéfinable impression de tristesse dès la seconde lecture'.[57]

Kircher's next Egyptological work was his *Obeliscus Chigius* of 1666.[58] This work merely put into practice the ideas outlined in the earlier *Obeliscus Pamphilius* (1650), which were too confidently used in the *Oedipus aegyptiacus*. The last truly Egyptological study was his smaller *Sphinx mystagoga* of 1676. This is the explanation of two mummy wrappings found preserved in the Chateau d'Ursé in Touraine. The title also occurs in the *Oedipus* (II iii), but there it deals rather with the inspiration of the prophets and the enthusiasm of the ancient poets. According to Quatremère, several pages are also reproduced verbatim from the *Oedipus*.[59] The work is dedicated to the Archbishop of Lyons, Msg. Camille de Neufville, whom Kircher had apparently met in his flight from Würzburg some 45 years previously.

Overall, Kircher's Egyptological was by any standards extraordinary for the times, but what went wrong? Kircher was the first to establish the phonetic value and meaning of an Egyptian hieroglyph,[60] and the first to establish the plural form of hieroglyphs, both of them considerable achievements. Yet he adopted the fallacious conceit that he had solved the mystery completely, and so ruined his own reputation in the eyes of succeeding scholars and men of discernment. This contradiction is typical of Kircher. The key to understanding it is to see him as a man of his times. He lived in a period of transition: between the Neoplatonism and hermetic doctrines of the Middle Ages and the faltering beginnings of a new scientific age of empirical observation.[61]

---

[57] P. Marestaing, 'Un Égyptologue du 17. siècle: le père Kircher'. *Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes* 30 (1908): 30.

[58] "Obeliscus Chigius", in *Obelisci aegyptiaci intra rudera templi Minervae effossi interpretatio hieroglyphica*, Rome, Varesio, 1666.

[59] Quatremère, in *Recherches critiques*, pp. 254ff.

[60] Of the ideogram ≡  Kircher writes: 'Hic character Aegyptiis Mari, id est aqua dicitur'. This is correct, but Kircher went further in assigning to this character the value of 'mu' from its Coptic equivalent. This brilliantly intuitive example remained isolated from Kircher's other ideas; see Bibl. Naz. Ms Gesuit 1235. A modern scholar who comments on this appreciatively but adds no source is E. Iversen in *The Myth of Egypt and its Hieroglyphics in the European Tradition*, Copenhagen 1961, p. 133.

[61] R. Cabrol and H.M. Leclercq describes Kircher's anomalous position somewhat harshly, without taking into account the Jesuit's forward-looking features: 'c'est le contraire d'un novateur, un retardataire: il n'ouvre pas une période, il achève une génération, c'est le dernier savant du 16ième Siècle', in their *Dictionnaire de l'archéologie chrétienne et de liturgie*, vol. 8, p. 773.

Kircher's works abound in such ambivalence. In one work he derides alchemy,[62] but in the very same book he discusses dragons, postulating their subdivision by the number of dorsal spikes.

Kircher's grounding in Latin and physics was strictly mediaeval. He turned naturally and confidently towards the Classics for inspiration, but was also familiar with the Hebraic Cabbala and its strata of hermetic and Neoplatonic thought. Initially his ideas were successful but then, when new ideas began to percolate through the reactionary schools of Scholasticism, he found himself ridiculed. He saw the Egyptian hieroglyphs as the written form of God's first gift to man, the 'sapientia Adamaica', all knowledge of which had died with the extinction of the Pharoahs. The key of this divine wisdom was preserved in the hieroglyphs, the interpretation of which could only be achieved by incessant reference to the cabbalistic writings of long-dead generations. This universality of concept carried Kircher beyond the limits of rational thought and led his own eager but misguided empiricism into an Icarean flight based on little more than enthusiasm and futile dedication.

We can be sure that William Warburton, Anglican Bishop of Gloucester, realised little of this when he dismissed Kircher from serious consideration:

> It is pleasant to see him labouring thro' half a dozen Folios with Writings of late Greek Platonists and forged Books of Hermes, which contain Philosophy, not Egyptian, to explain and illustrate old monuments, not Philological. Here we leave him to course his Shadow of a Dream thro' all the fantastic Regions of Pythagoreic Platonism.[63]

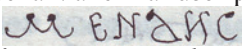
Already, in Warburton's day, Neoplatonism had died and scientific truth was preferred to revelation. The European link with its Classical past had been ruptured. Small wonder that critics of Kircher in eighteenth-century Europe found little of value in his Egyptological writings. Neverthless, Kircher's honest attempts deserve our respect and admiration. The knowledge of succeeding generations is always built on the intellectual struggles of preceding thinkers and searchers after truth.

---

[62] *Mundus subterraneus*, II, pp. 232ff.
[63] W. Warburton, *Divine Legation of Moses*, p. 105.

## Kircher and Posterity

To suggest that posterity alone has judged Kircher harshly would be wrong. Even in his own day, despite the calm picture presented by Ribadaneira—'he achieved what no-one before him had, in that he was the first to understand and make known the arcane wisdom of the Egyptians encoded in hieroglyphic characters and engraved on the obelisks that are to be seen throughout the City'[64]—adverse criticism appeared. Certain stories in circulation must have discomforted Kircher and detracted from his academic reputation.

Despite the generally favourable impression made at publication by the *Lingua aegyptiaca restituta*,[65] the book soon attracted criticism. Commentators objected to its arrogance, the chief objector stating that Kircher had deliberately fabricated new words and inserted them into the Pietro della Valle manuscripts. Paul Jablonski found the insertion MENAHC  = hircus (a male goat), particularly repugnant,[66] a viewpoint shared in the following century by Quatremère, who claimed to have checked the original Coptic manuscripts in vain for this entry.[67] Kircher's first (erroneous) theory that Greek had developed from Egyptian via Coptic[68]—he was obviously misled by the large number of Greek loan-words in late Coptic scripts—was eagerly pounced on by Samuel Bochart, in a massively sumptuous work that makes Kircher's own publications appear almost homespun.[69] The theory was also slightingly mentioned by Job Ludolf, who unblushingly tells us that he himself knew no Coptic.[70]

In his earlier *Prodromus coptus*, Kircher had explained an inscription engraved on Mount Sinai. His explanation was crushed by Johann Wagenseil.[71] Louis Picques went even further. In a letter addressed

---

[64] Alegambe, *Bibliotheca scriptorum Soc. JESU*, p. 92.

[65] As late as 1774 it was described as excellent by C.G. Woide, 'Mémoire sur le dictionnaire copte', *Journal des Scavans* (June 1774): 1ff. [pagination unsure—Ed.]

[66] P.E. Jablonski, *Pantheon aegyptiorum*, vol. 1, p. 274.

[67] Quatremère, *Recherches critiques et historiques*, p. 53.

[68] Kircher was to retract this opinion in his *Prodromus*, p. 507ff. This was not, however, the end of it. Fr C. Sicard comments, 'La langue copte est originaire de la Grecque dont elle a retenu une infinité de mots': *Mémoires des missions du Levant*, vol. 2, p. 61.

[69] Bochart, *Geographia sacra*, col. 60.

[70] J. Ludolf,…*Ad suam Historiam Aethiopicam*…*commentarius*, pp. 442–443.

[71] J. Wagenseil, *Tela igneae Satanae*, pp. 429 ff. against views in Kircher's *Prodomus coptus*, pp. 210.

to a certain Jacquelot he claims that, except for German, a little Latin and even less Greek, Kircher knew no languages at all.[72] He adds, 'Je ne suis pas seul de ce sentiment: deux ou trois personnes qui l'ont frequénté à Rome, me l'ont avoué'. According to Quatremère, Abbé Renaudot made a thorough condemnation of Kircher in his *Dissertatio manuscripta de lingua coptica*,[73] which remained unprinted. But this hypothetically caustic criticism was echoed by a series of early Egyptologists.[74]

Leibniz, despite his former humble letter to Kircher,[75] exchanged several letters with Fr Guillaume Bonjour (who had promised him a Samaritan Pentateuch) in which he heavily condemned certain of Kircher's views. In one of these letters[76] he derides Kircher's translations from the Arabic and his theory on the relationship between Greek and Egyptian. In a second letter[77] he writes with a certain relish of Kircher's downfall when Lucas Holstenius proved that markings on a tablet from Vienna were in fact merely elaborated Greek letters and not, as Kircher said, Syriac.[78] Leibniz himself falls down when he tries to disprove Kircher's theory on the mutual parentage of Egyptian and Coptic.[79] His theory, without any semblance of proof, was that Egyptian and Armenian had a common parentage. In the same letter, Leibniz dismissed the Kircherian sign for 'munificence'

by calling it the letter 'u' (a realization of prime significance). At the same time he pronounced that obelisks did, after all, record earthly triumphs such as battles and coronations, rather than divine wisdom.

---

[72] C. Jordan, *Histoire de la vie et des ouvrages de M. La Croze*.

[73] Quatremère, in *Recherches critiques*, pp. 254ff.

[74] J. Wilkins, *Novum Testamentum Aegyptiacum vulgo Copticum*, pp. 91–92; C.G. Blumberg, *Fundamenta linguae Copticae*, p. 29; J.J. Barthélemy, *Mémoire dans lequel on prouve que les chinois sont une colonie égyptienne*, pp. 213–214; C.H. Tromler, *Bibliothecae Copto-Jacobitae specimen*, Leipzig 1767, p. 22; M.V. Lacroze, *Lexicon Aegyptiaco-Latinum* (ed. C. Scholtz and C.G. Woide), Praef.

[75] This letter, written from Mainz on 16 May 1670, is discussed in Chapter 7.

[76] G.W. Leibniz, *Opera* (ed. J. Dutens), vol. 6, p. 166, written from Frankfurt am Main, April 1700.

[77] Leibniz, *Opera*, vol. 6, p. 296.

[78] See the account given by Tromler, *Bibliothecae Copto-Jacobitae specimen*, p. 22.

[79] Leibniz, *Opera*, vol. 6, p. 132.

Not until Champollion and Young would the truth of these statements be appreciated. Nevertheless, Kircher's memory was kept green. His works were still in great demand in the eighteenth century, though more for their illustrative matter and the non-linguistic chapters.

Niceron's view is perhaps typical of the period:

> Der Pr Kircherus hatte auf die hieroglyphischen Charaktere einen ganz besoderen Fleiss gewendet: man kann aber nicht glauben, dass er die wahre Bedeutung derselben gefunden haben sollte, ob er gleich allem, was er in diesen Characteren geschrieben fand, einen Verstand beyzulegen wuste.[80]

Niceron, then, is not quite sure, and comes down on neither side. In France, however, Diderot was less understanding. He accused Kircher of 'courir après l'ombre d'un songe'.[81] Similarly, the noted antiquarian Bernard de Montfaucon, who did not hesitate to make full use of Kircher's illustrations, said of Kircher's version of the Memphitic Table: 'un commentaire d'un grand langueur, d'un détail prodigieux, et d'une obscurité qui ne cède guère à celle de la table même. Ceux qui voudront se donner la peine de le lire, le trouveront peut-être tout-à-fait original et douteront infailliblement que jamais Egyptien ait pensé comme lui'.[82]

Not all foreign criticism was unfavourable. Let us return to 1652, the year of the publication of the *Oedipus*, when the Dutch poet Joost van der Vondel wrote 134 lines of 'Teeckentolck van den E. Heere Athanasius Kircherus Veluhter van de gebloemde Wijsheid der Egyptenaren'.[83] Vondel's inspiration would, however, seem to have been Kircher's *Obeliscus Pamphilius* since his Pindaric ode depicts a proud dialogue between Innocent X and Hermes Trismegistus. There is a fuller description of this work in Chapter 7 on Kircher and German literature, but a short quotation will give some measure of the fulsome compliments in the ode:

> Men weet van raden, noch van gissen,
> Nu Athanaas de duisternissen
> Van oud Aegypten voor sich jaagt.

---

[80] Niceron, *Nachrichten von den Begebenheiten und Schriften*, vol. 21, p. 364.

[81] J. le R. D'Alembert and D. Diderot, *Encyclopédie ou Dictionnaire raisonné*, vol. 8, p. 205.

[82] B. de Montfaucon, *L'antiquité expliquée et représentée en figures*, vol. 1, p. 281, vol. 2, pp. 322, 340, 352.

[83] J. van Vondel, *Al de Dichtwerken, etc.*, Schiedam vol. 2, pp. 63–64.

Al wat misvormd lag en verloren,
Wordt door zijn wakkerheid herboren
Nu dwaalt geen Mensch, die Kircher vraagt....

In the course of the following century, Kircher's Egyptological writings were commented on, in a generally unfavourable manner, by prominent literary figures such as Winckelmann, Lessing, Herder and Goethe (see Chapter 7). We may, however, note that one of Herder's more scornful phrases, 'Kirchersche Träume',[84] was later used by the eventual interpreter of the hieroglyphs. Champollion de Figeac, normally a sympathetic commentator on Kircher's works,[85] on one occasion talked of 'de nouvelles rêveries à la Kircher'.[86] The French scholar used this slighting reference when disparaging the bold interpretations suggested by Jomard and Young.

Only when the hieroglyphs had been deciphered successfully could Kircher's own attempts be realistically evaluated. Around the middle of the nineteenth century we find two contrasting views of Kircher's significance in this field of study. The Jesuit Crétineau-Joly,[87] who saw genius as being 'l'invention jointe à la patience',[88] depicted Kircher as being the first 'qui commence à débrouiller le chaos des antiquités Egyptiennes' and as one who 'jette sur chaque branche des connaissances humaines un jour aussi brillant qu'inattendu'.[89] On the other hand, Birch gives a less generous appraisal of Kircher. 'His interpretations, of the most marvellous nature, suited to the taste of his age, were received with deference and credulity, and it is difficult to make out whether he was an enthusiast or charlatan, probably a mixture of both'.[90] Birch obviously dipped into Kircher, for from his *Obeliscus Pamphilius* he gives Kircher's translation of the *nes-bitu*, the sedge and bee symbol for the joint King of Upper and Lower Egypt (the sedge was the symbol of Lower Egypt, the bee of Upper Egypt),

---

[84] J.G. Herder, *Sämtliche Werke*, vol. 5, p. 289.

[85] The Bibliothèque Nationale in Paris preserves a copy of the *Lingua aegyptiaca restituta* annotated by Champollion: MS BN 81, p. 825.

[86] Quoted in H, Hartleben, *Champollion: Sein Leben und sein Werk*, p. 327 and also found in Champollion[-Figeac]'s *Lettre au sujet des recherches du docteur Young sur les hiéroglyphes égyptiens*.

[87] J. Crétineau-Joly, *Histoire de la Compagnie de Jésus*, vol. 3, p. 192.

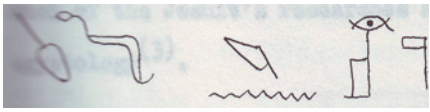
[88] Crétineau-Joly, *Histoire*, vol. 4, p. 216.

[89] Crétineau-Joly, *Histoire*, p. 277.

[90] S. Birch, *The Egyptian Hieroglyphs*, p. 182.

It is hard to admit, but Kircher translated this as 'fly-trap'.[91] For Kircher's tattered reputation, this was the crowning blow.[92] Once the hieroglyphs had been scientifically evaluated, Kircher's reputation was gone.[93] In quoting the *nes-bitu* example, Birch set a fatal precedent.

A favourite example of Kircher critics is the hieroglyphs he quotes in *Sphinx mystagoga*:



(phonetically *ḏd-ju Wsjr*) which mean, apparently, 'Osiris says'. Kircher's version, as translated from his Latin by a modern critic, goes 'Das Leben der Dinge, nach Typhons Besiegung, die Feuchtigkeit der Natur, durch die Wachsamkeit des Anubis'.[94]

Kircher's defenders have been rare. In 1849 Wall, with typical Irish obstinacy, sided with Kircher,[95] but his spleen was directed against Warburton, whose stately pontifications on the subject have already been noted. The second (and latest) defender of Kircher's motives, if not his means, was Erik Iversen.[96] Iversen declared as recently as 1961 that Kircher had for too long been 'the whipping-boy of Egyptology'.[97] He argues plausibly and well, identifying Kircher as one of the last great European scholars moulded in the tradition of Neoplatonism. His work is a much-needed vindication of much of the Jesuit's achievements in the science of Egyptology.[98]

---

[91] Birch, *The Egyptian Hieroglyphs*, p. 192. It is of interest to note that Hermappion translated this symbol correctly.

[92] This example is similarly reproduced in a more popular work: Cleator, *Lost Languages*, p. 36.

[93] A modern scrutiny of Kircher's work in hieroglyphs is C. Allen, 'The Predecessors of Champollion', *Proceedings of the American Philosophical Society* 104 (1960): 528–536 for his sketch of Kircher.

[94] J. Friedrich, *Entzifferung verschollener Schriften und Sprachen*, p. 17.

[95] C.W. Wall, *The Orthography of the Jews*, vol. 1, pp. 75–76.

[96] E. Iversen, *The Myth of Egypt and its Hieroglyphs in the European Tradition.*

[97] Iversen, *The Myth of Egypt*, p. 92.

[98] A modern orientalist who sees Kircher as the father of Egyptology is J. Janssen, 'Athanasius Kircher als "Egyptoloog"', *Wetenschappelijke Tijdingen: Orgaan van de vereniging voor wetenschap* (Ghent) 7, 9 (1942): 221ff.

CHAPTER THREE

# MUSIC IN ALL ITS FORMS AND GUISES

Most of Kircher's biographers have chosen to ignore his publications on music,[1] and it is in fact difficult to determine just how great a role music played in his life. Kircher first came into contact with the science (as he preferred to call it) of music early in life. In his autobiography, he tells us of the music instruction he received from his father before he began to attend the Jesuit seminary of Fulda.[2] This is the only direct reference to music as such in the whole work, though later he tells us that while in Mainz (1624–1628), where he studied theology, he was placed in charge of the choir.[3]

The strong tradition of European ecclesiastical music, combined with the efficient and single-minded tuition of the Jesuits, were influences to which Kircher was exposed from his earliest years. They were bound to render the young Jesuit student highly susceptible to the appeal of music. In character with this upbringing, Kircher would later warn[4] against the dangers of profane music and especially against its influence on church liturgy. Possibly his early experience of Rome inspired Kircher to compile and publish his musical compendium *Musurgia universalis* in 1650.[5] Certainly no better place could have

---

[1] Kircher's musical works are *Musurgia universalis* (1650) and *Phonurgia nova* (1673) (see above ch. 1), the latter essentially a work on sound and acoustics and translated into German: *Neue Hall- und Thon-kunst*, fol. (7895.L.13). Music is sporadically treated in *Magnes, sive de Arte Magnetica* (1641) and in *Oedipus aegyptiacus* (1652–1654), where Kircher expounds on Egyptian music.

[2] *Vita*, p. 469: 'from about my tenth year, whilst I was still in the elementary school, I was instructed first in music, then in the first stages of Latin. Since my father discerned in me some unusual ability, he encouraged me most ardently not to relinquish my zeal for study'.

[3] This episode is mentioned by the ageing Kircher only because it was here, while leading the choir, that he first notes a fundamental law of acoustics, noticing the reaction of the strings of a lute hanging on a wall near the singers: *Vita*, p. 483.

[4] In his *Musurgia universalis*, V. XVII.

[5] The work was dedicated to Leopold William, Governor-General of Belgium and Burgundy. Both Sulzer and Forkel tell of a third edition in 1654. This is repudiated by F.-J. Fétis, *Biographie des musiciens*, vol. 5, p. 35, who similarly questions the Amsterdam edition of 1662, referred to in both Weiss, *Biographie universelle*, vol. 21, and A. Müller, cited by E. G[régoire] in article on Kircher in *Nouvelle biographie générale*

been found for his musical initiation. In Rome the tremendous strongholds of ecclesiastical tradition both in church music and songs or chants was at that time being rivalled on an entirely different plane by the germination and growth of opera.

Giovanni Monteverdi (1567–1643) and Virgilio Mazzochi (1597–1646) were both at that time in Rome, and both acknowledged leaders of the new enthusiasm for what one critic[6] chose to call 'unbeschwerte Unterhaltungen'. Kircher, now a well-known figure in Rome,[7] was certainly no stranger to the contemporary world of music. Admittedly his views were a little rigid, but he had the advantage of a strictly academic approach to music and there is every evidence that he used his opportunities in Rome to the full.

In the second preface to his *Musurgia universalis*, Kircher tells us of two friends who had helped him in its publication. Both were prominent musicians. The one, Antonio Maria Abbatini (1595–1677), a noted composer of operas[8] was several times entrusted with difficult musical tasks by Pope Urban VIII. At the time Kircher knew him (*ca.* 1640–1650), he seems to have been Kapellmeister at the Roman churches of San Lorenzo in Damaso and Santa Maria Maggiore. The second was Pietro Herediae, a somewhat nebulous figure, possibly of Spanish descent, whose early death was strongly regretted by Kircher.[9] According to Johann Walther, Herediae was 'ein so wohl in der Theorie als Praxis wohlerfahrner and gesetzter Römischer Musicien'.[10]

Several prominent musical figures in Rome before 1650 (and obviously after it, but that hardly concerns Kircher's early musical development) held various ecclesiastical positions[11] and must have been

---

[in other versions *universelle*], vol. 21, col. 770. Fétis mentions a copy of 1690, Rome, preserved in the then Königliche Bibliotek in Berlin. What is certain is that in 1662 a German translation by Andreas Hirsch (Andreas Carion), *Kircherus Germaniae redonatus… ars minor*, appeared in Halle, Swabia.

[6] Haas, *Die Musik des Barocks*, p. 135.

[7] Already before 1646 Kircher had published some seven books, one of which, *Magnes*, ran into three editions before 1654.

[8] His *Pianto di Rodomonte* and his comic *Dal Male il Bene* were especially well known at this time.

[9] *Musurgia Universalis*, I, p. 675 (lamenting), II, *praef.* (assessment).

[10] J.G. Walther, *Musikalisches Lexicon*. This work is, incidentially, the first German lexicon of music.

[11] One of Kircher's fellow Jesuits, a Swiss named Jacques Viva, wrote a preface for the *Musurgia universalis* in which he claimed to have helped Kircher throughout: 'in eiusdem editione a capite ad calcem Authori continue adfuerim'. Viva died in Loretto in 1650, the year of the *Musurgia*'s publication.

known to Kircher. One of them, Agostino Agazzari (1578–1640) was, from 1609 onward, in charge of musical tuition at the Collegium Germanicum itself. Another, Gregorio Allegri (1582–1652), was a soloist in the papal choir and himself a composer of no mean repute.[12] Several of his works are reproduced in the *Musurgia universalis*. Yet a third was Leone Allacci (1586–1669), a Greek from Chios who was also Professor of Greek, the author of the *Drammaturgia*[13] and, from 1661 until his death, the custodian of the Vatican Library. Such figures, in regular contact with Kircher, could only concentrate his predilection for church music. Indeed, in the case of Agazzari, Ambros attributes to him 'ein noch immer rein und klassisch zu nennender Kirchenstil'.[14]

Lay musicians and composers were in great abundance in Rome, and Kircher often reproduced their work. We must assume that he had met them personally. A man who was ready to climb down into Vesuvius in search of knowledge [15] would hardly cavil at walking across Rome to learn something new. A Saxon musician in Rome at this time was Johann Froberger (1616–1667), who must have met Kircher on his travels from Vienna.[16] The only specimen of his work published in his lifetime was in Kircher's *Musurgia universalis* (I. IV), where Kircher reproduces Froberger's Hexachord fantasia as a paradigm for such work and recommends it 'to all composers of organ music, for imitation'.[17]

A leading exponent of the so-called Roman School of composers, Pier Francesco Valentini (1570–1654), was the originator of some rather spectacular musical canons which Kircher admiringly mentions in his Preface to Volume II ('As for musical canons, the greatest help has been brought by the ingenious and learned Pier Fancisco Valen-

---

[12] A second virtuoso who was personally acquainted with Kircher was Johann Jakob Walther, first violinist at the Electoral courts of Saxony and Mainz. He also corresponded with Kircher; see Epist. XI.187 (Dresden, 18/28 May 1675).

[13] Published in Venice in 1755, a work listing all Italian music composed before 1666.

[14] A.V. Ambros, *Geschichte der Musik*, p. 132.

[15] *Mundus subterraneus*, Praef. I.

[16] The two men also corresponded: two letters from J.J. Froberger are preserved in Rome. Epist. III, 305, 309.

[17] The solmization of music by means of hexachords was fast becoming obsolete through the modern system of keys, though it persisted to the days of the Johanns Buttstedt and Johann Mattheson (in whose *Das beschützte Orchester* the question was finally buried after a heated controversy between these two).

tini, the prodigious composer of 2000 canons') and reproduces in his *Musurgia universalis*.[18] Both Giovanni Frescobaldi (1584–1643) and Domenico Mazzochi (1592–1665) wrote operas and madrigals and shared the same patron. This was none other than Cardinal Francesco Barberini, nephew of Pope Urban VIII, so often Kircher's patron.[19] Such evidence is perhaps too circumstantial to allow us to draw conclusions about Kircher's musical background, but all the above subjects and Kircher share at least two common factors: residence in Rome and a keen interest in music.

A Viennese musician whose constant dealings with the Jesuits aroused Kircher's musical interest was Johann Kasper Kerll (1627–1693). We find one of his pieces, 'Toccata sive Ricercata in Cylindrum phonotacticum transferenda…a Gasparo Kerl', in the *Musurgia universalis* (II, 316). Kerll himself was later to write a classic work in the sphere of ecclesiastical music.[20] Curious visions are raised by a statement in the second Preface to Volume II, that Kircher was the author of several songs circulating in Germany.[21] Unfortunately, Kircher fails to elaborate on this intriguing statement.

A year before the publication of Kircher's *Musurgia*, the Holy Roman Emperor Ferdinand III dedicated a masque of his own composition to Fr Athanasius Kircher. He called it 'drama musicum'. The plot involved the struggle for a fair youth between wanton love and divine love.[22] It is hardly necessary to identify the victor. Apparently

---

[18] Valentini's canons 'on the words "Hail, Queen, turn those pitying eyes of yours on us", with settings for two, three, four and five voices', which he composed in 1629, with some 2000 possible variations, is to be found in *Musurgia universalis*, I, p. 402. A second, composed in 1631, 'Canone vel nodo di Salamone a 96 voci', is in *Musurgia*, I, p. 104.

[19] To this early supporter in Rome, Kircher dedicated his *Prodromus coptus sive aegyptiacus* of 1636.

[20] *Modulatio organica super Magnificat*. Kerll, a fellow German, Christoph Bernhard, and the Frenchman Marc Antoine Charpentier, are all mentioned in the *Musurgia universalis* as being the pupils of Giacomo Carissimi (1605–1674), whom Pierre Bourdelot (1610–1685), in *L'Histoire de la musique et de ses effets*, calls 'le plus grand musicien que l'Italie ait produit'. Kircher admiringly prints a fragment of his oratorio *Jephta* in *Musurgia universalis*, I. VII

[21] 'Various other compositions of mine but printed in Germany under another name'.

[22] The whole style of the piece, from its combination of recital, curiosa and aria, dominated by the chorus, would appear to be Venetian. Each scene begins and ends with the chorus, and centres upon a solo eulogy.

the piece is still extant. Extracts from it are given by Robert Haas.[23] Kircher's reaction to this dedication is unrecorded.[24]

Kircher's idea behind his *Musurgia universalis* was to produce a general musical survey.[25] This was not, strictly speaking, new. One critic said of this act 'dennoch gebührt ihm das Verdienst, für seine Zeit ein wirklich umfassendes Kompendium der Wissenschaft von der Musik geschaffen zu haben'.[26] Yet Kircher's synoptic response to the 'musical condition' of his day was no mean feat and strong and defensive theoretically. Perhaps his *Musurgia* shows some of his typical of Kircher's easygoing tolerance for remaining neutral in contemporary questions about counterpoint and harmony. On the other hand, he exhibited that peculiarly baroque desire to identify, to set things in their proper context, that was part of the growing historical consciousness of his generation, and so he became one in a line of successive authorities who shaped the era, with definite opinions.

Now considering that Kircher's work was—or at last aimed to be—the most comprehensive of all, let us glance at his immediate predecessors. The ball was set rolling by Gioseffo Zarlino (1519–1590) in his *Istitutioni harmoniche*. Zarlino questioned the Aristotelian concept of music as either 'scienza' or 'arte'. He also initiated the counterpoint versus harmony debate. His work is a comprehensive study of contemporary music and, as such, remains a monument of sixteenth-century musical ideas, fashion and composition. In 1592, Seth Calvis of Leipzig (1556–1615) published his own contribution to the debate.[27] This was followed ten years later by his more comprehensive *Compendium musicae pers. incipientibus conscriptum*.[28]

Johann Kepler (1571–1630), the scientist and astronomer, published his *Mysterium cosmographicum* in 1596. In it he sought in vain the key to the mysteries of number and harmony. How were physical laws propounded? What was their interdependence? In answer to such

---

[23] *Die Musik des Barocks*, p. 174.

[24] In his *Musurgia universalis*, I, pp. 685–690, Kircher prints another example of Ferdinand's compositions under the title 'Musica Caesarea'.

[25] It is interesting to note that Kircher's subtitle to the *Musurgia* was used (three years after Kitcher's 1690 Amsterdam edition) by J. Speth in his *Ars magna consoni et dissoni* (or, more prosaically, *Organisch-Instrumentalischer Kunst-, Zier- und Lustgarten*).

[26] W. Stauder, article on Kircher in F. Blume (ed.), *Die Musik in Geschichte und Gegenwart*. Basel 1958, vol. 7, col. 937ff.

[27] Calvis, *Melopoiia seu melodiae condendae ratio*.

[28] Zarlino, *Istitutioni*; Calvis, *Compendium*.

problems he attempted to fathom the higher cosmic laws, laws which he himself called 'God's games/jests'. He attacked these ideas again in his *Harmonices mundi* (1619), adopting Neoplatonist views, citing Proclus with alarming frequency, and standing as a pragmatic realist in the algebraico-mathematical disputes of the sixteenth century. Everything, in both these books, was reduced to his own scientific system and all arguments were logical and to the point. It hardly behoved Kircher to attack such a well-ordered force of arguments from behind his own tottering rampart of facts and fancy, but he did. In his *Musurgia universalis* he reproached Kepler—of all things—for mystical obscurity![29]

We may note in passing the rare works of the Jesuit Charles d'Ambleville.[30] His *Octonarium seu canticum* (1634) and his *Harmonia sacra* (1636) were both published in Paris. Possibly Kircher knew these works, but he fails to mention their author. But a work he certainly did know appeared in Wittenberg in 1615–20. There were to have been four volumes, but only three appeared.[31] These formed the *Syntagma musicum* of Michael Praetorius (1571–1621), who was born not far from Eisenach in Creuzburg an der Werra, a village near Kircher's own native Geisa. The three volumes which did appear were on 'sacred and profane music'; 'organography' or all possible aspects of organ[32] music; and on 'all vocal and instrumental forms of music, touch and tempo, old rules and new'. This work is in fact invaluable, since it forms a guidebook to this difficult transitional period and a repository of interesting facts and well-marshalled arguments.[33]

We come now to a better known work, one which is generally conceded to be on a par with Kircher's. This is the *Harmonie universelle* (1636) by Fr Marin Mersenne (1588–1647) of the Holy Order of the Minims. In many ways, Fr Mersenne could be called a French Kircher.

---

[29] II, p. 376; and see the 1612 (third) edn., which bore the title *Musicae artis praecepta nova et facillima*

[30] The Jesuits seem to have been late beginners in the field of musical theory. Charles d'Ambleville and Kircher were followed by Kaspar Schott, who wrote on music in his *Magia universalis naturae et artis*, (pub. Posthum., Schott dying in 1666), while towards the end of the century Thomas Pereura (1642–1692) wrote *Eine Musiklehre in chinesischer Sprache, etc.*

[31] 'Melopoeia sen melodiae condendre ratio…', 1592: also in Erfurt.

[32] Praetorius was a friend of the court organ-makers E. Compenius and G. Fritzsche.

[33] A work which slightly preceded Kircher's *Musurgia universalis* and which treated contemporary music was Pietro della Valle's *Discorso sulla musica dell'età nostra*.

He was certainly an indefatigable polymath. He studied at a Jesuit college in La Flèche, travelled widely and was an avid correspondent with, among others, René Descartes, with whom he had been at school, Pierre Gassendi, and Thomas Hobbes. His works included treatises on philosophy, the natural sciences, theology, mathematics and logic. Although Mersenne and Kircher never met,[34] they had at least one mutual friend in Nicolas Claude Fabri de Peiresc, to whom Mersenne dedicated his *Harmonie universelle*.[35]

To Mersenne, harmony was the outward sign of the Divine. All Nature obeyed the laws of harmony. As such, mathematics with its interrelation of numbers becomes the clearest image we have of the Divine. His two-volume work contained astonishing insights and in several cases Mersenne was the first to propound certain physical laws.[36] His treatise was divided into five 'traitez': 'De la nature des sons'; 'De mechanique'; 'De la voix et des chants'; 'Des consonances'; and 'Des instruments'. Factually, Mersenne is probably superior to Kircher.[37] His work is also better ordered and presented. But he lacks Kircher's overall view and tends to set himself too rigid a limit, for his book was after all entitled *Harmonie universelle*. Nevertheless, it is quite possible that Mersenne was the inspiration which prodded Kircher into starting his *Musurgia universalis*, which if only in name was a follow-up to the French man's effort. *Musurgia* is divided into two volumes, containing books 1–7 and 8–10 respectively. In his Preface, Kircher apologises for writing such a work:

> So although, for the aforesaid reason, I am not a professional musician, still it is known that from an early age I have devoted myself not only to the more distinguished arts and sciences but also to the keenest study of the practice of music and with the most persevering toil. Nor have I occupied myself only with musical theory.

---

[34] Mersenne and Kircher did, however, correspond. Two letters from the French monk are preserved in Rome and deal with problems of magnetism. See Epist. III, p. 427 (Paris, 22 September 1646); XIV p. 34 (Paris, 20 January).

[35] Another mutual friend was Giovanni Battista Doni, who corresponded with Kircher; see Epist. III, pp. 318, 394.

[36] One of his rules is 'une chorde touchée à vide fait plusieurs sons en même temps'—this was in 1636.

[37] Of both authors, C. Sachs, in *A Short History of World Music*, p. 235 says: 'Each is a consummate scholar and scientist, without any attempt to be popular, and each, as the two titles imply, had a universal non-specialistic attitude'.

In the first book, 'Anatomicus', Kircher begins right at the beginning. He describes the anatomy of the ear (several illustrations are given), the structure of the voice organs in humans and selected animals.[38] and the varying timbres and qualities of the voice itself. He does not limit himself to the human voice, and so is able to point out the varying inflections of the calls of a mother hen, a cuckoo and a quail.[39]

In the second book, 'Philologicus', Kircher discusses the music of the Hebrews, and, true to form, gives descriptions of their ancient musical instruments. In the same book he goes on to describe, superficially enough, the music of the Greeks.[40]

In the third book, 'Arithmeticus', he begins his study of the doctrine of harmonics. He does this by first classifying the several kinds of proportion and then demonstrating the ratios of intervals. He includes a system of arithmetical notation extracted from the works of Boethius and others, which contains rules for the addition, subtraction, multiplication and division of intervals by means of suitably adapted characters.

The fourth book, 'Geometricus', is dedicated entirely to an explanation of the division of the monochord, and the method of finding the intervals by various algebraic and geometric processes.

The fifth book, 'Symphoniurgus', gives directions for the composition of music in consonance. Here Kircher explains the nature of counterpoint, both simple and figured, and includes some general rules for the composition in one, two, three or more parts. Near the end of the book, he describes the spurious figure called 'fuga in nomine', and gives an explanation of the canon accompanied by various examples.[41] His most impressive example is perhaps one which, he says, might be sung by a very large number of voices.[42]

The sixth book, 'Instrumentalis', contains Kircher's descriptions and illustrations of the instruments used in modern music. Many of these are rather wonderful and are explicitly illustrated lest evil doubt

---

[38] Chaps. 11–12 of this book have been trans. by A. Moll in W. Kühn (ed.), *Die Musikerziehung, etc.*, pp. 13ff., 17ff.

[39] Bk I, p. 30. Kircher sets down the musical notation of: (a) 'Vox parturientis Gallinae' (the voice of a hen in parturition) transliterated into a succession of 'tototo…'; (b) 'Gallina convocans pulles' (a hen calling its chicks together) transliterated into a succession of 'glo, glo, glo…'; (c) 'Vox cuculi' (cuckoo) transliterated into a succession of 'Gu cu, gu cu…'; and (d) 'Vox coturnicis' (quail) transliterated into a succession of 'bikebik, bikebik…'

[40] A more detailed account is given in Bk VII.

[41] I. V, p. 383ff.

[42] I. V, p. 414, appropriately enough in a chapter entitled 'De musico labyrintho'.

should arise in the mind of the reader. At the end of the book is an interesting description of the great bell of Erfurt.[43]

The seventh book, 'Diacriticus', is a typically Kircherian potpourri. He begins by comparing ancient and modern music with some specimens of the ancient Greek musical characters taken from Alypius.[44] There follows, eventually, a general enumeration of the most eminent musicians of the author's time. Kircher provides several fine compositions selected from their works.[45] This closes the first volume.

In the second volume, the eighth book, 'Mirificus', opens with inserted tables of all the possible combinations of numbers, such as relate to musical intervals. There are also detailed investigations into the various kinds of metre used in poetry, with special emphasis on Greek and Latin poetry, both of which are illustrated by musical characters.

In the ninth book, 'Magicus', Kircher completely loses his head. The chapter entitled 'De sympathia et antipathia Sonorum ratione' describes a curious experiment[46] which is possibly the first known use of musical glasses. Kircher then produces instances of the singular effects wrought by music. He cites the example of Saul in Holy Writ, attempting to account for this king's behaviour in mechanical terms. He also describes a process which will cure the bite of the tarantula spider. There are several curious stories about echoes and the dangerous mistakes they can cause,[47] and then a rambling description of varied musico-mechanical devices, which for Kircher form an important part of musical studies.[48]

---

[43] In I. VI, there is a heading 'De campanis earumque fabrica & usa' in which occurs 'Magnitudo Campanae Erfurtensis prodigiosa' (p. 522).

[44] I.VII, p. 341. Kircher was the first to combine the Notations of Alypius, already printed by J. Meursius in *Auctores musices antiquissimi*, with tables of music-signs. Kircher's version was reprinted by M. Meibom in his *Antiquae musicae auctores septem, etc.*

[45] For example, in the *Musurgia*, I, p. 598, we find the section 'Romanorum Musicorum laus'.

[46] Fill five glasses of the same magnitude with (a) *aqua vitae*, (b) wine, (c) *aqua subtilis*, (d) sea-water, (e) common water. Wet a finger on the rim of each glass. The result will be: (a) much agitated; (b) greatly shaken; c) less shaken; (d) unmoved; (e) unmoved. Kircher seems here to be exploring both the resonantal qualities of wine-glasses and the respective densities of common liquids.

[47] The stories here are taken from the late Renaissance authority Geronimo Cardano (1501–76). Kircher omits to say which work they come from.

[48] Kircher's delight in mechanical curiosities is symptomatic of his time and is noted at length in J.S. Kestler's *Physiologia Kircheriana experimentalis*.

In the final, tenth book, 'Analogicus', which leans heavily on Kepler and Mersenne, Kircher expounds his theory on analogical music (the term is his), which sets out to demonstrate the harmony of the four earthly elements and the whole planetary system. He goes on to prove that the self-same principles of harmony are to be noted in the proportions of our bodies, in the passions of the mind, and even in the seven sacraments of the Catholic Church. He concludes with considerations of political and metaphysical harmony, finally expressed in that harmony which exists in the union between God and the Universe.

Throughout, this rambling Goliath of a book bears the imprint of Kircher's upbringing and theological, God-centred *Weltanschauung*. This mindset, combined with the author's interest in science, leads to a definition of music as an expression of the cosmos, of Divine origin, and, as illustrated in Book X, a demonstration of the essential harmony between ancient and modern man, earth and stars, Man and God. In his views of music as a science,[49] Kircher was strictly of a mediaeval cast. The foundation of music in mathematics was patently obvious to him and his task, as he saw it, was to prove that music was a mathematical science. This was a key purpose in writing the *Musurgia universalis*. He was not a crusader for an ideal, but rather someone who was stating the obvious, and as such, compiling as comprehensive a work as possible. Again, as in Kircher's Neoplatonic views on the mysteries of the hieroglyphs, we see one of the last attempts in European literature to encompass the sum of knowledge within one work. Since, this time, Kircher had patently firmer bases on which to build his work, his *Musurgia universalis* has not met with the ridicule which accompanies his *Oedipus aegyptiacus*[50] and is consequently, even today, regarded as a valuable document in the historical perspective of its time.

It is interesting to note that at least one of Kircher's mistakes in this work enjoyed a European tradition before being finally settled.[51] His own view, stated eight years after the birth of Newton, who was to share the same error, was that music was the 'simia lucis', the 'likeness

[49] This Aristotelian concept, expressed by Zarlino through his *Istitutioni*, is noted above.

[50] The comprehensive concept of each work, as reflected in their titles, is not coincidential.

[51] 'Finally' is perhaps a little premature. In 1930, Baron Anatol Vietinghoff-Scheel exhibited in Vienna and Graz his 'Chromatophon', which was described then as a 'Farbenbühnenklavier'.

of light'[52] and that everything visible could be made audible and vice versa. It was patently a false analogy.[53] In the following century, however, his ideas inspired another Jesuit professor, Louis Bertand Castel (Fellow of the Royal Society in London, 1688–1757) to publish his *La musique en couleurs* (1720) and further, to construct a 'clavecin oculaire'. This work was translated into German by Telemann in 1739 and was soon followed by an English adaptation. Similarly, Erasmus Darwin, though probably inspired more by the Newtonian proportions for notes and colours, made corresponding proposals in 1789.[54] In more modern times, one need only think of the Clerk-Maxwell Rimmington Colour organ.[55]

One of Kircher's more valuable services to the theory of music is to be found in his disquisition on musical styles. Kircher's initial order of classification was threefold and presented individual styles, social and national styles, and strictly functional styles. The first he derived from the Galenic theory of the four humours, whereby Man's temperament was in direct relation to the natural humour most prevalent within him. Kircher saw expression of the national characteristics and idiosyncrasies of various contemporary leading musical countries, which at that time were France, Italy and Germany. Different theorists emphasised different characterisations, generally without reference to nationalistic bias. Kircher impartially recognised the specific virtues of each nation's style and praised the deliberate combination of national styles.

Kircher's functional style for vocal and instrumental music is divided into nine separate headings: 1. ecclesiastical; 2. canonic; 3. motet; 4. fantasy, i.e., fantasias, 'ricercare', 'toccata'; 5. madrigal; 6. melismatic, i.e., 'arietta', 'villamella'; 7. hyporchematic, i.e., dances; 8. symphonic,

---

[52] *Musurgia universalis*, I, p. 557.

[53] Kircher's views, which he was to develop in his *Musurgia*, first appeared in his *Magnes*, where he sees (and hears) deep tones as black, high as white and, for example, tense tones as scarlet. Perhaps his starting point was the Classic's 'vox fusca' and 'vox candida', but by 1650 (*Musurgia*, I, pp. 555ff.) his analogies had been concentrated into a massive and exact table of correspondences, e.g. of an octave 'semiditonius' = yellow and hexacord minor = violet. The question is explicitly discussed in A. Wellek, 'Renaissance- und Barock-Synäthesie'. *Deutsche Vierteljahrhesschrift für Literaturwissenschaft und Geistesgeschichte* 9 (1931): 554.

[54] Newton's proposals—which according to Voltaire were directly promoted by Kircher's ideas—are contained in *Opticks* of 1704 and *Lectiones opticae* of 1727. For Darwin, *Zoonomia: or, the Laws of Organic Life*, vol. 1, p. 18, etc.

[55] See W.L. Sumner, *The Organ, its Evolution, etc.*

i.e., instrumental music; 9. dramatic or recited. In each, the various moods (*Affekte*) stimulated correspond to the various styles or genres. This classification found many supporters in Kircher's lifetime and was printed in the prominent musical dictionaries of following generations, by Brossard in 1703, and, later in 1732, in Walther's music lexicon.[56]

Elsewhere in his *Musurgia universalis* Kircher compresses his functional styles ('styli melothetici') into three broader concepts: Stylus ecclesiasticus; Stylus theatralis; and Stylus madrigalescus.[57] This, however, was not nearly so original. Already in 1555, Nicola Vicentino[58] had recommended a sharp division in the composition of church, chamber and profane music. Possibly Kircher overlooked his book but he must certainly have known of Marco Scacchi's work[59] published some seven years before the *Musurgia*, where the author recommends the classifications Stylus ecclesiasticus, Stylus cubicularis and Stylus madrigalescus. An honourable compromise was made by Johann Matteson (1681–1764) when he combined the technical classifications of Scacchi and the functional styles of Kircher into a form that has ever since served as the basis of the modern definition and concept of musical style.[60]

In the *Musurgia*, as is frequently the case with Kircher's works, it is often a question of sorting out the wheat from the chaff to establish what is of value. In Book VII, for example, much space is taken up by a learned disquisition on the respective values of 'musica antiqua' and 'musica moderna', a subject[61] especially suited to what is essentially a Baroque work. Curiously, Kircher seems to see Gregorian chant as the better side of 'musica moderna' and one is irresistibly drawn to the conclusion that for Kircher, modern music was at its height in

---

[56] S. de Brossard (1655–1730), *Dictionnaire de la musique*: Walther, *Musikalisches Lexicon*.

[57] *Musurgia universalis*, V. XVII.

[58] *L'antica musica: ridotta alla moderna.*

[59] *Cribrum musicum ad triticum syfertinum.*

[60] In *Das beschützte Orchester*, Matteson made one or two rather malicious remarks on the variety of Kircher's functional styles and, with surprising levity, makes a considerable German pun: '[man] konne immer weiter und weiter stilisieren und schliesslich bis auf den Besenstiel gelangen!'

[61] The topic was first broached by Vincento Galilei (the father of the astronomer) in his *Dialogo della musica antica e della moderna* of 1581, the fruit of ten years of correspondence with Girolamo Mei (1519–1594), which in turn had been sparked off by Zarlino's *Le institutioni harmoniche*, noted above.

pre-Reformation days. This view is held consistently, despite Kircher's knowledge of and probable friendship with some of the leading musical personalities of his day.

So much for Kircher's comparisons. But he quotes several valid and until then obscure examples from the ancient Greek spheres of music.[62] He was the first to equip the fourth-century AD musician Alypius with modern notation, the first to attempt an interpretation of Byzantine neumes, and the first again to publish (I, pp. 540ff.) what he claimed to be an actual Pindaric melody.[63] Kircher had apparently stumbled across the manuscript of this fragment in the ancient library of the monastery of San Salvatore dei Greci near Messina. This must have been on his return journey from Malta in 1638.[64] He made a copy of the manuscript ('These notes, saved from the ravages of time by a singular favour of God, are finally in two manuscripts, of which one is preserved in the Vatican Library, the other in our Collegium Romanum')[65] and apparently left the original in Sicily. The manuscript does not appear in a catalogue of the Greek manuscripts of the library made by Fr Possevin, and at the beginning of the eighteenth century the noted palaeographer Fr Montfaucon conducted a fruitless search for this document.[66] A final note in Fr Possevin's catalogue does, however, mention that there are many manuscripts as yet unlisted which refer to the choral service. Friendly Kircher critics assume that the vital Pindar manuscript is still awaiting exhumation.[67]

However, the fact that this manuscript should so annoyingly have disappeared once more into its palaeographic limbo after a brief meeting with Athanasius Kircher has convinced many authorities that the fragment reproduced in the *Musurgia* is spurious. One of the irritating aspects of the case is that no one has been able to prove or disprove that the fragment is a fraud.[68] The controversy is still alive and, for the

---

[62] In this field too, Kircher had been preceded by the researches of Vincento Galilei, who in 1581 published antique manuscripts.

[63] Composed for the first eight verses of the first Pythic.

[64] Kircher left Messina for Calabria on 24 March 1638.

[65] *Musurgia universalis*, I, pp. 540–541.

[66] B. de Montaucon, *Palaeographia graeca*.

[67] We find both the catalogue and the search noted in Burney's *History of Music*, vol. 1, pp. 104–108. Burney tries to preserve an impartial approach but cannot help being somewhat prejudiced by Kircher's reputation as 'a man of immense erudition indeed, but undigested'.

[68] Recent investigations have included: P. Friedländer, 'Pindar oder Kircher'. *Hermes* 70 (1935): 463 ff.; S. Vetter, 'Bücherschau: P. Friedländer, *Die Melodie zu*

most part, it seems to be more and more accepted that the relic might well be genuine. Evil thoughts on Kircher's own involvement in this particular *cause célèbre* are generally not entertained.

Despite posterity's gratitude to Kircher for having compiled an undeniably valuable collection of Classical music,[69] he was bitterly censured on this very feature of his *Musurgia* by a contemporary, Marcus Meibom (1626–1711). Meibom, who led a somewhat sycophantic life with varying degrees of success (he seems to have been banished from several princely courts), was passionately interested in the study of Greek music and even went so far as to have instruments reconstructed on Greek models, and then played in concert. In 1652 he published his *Antiquae musicae auctores septem*[70] and remarked in the Preface:

> Until now, scarcely anyone of the men most learned in Greek has dared to treat of Greek music as a discipline. The celebrated Athanasius Kircher, having read scarcely any Greek literature about Greek musicians, has attempted to teach it. I confess that I am amazed, not only that so much nonsense should have issued from the most famous place in the world, Rome, but that it should have come from so famous a man.

Nothwithstanding such acerbity, Blasius Ugolinus admiringly reprinted most of Kircher's Greek and Hebrew musical references in his work of 1744.[71]

Kircher's views on the sympathetic effect on temperament of certain styles of music have already been discussed. By 1641 he had developed a theory of the therapeutic effects of music, especially of Classical music, whereby personal magnetic attributes are attuned by the correspondingly magnetic effects of music.[72] In a celebrated passage

---

*Pindars'*, *Zeitschrift für Musikwissenschaft* 17 (1935): 121ff; V. Jammers, 'Rythmische und tonale Studien zur Musik der Antike und des Mittelaters', *Archiv für Musikforschung* 6 (1941): 162ff

[69] It is pleasing to note that one of the leading graecophiles in Rome at that time, Giovanni Battista Doni, from 1629 until 1647 Secretary of the Cardinals and author of the classically based *Annotazioni sopra il compendio de'generi e de'modi della musica*, 1640, dedicated the first chapter of his *Trattato sopra gl' instrumenti di tasti* to Athanasius Kircher.

[70] Ironically, this work was cited as a sample of Louis Elzevir's printing productions in a letter written by the Dutch typographer to Kircher, drawing attention to the facilities offered and reputation enjoyed by his firm: Epist. XIV. 238 (Amsterdam, 4 November 1650).

[71] *Thesaurus antiquatum sacrorum*, vol. 32, pp. 354–456.

[72] *Magnes*, chapter on 'Magia phonocamptica'.

of his *Musurgia*[73] he advances one step further to the common effects of music on Man and—of all things—tarantula spiders, and sees in this common factor a possible cure. Well informed as always, Kircher prints the actual music which is said to cure the tarantula bite. He had several predecessors in Franciscus Joel, Felix Platter and Henry Cornelius Agrippa, and in his own life was to see two more contributions to the literature on tarantalism.[74] Kircher's music is an interesting contribution to the history of the Neapolitan tarantella dance and, although his innocent participation in this European tradition was to bring ridicule upon his head in later generations, his version was used by no less a figure than Goethe in his own descriptions of the tarantella.[75]

Perhaps the most curious of all the chapters, and possibly the one in which we glimpse the true Kircher, is the second half of Bk IX where he describes all manner of weird and singular contrivances designed to make music. His enthusiasm on this subject, 'about musical instruments of every kind, automatic or autophonic', knows no bounds. One of the more grotesque productions, which Kircher tells us would fill a whole house and is capable of producing the sounds[76] of a flute, of a violin, of organs, of trumpets, and of a spinet, closely resembles the noted 'Nürnbergisch Geigenwerk' of Hans Haiden.[77] Other peculiar instruments combine with a mechanical organ to produce cuckoo noises, cock-crows, what a critic calls[78] 'das Klingen der pythagoreischen abgestimmet Schmiedehammer', with the whole surrounded by mechanically pirouetting statuettes.

---

[73] *Musurgia*, II. IX, 'Magia consoni et dissoni': Ch. 4, 'De Tarantulae morsu intoxicatorum cura prodigiosa per Musicam'; Ch. 5, 'De diversis diversarum Tarantularum proprietatibus'; Ch. 5, 'De diversis diversarum Tarantularum proprietatibus'.

[74] I.W. Sengwerdius, *De tarantula*; H. Grube, *De ictu tarantulae et vi musices*

[75] This is according to Sachs in his *Eine Waltgeschichte des Tanzes*, p. 172: 'Goethe in seiner Beschreibung der Tarantelle führt A.K. als Kapazität an'.

[76] The laws of number and the mathematical nature of notation led Kircher to describe and build a composing machine, an 'arca musarithmica'. However unusual this may seem, the idea lingered for some time. Pepys possessed such a machine (preserved in the Pepysian Museum at Magdalen, Cambridge) and in the late eighteenth century the London music publisher Welcker issued 'A Tabular System, whereby any person without the least knowledge of music may compose ten thousand minuets in the most pleasing and correct manner'. In 1824, the Componium was invented by the Dutchman D.J. Winkel.

[77] The Nürnbergisch Geigenwerk, which resembles a grand piano, was invented about 1575 by Hans Haiden the Elder and is reproduced in Praetorius' *Syntagma musicum*.

[78] A. Protz, 'Mekanische Musikinstrumente'. In F. Blume (ed.), *Die Musik in Geschichte und Gegenwart*, vol. 8, cols. 1868ff.

Kircher gives here his description of the noted hydraulic organ[79] of Vitruvius (which no one has yet succeeded in understanding). He describes a score of barrel-organ type instruments which revolve mechanically to give the noise of massed bells, violins, lutes—everything in fact—and then adds a description of the aeolian harp or mnemochord, of which he modestly claims to be the inventor.[80] Each instrument is accompanied by its own illustration, etched with consummate artistry and a sharp eye for detail. Unfortunately, the technical instructions for construction are omitted.

Kircher's former pupil and later collaborator, Kaspar Schott, was also the author of some curious books in which similarly ingenious devices are illustrated and explained.[81] This was, of course, no accident. The Jesuit Order placed a great deal of reliance on such marvellous machines and were wont to make great play with them in their struggle to convert the heathen in distant lands. In China especially, these artefacts were received with great interest. We know that Mattei Ricci, one of the earliest Mission leaders to the Land of Cathay, was specially schooled in the manufacture of wondrous clocks and sundials before he left Rome. Many of these early mechanical jests have, moreover, been preserved.[82]

Besides producing early musical instruments, such as the glockenspiel and xylophone,[83] Kircher also experimented at length with various acoustic curiosities and thereby both astounded and terrified many of his contemporaries.[84] An interesting and probably apocryphal incident is recorded by Kraus:

> Nachdem die Grossmächtigste Königin auss Schweden Christina den katholischen Glauben angenommen/und ihre Cronen verlassend/sich

[79] A description of this had already been published in his *Magnes* (1641 edn).

[80] Kircher was certainly the first to describe such a harp but St Dunstan of Canterbury possessed such a one in the tenth century (and was almost accused of witchcraft because of it). Similar harps are described in both Old Testament and Vedic scriptures.

[81] Notably his *'Mechanica hydraulico-pneumatica', 'Technica curiosa'*, and *'Magiae universalis naturae et artis'*. Although the Germans enjoyed undoubted superiority in this field (cf. Mersenne, *Harmonie universelle*, vol. 2, p. 160: 'les Allemands sont si ingénieux') until about 1700, two early 'textbooks' possibly used by Kircher were written by non-Germans, e.g., S. de Caus, *Saisons des forces mouvantes*; R. Fludd, *Utriusque cosmi, etc.*

[82] Several are illustrated in S. Harcourt-Smith's *A Catalogue of Various Clocks.*

[83] Cp. Kestler, *Physiologia Kircheriann experimentalis*, pp. 166b, 170b–171b. Exp. V. and VIII. Taken from *Musurgia universalis*, I. VI, pp. 518–519.

[84] *Mursurgia.*

> nachher Rom begeben/haben Ihro Majestat ein Belieben gefasset/des Kunstreichen Jesuitens Kircheri Wercke zu besehen. Da selbe nun in das Collegium eingetretten/und das Cabinet Pater Kirchers besuchet/kamen deroselben sechs Knáben entgegen/welche Sauber auf Comoedi-Weis angelegt/mit schönen Minen/und einigen Reymen die Königin bewillkommneten.
>
> Weilen aber dieses Ihro Majestat nichts besonders zu seyn schiene/ erzeigte sie auch sich darob ein geringes Wolgefallen. Es unterstund sich aber Pater Kircherus zu fragen/ob Ihro Majestat wissen thaten/was das für Knaben waren? und weilen sie mit Nein geantwortet: schalete der Pater Kircherus die Knaben von ihrer Bekleidung aus/da dann nichts anders/als einige von Holtz künstlich geschnitzelte Statuen. . . .[85]

This is perhaps a good example of what Kircher is talking about in Book IX of his *Musurgia*, but we must add that according to Kaspar Schott,[86] such a statue was never made.

Here we may leave Kircher the musician, among the results of his search for music in all its forms and guises. What is certain (though Book IX tends to bestow to the whole a certain mediaeval flavour), is that in Kircher's *Musurgia universalis* we have a work that, while rambling and often irrelevant, is an eloquent witness both to Kircher's vast industry and ingenuity, and to the development of music before 1650.

---

[85] Kraus, *Geistlich curieuze Nachrichten*, p. 132

[86] *Magia universalis*, XI. III.

CHAPTER FOUR

# THE REVELATION OF THE MICROSCOPE

Athanasius Kircher holds an important place in the history of medicine, for indeed, he was one of the earliest true microscopists. Perhaps it will entail an irksome textbook approach, but any attempt to come to grips with Kircher's medical significance without a knowledge of his stature and development as a microscopist would be ineffective. This in turn will involve filling out the background history of the microscope and of its users, from the earliest days until shortly after Kircher.

The microscopes used by Kircher and on which he based his valuable contributions to European medical thought were of two kinds, simple and compound.

## Simple Microscopes

Both Euclid and Ptolemy were aware of the principles of refracted light. Plato tells us of spheres of glass filled with water and used as cauteries, a piece of information echoed both by Seneca in classical Rome and by the Asian Kalidasa in the *Sahuntala* of fifth-century AD. This knowledge was lost to Europe until the Arab Alhazen (d. 1038) succeeded in passing it on. Both Roger Bacon[1] and the early Italian scientist Vitello knew of and wrote about Alhazen's works.[2] Our knowledge of the first invention of spectacles and thereby early attempts at the production of optical lenses is obscure but this is usually attributed to Salvino d'Amarto degli Amati of Florence and equally to Alessandrino de Spina of Pisa near the end of the thirteenth century. The first known mention of such crude prototypes occurs in the *Lilium medicinae* of Bernard de Gordan, who died in 1307.

The mediaeval alchemists were not long in imitating the gemcutters of antiquity in using water-filled glass spheres for magnification, but

---

[1] See Bridges, *The 'Opus Major' of R. Bacon*, pp. lxixff.

[2] Alhazen was translated into Latin by Gerard of Lemona as *Thesaurus opticae, c.* 1542. A second edition, combined with the *Optica* of V. Vitello, appeared in 1572, thus in *Vitellionis perspectivae*.

the first real advance was made, characteristically, by Leonardo da Vinci (1452–1519), who was closely followed by the abbot Francesco Maurolico (1449–1572)[3] and the natural scientist Giambattista Porta. In England, Leonard Diggs and his son Thomas[4] were aware of the virtues of concave and convex lenses, and they in turn were followed by Thomas Mouffet in France and Kepler in Germany.[5] In 1637 in France, René Descartes, in his curious 'Dioptrique',[6] published an elaborate form of unilenticular microscope which appeared to resemble a mixture of the astrolabe and an astronomical telescope. Descartes' version was illustrated in 1646 in Athanasius Kircher's treatise *Ars magna lucis et umbrae* in a chapter entitled 'De mira rerum naturalium constitutione per microscopium' ('Concerning the wonderful constitution of things in Nature as seen through the microscope'), which was to enjoy a brief European reputation before subsequent technical advances made it obsolete.

In simple but historic words, Kircher introduces his microscope: 'This is that divine science of optics which brings out from the deepest darkness into admirable light what has been hidden. Certainly, until now, it has been believed of many bodies that they were without all life and soul, but now they are shown by dioptics to be alive'. He goes on to ask, in a wondering voice: 'Who could have believed that vinegar and milk teem with an innumerable multitude of worms, unless the art of the microscope in these last times had shown it to be so, to the greatest wonder of everyone?' He makes a few simple observations and asks, with the air of a proud father revealing his son to the world: 'What else does a flea look like but a locust without wings? What else does a mite look like but a shaggy bear?' A significant observation is yet to come as Kircher enumerates his amazing discoveries: he talks of 'the worm-affected blood of those suffering fever' and the 'minute organisms in putrifying material'.[7] In this context Kircher describes two of his microscopes. The first consists simply of a hollow tube, A B. At B is the lens (which is obscured in Kircher's appended illustration), while at A there is merely a plain glass disc on which the object

[3] Maurolico, *Photismi de lumine et umbra, etc.*
[4] In their *Pantometria* of 1571.
[5] See Kepler, *Astronomicae pars optica* and *Dioptrice.*
[6] I.e., in the ninth discourse of his *Discours de la méthode.*
[7] *Ars magna*, pp. 831, 833 (quotations). Kircher's observed and recorded 'minima animalcula' here clearly precede by some 30 years before Anton van Leenwenhoek's 'clejne bestjes' (see *infra*).

to be examined is placed, and, if necessary, held securely in position by another glass.

The common name for such simple microscopes, which could however be held up towards the sun and thereby utilise the maximum light—a fact which was of advantage only if one was examining liquids or translucent bodies—was a 'flea glass ('vitrea pulicaria') or again, a 'fly glass' ('vitrea muscaria'). In 1691 this expression was censured somewhat naively by Filippo Buonanni,[8] who claimed that objects other than fleas could be examined and that therefore the name was unfitting. Kircher mentions that he received this microscope from Cardinal Giovanni Carlo, the son of Cosimo de' Medici II, as a gift.

Possibly the second microscope described by Kircher[9] came from the same source. This is of a similar nature to the one above but dispenses with the tube. The lens is mounted vertically on a short stand and the object to be examined is placed on the same level at varying distances. Possibly the latter type was of greater advantage in focusing, or in presenting the specimen in a better light. It seems obvious that Kircher's use of sphaeroid and hyperbolic lenses, while 'some people use two convex lenses', points to the fact that Kircher at this time knew of the compound microscope but preferred the simple variety. The mention of tiny pearl-shaped lenses is an interesting precedent for Leeuwenhoek's later, far stronger lenses. These illustrations and explorations are followed in Kircher's work by the microscope of Descartes already mentioned. It need hardly be added that Kircher gives to his own 'cyklohyperbolica' lens a very decided preference.

A more advanced form of unilenticular microscope is described by Kircher in the 1671 edition of his *Ars magna* X. III. Here we see, as usual, the lens in one end of a hollow tube. The objects, however, are mounted on a flat surface which revolves on an axis and therefore facilitates the simultaneous examination of several subjects. This 'parastatic' microscope was also featured by Joannes Zahn.[10] From a letter to Schott, preserved and published posthumously,[11] we learn that a certain Kinner had written to Kircher asking for a microscope made by Salvetti,[12]

---

[8] F. Buonanni, *Obseruationes circa viuentia… Cum Micrographia curiosa.*

[9] *Ars magna* (1646 edn.), p. 839.

[10] *Ars magna* (1671 edn.), p. 770; cf. J. Zahn, *Oculo artificiales teledioptricus.*

[11] Schott, *Technica curiosa*, p. 857.

[12] Salvetti, and Campani, in Bologna, were contemporaries of Divini and similarly microscope-makers, but little is known of their work. Possibly Salvetti made the

who at that time (*c.* 1650) enjoyed no small reputation as a lens-maker. Apparently Kircher had sent him a microscope, but not the one he had ordered. The Kircherian microscope that Kinner received cost only half as much as the one he had specified and moreover magnified some 80 times. It is perhaps worth noting that Kircher's own microscope of 1646, which he tells us are 'a thousand times larger than they are in themselves',[13] was capable of a 32 x linear magnification.[14]

There is evidence that by 1663 well-made Kircherian microscopes were in common use in Holland. In this year, in Leiden, one Isaac Voss of Hamburg showed the traveller and diarist Balthasar de Monconys his microscope, 'which is but a minute hemispherical lens, fitted in a small piece of wood, which is let into a little black table. The hollow for the eye is pierced by a very small hole'.[15] Of this, as we can see, the 'microscopium parastaticum' was but a slight advance.[16] The high-water mark was achieved shortly afterwards by the humble, Latinless Anton van Leeuwenhoek (1632–1723), whose lenses were ground with dedication and humility, and whose silent researches were to bring him membership of the Royal Society in London.[17]

## Compound Microscopes

Obviously the early history of this instrument must be very closely linked with that of the telescope. Probably the very first form used was the one illustrated in the *Pantometria* of Leonard Diggs (1571) published posthumously by his son. Here we may read: 'marveylouse are the conclusions that may be performed by glasses concave and convex

---

Kircherian microscope which was forwarded to Kinner. For an elaboration of this hypothesis, see P. Harting, *Das Mikroskop*, p. 660.

[13] *Ars magna*, p. 834.

[14] For this information see F. Loeffler, *Vorlesungen über die geschichtliche Entwicklung der Lehre von den Bakterien*, p. 2.

[15] Kircher's 'a thousand times larger' ('millies majora') claim was mentioned by J.F. Reimmann ('der Athan. Kircher, der es in dieser Kunst so weit gebracht/dass er sich ein Microscopia verfertiget/welches die objecta noch tausendmahl so gross vorgestellet'), who, however, shrewdly adds: 'den es ist bekant/dass des Kircheri seine relationes nicht eben alle mit einander vor Evangelien zu achten': Reimmann, *Versuch einer Einleitung in die Historiam Literariam, etc.*, p. 492.

[16] B. de Monconys, *Journal des voyages*, vol. 2, pp. 153–161.

[17] Leeuwenboek's letter to the Society were written in Dutch and sent from Delft where the self-taught scientist spent his entire life; the letters were translated into English and read before the Fellows by Henry Oldenburg.

of circulare and parabolicall fourmes'. In his *Magia naturalis* of 1588, Giambattista Porta talks of a lens or crystal which makes distant letters seem near, while the Dutchman Zacharias Jansen (*c.* 1580) accidentally discovered, as a youth, the principle of the telescope. His subsequent invention of the compound microscope was later described in a letter to Pierre Borel by the Dutch ambassador to France, William Boreel. The actual instrument was presented to Prince Maurice and is illustrated in Kaspar Schott's *Magia universalis naturae et artis* of 1657. Johannes Lipperhey of Wesel (c. 1570–1619) and Willibrod Snell van Royen (1581–1626) made important practical emendations to the instrument devised by Zacharias Jansen, but the real work of its practical initiation was carried out by Galileo in Italy. A fellow countryman, Francisco Fontana, claimed to have invented the compound microscope in 1618[18] and shows that he was already using it in 1625.

> The instrument was further popularised by the Jesuit Christoph Scheiner, who compares the helioscope to a microscope and writes: in the same fashion is constructed that wonderful instrument the microscope, by means of which a fly is magnified into an elephant and a flea into a camel, and other things are rendered apparent which escape the acuteness of the human eye by reason of their extreme smallness.[19]

Although in his *Ars magna* Kircher prefers simple microscopes, this is not to say that he knew nothing of the compound variety. Indeed, he knew the works of both Fontana and Scheiner,[20] and he obviously used a compound microscope for the experiments detailed in his *Scrutinium pestis* of 1658.

This compound microscope was illustrated by Buonanni in *Musaeum Kircherianum*[21] and consists of a rigid tube with a lens at each end. The focus was obtained by screwing the tube up and down in a vertical stand. Later an increased refinement was secured with a second adjustment; the illumination was improved by a substage condenser,

---

[18] Fontana, *Novae caelestium terrestriumque rerum observationes* For Diggs' *Pantometria, see supra*, n. 4.

[19] See Scheiner, *Rosa ursine, etc.*, Bk. II. ch. 30, p. 130.

[20] Apparently, since he quotes both authors in the *Ars magna*.

[21] Kircher's microscopes apparently remained in the Museum until *c.* 1900, when the whole collection was swallowed up by the Museo Etnografico Preistorico and the Museo Nazionale. Since this catastrophe, the Kircherian microscopes remain untraced. P. Capparoni ('Il calamaio di Atanasio Chircher', *Rivista di storia critica delle scienze mediche e naturali* 6, 2 [1915]: 9), refers to a Kircher microscope illustrated in Buonanni, *Ricrenzioni dell' occhii e della mente, etc.*

the instrument being used in a horizontal position. Robert Hooke described a somewhat similar instrument in 1665[22] and Marcello Malpighi, one of Kircher's more brilliant younger contemporaries, first saw the circulation of the blood on the surface of the frog's lung with an identical microscope.[23]

More technical feats were achieved by Eustachio Divini,[24] who brought into use a combination of six lenses, while in 1685 Johannes Zahn, in his 1685 compendium of microscopes and telescopes, describes a four-lensed instrument which illustrated the refracted paths of the light rays.[25] From this time onwards the compound microscope slowly rose in favour. After Newton had shown the theoretical possibility of an achromatic instrument,[26] more and more improvements were gradually introduced.

## Early Microscopy and its Protagonists

It is interesting to see Kircher's role in the development of the microscope. He was one of a series of innovators, and in the technical field of microscopy he is secure on his minor peaks. But what of his reputation as a microscopist in the vital field of actual research?

The earliest known microscopist would appear to be Thomas Mouffet,[27] who in 1590 compiled his *Insectorum theatrum* (1634), in which he describes the results of his deliberations on, and observations of, insect life with the help of a magnifying glass—a humble beginning to a noble science. In 1592 there appeared the *Archetypa studiaque*

---

[22] Hooke, *Micrographia*, Fig. 17. Robert Hooke (1635–1703), in the fashion of his day, originated much, perfected little.

[23] Marcello Malpighi (1628–1694) was the first to see proof of Harvey's theory of capillary circulation. His discovery is contained in his *De pulmonibus observationes anatomicae*.

[24] See *Lettera di Eustachio Divini*, etc.

[25] Zahn, *Oculus artificialis teledioptricus*, vol. 1, p. 74.

[26] Such achromatic microscopes were first constructed by the noted William Herschel (1738–1822). Of this incident, R.H. Schryoch says: 'Once more, as in the days of Kircher and Leeuwenhoek, men peeering through lenses were to see what human eyes had never seen before': *The Development of Modern Medicine*, p. 120.

[27] Born in London and graduate of Oxford, Mouffet eventually became personal physician to the Earl of Pembroke. He died towards the end of the sixteenth century, leaving many works and much correspondence.

*patris* of Georg Hoefnagel,[28] which was a series of beautifully engraved copper plates of insect studies, only slightly enlarged, but nevertheless showing details that were invisible to the unaided eye. An early seventeenth-century observer into the unknown world of parasites was the influential Federigo Cesi, Duke of Aquasparta (1590–1629), the companion of Galileo and president-founder of the noted Accademia dei Lincei. Cesi seems to have been active in microscophic studies before 1628.[29] In 1644, the Sicilian Giambattista Hodierna published a book, *L'occhio della mosca*, in which detailed and surprisingly accurate studies of insect eyes are reproduced. Similarly, Francisco Fontana had concluded his tractate on the microscope of 1646 with four unexpected pages of insect observations.

Probably the first physician to attempt microscopical observations was Pierre Borel (1620–1671), a friend of Descartes and a man of great influence in the French court. In 1653 Borel produced the first medical work [30] to contain valuable information gained through microscopical studies. He followed this two years later with a work on astronomy which included a treatise on the microscope.[31] The separate publication of this latter work in the following year marks the appearance of the first book devoted to microscopy.[32]

Such are Kircher's immediate predecessors in the actual observational field of microscopy. The dilettante nature of their studies is symptomatic of an age that found pleasure and amusement in the curious. The microscope was a toy which had yet to become serious. But it is hard to blame these children of the Renaissance for their naïve joy in discovering the singular and the wonderful, since their findings

---

[28] Georg Hoefnagel (1542–1600) travelled much, especially in the company of the geographer Abraham Ortelius, and is especially remembered for his vivid illustrations for G. Braun's *Civitates orbis terrarum* of 1572. His microscopical studies appear to have been incidental.

[29] His microscopical activities are noted by the Roman Professor of Medicine Johan Faber, in his *Animalia mexicana descriptionibus* of 1628.

[30] *Historiarum et observationum medico-physicarum.*

[31] *De vero telescopii inventore, etc.*

[32] Borel repeats several of Kircher's observations of 1646. He investigated vinegar-eels (*nematodes*), called them 'serpents', and remarked upon their movements. He also examined the blood of fever patients and described the little 'worms' he saw. He found similar corpuscles in the serum exudations of wounds and in the discharge of ulcers. His work contained several hints of tissue structure and he noted the abundance of similar worms in putrefying matter.

led to the more serious aspects of observational microscopy which were to be so startingly pioneered by Athanasius Kircher.[33]

## Seventeenth-century Views of Medicine and Disease

In those distant days when science was being born into her rightful heritage, when dragons still stalked the earth, when the Devil was still a mighty Force,[34] in short, before God died in the early eighteenth century,[35] medicine was practised by a few brilliant empirical actors and an indifferent host of briskly efficient barbers and hangers-on. In the early seventeenth century the Galenic idea of body humours was still maintained. A corruption of these humours caused illness: the patient was bled regularly to purge and thin down the noxious gases and, if a favourable astrological conjunction was at hand, and God was in favour, the patient recovered. Illness and disease were attributed to God's will. A doctor—a barber, quack or blood-letter—could do little.[36]

The Church of Rome had played a role in discouraging Renaissance thought on the enigmas of surgery. Few cadavers could be obtained: anyone attempting to cut man's thoughts free from the bonds of Galenic and Aristotelian tradition could be condemned by the Inquisition. Michael Servetus was burned to death for suggesting that the chambers of the heart were perforated,[37] while in Spain, when Andreas Vesalius (1516–1564) saved the life of Don Carlos by trephining, the

---

[33] G. Sticker, *Aus der Vergangenheit der Universität Würzburg*, p. 446, holds a rather more extreme view: 'Es sei nur gesagt, dass die späteren Arbeiten Kirchers, namentlich sein "scrutinium" (1658) neben William Harveys "Exercitationes de generatione animalium" (1651) und Thomas Whartons "Adenographia" (1656) die Anfänge einer wissenschaftlich auf Sehen oder wenigstens auf Sehenwollen und auf Versuch gegründeten Parisitologie bezeichnen und erst zu Anfang des 18. Jhdts. in ihrer Bedeutung erkannt worden sind'.

[34] In 1612 Wolfgang Franz, Professor of Theology at Wittenberg, ingeniously classified 'natural dragons' (three rows of teeth to each jaw) and added piously, 'the principal danger is the Devil', *Animalium Sacra Historia*.

[35] This rather bitter remark, Voltairian in origin, contains too much truth to be pleasant.

[36] In the preceding century, the famous French surgeon Ambroise Pare had said, of a cured patient, 'I treated him, God cured him', while in *Cymbeline* (V. 5) we hear the echo of the mediaeval *danse macabre*: 'By medicine life may be prolonged, yet death will seize the doctor too'.

[37] Servetus was burned to death in 1553; the medical innovations implicit in his *Christianismi Restitute* of 1553 made him many enemies.

Principe's cure was attributed to the corpse of a monk which had lain alongside the invalid in his bed.[38]

Periodic plagues were responsible for exhibitions of mass hysteria. People turned to God, became flagellants or Brethren of the Cross, or became amoral and licentious, abandoning hope.

> Some streets had Churches, with people a-weeping
> Some others taverns had, rude-revell keeping
> Within some houses Psalms and Hymns were sung
> With ranglings, and loud scouldings others rung.[39]

Similarly, especially at the height of the Black Death, mass persecutions of Jews took place.

Although the Aesculapian view of the cause of plagues[40] was threefold—miasmic, contagious or astral—people, especially towards the end of the sixteenth century, were inclining towards another view: that plagues could also be man-made.[41] 'Pestis manufacta' was in reality an ancient view, but as the seventeenth century replaced the sixteenth, men were rapidly casting round in their mediaeval heads for new explanations for these terrible, regular visitations. Thus Ambroise Pare believed that the Lyons plague of 1564 was not from the Devil but in some way from human hands. Grave-diggers were usually the most common suspects, since they stood to benefit most (the idea suggests that these tradesmen were paid strictly for piece-work). Plague anointers were supposed to have begun the great plague of Milan in 1576 and, again, in 1630. This time, two of the miscreants were apprehended, one Piazza, the plague overseer, and one Mora, a barber; they were tied, confessed after torture, and were hideously executed.[42]

The theory of contagions was, however, becoming more widely accepted. In 1603, a London clergyman, one Henoch Clapham,

---

[38] Vesalius, *De humani corporis fabrica*, Bk. VII.

[39] Written by Wither in his lengthy *Britain's Remembrancer* on the London plague of 1625. Many doubtless thought of Psalm 7:12–3: 'God is a just judge, strong and patient: is he angry every day? Except you will be converted, he will brandish his sword: he hath bent his bow, and made it ready'.

[40] Aesculapius, of course, saw medicine as the 'uix medicatrix naturae'.

[41] The more typical fourteenth-century view is expressed by Guy de Chauliac in his *Grande chirurgie*, his first systematic textbook of surgery (1546), where he attributes the cause of the Black Death to the conjunction of Saturn, Jupiter and Mars in the sign of Aquarius on 24 March 1345.

[42] 'The famous savant A. Kircher considered the possibility of compounding a plague ointment, but refused to drag into the light of day a method depending so much on the powers of darkness': L.F. Hirst, *A History of the Plague*, p. 20.

proclaimed from the gaol where he was residing that there were two plagues, one heavenly, the other earthly and highly contagious. Similarly in 1620, a certain Johannes Raicus of Maienburg published a tract on pestilence, 'Ex flagello Dei', echoing these ideas. Plague tracts were, after all, a feature of the age. No doubt they were snapped up by literate people who liked living and found a comforting reassurance in the printed word. A tract of 1639 describes the plague: 'The plague is therefore defined as a malignant fever which is very often fatal; or more clearly as a skin disease, pernicious, contagious and poisonous. It infects the heart and vital forces with the poison it secretes in the chest, a poison similar to arsenic, wolf's-bane and aconite'. The author remarks, with the air of propounding genuine wisdom, 'The contagion is either in the spirits or in the humours or in the parts'.[43] A similar tract, three years later, solemnly declares: 'The cause that propagates the plague is contagion'.[44] A minute pamphlet, issued some ten years before Kircher's *Scrutinium*, gives comforting news to the prospective plague patient: 'Plague commonly comes either from food or from the air, or from both'. And it elaborates by stating the obvious: it comes most probably from the air.[45]

These tracts may appear negligible beside the more voluminous work of Athanasius Kircher, but at least they are on the right track. The link between plague and contagion went back to Classical times, where we first hear of that doctrine to which Kircher is so firmly attached, that of 'contagium vivum' or 'contagium animatum'. Let us examine the earlier protagonists of this theory. As far as we know, the earliest believer in some such theory (and theory it was to remain until Kircher's day) was Empedocles of Agrigento (*c.* 490–430 BC).[46] The idea seems to have been dropped as quickly as it appeared, for the next recorded incidence is 300 years later in Italy, where Marcus Terentius Varro (116–126 BC)[47] was closely followed by another early Latin writer on husbandry, Columella,[48] of whom we hear in 60 BC.

---

[43] N. Paget, *De peste*, arts. III, VI.

[44] J. Wichmann, *De peste, febribus*, art. X.

[45] N. Witte, *De pestilentia*, arts. VI, VII. All three tracts were supposedly written on scientific lines and were submitted to the famous Faculty of Medicine in Leiden.

[46] He saw bodily organs especially adapted to receive effluxes from surrounding bodies and anticipated, in a crude form, the theory of 'survival of the fittest'.

[47] Probably in his *De forma philosophiae*, III.

[48] Lucius Junius Columella, *De re rustica*.

The theory, nebulous as it was, passes underground for the duration of the Dark Ages to reappear in the works of Girolamo Fracastoro,[49] of whom a later contemporary said that he was 'the first who opened men's eyes to the nature of contagions'.[50] A later Italian medical man, who was to hold the Chair of Anatomy at Padua and whose name survives in medical textbooks, was Gabriel Fallopius,[51] who is said to have formulated a similar theory after wandering all over Europe 'in order to discover the hidden secrets of Nature'.[52]

The claim has also been made for Pierre Borel that he saw 'animals of the shape of whales or dolphins swimming in the human blood as in a red ocean'.[53] This claim would seem to rest upon passages in his *Historiarum ob observationum medicophysicarum* of 1653, which preceded Kircher's *Scrutinium* by five years. It is possible that Borel first saw blood corpuscles or more probably rouleaux of blood cells,[54] but for the first definite and clear statement of the truth of 'contagium vivum' we must turn to Athanasius Kircher, who in this sense was without doubt the forerunner of microbiologists such as Anton von Plencicz, Jakob Henle, Robert Koch and Louis Pasteur, whose discoveries, achieved much later, are briefly mentioned below.

## Athanasius Kircher and his Theory of 'Contagium Animatum'

Kircher's statements were certainly clear and definite in contrast to the obscure reasoning that preceded him. But to impute cool objectivity to the *Scrutinium* as a whole would be a complete misunderstanding, and would blur our view of Kircher as an early scientist. Two years before the *Scrutinium* was published, Rome itself had been victim of a particularly virulent form of plague,[55] details of which Marchamont

[49] G. Fracastorius (1483–1553), *Syphilidis* and *De sympathia et antipathia rerum*.
[50] H. Mercuriali. *Lectiones Patauii habita 1577 in quibus de Pest… tractatur*.
[51] G. Fallopio (1523–1562), *Observationes anatomicae*.
[52] See H.W. Haggard, *Devils, Drugs and Doctors*, p. 237.
[53] Quoted by S. Bayne-Jones and H. Zinsser, *Text Book of Bacteriology*, p. 4, with no source given.
[54] The first valid description of blood corpuscles is usually attributed to Malpighi's *De Pulmonibus* of 1665.
[55] 'The most atrocious plague, one unheard of for centuries': Preface of the *Scrutinium*.

Nedham described to his readers (Nedham's work was published in the year of the Great Plague):

> the occasion of Kircher's writing was the strange nature of the Pestilence which raged at Napoli and Genoa Anno 1656, and from thence flew to Rome, the symptoms whereof were such as agreed not with the old Descriptions, and baffled all the old Antidotes and Cordials, and puzzled the Physicians in all their Consultations about the Causes and Cure of it.[56]

According to the Preface of his treatise, Kircher seems to have been in consultation with at least two prominent medical men of his day: Joannes Benedictus Sinibaldus[57] and Paulus Zacchias,[58] respective authors of the well-known tracts *Geneathropia* and *Questiones medico-legales*.[59] Kircher's book itself is for the most part written on orthodox lines. In it we read of dripping moons, baleful astral influences, malicious comets, and the chief plague-instigator of all, the Devil.[60] The book's value lies in Kircher's microscope observations, which drew on a wide sampling. Unfortunately, where he does list his interesting and often weird tests, he seems to have ignored the value of 'control' experiments.

For Kircher the essence of disease is still, in his Galenic outlook, *corruptio* or *putrefactio*. He adapts the Fracastorian idea that this putridity of humours within Man is caused by *semina* of infection swarming in the *effluvia* or *miasma* from other infected sources. He tells us:

> Air, water and earth teem with innumerable insects capable of ocular demonstration. Everyone knows that decomposing bodies breed worms, but only since the wonderful discovery of the microscope has it been known that every putrid body swarms with countless vermicules, a saying which I should not have believed had I not tested its truth by experiments during many years.[61]

A constant air of wonder accompanies his more startling speculations: 'an immense progeny of tiny worms, some with horns, some

---

[56] M. Nedham, *Medela medicinae, etc.*, p. 179.

[57] Sinibaldus, 'in Romano Athanaeo Medicinae Practisae Prof. Ord'.

[58] Paulus Zacchias, 'Medicus Romanus' and later Chief Physician to the Pope.

[59] A third testimonial is added by Hieronymus Bardi (see next note).

[60] See *Scrutinum pestis* (under 'De virtute siderum') I. XI, pp. 74–83. See Epist. IV, p. 159 (5 June 1657); Bardi, *Medicus, intro., physicus, enchymicus*, IV, p. 159.

[61] *Scrutinum* ('virtute, etc'.) I. II, p. 42: Experimentum consectaria. See also Kircher's *Scrutinium*, I. X, p. 66: 'pestis artificialis Magister est'.

with wings, others with many feet.[62] They have little black dots of eyes…what must their little livers and stomachs, their tendons and nerves be like…?'[63]

Kircher shows a nice appreciation of the dangers of carriers and hosts of infection, even though his words must have seemed rather comical to his readers:

> For when holes and caves are rent open by the yawning of the earth, is it not likely that these infect the ground and so transmit the poison to plants, roots of herbs, fruitful trees, flowers and fruits, whence innumerable harmful little creatures are engendered? The infected vegetabilia being taken by animals for food, man himself in turn is fed with the flesh of the infected animals and thus his blood is corrupted.[64]

Once this has happened, once the change has been wrought and the poisonous *semina* set free, the process is continued from host to host: 'This mutation springs from different seeds through which the putrefaction is matured, which putrefaction destroys life, and when the body is dead flows out, distributing the disastrous poison far and wide'.[65] Plague is seen as this *putrefactio transmitta* and spreads via tiny corpuscles, 'for corruption forces its way into the body through the impact of these virulent corpuscles and drives out the natural heat. So the horrible disease finds its first origins from one or several victims who are first seized by it'.[66]

Once the natural warmth of the body is expelled and the four humours have ceded to putrefactive essences, the poison is spread further through the tiny corpuscles in the breath:

> these corpuscles are minute, and are the really poisonous part of the breath, for they are very adherent, and at once attach themselves to the bed-clothes…and to the garments of bystanders…cling to the hands, and even insinuate themselves into the very pores and cause the commencement of an epidemic.[67]

Once the plague has taken hold of the wretched patient, the resultant *semina*, jointly produced by external and internal *effluvia* in turn arising from putrefaction without and within, throw out poisonous

---

[62] Mouffet in his *Insectorum theatrum* of 1590 had already correctly described and differentiated pediculi.
[63] *Scrutinium*, I. VII, p. 45 (1659 edn., p. 75).
[64] *Scrutinium*, I. III, p. 16: 'Ex hujus modi…corruptio'.
[65] *Scrutinium*, I. VIII, p. 50.
[66] *Scrutinium*, I. VII, p. 37.
[67] *Scrutinium*, I. VIII, p. 51.

corpuscles which, at first lifeless, receive life from the heat of the previously contaminated ('miasmic') air. 'Then each and every one of these countless minute bodies changes into a little invisible worm. The poisonous exhalation can now no longer be regarded as lifeless, but has became a living effluence'.[68]

Opinion is today divided as to exactly what Kircher saw: it seems doubtful that he was the first to see the plague bacillus. Certainly he saw infusoria (and thereby long preceded Leeuwenhoek and blood corpuscles, either singly or in rouleaux (which could be the origin of his *vermes* and *sepetes*) and possibly tissue debris. Of the medical experts, some say yes, some say no, but all agree as to Kircher's rightful role as a pioneer in the field of bacteriology.

Let us examine the impact of Kircher's statements in Europe.[69] Late in 1658, months after the publication of the *Scrutinium*, a work appeared by Arnout Sengwerd (1610–1667),[70] in which we find a chapter devoted to 'minima Naturae' containing ideas similar to those of Kircher but developed under strong Cartesian influence. Kircher's greatest champion was possibly the Leipzig professor, Christian Lange (1619–1662), who, in the frank fashion of the seventeenth century, adopted Kircher's views wholesale and published them with his own Preface.[71] In a work published two years earlier,[72] Lange hinted at similar possibilities. He found in Kircher's work an unexpected support of his own views and, in his Preface, earnestly recommended it to his students.[73]

On the firm basis of Kircher's work, Lange and several of his Leipzig contemporaries[74] were able to postulate the doctrine of *pathologia animata* whereby almost every disease—including gout and migraine—was to be traced back to parasitic *vermes* in the blood and constitution.[75] Certainly, it would be difficult to challenge Lange's enthusiasm for the

---

[68] *Scrutinium*, p. 52.

[69] Obviously any such attempt must by nature of its scope be highly selective.

[70] *Idea physicae generalis et specialis.*

[71] Lange, *A Kircheri Scrutinium…pestis cum prefatione* of 1659.

[72] *Miscellanea curiosa medica.*

[73] In his Preface Lange calls the *Scrutinium* 'certainly a monument of lofty talent and most worthy of immortal fame'.

[74] The group included two prominent contagionists in Prof. August Hauptmann (1607–1674) and Prof. August Quinius Rivisus (1652–1723), who was really contemporary with Lange's son, Christian Johann Lange (1655–1701).

[75] Loeffler, in *Vorlesungen über die geschichtliche Entwicklung der Lehre von den Bakterien*, pp. 5ff. sees the Lange school as instigators of much that is of medical value

new doctrine. At his early death in 1662 he was succeeded by his son, who in 1688 attempted to cement his father's reputation.[76] Kircher's views were promoted in seventeenth-century medical thought by both Lange's attempts. Both the elder and younger Lange strove to give to Kircher's *Scrutinium* as wide a circulation as possible.[77] One of Christian Lange's pupils set the groundwork of Lange and August Hauptmann's *pathologia animata* in a Kircherian-based work of 1660, in which he postulates the specific existence of infectious organisms.[78] An early critic of Kircher, however, was Flaminius Gaston, in a plague tract issued in 1660.[79] He attacks the notion of little wormlike organisms and concludes, piously, 'this opinion few people of sane mind embrace'.[80]

Shortly after the appearance of Lange's edition of the *Scrutinium* there gathered at Amsterdam a small school of contagionists around one Gerard Blasius, Professor of Medicine.[81] A slightly later figure at Amsterdam to reach very similar conclusions was Cornelius Bontekoe.[82] In England, in the year of the Great Plague, Kircher's views found almost general acceptance. Perhaps the most eager disciple was Nedham, who cited page after page of the *Scrutinium* and seemed to be particularly impressed by Kircher's own small bevy of medical advisers, 'with whom the learned Jesuit communicated his papers before he put them in Print, and they revised them: so that what is said in that book is the sense of three Men, known by their learned Works throughout Europe'.[83] One of the more quaint features of Nedham's work is his habit of referring to corpuscles and bacilli as 'fine little invisible boddikins'.[84]

Soon after the Plague of London came the foundation of the Royal Society under the auspices of Charles II.[85] In one of their earlier

---

today, including the first explorations of the lesions of syphilis by Philippe Guide and Josephus Berthelot.

[76] Lange, *Pathologia animata, seu Animadversiones in pathologiam spagiricam.*

[77] Lange, *A. Kircheri: Natürliche und medialische Durchgrundung, etc.*

[78] Macasio, *Pathologiae animatae specimen.*

[79] Gaston, *Tractatus de peste*, p. 1168 n. 7.

[80] *Tractatus de peste*, art. XXIX.

[81] See C. de Vogel, *Disputatio de peste.*

[82] Although Bontekoe had a considerable reputation in his lifetime, his works, in Dutch, were only printed after his death in 1685 at the age of 38.

[83] Nedham, *Medela medicinae*, p. 117.

[84] *Medela medicinae*, pp. 111–112 'those little particles floating in the Air which Philosophers call Atoms, Effluviums, Corpuscles, etc'.

[85] This foundation and an early experiment are described by de Kruif: 'in England a few of these Revolutionists started a society called the Invisible College…What

meetings, the learned Collegians discussed the strange views emanating from Italy:

> Dr. Charlton related that the notion concerning the vermination of the air as the cause of the plague first started and afterwards managed in Italy by Father Kircher, was so much farther advanced there, that, by the relation of Dr Bacan, who had long practised physic at Rome, it had been observed there, that there was a kind of insect in the air, which being put upon a man's hand, would lay eggs hardly discernible without a microscope which eggs, being for an experiment given to be snuffed up by a dog, the dog fell into a distemper accompanied with all the symptoms of the plague.[86]

A later, equally colourful report of the learned father's views was presented to the Royal Society by the noted physician Frederick Slare[87] who, with Sir Charles Ent and Walter Charleton may be counted as early English contagionists.

More English support for Kircher's views came from William Boghurst, who wrote in 1666:

> The Plague is the perfection of putrefaction or…the plague or pestilence is a most subtle, peculiar, insinuating, venemous, deleterious Exhalation arising from the maturation of the Faeces of the Earth extracted into the Aire by the heat of the sun…and some tymes immediately aggressing apt bodyes.[88]

Probably at about this time, across the Channel, much harsher words were being aimed at Kircher's views. The speaker is Jean Astruc, curiously said to be the personal physician to Louis XIV,[89] who, we may remember, like Queen Elizabeth I of England, was accustomed to take a bath but twice a year:

---

experiments these solemn researches made! Put a spider in a circle made of the powder of a unicorn's horn and that spider cannot crawl out—so said the wisdom of that day. But the Invisible Collegians? One of them brought what was supposed to be powdered unicorn's horn and another came carrying a little spider in a bottle. The college crowded around under the light of high candles. Silence, then the hushed experiment and here is their report of it—"A circle was made…and a spider set in the middle of it, but immediately ran out"': P. de Kruif, *The Microbe Hunters*, p. 5.

[86] T. Birch, *History of the Royal Society*, vol. 2, p. 64.

[87] See Slare, 'Abstract of a Letter from Dr Wincler chief Physician of the Prince Palatine', *Philosophical Transactions of the Royal Society* 13 (1685): 93ff.

[88] Boghurst, *Loimographia*.

[89] I find upon closer investigation that H.W. Haggard, from whom this information is culled (see nf. 52, n. 92), has brought Astruc into the world a little prematurely. He was personal physician to Louis XV, not to the *le roi Soleil* and his personal dates are 1684–1776.

> There are some, however, who think[90] that the Venereal Poisons [are] nothing else but a numerous School[91] of little nimble, brisk invisible living things, of a very prolific nature, which when once admitted, increase and multiply in abundance… [I]f it was once admitted that the Venereal Disease could be produc'd by invisible living things swimming in the blood, one might with equal reason alledge the same thing, not only the Plague, as Athanasius Kircher, the Jesuit, formerly has done… [He] might not be urged to prove that all other Diseases were derived from the like little living things though of a different Species, than which nothing can be more absurd.[92]

So near and yet so far! Several years later, the Royal Society received a letter from their new corresponding member in Delft, Anton van Leeuwenhoek, and duly passed it on to Henry Oldenburg for translation, for Mijnherr Leeuwenhoek was of a very conservative nature and wrote only in Dutch. The letter contains a faint allusion to Kircher:

> The objection hath divers times been urged against me that there are, hovering in the air, extraordinary small living creatures, which are hid from our eyes, and can only be discerned by means of surpassing good magnifying-glasses, or telescopes: and these creatures, they say, have been seen in Rome'.[93]

One cannot, of course, deny Leeuwenhoek's gigantic stature in the pioneer field of bacteriology. It is possibly true, as one critic remarks, that Leeuwenhoek 'created bacteriology and protozoology out of nothing',[94] but far too often Leeuwenhoek's shadow falls upon or completely obliterates the work of his predecessors. When Leeuwenhoek first remarked on the world of invisible creatures (*clejne beesjes* or *clejne Schepsels*), Kircher's *Scrutinium* had already been public property for some twenty years, while his earlier work on the microscope was printed when Leeuwenhoek was 14 years old.[95] In the often tricky

---

[90] No doubt an allusion to the *Pathologia animata* of Lange *et al.*

[91] Jean Astruc, in his hallowed position, can surely speak with authority on the *morbus gallicus*. All the more so in that one of his works, of 1736, is called *De morbis venereis*, 2 vols.

[92] Quoted by Haggard in his *Devils, Drugs and Doctors*, p. 246.

[93] Of 9 October 1676, contained in *Philosophical Transactions*, 12 (133), pp. 821–831. Kircher himself makes no mention of Leeuwenhoek in his correspondence.

[94] C.C. Dobell, *Antony van Leeuwenhoek and his Little Animals*. Dobell writes with dedication and an utterly consuming singleness of mind on Leeuwenhoek's historical and scientific position.

[95] In 1673, when Sebastian Wirdig commented on Paracelsius' *De peste* in his *Nova medicina spirituum*, there was little doubt in his mind: 'These exhalations putrefy further in the air that multiplies them… and this is the theory about the production of

procedure of establishing scientific precedence, a strict perspective must be maintained. Certainly Leeuwenhoek was the expert, the master, and Kircher perhaps only an amateur dilettante: but he was an inspired amateur, and recognition of this fact has escaped many observers.

In the meantime, in Italy, medical science had taken kindly to Kircher's work. In 1684 two prominent medical men published books in support of the theory of contagion. One was Francesco Lana and the other the Bolognese academic and ecclesiastic, Cardinal Geronimo Gastaldi.[96] In the same year, the interesting figure of Francesco Redi (1626–1698), poet and parasitologist, published his pioneer work on animal parasites.[97] This Italian treatise gave the first death-blow to the mediaeval concept of spontaneous generation: Redi's slogan developed into a new doctrine,[98] 'omne vivum ex ovo', an argument that was later transferred by Lazzaro Spallanzani[99] from maggots to microbes.

Kircher was capable of writing passages which foreshadow our modern conception of universal bio-genesis:

> Nothing living…can be nourished, except by what was once itself living. You may say you have seen such things happen, but I say to you that of their very nature nothing living could come from them, but only from the seeds of growing and sensitive life mixed with them and afterwards combined with damp and heat'.[100]

But he could equally well believe that 'worms, like caterpillars arise in the dung of oxen and, putting on wings, change into bees'.[101]

Similarly, Jan Baptista van Helmot (1577–1644), who first coined the word 'gas', believed that mice were spontaneously generated, a belief which found early eighteenth-century expression in the idea that the mud of the Nile generated countless mice. Kircher's honorary publicity agent in England, Nedham, had great trust in the generative powers

---

worms which Kircher very acutely first demonstrated to the natural philosophers': [Bk.] I, p. 211.

[96] Lana Terzi, *Prodromo*; G. Gastaldi, *Tractatus de avertenda et profliganda peste.*

[97] Redi, Osservazioni intorno agli animali viventi che si trovano negli animali viventi.

[98] This was further elaborated in his second work, *Esperienze intorno alla generazione degl'insetti* of 1668.

[99] Spallanzani (1729–1799), *Dissertationi de fisca animale e vegetabile.*

[100] *Scrutinium*, I.VII, p. 41.

[101] This experiment is reported in J.S. Kestler, *Physiologia Kircheria experimentalis*, I. IV, p. 39a. A brief review of the book in the *Journal des Scavans* 8 (1680): 317–319 concentrates almost exclusively on this one experiment.

of mutton gravy, while the English naturalist Ross stated, despite Redi and Spallanzi: 'To question that beetles and wasps were generated in cow-dung is to question reason, sense and experience'.[102] In 1685, Kircher's theories found doubtful support in the works of Christian Franz Paullini, a verbose and frequently inaccurate popular author. In his elaborate treatise on the dog, he finds space for an expression of Kircherian views on the *animatum contagio* and on miasma. Elsewhere in the work, he postulates with energy: 'All contagion presupposes putrefaction'.[103]

After Christian Lange's *Pathologia animata* in 1688, we find a hiatus of assimilation in would-be Kircherian disciples and critics. The uneasy truce was broken by Giovanni Lancisi (1654–1720) in an enthusiastic work of 1717;[104] his agreement with Kircher was mirrored by the layman Daniel Defoe in 1720.[105] In the same year in France, Benjamin Marten[106] rendered valuable but premature work in discussing, under the influence of Kircher and Lange, the aetiological aspects of consumption or tuberculosis. However, little confirmatory evidence could be found, despite Hauptmann's earlier researches into the sputum of phthisic patients, for lack of adequate microscopical equipment.

Both Kircher's theories and his discoveries with the microscope were sharply ridiculed in the same year in London. Dr Nathaniel Hodges,[107] who had launched upon a vain research for microscopic creatures in the excreta and discharges of the sick, remarked on Kircher's 'animated worms' with some irritation that 'he could never come at any such discovery with the help of the best glasses, nor ever found the same discovered by any other'.[108] The learned doctor essayed, somewhat ironically, a possible reason: 'perhaps in our cloudy island we are not so sharp-sighted as in the Serene Air of Italy'.[109]

---

[102] A. Ross, *Medicus medicates, etc.*, p. 73; van Helmot, *Ortus medicinae.*

[103] Paullini, *Cynographia curiosa*, p. 195.

[104] Lancisi, *De noxiis paludum effluviis.*

[105] Defoe, *A Journal of the Plague Year.*

[106] This reference is from A.J. Salle, *History of Bacteriology*, p. 692. I have been unable to trace Marten elsewhere.

[107] See J. Quincey, *Loimologia, or an Historical Account of the Plague, etc.*

[108] Quoted by Mullet in his *History of the Plague*, p. 240.

[109] Hodges might have added 'or as in the Serene Air of Holland' since he would obviously have credited Leeuwenhoek, of whose work (1686) he is apparently ignorant, with similar fabrications.

Such views were echoed by a satirical lampoon issued in Paris some six years later.[110] The whole purports to describe animalculist causes of disease and, as such, describes and figures 87 of these supposed tiny creatures, named after their physiological residences and their pathological functions, i.e., 'apopletiques... bubonistes... canceriques... gonhoriques... vapeuristes...' A noted contribution to Kircher's theories was made in 1762 by Marcus Anton von Plencicz (1705–1786) when he suggested that the seeds of contagion could well be air-borne and might possibly be dormant for a time before further generating innumerable organisms.[111]

By the 1790's the rational groundwork had been laid for a sound theory of contagion. 'Unhappily, however', as a modern critic remarks, 'there was no great clinician with the vision of Lister to see what the monograph of Kircher, and the experiments of Redi and the observations of Leeuwenhoek might mean for medicine'.[112] Again, this time in 1840, essentially opposing views were expressed. A leading anti-contagionist, A.B. Clot-Bey, asks jeeringly, with reference to the works of Kircher and Plencicz: 'What could be the nature of these microscopic pirates haunting the east and raiding the countries of the west? If they are not spontaneously generated, then they must be part of God's original creation of the world. If these alleged microbes could arise 'de novo' once and generate plague, then why not again and again?'[113]

These questions were answered by J. Henle (1809–1885) in his notable exposition of the theory of a 'contagium vivum'.[114] His works stand on a par with that of Kircher and Plencicz and were to lead Louis Pasteur (1822–1895) who, after eighteen months of study and painstaking observation, still doubted the parasitic nature of pebrine,[115] to the first essentially scientific classifications and isolations of the microbe.

---

[110] 'Système d'un Anglois médicin', published over the initials 'M.A.C.D.' (1726), quoted from an HMSO information booklet W. Bullock MD. on the *History of Bacteriology*, p. 23.

[111] *Opera Medico-physica*; von Plencicz also being noticeable for his *Tractatus de scarlatina* which appeared in this work, and subsequently enlarged, 1780.

[112] C.E.A. Winslow, *Conquest of Epidemic Diseases*, p. 161.

[113] A.B. Clot-Bey, *De la peste observée en Égypte*, p. 66.

[114] Henle's *Pathologische Untersuchungen* of 1840 contained a valuable and clinically detached initial chapter on 'Von den Miasmen oder Kontagien und von den miasmatisch contagiösen Krankheiten'.

[115] Pebrine, which became endemic in 1849, threatened to destroy the whole silkworm industry of France. Pasteur was entrusted in 1865 with the task of tracing and eliminating the origin of this insect scourge.

It was a long, hard struggle for Pasteur, for the doctrine of *contagium vivum* still seemed new and strange. That he finally succeeded and thereby laid the cornerstone of modern medicine is a fact known to all: but how often is tribute paid to his early predecessors?

Once Pasteur's theories had been gratifyingly corroborated and extended by other nineteenth-century workers such as Robert Koch,[116] Kircher and his ideas ceased to have any active power or inspirational influence and became historically fixed as precedent or early discovery. This role is clearly evident in subsequent modern contributions to the history of growth of bacteriology. Thus in 1913, J.J. Walsh eulogises Kircher in the historical perspective:[117] 'Kircher more than perhaps any other can be said to be the founder of modern natural science'.[118] and Walsh found in his *Scrutinium* 'one of the classics which represent a landmark in knowledge for all time. It merits a place beside such books as Harvey's *Circulation of the Blood* or even Vesalius' *De fabrica*'.

A little later, in 1925, Locy was somewhat more conservative in his views but nevertheless saw in Kircher's works 'a notable anticipation' of what was to come and drew attention to Kircher's 'first authenticated notices of microscopically minute living organisms'.[119] Garrison, the noted medical historian, held very similar views and said of Kircher that he was 'undoubtedly the first to state in explicit terms the doctrine of a "contagium vivum" as the cause of infectious diseases'.[120] In 1931, Robinson went a little further and saw in Kircher 'the foremost German scholar of the age' who was 'the first to cast a suspicious eye upon recently revealed micro-organisms, already regarding them as the cause of infectious disease'.[121] The following year, Major somewhat grudgingly admitted that Kircher might have seen larger bacteria,[122] but this was praise indeed compared to the words of Dobell. The latter found Athanasius Kircher 'a priest with no biological or medical training', 'a voluminous and reckless writer', and, perhaps most crushingly, 'the veriest dabbler in science'. Dobell revealed his opinion of the *Scrutinium* itself: 'a farrago of nonsensical speculation by a man

[116] Robert Koch (1843–1910), who isolated the anthrax and tuberculosis bacillus, is generally admitted to be one of the greatest bacteriologists ever known.
[117] J.J. Walsh, *Popes and Science*, vol. 1, p. 113.
[118] Walsh, *Popes*, p. 133.
[119] W.A. Locy, *History of Biology*, pp. 201, 202.
[120] F.H. Garrison, *An Introduction to the History of Medicine*, p. 252.
[121] V. Robinson, *The Study of Medicine*, p. 310.
[122] R.H. Major, *Disease and Man*, p. 48.

possessed of neither scientific acumen nor medical instinct'.[123] It is perhaps significant—and a little tragic in its implications for objective research—that Dobell makes these remarks in a book devoted to the life and works of Antan van Leeuwenhoek.

With some relief we turn to a work issued the following year, where the author sees Kircher's *Scrutinium* as 'of major importance in the development of epidemiological thinking' and praises the Jesuit's 'brilliant speculations'.[124] In 1935 both Wolf and Gay saw Kircher's importance more as a follower of Fracastoro than as an independent scholar evolving new theories.[125] A modern critic mentions that—and here we shall leave the professional views—'Kircher has been termed the Father of Bacteriology',[126] which seems an excellent way to terminate this study of Kircher and the doctrine of *contagium vivum*.

## Secondary Aspects of Kircher's Interest in Medicine

Although Dobell's views are more a caricature than a calm appraisal of Kircher and his medical knowledge, they do contain a grain of truth.[127] It is true that Kircher never received any medical training or instruction. Indeed, bearing in mind the Galenic doctrine of medicine prevalent in his day, it was probably because of, rather than despite, the lack of essential grounding, that he was led to his discovery.

Various other medical observations are scattered through his remaining works. Some are of value, others have value merely as historical curiosities. A story that must have formed one of the more singular aspects of Kircher's knowledge and experience of things medical is repeated by Robert Southwell:

> The truth is, the father hath strange stories as to generation. He told me of a wench, that, after long complaint felt something crushing in one of the great muscles of her back: which being opened, there hopped out a frog. The reason he assigns, that the smock of this maid being where the frogs came to sport, some kind of sperm fell upon 't: which after, by the

[123] C.C. Dobell, *Antony van Leeuwenhoek and his Little Animals*, p. 365.
[124] Winslow, *The Conquest of Epidemic Diseases*, pp. 145, 295.
[125] J. Wolf, *The History of Science*, pp. 425, 443; F.P. Gay, *Disease and Resistance*, p. 123.
[126] Hirst, *A History of the Plague*, p. 79.
[127] Dobell, *Antony van Leeuwenhoek*, p. 365.

> heat of the girl's back (as girls are warm) was attracted in between some muscles, and there nourished, until the surgeon played the mid-wife.

But, as Southwell had already remarked, 'the good father is reputed very credulous'.[128]

A more positive contribution to medical science is reported by Kestler. Here Kircher describes an experiment, one of the very first in induced animal catalepsy. He took a hen, secured its feet and wings and laid it on the ground. He then chalked a line on the floor up to the hen's head. Subsequently, the hen was released but remained helpless in the same position in a state of induced catalepsy.[129] Elsewhere, in his *Magnes*, Kircher talks of the curative and therapeutic effects of the magnet and is called by Hirsch one of the predecessors of Mesmer.[130]

The first known drawing of the *acarus scabiei*, or itch-mite, is preserved in a letter to Kircher from August Hauptmann.[131] It is dated 28 February 1657, which is interesting because Kircher's *Scrutinium*, and presumably the beginnings of his medical reputation, did not appear until 1658. Hauptmann was a somewhat credulous writer, whose ingenuity often outran his judgement, but his position as being the first to figure a submicroscopic organism is uncontested. Already in 1590, Mouffet had described the itch-mite or handworm in his *Insectorum theatrum* but had omitted to illustrate his creature, which he, however, correctly distinguished from the pediculi.

It also seems highly probable that Kircher was one of the first to encourage the use of quinine in Rome and in the Pontine marshlands.[132] This fever-bark (or *quina*) had been introduced into Rome by the Jesuit missionary fathers, about 1650. That Kircher took a deep interest in the medicinal qualities of this East Indian wood we know from the book by Francesco Redi, noted above and published in the form

---

[128] Southwell, Letter dated Rome, 30, March 1661, in Boyle, *Works*, vol. 6, pp. 200, 300. Certainly Kircher was credulous, but this was a feature of that Age of Doubt and Credulity which preceded the Age of Reason: a similar story of a frog was reported to the Royal Society: 'Dr Clarke remarked that Dr Nicholson had put a toad into an open glass, wherein it lived 6 months without any visible Food, but after that time died and dissolved into jelly, which the next spring produced two live toads'. See Birch, *History of the Royal Society*, vol. 3, p. 68.

[129] Kestler, *Physiologia Kircheriana experimentalis*, p. 42a.

[130] Hirsch, *Magnetische Wissenschaften*, p. 468; Hirsch refers to a later work of Kircher's, *Magneticum naturae regnum* of 1667.

[131] Hauptmann is one of Lange's fellow theoreticians in the doctrine of *pathologia animata*.

[132] See J. Jaramillo-Arango. *Malaria*, pp. 51–52.

of a letter addressed to the Reverend Father Athanasius Chircher, in which the Aretine poet and philosopher urges the greater use of this new discovery.[133]

Pope Urban VIII (1623–1644) had already made strenuous attempts in the projected draining of the Pontine marshes. He awarded a concession to the Dutch hydraulic engineer Nicholaus Cornelius de Wit, whose scheme earned the warm approval of Kircher.[134] Kircher, who gives elsewhere a topographical and historical survey of the area, was convinced that the marsh-fever and effluvium from the marshes were the only cause of the centuries-long process which had deprived the region of every trace of cultivation and civilization and had reduced it to deserted wasteland.[135] In his survey Kircher particularly deplores the decay due to the 'ser pestilens' of Arden and Tor San Lorenzo, a small fishing village between Arden and Antium. He declares that the malaria or marshfever was caused by microbes ('vermes') swimming in human blood.[136] While on the question of epidemics, it is interesting to note that in the *Scrutinium pestis* (I. IX), Kircher describes an earlier epidemic wave of anthrax in Rome (1617), its symptoms and after-effects.

Kircher's description of tarantism and his anatomical studies of the ear and throat have already been noted (Chapter 3). As a young man in Würzburg, Kircher came in contact with members of the Medical Faculty there. In this College, anatomical dissections were performed on a revolving table, so that each spectator might see the specimen as clearly as possible.[137] The interest born there in the young Kircher's mind would have far-reaching results.

---

[133] Redi, *Esperienze intorno a diverse cose naturale*. See A. Belloni, *Francesco Redi, etc.*, pp. 23, 47, 59.

[134] A. Celli, *L'aere infetto in La Campania di Roma*, p. 100.

[135] *Latium*, IV. III; II. VII, p. 24.

[136] *Scrutinium pestis*, III. IV; II. VIII, pp. 87–88; II. VII, p. 23.

[137] G. Sticker, *Aus der Vergangenheit der Universität Würzburg*, p. 458.

CHAPTER FIVE

# THE SCIENTIST BEFORE RATIONAL SCIENCE

The birth of modern science is, chronologically, impossible to determine. There was no Columbus to mark for ever the borderline between mediaeval fancies and the new empirical age of experimental science. Certain factors can, of course, be isolated: the discovery of printing by the invention of moveable type, and the uneasy stirrings of the Reformation. The one gave freedom for inquiring minds to ponder freely on the miracles of the heavens or the structure of the human body; the other provided the physical means of dissemination of ideas. The sixteenth century, which might be termed an Age of Discovery, saw both these factors utilized to the full. The earth began, as it were, to shrink in size as great exploratory voyages were made, and Man began to examine the workings of Nature.

The Bible still played a vital role in Man's relation to the new knowledge. Galilei, arraigned for asserting that the earth moved through space, quoted a high cleric who had told him that the Scriptures, inspired by the Holy Spirit, teach us how to get to heaven, not how the heavens move. St Jerome too was quoted, saying that many things in Holy Writ are local truths rather than universal, dogmatic truths. The seventeenth-century view of Nature was personified by people such as Galilei, Harvey, Leibniz and Newton. For them, and countless others, its marvels and miracles were matters of incessant remark. Similarly in the late sixteenth century, Francis Bacon, of whom Gryphius said 'Verulam redet sehr vernünfftig', died from pneumonia caught when experimenting with snow and a dead chicken in the science of early refrigeration. Robert Boyle was perhaps unusual in speaking of the irregularity of Nature. Certainly Johann Sturm, towards the end of the century, took alarm at the concentration on Nature to the exclusion of God.[1] His bitter attacks found a retort in Günther Schelhammer's *De natura sibi et medicus vindicata.*

Parallel to this fascination with Nature, there was, in the temper of the age, an obsessive joy in novelties and innovations, among which the

[1] J.C. Sturm (and L. Reiderer), *Idolum naturae.*

mediaeval 'arcana'—symbols of a magical and unscientific method—played a conspicuous role. Johannes Frommann, in 1675, commented on 'this prurient world which is not satisfied with anything except what is rare, curious and fresh',[2] while in 1700 the reverse side of the medal was demonstrated by Thomas Baker, who declared that 'many new views might be easily shown to be only the spawn of the ancient philosophers'.[3]

An example of both these points might be the *Discursus astronomicus novissimus* of 1642 by Pietro Cortesio, a work which, despite its promising title, is merely a rehash of the thirteenth-century *Sphaera mundi* of Sacrobosco. A poetic nature might see the birth of Science in the new star of 1604–1605[4] or perhaps in the first Chair of Chemistry in Europe, in Marburg in 1609, or in the year 1642, which saw Galileo's death and the birth of Newton. Certainly, Galilei, despite his astronomical observations, could still uphold the mediaeval belief in the tides as caused by the doctrine of impetus, or *virtus impressa*. But he also foreshadowed Pierre Gassendi and René Descartes in their concepts of atomism, and even came very close to Robert Boyle and his 'corpuscular philosophy'.

This paradox is typical of scientists of the transitional period. Many fell into the errors of their time, even though elsewhere they could be capable of originating new doctrines with brilliant theories. Many succumbed to the dead weight of dark mediaeval tradition, which, though it might be sinking underground for ever, dragged many with it in its final maelstrom. Basically, the new scientists were distinguished by their ability to think, by their preference for experimental procedures, by their tendency to disbelieve rather than to believe, by their contempt for the fantastic and their adherence to the rational. They were, in fact, the early forerunners of the Age of Reason.

---

[2] Frommann, *Tractatus de fascinatione novus et singularis*.

[3] Baker, *Reflections upon Learning*, p. 79.

[4] This bright new star, which appeared on 30 September 1604 and lasted for about seventeen months, prompted Kepler's *De Stella Nova in Pede Septentarii*. As opposed to this *nova*, Tycho Brahe's *De Stella Nova* of 1573 marked the phenomenon merely as a newly discovered star.

## The Jesuit Background

Before we discuss Athanasius Kircher as a scientist of the seventeenth century, it would be well to remember that he was a member of what has been called 'la plus grande corporation enseignante du 17ième siècle'[5]—the Society of Jesus. The Jesuits' role in science, as their role in all other spheres, has been and is today hotly disputed.[6] Kircher himself was merely one of a striking succession of erudite Jesuit scholars who flourished in Jesuit missions, schools and universities in the seventeenth century. The high-water mark of the whole Jesuit movement is often placed at about 1640,[7] the mid-point of Kircher's own life.

Many of Kircher's own experiments and ideas were expressly designed to aid the Jesuit movement abroad. Thus in his *Prodromus coptus sive aegyptiacus* of 1636, we find the Pater Noster and other prayers rendered into Coptic, while his magic lantern and the more wonderful of his sundials and mechanical organs were positive contributions towards the conversion of the heathens.[8] The early activities of the Jesuits in the field of education were praised by Francis Bacon and, later, by the German historian Leopold von Ranke.[9] A critic of Kircher's later days was (surprisingly in the face of the praise of Descartes and Bacon), Gottfried Wilhelm Leibniz: 'The Jesuits, as far as is apparent nowadays, rank below mediocrity, so that I consider Bacon to be greatly mistaken when he simply dismisses that view'.[10] A later critic calls the Jesuit method of imparting science in those days

---

[5] G. Compayré, *Histoires des doctrines d'éducation*, vol. 2, p. 161.

[6] Obviously, education was merely a means to an end: 'Les Jésuites avaient la lumière à répandre: ils espérèrent la propager par l'instruction'. J. Crétineau-Joly, *Histoire de la Compagnie de Jésus*, p. 193.

[7] Cf. 'im J. 1640 zur Zeit der grössten Flores der Gesellschaft' in *Nachricht von der wahren Beschaffenheit des Instituts der Jesuiten*, a free translation from the French of Abbé Christophe Coudrette.

[8] Not only for the heathens but also for the Jesuit drama in Europe; cf. R. Fulop-Miller, *Power of the Jesuits*, p. 420. 'For certain effects, the fathers even made use of the magic lantern, the Jesuit savant, Athan. Kircher having been one of the first to draw attention to this possibility. With the help of such projection apparatus they made visions and dreams especially appear on the stage'.

[9] 'Une société nouvelle a porté la réforme dans les écoles: pourquoi de tels hommes ne sont-ils pas de toutes les nations?': *Annales de la philosophie*, vol. 2, p. 364, cited by Crétineau-Joly, *Histoire de la Compagnie*, p. 197. A eulogistic passage from Ranke is quoted in S. Hergenröther, *Bibliothèque théologique*, vol. 6, p. 38.

[10] Leibniz, in *Opera*, vol. 6, p. 65.

'perverted, defective and generally injurious',[11] while a somewhat earlier, rather different view is expressed by Baron F. von Eckstein: 'Leur science et leur foi ont donné plus de fruits que l'industrie commerciale des peuples de l'Europe entière et c'est là où éclate de la manière la plus brillante la grandeur du but scientifique de l'ordre'.[12]

Neither Bacon nor Leibniz lacked support in their contrasting views.[13] Nevertheless, it is important to see in Kircher and his works monuments of industry and erudition, created for the greater glory of God and to the furtherance of the Catholic Faith, in all climates and countries. Were it not for papal support and the existence of the Collegium de Propaganda Fide, many of Kircher's sumptuous tomes might never have appeared. Kircher was relieved of all teaching duties for almost half of his life (1642–1680) and, perhaps more important as regards the actual composition and content of his books, had full access to the worldwide reports of those of his fellow Jesuits who were also missionaries.

## Kircher as a Scientist

It must be admitted that Kircher, with such a host of raw material on one hand and the ready printing presses of Mascardi in Rome and Jaensen of Amsterdam on the other, was in a fair position to dominate the intellectual life of the country. And yet he failed to do so. To many of his contemporaries he succeeded brilliantly; his books, however, have since been called 'de copieux volumes de vulgarisation scientifique'.[14] A learned contemporary notes, with some amusement,

> an excursion into Italy and there to bring you news of the industrious Kircher's subterranean world, his strange grotta de' serpi, his story of the growth of pulverised and sown cockles, irrigated by sea-water, his thermometer by a wild oat's beard, his vegetable phoenix's resurrection out of its own dust by the warmth of the sun: his pretended ocular confutation of Kepler's magnetical motions of the planets about the sun:

---

[11] A.J. Scott, *History of the Jesuits told to the German People*, p. 489.

[12] F. von Eckstein, *Des Jésuites*, p. 464.

[13] Bacon also praises Jesuit scholarship elsewhere; see his *De augmentis scientiarum*, p. 513. Later, favourable views were expressed by H. Grotius, *Annales et historia de rebus Belgicis*, p. 194; Descartes, *Epistolae*, pt 2, p. 275; and, after the Dissolution of the Order in 1773, by Chateaubriand, *Génie du Christianisme*, vol. 8, p. 199.

[14] Quoted from M. Daumas' article on Athanasius Kircher in *Dictionnaire des bibliographies*, vol. 2, p. 816.

> and of Gilbert's magnetical motion of the earth, and of twenty other remarkable things one might yet have the satisfaction to be punctually informed about.[15]

One reason for Kircher's scientific fall was his strong predilection for the new—the *arcanissima*. The weird and the curious was, we know, a weakness of the age. But often Kircher's works bristle with such singular stories to the exclusion of that which is sound and scholarly.

Kircher did not lack imagination.[16] But he lacked a critical sense, an ability to select and to arrange in order and logicality. His books are often masses of information, some good, some mediocre, some ludicrous, piled together with little regard to sequence or order, lavishly illustrated and sumptuously bound but, when more closely examined, rather like the Aesopian toad who aspired to be an ox. A modern critic has called Kircher a 'compilateur acharné'[17] and his opinion ranks with that of Lichtenberger, who is held to have said, 'wenn Athanasius Kircher eine Feder in die Hand nimmt, floss ein Foliant aus derselben'.[18]

Kircher was, in all senses of the word, a phenomenon and as such deserves attention.[19] His value to science may be summed up thus:

---

[15] A letter from Henry Oldenburg FRS to Robert Boyle FRS, dated Saumur, 29 March 1658, in Boyle, *Works*, vol. 6, p, 143.

[16] 'He has often made me smile to see how he will fetch about things: as concerning the Soland geese in Scotland, he argues this: that the Dutchmen, that went to Nova Zembla, saw on the ice near the north pole such quantity of eggs that were sufficed to feed all Europe: now the ice coming to melt, and these eggs to drop into the sea, they there lie at the mercy of the waves, they turn the sea into such a caudle, that those islands that are most near, as in particular Scotland, come to receive some of their eggified waves dashing against them. Now, if it happened, that certain trees are so favourable planted near the shore, as that the sparkling and drops of such waves light on and soak onto them, it may so fall out, that, by the specific virtue of the eggs, still inherent in such water, the natural vegetation of the tree, and the omnipotent influence of the sun, all these combining together, may hatch out a Soland goose. What you will say to this pedigree, I do not know': letter from Robert Southwell to Robert Boyle, Rome, 30 March 1661, in Boyle, *Works*, vol. 6, p. 299.

[17] F. Cabrol and H.M. Leclercq, *Dictionnaire de l'archéologie chrétienne et de liturgie*, vol. 8, 1928, p. 774.

[18] In article by Dr Wurzer on Athanasius Kircher in *Buchonia*, vol. 4, bk 2, 1829, p. 154.

[19] P. Marestaing, in his 'Un égyptologue du 17. siècle', although he sees in Kircher an intellectual giant shadowing the work of Scaliger and Lipsius, thinks slightly differently of Kircher and his posterity: 'il mérite de vivre dans la mémoire des psychologues, si ce n'est dans celle des érudits': article in *Recueil de travaux relatifs à la philologie, etc.*, 30 (1908): 22–36.

1. Although Kircher was, of necessity, an armchair theoretician in many respects, he was also one of the first men of modern science to undertake active inquiry. His descent into Vesuvius and his explorations in Sicily and Malta, his frequent references in his works to places he himself has examined and noted,[20] are obvious aspects of this spirit which distinguished Kircher from many of his less empirically minded fellows. Admittedly, Kircher often came to the wrong conclusions, but in his numberless experiments outlined in his books, by his own activities in building automata and instruments, by his modern sense of enquiry, he set a valuable precedent.
2. In many ways Kircher forms the transition between the old and the new. Perhaps calling him 'le dernier savant du 16ième siècle'[21] is carrying the mediaevalization of Kircher a little too far, but certainly in the Baroque age as a whole and for his contemporaries especially, Kircher held a unique place. For his fellow scientists, Kircher was a mine of information. The fact that he was often wrong in a peculiar Kircherian way[22] merely served to set them, ultimately, on the right path. In many respects, Kircher was an awakener. Such value may be counted as negative, but one feels that Kircher's massive tomes must have caused more original thought and provoked more correspondence than ever went into them.
3. Nor can it be denied that in most of Kircher's works there are, inevitably, a few golden ears of wheat in among the chaff. Whether we see in Kircher 'un rêveur qui a ses grands jours de lucidité et ses heures de folie'[23] or 'vor Leibniz unbestritten der bedeutendste deutsche Gelehrte seiner Epoche',[24] it is impossible for us to conceal our admiration and respect. In Kircher's works we see not only a lifetime of self-sacrifice and unremitting industry but also,

[20] Obviously Kircher's *Latium* of 1669 is based on completely subjective experiences: less obviously, in his *Mundus subterraneus* of 1665 he notes (IV, p. 282a) the source of the river Pader and discusses the contiguons Kollerbrunn as an intermittent, natural spring, evidently noted during his sojourn in Paderborn in 1618–1622.

[21] Cabrol and Leclercq, *Dictionnaire de l'archéologie chrétienne et de liturgie*, 1928, vol. 8, p. 774.

[22] This view is developed in relation to Robert Boyle by C. Reilly, 'Athanasius Kircher', repr. in *Jesuit Science Bulletin*, 33 (1956): 40–50.

[23] A. Brou, *Jésuites de la légende*, p. 183.

[24] J.W. Nagl and J. Zeidler, *Deutsch-österreichische Literaturgeschichte*, vol. 1, p. 653.

> preserved like a dragon-fly in amber, a picture of the new Europe emerging from the old, of dawn succeeding the night.

Kircher's concept and knowledge of science is spread over a wide field. Let us examine various aspects of his work as mirrored in his life and his books, with especial emphasis on those points of value to later generations.

## Astronomy

The modern age of astronomy may be dated from Copernicus' theoretical work of 1543.[25] This book, profound in its implications both for thinking men and theologians, gave birth to innumerable treatises. Certainly, Kircher's life coincided with an astonishing growth of knowledge about the solar system. This was due mainly to the improvement of telescopic apparatus. At regular intervals throughout Kircher's youth and adolescence, fresh books revealed new truths and either fanned or attempted to smother the Copernican blaze.

In 1603 there appeared the first celestial atlas, Johann Bayer's *Uranometria*. Two works appeared ten years later, both early classics in their own right: one was the *Opticorum* by the Brussels Jesuit François d'Aguilon, the other the less well known but equally important *De meteoris tractatus* of Johann Geraldinus. Three years later the Copernican system was attacked by Nicolaus Mulerus in his *Institutionum astronomicarum*, a work which loses significance when compared with the *Harmonices mundi* of Johann Kepler, whose postulated elliptic orbits conclusively destroyed the Aristotelian concept of the heavens.[26] A popular work by Jesuit Giuseppe Biancini appeared in 1620, in which he suggested that comets might return in recurrent orbits.[27]

Of Kircher's first astronomical observations we know little. According to one of his biographers, the first observation was made on 25 April 1624 when Kircher was in Mainz and when he saw and observed considerable sunspot activity.[28] Our first definite knowledge

---

[25] N. Copernicus (1473–1543), *De revolutionibus orbium coelestium*, published 1543, although written much earlier, in time for a copy to reach his deathbed.

[26] This doctrine was first introduced in Kepler's *Astronomica nova* of 1609.

[27] Biancini, *Sphaera mundi*. In 1618 Kepler had published his *De Cometis*.

[28] K. Brischar, 'A.K., ein Lebensbild', *Katholische Studien* 3/5 (1877): 42. Brischar's work is a fulsome translation of Kircher's *Vita* where, however, Kircher's astronomical

of Kircher's astronomical interests comes from his stay in Avignon. Here, various influences were at work. Kircher himself tells us of the favourable observational opportunities to be found under the clear blue sky of Provence.[29] But probably the greatest spur came from Peiresc, who was passionately interested in astronomy and already in 1630 had attempted to view the solar eclipse with the astronomer Francois de Galaup-Chasteuil.[30]

At Avignon, Kircher seems to have erected a considerable planetarium.[31] This was in the Tour de la Motte, part of the Jesuit college there.[32] This tower was opposite the church of St Didier, and became the home of Kircher's 'Avignon astronomic-catoptric clock on which the entire movement of the first mover was shown by a ray of the sun'.[33] By means of cunningly placed mirrors, Kircher introduced the reflections of the sun and the moon into the tower, on the inner walls of which he traced various uranographic projections, the principal constellations, the signs of the zodiac and the hours of the day correlated with astronomical hours. The latitudes of certain towns in the tropics were shown in their correct positions, while the various meridians placed there revealed the correct time in varying parts of the world. On the right of the meridians was depicted St Ignatius, on the left St Francis Xavier, both in the act of offering Jesuit lives in the furtherance of various foreign missions. The complete details of the work are to be found in Kircher's *Primitiae gnomonicae catoptricae* of 1635, printed in Avignon and dedicated to the city fathers.[34]

---

activity is never mentioned. Brischar hints that these observational activities were the first to establish the presence of sunspots. In reality, sunspots were first described by Johann Faber in 1611. Pr Christoph Scheiner, to whose Chair at Rome Kircher succeeded, wrote a curious and elaborate work on sunspots in 1626–1630, *Rosa ursine, etc.*, where he contends that the black spots are satellites crossing in front of the sun.

[29] In the Preface to *Primitiae gnomonicae catoptricae*.

[30] Humbert, *Peiresc*, p. 177.

[31] This is attested by H. Fouqueray, *Histoire de la Compagnie de Jesus*, vol. 5, p. 289; Chossat, *Les Jésuites et leurs oeuvres à Avignon*, p. 235. The concept of a planetarium is stressed by Chossat: 'étant donnés le jour et l'heure de la bataille de Pharsale, K. designait sur le champ…la position à ce moment d'un astre donné' (p. 237).

[32] In 1879 this was the lycée in Avignon; see J. Courtet, 'L'État ancien de l'instruction publique dans Vaucluse', *Bulletin de Vaucluse* (1874): 464.

[33] The *Primitiae gnomonicae catoptricae* was largely devoted to an explanation of this and similar wonderful works.

[34] It is of interest to note that an earlier work on catoptrics was written by Christoph Scheiner: *Exegesis fundamentorum gnomonicarum*.

We next hear of Kircher's astronomical interests in Rome, where, on 27 August 1635, he observed an eclipse of the moon with the Jesuit father Melchior Inchofer.[35] His observations have been preserved.[36] On the same occasion in Rome, a young astronomer, Gasparo Berti, 'un jeune homme de bonne voglia',[37] had made very similar findings to Kircher, who, with Lucas Holstenius, was responsible for bringing this promising astronomer to Peiresc's attention. Four years later, on 1 June 1639, Kircher observed an eclipse of the sun and on the following day reported his success in a letter to Gassendi.[38]

A little later, on 29 December 1642 and 4 January 1643, a Fr de Rheita claimed to have observed five new satellites around Jupiter. Since Gassendi and Johannes Hevelius (at Paris and Gdansk respectively) had already observed four satellites, the new figure was nine. A minor European sensation followed de Rheita's announcement, which was harshly criticized by Gassendi but supported both by Lobkowitz[39] and Kircher.[40] In 1646 Kircher published two of the very earliest depictions of Jupiter and in 1671 six more.[41] The earlier publication precedes Hevelius by two years. Similarly, in 1646,[42] Kircher issued one of the first illustrations of Saturn, an example followed by Gassendi only in 1658. Four more examples and a *Praelusio in Saturnam* followed in 1671.[43]

---

[35] See M.G. Bigourdan, *Annales célestes du dix-septième siècle*, p. 107. Kircher gives the start of the eclipse at 13h. 53', a figure scorned by a leading astronomer of the age, Ismael Bouillion (1605–1694). Gassendi, in Paris, timed it at 13h. 56'. The eclipse was also observed in Naples by Jean Ladron de Guevaffa and Jean-Baptiste de Benedictus.

[36] In Kircher's *Mundus subterraneus* we find facing p. 62 a full-plate reproduction of the moon and, facing p. 64, Kircher's 'Schema corporis Solaris prout ab Authore et P. Scheinero Romae An. 1635 observatum'.

[37] Humbert, *Peiresc*, p. 226.

[38] (Dated Rome, 2 June 1639): Gassendi, *Epistolae*, p. 403.

[39] Jean Caramuel de Lobkowitz (d. 1682) was an interesting seventeenth-century figure. He was a Cistercian and eventually Vicar-General of Prague and Bishop of Vigevano. He attempted to encompass in the sphere of theology the sum total of human knowledge and thereby reduce the growing chaos of 'scientia' to coherent order.

[40] Bigourdan, *Annales célestes*, p. 162.

[41] *Ars magna lucis et umbrae*, p. 17; *Iter exstaticum* (ed. K. Schott), p. 263. His illustrations were reproduced by J. Zahn, *Oculus artificialis teledioptricus, etc.*, p. 665.

[42] *Ars magna*, 1646, p. 17. [The Bibliography lists the two earliest editions cited in GBV: 1685 and 1702.—Ed.]

[43] *Ars magna*, 1671 edn., p. 301.

This, strictly speaking, is all we know of the role played by astronomy in Kircher's life. We know of his keen interest in the kindred science of catoptrics from his *Sonnenuhrkunde*, where he succeeded in depicting many rather strange and ornate ways of constructing sundials.[44] Similarly, he delighted in the construction of actual clocks. According to one writer, on 3 September 1633 he succeeded in making an early luminous clock,[45] while his friend Peiresc possessed a clock designed by Kircher which was described in the inventory drawn up after Peiresc's death: 'Un horloge de liège nageant sur l'eau, dans lequel il a gravé une raye ou canal remply d'une graine de plante de solanum (ou héliotrope) qui se trouve toujours au soleil comme la fleur, en sorte qu'il marque justement les heures au bord de vase rempli d'eau'.[46] Here again, we see the strong sundial influence to which Kircher seems to have been especially exposed.[47] Another clock in Peiresc's possession at that time was a portable alarm clock, made at Aix in 1604 and indicating the time in France, Italy and Babylon—'evidemment d'une utilité pratique incontestable'.[48] Kircher's own delight in time-pieces was later to manifest itself in his *Oedipus aegyptiacus* where he describes at length the manufacture and use of Egyptian water-clocks.[49]

Apart from *Primitiae gnomonicae catoptricae*, the first book to mention astronomy in more detail was Kircher's elaborate *Ars magna lucis et umbrae* of 1646. In a book dedicated to light and optics one might expect to start with the source of light, and indeed Kircher's first chapter is headed 'Photismus Corporum Coelestium', with further subheadings such as 'de luna, sive lumine lunari, aliorumque Planetarum' and 'Mira vis Solaris, Lunarisque Luminis in Plantas, et animalia'.[50] In this chapter, 'De lumine lunari, aliarumque stellarum', Kircher tells us 'you will notice also on the very edge of the lunar disc

[44] Kircher's interest was not purely theoretical, nor could it be at a time when Jesuit missions abroad were demanding new ideas to help them impress heathen and infidel nations: in his autobiography, several more practical applications of this knowledge have been noted.

[45] Fouqueray, *La Compagnie de Jésus*, vol. 5, p. 289.

[46] Humbert, *Peiresc*, p. 252.

[47] This influence is again to be noted in his *Ars magnae*, where two of the books are entitled *Horographia varia* (IV), in which he mentions 'de horologijs Italicis and Babylonicis' (ch. 1); and (V) 'Ouranographia Gnomonica'.

[48] Humbert, *Peiresc*, p. 252.

[49] These descriptions are repeated in J.S. Kestler's *Physiologia experimentalis Kircheriana*, vol. 6.

[50] *Ars magna*, I. I, ch. 4, p. 14; I. I, ch. 15, p. 41.

something tremulous, you might say a smoky exhalation'.[51] He also appends aspects of the face of the moon and views in silhouette of Saturn where the ring is depicted as a double line across the body of the planet but not extending on both sides as it does in reality.[52]

The only work by Kircher wholly devoted to astronomy appeared in 1656–57. It is his *Itinerarium exstaticum*,[53] in which the author, accompanied by the Good Angels Cosmiel and Theodidactus, tours the solar system and gives fulsome descriptions of the various planets they visit. The style of the book, its elegance and pleasing sentiments,[54] aroused much admiration, though perhaps driving more astronomically-minded readers to despair. Even the usually acerbic Daniel Morhof thought well of the work: 'He thinks this to be the best of the books by Kircher, and written with some talent'.[55] In his 'iter in firmamentum' (p. 258), Kircher reveals that the layer of fixed stars is not solid but rather composed of a thin fluid where the stellar hosts float at will. The book is an idyll, a celestial Arcades, where Kircher's fancies roam at large and liberate an astounding quantity of pleasing speculations.[56]

Christian Huygens was moved to discuss Kircher's work and thereby attempt to strike a blow for the Copernican system: 'And in that Kircher follows a company of Doctors that harboured that idle fancy of Aristotle upon no account or consideration. But Copernicus has set them all at liberty, only by bringing in the Motion of the Earth: which if upon no other account, every one that is not blind purposely must own to be necessary upon this'.[57] Huygens goes on to say that 'if Athanasius Kircher had dar'd freely to speak his mind, he could

---

[51] *Ars magna*, ch. 4, p. 14.

[52] *Ars magna*, p. 17. The true explanation was arrived at by Christian Huygens, one of Kircher's correspondents who, however, not wishing to be ridiculed, published his findings as an anagram, in 1655: 'aaaaaaa ccccc d eeeee g h iiiiiii llll mm nnnnnnnnn oooo pp q rr s tttt uuuuu' (i.e., *annulo cingitur, tenui, plano, nusquam cohaerente, ad eclipticam inclinato*).

[53] The second volume was titled *Iter exstaticum*, Rome, Mascardi, 1657.

[54] Especially remarked on, of all Kircher's works, by F.-X. Feller, in *Biographie universelle*, vol. 5, p. 76.

[55] Morhof, *Polyhistor, sive de notitia auctorum, etc.*, II. II, ch. 11, p. 347.

[56] We see a more prosaic Kircher in several astronomically based essays presented to Pope Alexander VII: Erimanno, 'De astrolabi compositione' (Bibl. Vat. [Ms] Chigi, F. IV, 64); 'Judicium de antiqua' (Chigi, J. VI, 225). And see Giovanni da Sacrobosco, 'Tractatus de Sphaera. Athanasii Kircheri Judicium' (Chigi, E. IV, 130).

[57] Huygens, *Celestial Worlds*, vol. 2, pp. 101–102. Huygens' views are repeated in J.J. Littrow, *Die Wunder des Himmels*, vol. 2, pp. 166–167.

have afforded us other guesses than these'. This is possibly true but it is interesting to note that, even as it was, Kircher was reprimanded by the official censor and had to delete several sentences before the book was issued.[58] An early defender of Kircher's views was M. Cornaus who, in 1671, appended to the Würzburg edition 'A defence refuting the censuring of some propositions taken from Kircher's *Iter exstaticus*'. According to Cornaus, Kircher's earlier statement, that it would be in God's power to have created similar worlds to ours at various infinite distances from the earth, did not clash with Church teaching: 'infinitum in multitudine et magnitudine potest claudi inter duas unitates vel puncta'. Several similar points are brought out and elucidated by Cornaus. The case is of interest in that it would seem to be the only occasion on which Kircher fell foul of the religious censor.[59]

## Physics

### *Optics*

We have already discussed the particular history and relevance of this infant science in Chapter 4. Certainly, Kircher's more enduring inventions and developments in this field are to be found in his various microscopes, from the early simple form to the more elaborate 'microscopium parastaticum' of the 1671 edition of his *Ars magna lucis et umbrae*. But, as can be expected from a folio of 935 pages, these were not his only contributions to the science of optics. The Jesuits were not slow to realize the peculiar importance of optical science. Already in 1613, the Brussels Jesuit Franz Aguillon had produced his masterly compendium on optics, *Opticorum*, while in 1619, Fr Christoph Scheiner, in his *Oculus*, described several important discoveries in the fields of vision and light and was, for example, the first to reveal that the retina was the seeing part of the eye (see above n. 34).

We know little of Kircher's own interests in optics apart from what is evident in his works. Certainly, his books are splendid compilations

[58] For manuscript attacks on Kircher's work: 'Mira Kircheri in suo Itinerario Exstatico' (Rome, Naz. Bibl. Gesuit, 1331/15): 'but so many examples of presumption, audacity and temerity have been found in the whole book that it would be in vain for one to attempt to argue to the contrary in a few words', and 'a number of dubious passages observed in *Itinerario extatico*' (Naples, Ms Brancacciano, I.E. 12. c. 30).

[59] See K. Werner, *Geschichte der katholischen Theologie*, p. 77.

of almost every mediaeval view and author,[60] and in this respect are valuable to the historian of science and the development of ideas in the European tradition. Shortly after his return from Malta and Sicily in 1638, he seems to have had a dispute of some form with a certain Fr Maignan on the priority of inventing a certain optical instrument.[61] What the instrument was we do not know, but the dispute was never conclusively settled.

Kircher was certainly the first to speak of physiological colours.[62] His description is based on the observations of Joseph Bonacursius, who found that by regarding various coloured papers in the opening of the shutter in a dark room, and then excluding all light, one could still see the colours before one's eyes.[63] Kircher expounds upon this phenomenon—caused by the momentary impression of light on the visual nerves—at great length and with much imagination.[64] Many of his contemporaries believed that the sagacious Jesuit had discovered the secret of seeing in the dark,[65] but this and kindred tales of awe were soon dispelled by subjective analysis and further scientific revelations on the physiology of the eye. However, Kircher's fame in this matter lingered until at least the early nineteenth century. His *Ars magna* was

[60] This view led R. Schwarz to say of Kircher: 'Sein Talent war mehr ein combinatorisches als ein kritisches und er ist bei seiner überaus lebhaften Phantasie vielen Irrthümern und Täuschungen verfallen': article in *Allgemeine Enzklopädie des Alterthums*.

[61] Emanuel Maignan (1601–1676) of the Order of Minimes. Philosopher and mathematician, he was called to Rome in 1636: 'seine Geschicklichkeit in mathematischen Erfindungen und physicalischen Versuchen machte ihn gar bald daselbst bekannt, zumahlen sich zwischen ihm und dem berühmten P. Kircher wegen der Erfindung einer gewissen Art von Himmels-Kugeln ein Streit ereignete, in welchem die Ehre selbiger Erfindung keinem abgesprochen wurde': J.H. Zedler, *Universal-Lexicon*, vol. 19, p. 553. See J.F. Niceron, *Thaumaturgus opticus*, pp. 178–179, pl. 33; Maignan, *Perspectiva hororia, etc.*, pp. 390–392 (account of a similar astrolabe in the Palazzo Spada).

[62] [*Ars magna*, 1646 edn.,] I. III, pp. 66–107 under 'Chromocritica' [JF has this last term as a title of one of Kircher's printed works, but this must be an error—Ed.]; ibid., ch. 1, 'Quid sit color?' and finally 'Regulae decem in colorum iudicio servandae'.

[63] *Ars magna*, I. III, ch. 1, 'Quid sit color?', p. 66. Kircher's actual remarks on Bonacursius' findings—'A new and wonderful experiment showing up all kinds of objects in the dark'—follow his 'De oculi structura, et visione' (II. II, ch. 1, pp. 161ff.).

[64] Kircher's treatment of colour is found in *Ars magna*, under De rerum naturalium chromatismi; sive de colore lucis et umbrae sobole, quae est ars chromatism, I. III, pp. 65–111.

[65] See *Nachrichten von berühmeten Mathematikern* (Münster) (1788): 166.

diligently read by Goethe and helped in his more precise formulation of the latter's *Farbentheorie*.[66]

Kircher was intensely interested in the refraction of light[67] and composed several elaborate tables which indicated precisely the amount of refraction to be expected from light rays entering different liquids at different angles and levels. One of Kircher's learned contemporaries, Fr Francesco Grimaldi (d. 1663), a Jesuit professor at Bologna, was, however, the first to discover and measure the inclination of light rays.[68] Kircher's remarks on the 'spring of the air' (whereby one day can be so much clearer than the next) were also noted by Robert Boyle. Kircher's own example of seeing Mount Etna on various clear days from Malta and not on others is supported in his text by various other more Classical allusions. Boyle tells us[69] that he himself was impressed by these Kircherian examples and attributes the cause of such refractions to differing densities of the atmosphere.

Of the more notable experiments detailed in the *Ars magna* is the one made by Kircher to see if Archimedes could really have set fire to the Roman fleet of Marcellus off Syracuse.[70] The question had been hotly debated by Classical authorities such as Livy, Polybius and Plutarch, by the Byzantine scholars of the twelfth century, Zonaras, Tzetses and Eustathius, and by the various mediaeval authors of optical works, including Vitello of the thirteenth century, who is said to have experimented on lines similar to Kircher.[71] With commendable industry, Kircher applied himself to the task. Bearing in mind that Proclus

---

[66] Thus Goethe's *Farbenslehre*. Also, from his *Tagebücher* (1809–1812) in *Werke* (Weimarer Ausgabe, 1887–1912), vol. 4, pp. 11, 22, 196, etc.), we find that Goethe read Kircher in conjunction with Aguilon (16 February 1809) and Descartes (7 March 1809); cf. too the entry for 7 April 1809: 'einige Schemata, Geschichte der Farbenlehre von Kircher bis Hooks', and for 3 March 1809: 'Aguilonius, A.K. Vorrede (Ars mag. luc. et umb.)'. Similarly, as late as 30 December 1831, we find 'Gesch. der Farbenlehre: Aguilonius u. Pater Kircher (3. Abth. 13. 196)'.

[67] *Ars magna*, 1646 edn., VIII. I De natura refractionis et radii refracti, pp. 658–768.

[68] See F.M. Grimaldi, *Physico-mathesis de lumine, coloribus, et iride*.

[69] *Works*, vol. 1, p. 42.

[70] *Ars magna*, 1646 edn., X. III, ch. 1, pp. 880–883 (under 'De speculo Archimedis'). A somewhat anachronistic picture is appended of a mediaeval town and a Renaissance argosy which has burst into flames due to the action of a huge lens fixed on top of what seems to be the town hall. Hands holding various lenses protrude from the sky.

[71] Vitello—a latinized form of Ciolek—was a Polish philosopher who lived in Italy *c.* 1270–1280. His work on optics, *Vitellionis Perspectivae*, based on Alhazen, remained a classic until Newton's *Treatise on the Reflexions, Refractions, Inflexions and Colours of Light* of 1704.

was said to have committed a similar feat at Constantinople, Kircher drew up his mirrors—first using the parabolical concave speculum, then the more successful five-plane speculum—and, in sunny weather, diligently attempted to burn everything in sight. It is notable, too, that he carried out the experiment in Syracuse itself, with the aid of Kaspar Schott[72] and, though producing considerable heat, was unable to blast objects into fiery masses. However, his experiment was generally held to have succeeded and caused much wonder.[73]

Much greater in importance, to his contemporaries, however, were his descriptions of the magic lantern. In the first edition of his *Ars magna*, Kircher does not describe the specific apparatus of the magic lantern but contents himself with chapters on 'Using the sun to project figures some distance'[74] where the rays of the sun, suitably concentrated on concave mirrors and inverted letters, can be thrown or projected into dark rooms and onto gloomy walls. Considerately, Kircher gives three alphabets, Greek, Hebrew and Latin, 'inversum in speculo'.[75] To avoid all mistake and to ensure that the public is fully introduced to this novelty, another chapter is entitled 'About using the light of a candle for mirror cryptography',[76] again devoid of illustration. Kircher adds a brief history of the use of such 'specula concava parabolica', quoting at length Giambattista Porta[77] and Cornelius Agrippa,[78] of which he is moved to add, 'O imprudens mendacium…'[79]

He tells us of King Solomon's use of similar apparatus to project his own figure 'to [spread] fear of his majesty…in many places'[80] and adds that Roger Bacon used similar devices, not without running the grave risk of being accused of black magic: 'by this art we read of many

[72] Schott (1608–1666) described this event in his *Magia optica*, pp. 374–378.

[73] On 13 June 1754, James Parsons MD read to the Royal Society a paper: 'Observations upon Father Kircher's Opinion concerning the Burning of the Fleet of Marcellus by Archimedes', documented in *Philosophical Transactions of the Royal Society*, vol. 48, 2 (1754): 621. More modern discussions of this experiment are in an article by J. Scott, 'On the Burning Mirrors of Archimedes, etc.', *Royal Society of Edinburgh Transactions* 25 (1869): 123–149, and by Knowles-Middleton, 'Archimedes, Kircher, Buffon and the Burning Mirrors', *Isis* 52 (1961): 533–543.

[74] *Ars magna*, X. I, ch.1, p. 908.

[75] *Ars magna*, X. I, ch. 5, De proiectione umbrarum sive figurarum qualium cumque, p. 913.

[76] *Ars magna*, X. II, ch. 1, p. 215.

[77] *De magia naturalis*, pp. 79–152.

[78] *De occulta philosophia*, p. 57.

[79] *Ars magna*, X. I, ch. 1, p. 908.

[80] *Ars magna*, p. 910. '…ad terrorem majestatis suae subditis…in multis locis'.

things in stories which in the common opinion of many are held to be diabolical operations'.[81] Kircher adds that his own activities 'have made the author more than once suspected of necromancy'.[82] Only in the second edition of 1671, which was 'much fuller than the previous one', does Kircher actually illustrate his new toy.[83] The apparatus is described in his Problema IV, 'De Lucerna magicae seu Thaumaturgae constructione',[84] and the reader is confronted with a magic lantern the size of a small room in which the operator sits and slides the pictures along in front of a convex lens, that is, if he can still breathe despite the massed candle-power immured with him. Far-seeing as always, Kircher provides a tiny chimney for the smoke to escape ('in L caminus', runs the note).

Of previous magic-lantern makers,[85] Kircher recalls that 'Among the first of these was Thomas Walgenstein Danus, a mathematician of some considerable repute, who, remembering my descriptions of my inventions, put into better form the lamp which we had described'. This lamp, moreover, 'he afterwards sold with great profit to different princes in Italy'. Apparently the *camerae obscurae* (or 'wonderworking lamps', the earlier name for magic lanterns) described by Kircher had actually been built in the Collegium Romanum. Kircher adds, with some satisfaction, 'it is a thing well worth seeing since, with its help, it becomes possible to give lifelike theatrical performances of satirical or tragic plays and similar things', a statement which is both highly illustrative and shrewdly well-timed for his own generation.

Of all the countless ingenious machines, automata and apparatuses that appear in Kircher's scientific volumes, the magic lantern is by far the most famous in the eyes of posterity [obviously because of its proleptic importance for the film industry].[86] Often it is the only attribute to Kircher's credit in lexicons and encyclopaedias. It seems ironic that the reputation of some 40 folio volumes should devolve upon two

---

[81] *Ars magna*, X. I, ch. 5, p. 913.

[82] Ibid.

[83] In the same year, Schott published an account of Kircher's invention in his *Magia optica*, pp. 346–399.

[84] *Ars magna*, 1671 edn., X, Magia Pars III, Problema IV, p. 768.

[85] The same courtesy is not extended by J. Kolhans who, in his *Neu-erfundene mathematische und optische Curiositäten* (p. 318) ignores Kircher completely and attributes the invention of the magic lantern to J.F. Grindl of Nürnberg.

[86] Kircher's magic lantern led Dr Lieberkuhn (1711–1756) to the invention in 1748 of the solar microscope; see F. Hoefer, *Histoire de la physique et de la chimie*, p. 769.

printed pages in his second edition of the *Ars magna* (1671)—even more ironic when we consider that the invention is certainly not his.

For the *camera obscura* or *lucerna/lanterna thaumaturgica* has a long pedigree. Usually its invention is attributed to the Italian scholar Giambattista Porta, who describes a recognizable *camera obscura* in his *De magia naturalis* of 1553 (written at the age of 15). However, the first known mention and use of the *camera obscura* is preserved in an unpublished manuscript of Leonardo da Vinci, where da Vinci seeks to explain one of his theories of vision by reference to the 'camera obscura'[87] as early as 1490. Several other authorities precede even Porta. Thus a claim—regarded with some doubt—is made by the Milanese architect Caesare Caesariano in a work published in 1521[88] that the inventor of the machine was a Benedictine monk, Dom Panunce.[89] Similarly, Hieronymous Cardanus, the Italian physician and mathematician, whose work is mentioned by Kircher,[90] mentions the 'camera obscura' in his *De rerum subtilitate* of 1550.

Porta's work appeared three years later. While the precocious adolescent was certainly not the inventor of the *camera obscura*, he was the first to employ a convex lens to perfect the projected image. He also placed transparent drawings opposite the opening. He had the ingenuity to attach moving parts to these drawings and hence the connotation *magica* was born in the reactions of his unlettered and superstitious audiences.[91] Porta's invention consisted merely of a simple box with a tiny opening in one side through which the rays of light entered and fell upon the opposite white side. Subsequently, the lens was inserted.

Essentially, this is the magic lantern. Possibly Kircher was the first to substitute artificial light. He was certainly the first to give this new form of entertainment and instruction a wide circulation.[92] He was not the first, as many have thought, to use two convex lenses for further

---

[87] G. Libri, *Histoire des sciences mathématiques en Italie*, vol. 3, p. 233.

[88] *Di Lucio Vitruvio Pollione de Architectura.*

[89] According to R. Oertel, the first *camera obscura* was devised and developed by the Arab scholar Ibn al Haitam, named Alhazen, *ca.* ad 1000. See Oertel's *Macht und Magie des Films*, p. 18.

[90] *Ars magna*, 1646 edn., X. III, ch. 1, p. 879.

[91] F.P. Liesegang, *Vom Geisterspiel zum Kino*, p. 18.

[92] An authoritative account of Kircher's exact role in the eventual perfection of the magic lantern is given by Waterhouse in his 'Notes on the Early History of the Camera Obscura', and 'Historical Notes on Early Photographic Optics', *Photographic Journal* 25, 9 (1901): 270–290.

clarification of the image. Milliet de Challes, in his *Cursus seu mundus mathematicus* of 1674, states that a Dane, whom he unfortunately leaves nameless,[93] showed him in 1665 a two-lensed apparatus. In the second edition of his work, which was published posthumously in 1690, de Challes repeats the description of this instrument, and again omits Kircher's name from his brief history. However, for Mueller, writing in 1704, there was only one inventor of the magic lantern, Athanasius Kircher. He notes Kircher's noble reference to Solomon and to Roger Bacon and concludes: 'But even as this conjecture is deservedly left to its authors, so it is regrettable that very little can be found that is certain and beyond doubt. It is only Kircher whom we can praise in this place'.[94] Ever since this auspicious beginning, Kircher critics and supposedly impartial historians have been in two minds as to the truth. Their preference is usually indicated by their attribution—or not—of the magic lantern to the Jesuit. In many ways, and certainly in the eyes of posterity, Kircher's magic lantern has become the accolade of his scientific career.

There are, however, more wonderful things to be found in the 1646 folio. Besides dealing at length with 'lux primigenia' (primordial light) and carefully distinguishing between *lux* and *lumen*,[95] Kircher, as the title implies, also grapples with the problem of shade—and a problem it is when one finds chapters sinisterly headed 'Sundry examples of those who have slept under trees and incurred various diseases'.[96] The book deals at length with the vexed problems of erecting various sundials and similar time-pieces dependent on light and shade. In Book V, for example, which is headed 'Ouranographia gnomonica', various 'horologiis catholicis' are discussed,[97] of which the third specimen[98] is entitled 'Nomen JESU horologum describere' (A clock to reproduce

[93] Poggendorf's preference (*Histoire de la physique*, p. 265) for Thomas Bartholin the anatomist, this 'unknown Dane' who passed through Leiden on his way to Bologna, seems to have found general acceptance (see similarly V. Meisen, *Prominent Danish Scientists*, pp. 25ff.). But Bartholin was not a Dane, while Thomas Walgenstenius, quoted above, was and, moreover, showed an interest in optics.

[94] M.C. Müller, 'Lanterna Magica', pt. V.

[95] *Lux* is the essence, *lumen* the product of its effulgence. Thus we may have 'lux solis' (*Ars magna*, 1646 edn., p. 716) or 'lux coelestis' (p. 43), but see the interesting statement 'Light (*lumen*) is not a simple emanation but an extension (*productio*)', (p. 34).

[96] *Ars magna*, I. II, ch. 5, p. 61.

[97] *Ars magna*, V.VI, ch. 1.

[98] *Ars magna*, Problema III, p. 496.

the name Jesus'). There is also to be found in Book V the famous 'Horoscopium Catholicum Soc. Jesu' which, far from telling the Jesuit fortune, reveals the respective hours of the day in the various Jesuit missions throughout the world.[99] And yet, as is to be expected, the book is more than just a collection of folk-tales and improbable clocks. As with most of his works, Kircher strives here to realize the cosmic significance of light and darkness.

The ten books of the work represent ten different points of view from which Kircher considers the problem of light: this apparently arbitrary order corresponds to the ten emanations of light or the Sephiroth of the Cabbala. The centre of all visible light, of the realm of day, is the sun, a visible picture, a symbol of the Godhead. There are other sources of light: the stars, fire and various animal, vegetable and mineral bodies on the earth.

Apart from such cosmic bodies of light, there is also a second class of light-emanating properties in ether, air and water. The third class, 'corpora nigra', are the earth, the moon and the clouds. The moon has especially close relations with the earth and has the propensity to absorb light reflected from the earth; this light goes through a refining process—chiefly of refrigeration, it would seem—and returns to the earth, which in turn is imbued with new generative strength. Were there no dark bodies on the earth, there would be no reflection of the light and therefore no colour. Similarly, if there were no colours, nothing would be visible, for the whole world is either shade or light and were one of these to fade away, nature would disappear and the world could be no longer called 'kosmos'.[100]

The ultimate natural motivation of the earth's form and visible shapes is within the sun ('lux primigenia'), which not only sheds light

[99] This ambitious engraving is to be found facing the 1646 *Ars*, p. 552. It depicts a noble leafy tree, the trunk being 'Roma', the topmost leaf 'Walterford', the extremes on both sides 'Magasar' and 'Nanchin'. Each name bears the tiny dial of a clock face. At each corner of the engraving appears a beatified Jesuit, and at the foot of the tree stands St Ignatius. Around the tree runs a frieze of 34 polylingual renderings of 'Von Aufgang der Sonnen bis zu ihrem Nidergang ist der Nam des Herrn zu loben' (which includes examples in Choctaw, Scottish, Japanese and, of course, Coptic). The plate has been reproduced many times since, the last occasion being, according to C. Sommervogel et al. (*Bibliothèque de la Compagnie de Jésus*, vol. 4, p. 969), in 1773 in Germany: 'Geographischer Baum, welcher die Besitzungen der Jesuiten in der gantzen Welt und die Anzahl aller Glieder dieser Gesellschaft vorstellt'.

[100] These arguments are reproduced by K. Werner, *Geschichte der katholischen Theologie*, pp. 70–74.

and warmth but also bears within itself the imprint of the structure of the earth and correspondingly propagates *semina* of divine and mortal wisdom. Thus there can be no delicate problem of theology or philosophy which cannot be explained by an analogical process within the framework of the sun and the earth. This last thought is developed at length in the last book, 'Metaphysica lucis et umbrae', where a positive cosmic metaphysical conception is shaped. It enlightens the cosmic order in the realm of the supernatural and the supersensory, both spiritually and intellectually. We are drawn towards Kircher's end point: the Christian and Neoplatonic ascent from this world of darkness and shade to the ultimate goal, the contemplation of the 'lux luminum', the Light of Lights.[101] But there were other subjects to be handled, equally as taxing. One may consider Kircher's work on magnetism and acoustics before assessing his general view of science.

### *Magnetism*

Of all the varied phenomena of electricity and magnetism, ferromagnetism (that is, the attraction and repulsion of natural magnets) and frictional electricity are the oldest known to Man and perhaps the least understood today. Kircher must have found his own magnetic interests well mirrored in the writings of the Ancients. Curiously enough, after the writings of the Englishman Alexander Neckham (1157–1217),[102] who believed that magnetic power was derived from the sky, until the advent of his fellow countryman William Gilbert (1540–1603), little was written on magnetism. Gilbert's book of 1600, *De magnete*, summarizes the knowledge of magnetism current in the court of Queen Elizabeth I, of whom he was the Royal Physician. Gilbert propounded that the earth itself was a magnet[103] and showed that magnets when heated lost their power of attraction and repulsion. Public interest was momentarily whetted by the appearance of this work but the momentum was soon lost. Not until the end of the eighteenth century in the

[101] The *Ars Magna* received warm praise from D.G. Morhof (*Polyhistor, sive de notitia auctorum, etc.*, II. 1, ch. 4, p. 504 n. 9): 'eum omnia colleagues pene ex omnibus quae ad hoc argumentum (sic.) spectant'.

[102] Neckham's works were devoted principally to an explanation of the lodestone and the construction of maritime compasses, which latter feature was entirely unknown to the Ancients.

[103] Of Gilbert, Joseph Priestly (*History and Present State of Electricity*, vol. 1, p. 2) proudly says: 'our countryman Gilbert, who may justly be called the father of modern electricity…though it be true that he left his child in its very infancy'.

days of Charles de Coulomb and later of James Clark Maxwell was scientific interest to be aroused again.

Among the crop of literary and pseudo-scientific works that were inspired by Gilbert, we may place Kircher's various magnetic works.[104] Kircher was not alone in following the Englishman's example. Already in 1618 Laurens Fover (1580–1659) had published his *De sympathia et antipathia, de magne seu Herculo lapide*, while in 1623, his fellow Jesuit Caspar Wenk published *De miris rerum mutationibus in generatione, augmentatione, et alteratione* and in three years later on the specific 'fluvium magneticum', in *Notae unguenti magnetici et actiones ejusdem adversus Rudolphum Goclenium*. To say that Kircher's magnetic works stand head and shoulders above such ephemera[105] is not to say much. Indeed, Kircher's works in this sphere are of interest to us only in that they repeat and broaden to some extent the cosmic views of Man, the earth and the universe already apparent in his *Ars magna lucis et umbrae*.

His works are of interest in that they spotlight the errors of the age and occasionally reveal that forward-looking faculty of Kircher which can be both rewarding and frustrating. Certainly, his works seem to have been well received. In 1657 Jacobus J.W. Dobrzensky of Prague, who combined experiments with marvels in the way characteristic of natural magic, and who corresponded with Kircher, quoted the *Magnes* at some length, while in 1673 Sebastian Wirdig repeated the compliment in his *Nova medicina spiritum* and coupled Kircher with Roger Bacon as eminent authorities on the secret ('arcanissima') works of art and nature.[106] In 1658, however, S. Rattray, a Scotsman, criticized Kircher rather savagely for denying sympathy and therefore action at a distance between the magnet and the pole, and for rejecting Gilbert's tenet that the earth is a magnet.[107] Despite this adverse criticism, Kircher's chief work on the magnet, *Magnes…sive de arte magnetica*, ran into three editions in the first twelve years of its published life.

It is certainly true that the credulity of Kircher's audiences must have far exceeded his own. Kircher's very first work, *Ars magnesia*, was, as it happened, a work on magnetism. It is a short work and

---

[104] *Ars magnesia; Magnes; Magneticum naturae regnum*.

[105] Among other volumes which we may include here note *Philosophia magnetica* by Nicholas Cabaeus, Jesuit professor at Ferrara.

[106] *Nova fontium philosophia*, pp. 70ff.

[107] *Aditus novus*, pp. 127–129.

nowadays extremely rare. As usual, the book bulges with odd and curious experiments. One of the few valid ideas contained in this volume is Kircher's attempt to measure the strength of attraction of a magnet by using a balance.[108] Similarly, he notes from a friend that after an eruption of Vesuvius, a considerable swing in the inclination of the magnetic needle occurred. He also notes that a red-hot iron is attracted by a magnet, but not vice versa. One of his more fanciful ideas, which is curiously rooted in fact, was to suggest telegraphic communication.[109] Unfortunately, the idea was not his: already in 1624, J. Leurechon had suggested the same thing in his *La récreation mathematique*.[110] To conserve a magnet's force, Kircher suggested wrapping it in between two dry leaves of pastel (*Isatis sylvatica*, a species of woad). He repeats too the old magnetic legends of Plutarch and Pliny[111] and tells us that the magnet briskly rubbed with garlic or placed near a diamond loses its force, which, however, can be fully restored if boar's blood is poured on to the magnet (incidentally, we are informed, boar's blood will also soften a diamond[112]). Again, we notice the ounce of wisdom amid the liberal weight of mediaeval folly.

Many similar experiments are repeated in Kircher's *Magnes*. No one can accuse Kircher of lacking imagination, or of not being thorough. Thus Robert Boyle, in the course of some remarks on the lodestone, says in all sincerity: 'the ingenious Kircher hath so largely prosecuted it in his voluminious "Ars magnetica", yet he has not reaped his field so clean, but that a careful gleaner, may still find ears enough to make some sheaves'.[113] Although in the *Magnes* Kircher was the first to use the word 'Electromagnetismus',[114] and though he capably moves from experiments that show that the eyes of animals dilate and diminish

---

[108] *Ars magna*, II. I, pp. 159–160.This idea is noted approvingly by A. Wolf, *The History of Science, Technology and Philosophy in the 16th and 17th Centuries*, p. 298.

[109] Noted by Kestler, *Physiologia Kircheriana experimentalis*, p. 132.

[110] Cf. Chossat, *Les Jésuites et leurs oeuvres à Avignon*, p. 237. 'Athanase Kircher pressentit le télégraphe et l'attraction universelle' is a familiar chant in reference books.

[111] These fables had already been exploded by Giambattista Porta in his *De magia naturalis* of 1558.

[112] Kircher seems to have had a liking for diamonds. In his *Scrutinium* (I, p. 78) he tells us that diamonds are the only thing known to withstand flying 'semina' of contagion.

[113] 'The inquisitive and sagacious Mr Boyle' (as Priestley, *History of Electricity*, p. 9 describes him) did little more than Francis Bacon (in his *Physiological Remains*) in the field of magnetism: he was content to list various natural magnetic substances.

[114] So Boyle, in *Works*, vol. 2, p. 12.

with the waxing and waning of the moon,[115] the whole book is basically built on fantasy rather than fact.

But Kircher's *Magnes* is valuable as an illustration of his attempts to establish a cosmic identity for all things, earthly and celestial, mortal and divine. Kircher was aware of a pulsating, diverse force in the universe, which worked and created through the attraction and repulsion of opposite bodies. For him, this was the 'penetrative power of the magnet'.[116] For Plato, it had been the animate and essential divine art, at work in all things. Others had called it the servant or the tool of God. They believed Nature consists of the acts of separation (conflict) and of unity (friendship) and every animate force is either of attraction or repulsion. The key to the explanation of the whole of Nature is harmony, and only he who can see and feel the harmony of attraction and repulsion finds the key. Everything is motivated by this force.[117]

All those forces which influence by means of supersensory radiation, for example astral influences, light, sound, imagination, may be called magnetic forces. The heavens exert, with all the stars and especially the sun and the moon, a magnetic effect upon the earth and everything on it: its medium is the radiation of light and warmth. The sun, by virtue of this magnetic force, is the unifying and animating centre of space; the moon causes the tides and exerts magnetic influence on all liquids. No plant grows on earth but has direct magnetic connections with some star, at whose influence the plant first grew (cf. the 'primula veris' which first sprouts at the rising of the 'stellae vergiliae').[118] In this way, everything, heavenly and earthly, spiritual and corporeal, is irrevocably joined in harmony, despite their diametrically opposed natures. By this interaction, nourishment and growth are ensured. The force which teaches us to bind together the heavenly and the earthly, the like with the unlike, the active with the passive, and in such a way to imitate nature, is called 'Magia'.

Delving more deeply into the pecularities of the natural, Kircher distinguishes between a mineral, vegetable and animal magnetism. The mineral force reacts along the length of its axis and radiates at each

---

[115] *Ars magna*, Lib. III, p. 205: also quoted ('de magnetismo electri seu electris attractionibus') by L. Darmstaedter, *Handbuch zur Geschichte der Naturwissenschaften, etc.*, p. 73.

[116] *Ars magna*, IV. IV. ch. 3, p. 274.

[117] *Ars magna*, I. II, ch. 6, Propos 7.

[118] Cf. *Ars magna*, I. II, Regula III, p. 109.

pole, ultimately parallel with the axis of the earth. The vegetable magnetism[119] is restricted to the relationship of the stars to the plants and to the interactions of each plant. Animal magnetism is demonstrated in the dog's sensitive reaction to a thunderstorm and his prescience of natural calamities; similarly, animals' earthly instincts may be seen in the light of magnetism. Kircher's views, then, on this cosmic impact of the magnetic force fit into his religious worldview: 'He [God] himself [is] the only, unique quiet of our soul, its centre, the Magnet' and 'God, the central Magnet of all things'.[120]

Kircher is a difficult man to summarize once he has mounted his horse and become lost in galloping enthusiasm.[121] At least we see here a little of the persuasive nature of magnetism in his eyes: his views are strictly orthodox and are, as always, concentrated on one goal: the reduction of chaos which reigns on Earth to one pleasing and harmonious whole, the whole 'ad majorem Dei gloriam'.

### *Acoustics*

Most of Kircher's discussions in this sphere are to be found, understandably, in the *Musurgia universalis* and the *Phonurgia nova*. Few of his contributions have, however, endured, despite the formidable tales of echoes and reverberations that occur in the eighth book of his *Musurgia*. Both in this latter work and, oddly enough,[122] in his *Ars Magna*, Kircher discusses hearing-tubes, those essentially mediaeval and Victorian tokens of the hard of hearing. In the second edition of his *Ars Magna*, however, in 1671, he reveals that he has discovered in an ancient codex, Aristotle's *De secretis ad Alexandrum Magnum*, a description of a megaphone used by Alexander the Great to issue his orders.[123] Kircher adds his design of the instrument and tells us that it

---

[119] *Ars magna*, III. V 'De magnetica vi plantarum', p. 612.

[120] Both statements in *Ars magna*, III. X 'Magus Epilogus', pp. 790ff.

[121] See Werner, *Geschichte der katholischen Theologie*, pp. 68–70.

[122] In the science of acoustics, Kircher's works generally failed to meet with the approval of J.G. Herder: 'Die beste Schrift für diese noch zum Theil unausgearbeitete Materie ist Wachteri "naturae et scripturae concordia" Hafuia 1752, die sich von der Kircherschen u. so viel andern Träumen, wie Alterthumsgeschichte von Märchen unterscheidet': thus *Sämtliche Werke*, vol. 5, p. 13.

[123] *Ars magna*, II. I. VII, Exp. III, p. 139: 'Alexandrum quoque Magnum certum cornu habuisse tam intensi soni, ut illo totum exercitum quantumuis dispersum convocatum ita praesentem stiterit, ac si singulis praesens loqueretur. Formam cornu in antiquissimo Codice Vaticano libri de Secretis Aristotelis ad Alexandrum tractantem cum reperissen, hic publici illam iuris facere volui'.

could carry the human voice some 100 stades (about 17 miles).[124] We see at once a typically Kircherian *mélange*: the venerable manuscript, which appears in time for the second edition, Kircher's complete acceptance of the fact and the semi-miraculous nature of the megaphone's achievements. It is easy to see how a protest would have been raised at such a combination of circumstances.

However, early critics were a little disconcerted to find that such a work, on which Kircher had based his description, really existed.[125] It had been translated from the Arabic into Latin and had been published in Bologna in 1516. Moreover, a revered contemporary figure, Morhof, had actually seen such a work and had printed a section which agreed with Kircher's source. It was pointed out that the work was almost certainly not that of the great Aristotle of Stagyra, being either a translator's addition or the work of some later, less illustrious Aristotle. Furthermore, hostile critics asked, how could it be proved that the instrument was practicable?

Kircher attributes the modern rebirth of the instrument to a certain Soland who in 1654 had such a megaphone constructed on similar lines.[126] Samuel Morland in 1671 constructed what must have been an identical form of the Alexandrian prototype,[127] while as late as 1796, Gottfried Huth, Professor of Physics at the University of Frankfurt an der Oder, was so imbued with the ideal of empirical research that he constructed a megaphone in tin on Kircherian lines and declared it audible at 1500 yards.[128] And there, it seems, the matter rests.

Another hotly contested invention of the learned Jesuit is his aeolian harp, an instrument already discussed in Chapter 3. Similarly, the Kircherian experiment on filled wine glasses and the correspondingly mutated chimes to be obtained from them, already mentioned, was noted by Robert Boyle, who remarked with some asperity, 'which I suppose may be true, although the trial did not succeed with me'.[129] A more modern critic notes that although Kircher, in his *Musurgia*, talks

---

[124] *Ars magna*, p. 140: 'Cornu diameter fuit quinque cubitorum, eiusque sonus ad centum stadia percipiebatur'.

[125] An early account of this learned controversy is to be found in Sturm, *Collegii experimentalis*, vol. 2, p. 142.

[126] See *Edinburgh Encyclopaedia* (ed. D. Brewster), vol. 1, p. 113.

[127] Morland, *Tuba stentora-phonica*. Morland's adaptation is reported in the *Philosophical Transactions* of 1672: vol. 6, p. 305.

[128] J.C. Poggendorf, *Histoire de la physique*, p. 253.

[129] Boyle, *Works*, vol. 5, p. 22.

of the transmission of sound through solid bodies at various speeds, the fact was not further examined until the beginning of the nineteenth century.[130]

### *General Science*

This is, potentially, a vast field, since Kircher delighted in scientific experiments. Steeped as he was in the hermetic literature of the Cabbala and the traditionally prescribed writings of Aristotle and Pythagoras, his was not given to bold empiricism. We see a selection of his more frivolous experiments in Johannes Kestler's somewhat sycophantic work drawn, he says, 'from the vast works of Kircher'.[131]

On the one hand we find an experiment designed to demonstrate that tides are caused by the moon.[132] Fill a basin with nitrous water mixed with common salt, expose it to the moonlight on a clear night and you will see with wonder the water immediately begin to boil and form conjunction or opposition. The experiment will not work if fresh water is used. Hence it is true that those who suffer from salt humours and nitrous or tartarous defluxions (note the truly Galenic flavouring), such as the gouty, arthritic, lunatic or hypochondriac, feel the force of the moon much more than other persons do.[133] What a wonderful mixture of elementary science, folklore and imagination! It is hard to deride the industry and ingenuity that have gone into such conclusions. On the other hand, we have experiments showing grains of scientifically valuable ideas. Hence Kircher attempts to weigh air at different times, he proves that water can be compressed, he measures the growth of a plant in a single day, and he draws up a scale for the calculation of the specific gravity of liquids from the reflection or refraction of a coin placed in the appropriate liquid.

In 1665 Boyle noted that the breweries in Amsterdam were in the habit of using frozen sea water when they ran out of fresh water in the winter.[134] In the same year, Kircher had already propounded the reason for this phenomenon.[135] Obviously, in the cold or wetter regions of

---

[130] Poggendorf, *Histoire de la physique*, p. 487.

[131] Kestler, *Physiologia Kicrcheriana experimentalis*. Kestler's dedicatory letter to Kircher is dated Rome, 15 October 1675.

[132] Kestler, *Physiologia*, p. 19a.

[133] This whole experiment is derived from *Magnes*, III. V, ch. 4.

[134] *New Experiments and Observations Touching Cold*, p. 50.

[135] *Mundus subterraneus*, I, p. 166.

the earth, there was a great annual precipitation. When rain or snow fell on the sea, because of its natural buoyancy and lighter specific gravity, it remained on the surface layers of the sea. Logically, when the sea froze, the top layer was fresh water; therefore frozen sea water is always devoid of salt. On the question of salt, Boyle procured several samples of sea water from different depths and tested each sample for its salinity. He found little change in each specimen. In the meantime, Kircher declared that the proportion of salt to water increased as to the depth—which was obvious when people realised that in the first place the salt came from huge banks of potassium chloride on every seabed. Similarly, the salt increased generally as one approached the Equator, where constant evaporation drained away the water and left the salt in greater proportion than before.[136] No attempt to desalinate sea water by distillation was made until about 1680.

Kircher made more positive contributions to physics in the field of thermoscopes or themometers. His best model[137] consists of a long glass tube inverted into a large glass ball. He was of course familiar with the Torricellian vacuum and his thermometers followed the principle of those devised by Galilei. Kircher was one of the first to recommend quicksilver or mercury for such instruments, but he himself used water or wine. Such an instrument was ideal only for the measurement of the temperature of large quantities of liquid. A thermometer for measuring smaller amounts of liquid was not devised until later by Swammerdam (1637–1686), who used a Kircherian thermometer with a slight inversion in the bowl for the reception of tiny liquid measurements. Kircher himself says that his instrument could assess the goodness, mildness or salubrity of the air, in cultivated fields or plains or on mountain peaks. He also mentions its use in measuring the temperature of man in illness, which was a valuable hint for later generations. No doubt Boyle was thinking of these varied uses of Kircher's thermometer when he referred to Kircher's 'hydroscope'.[138]

In this same sphere of general physics, Ferdinand II, Grand Duke of Tuscany, applied the principle of the Cartesian divers to the construction of an entertaining thermometer of sorts (patently ill-fitted for scientific experiment) whereby glass bulbs floated on the surface

[136] *Mundus subterraneus*, p. 171.
[137] *Magnes*, pp. 515–517.
[138] Boyle, *Works*, vol. 5, p. 625.

of the water. This seeming paradox puzzled many of His Excellency's courtly philosophers (which is strange, considering that the works and findings of Archimedes must surely have penetrated into Tuscany), and he was pleased to send two examples to Rome, and a challenge, to those eminent scholars of natural physics Athanasius Kircher and Raphael Magiotti. Fortunately for the cause of science, both scholars were able to publish correct solutions.[139]

## Chemistry

This, often regarded as the sister science to physics, was slow to gain recognition in Europe. It is essentially one of the newer sciences, seldom found in the writings of the Ancients. Perhaps for this reason alone—we must not forget his orthodox Jesuit training—Kircher was never really an adept. Ironically enough, despite his sketchy grounding in the science, he rendered valuable service to the infant art of analysis and compound. For the sake of clarity, we may subdivide his interests into alchemy and organic and inorganic chemistry.

### *Alchemy*

Alchemy: the very word is redolent of the mysteries of the Middle Ages.[140] With its Arabic undertones suggesting the Ancient world of learning and precedent, alchemy was the long and arduous search for the philosophers' stone—the *lapis philosophorum*—the golden means to the transmutation of metals. The art of alchemy had many adherents in the royal courts of Europe from the early Renaissance[141] until the Age of Reason, when the pure science of chemistry finally ousted its parent from the mind of every thinking person. Legend saw Hermes or Mercury as the first alchemist, with the subsequent flood of Hermetic philosophers like Leonhard Thurneysser, Michael Meier, Sendivogius

[139] This information is in Bolton, *Evolution of the Thermometer, 1592–1743*, p. 31.

[140] Cf. Cabrol and Leclercq's view of Kircher: 'on se le représente volontiers parmi les lézards empaillés, les crapauds difformes, les chauves-souris dessechées qui pendent au plafond et encombrent le parquet et les sièges de ces cabinets d'alchimistes, qu'ont peints les vieux maîtres allemands et hollandais': thus their *Dictionnaire de l'archéologie*, vol. 8, p. 773.

[141] G. Müller sees alchemy as 'die charakteristische Renaissancewissenschaft': *Deutsche Dichtung von der Renaissance*, p. 37.

and the Black Count Caetano among their adherents.[142] Incentives were great, the risk was infinitesimal, and one had always before one the vision of other more successful experiments, as when the Emperor Ferdinand III successfully transmuted base metal into gold in Prague in 1648 or when a similar feat was performed before the Elector of Mainz in 1658.[143] History, too, was with them. How else could the vast treasures of yesterday be explained? It was common knowledge that King Solomon himself had possessed the philosophers' stone, despite his high taxes and his gold transports from ancient Ophir.[144]

It was hard, often impossible, for thinking men to deny the possibility of transmutation when so many princes of the blood royal, striving to discover the Midas touch, were active patrons of the weary plodders after this metallic truth. Erasmus had objected (in his *Moriae encomium*, written in England before 1510) to such wilful dissipation of energy and time,[145] but his voice had been a lone and feeble cry. The first really conclusive and punishing blow against the alchemists and their myths was struck by none other than Athanasius Kircher. It is an astonishing fact. Kircher himself had already described the Table of Hermes.[146] He was a credulous and gullible writer and one often derided by posterity, but he did not hesitate to denounce a practice he thought to be wilful and wrong.

Erman comments somewhat darkly on Kircher's perspicacity,[147] while a mid-eighteenth-century critic, himself an obvious believer, maliciously saw something less than common sense in Kircher's attack: 'Quoiqu'il soit défendu aux Jésuites par leur Institut de s'appliquer à la Chimie Metallique, cependant le père Athanase Kircher n'a pas lassé de s'y employer et comme il n'a pas réussi, il a écrit contre cette Science'.[148]

---

[142] E. Von Meyer, *History of Chemistry*, p. 61.

[143] Cited in C. Lenglet-Duffresnoy, *Histoire de la philosophie hermetique*, p. 59.

[144] Quoted by an early Kircherian opponent: J.J. Becher, *Physica subterranea*, pp. 696ff.

[145] Von Meyer, *History of Chemistry*, p. 62.

[146] In his *Oedipus*, III, ch. entitled 'Alchimia hieroglyphica', Kircher attributes the discovery of this parchment or, more accurately, papyrus, in Turin, to Bernard Canisius. In 1657 W.C. Kriegmann sought in it, in vain, the riddle of the philosophers' stone. Similarly, in his *Prodromus*, Kircher gives translations of the Memphitic Table and the 'tabula smaragdina' from the Coptic: both these rock-face inscriptions were attributed in the seventeenth century to Hermes.

[147] Article on A.K. by Erman, *Allgemeine deutsche Biographie*, p. 46.

[148] Lenglet-Dufresnoy, *Histoire de la philosophie hermetique*, vol. 3, p. 165.

Kircher gives his opinions on alchemy in his encyclopaedic *Mundus subterraneus*. He divides the class of alchemists as a whole into three distinct groups:

1 Those who believe alchemy to be humanly impossible. These are the disappointed alchemists.
2 Those who utter base metals for true gold and silver. These are, simply, forgers and deceivers.
3 Those who claim to be able to make gold and silver by means of the powers of the philosophers' stone. These are the real alchemists.[149]

Kircher does not categorically deny that the cause of alchemy might one day be vindicated. He admits 'alchemy is knowable but is not known yet' that the secret might possibly be discovered in the future, but at the moment the secret is lost and the whole pseudo-science of alchemy is a chimera. Any conclusively successful case is, therefore, the work of the Devil, who has thus—echoes of the Faust theme—lured the alchemists to everlasting perdition. To add moral strength to this view, Kircher appends a long and rather tedious story, which was, he claims, told to him by a trusted friend[150] who had been tempted by the Devil in the guise of an old man who had the uncanny habit of turning chunks of lead into nuggets of gold. These views, roundly stated, were accepted by all but the most obdurate alchemists. A Jena professor, Werner Rolfinck (1599–1673) in 1671 compared the alchemically prejudiced to those blinded by cataract.[151]

On the other hand, Johann Joachim Becher (1635–1682), in a subtle imitation of Kircher's work, defended the alchemical code with a huge list of authenticated precedents.[152] Kircher's views were violently attacked, in his own lifetime, by the pseudonymous Solomon von

[149] *Mundus subterraneus*, II, pp. 232ff. His argument is contained in ch.11 'Chymiotechnicus', a thorough appraisal of 'de origine alchymise', 'de lapide philosphorum', 'de alchymia sophistica' and 'juridica sive legalia'.
[150] The whole story is repeated in M. Berthelot, *Les origines de l'alchemie*, p. 37.
[151] W. Rolfinck, *Chimia in artis formam redacta*, p. 26.
[152] Becher, *Physica subterranea*.

Blauenstein, by Gabriel Clauder[153] and by a certain Johann Zwelfer,[154] who pointed out that even Mr Boyle, in his *Chemista scepticus*, had admitted that experiments, once performed, could not always be successfully repeated—a favourite sophistry in the minds of the alchemists. The Jesuit's silence in the face of these attacks is hard to understand. Certainly, as his life progressed, Kircher became more and more reconciled to the idea of mockery and dispute. After all, he was living in an age when the president of the Electoral Assembly in Dresden attempted to derive the seven metals from the actions of the seven planets.[155] Thus, although disappointment and frustration may have been his reward, Kircher deserves the gratitude of every chemist in having being one of the first to recognize the true nature of the infant science.

### *Organic and Inorganic Chemistry*

Although Kircher's contributions to the new chemistry may have been numerous and prolific, few were of lasting value. A glance into Kestler will reveal the mediaeval aspect of most of Kircher's contributions, which, like many of his more mechanical inventions, are more suited to the playroom than the scientist's bench.[156] Although this may seem harsh, the same judgement could well be applied to most of his contemporaries. Above all, Kircher was a child of his age. In the *Physiologia*, then, we find thirteenth-century recipes for invisible writing and the preparation of auripigment.[157] Experiments with potable gold are followed by the 'arcanum rarissimum' of preparing gold for illuminating,[158] all excellent advice but some three centuries too late.

---

[153] D. de Blauenstein, 'Interpellatio brevis ad philosophos pro lapide philosophorum'; G. Clauder, 'Tractatus de Tinctura Universali, ubi in spedie contra R.P. Ath. K. pro existentia lapidis philosphici disputatur', both articles conventiently reprinted in J.J. Manget, *Bibliotheca chemica*, vol. 1, pp. 113, 119–168. [GBV also gives Blauenstein as a printed work and has a Gabriel Clauder title on the *Tinctura universali*, Altenburg 1678.—Ed.]

[154] Johann Zwelfer (1618–1668) spent a lifetime of acrimonious dispute. His Kircher criticism comes in his frequently emended *Animadversiones*.

[155] J. Doering (ed.), *Des Augsburger Patriziers Ph. Hainhofer Reisen*, p. 177.

[156] Kestler, *Physiologia Kircheriana experimentalis*. An intriguing experiment mentioned in *Mundus subterraneus* XII did, however, find its way into more august company. Cf. *Philosophical Transactions*, vol. 1; reported in P.H. Maty, *A General Index to the Philosophical Transactions*, p. 678.

[157] Kestler, *Physiologia*, Exp. 15, p. 20a; Exp. 28, p. 27b.

[158] *Physiologia*, Exp. 50, p. 68.

Avoiding the vexed question of the metamorphosis of metals, we come across the detection of hidden metals.[159] If you suspend a salty wooden stick over a boiling pot of salt water, you will find that the volatile spirits in the process of evaporation adhere to the salty stick (by magnetic influence) as to a body like themselves, and the stick will gradually incline down towards the pot with its excess weight. Kircher fails to add that the experiment would have the same result with fresh water but does include the information that the whole process can be successfully carried out over a salt-mine.

Part IV of Kircher's work is devoted to the artificial and therefore chemical production of insect life. These experiments, derived from the *Scrutinium*, had already set Boyle pondering,[160] and in 1668 Kircher's arguments were further advanced by Gottfried Voigt, who somewhat ambitiously began to consider the chemically-inspired resuscitation of Man.[161] Less epoch-making if somewhat more spectacular tricks are revealed in the perpetual fire (cf. bitumen) and the paradox of camphor burning on water.[162]

With the help of the Brazilian Jesuit mission, Kircher expounds in the *Ars magna* on the optical qualities of 'lignum nephriticum' ('kidney wood'), a substance not uncommonly used in medicine.[163] He is challenged by the fearless Robert Boyle ('our observations and his agree not') but Boyle is willing to come to an honourable and generous compromise, 'in so much that, unless our author's words be taken in a very limited sense, we must conclude that either his memory misinformed him, or that his white nephritick wood, and the sullen coloured one which we employed, were not altogether of the same nature'.[164] Michael Ettmuller (1648–1683) in his book some years later was not nearly so charitable. In his trenchant fashion, he informs his readers: 'See Angelo Sala in the Anatomy of Vitriol, from which Kircher

---

[159] *Physiologia*, p. 36a.

[160] Boyle, on Kircher's experiments with the resuscitation of broken shellfish at Peloro, Sicily, concludes: 'they should rather be new productions made by some seminal particles undiscernedly lurking in some part of the destroyed body, and afterwards excited and assisted by a genial and cherishing heat' (*Works*, vol. 1, p. 373).

[161] Voigt, *Curiostates physicae*.

[162] Kestler, Exp. 14, p. 55b: Exp. 12, p. 117. The latter experiment Kestler derives from the *Ars Magna*, X. II, ch. 7, p. 825.

[163] 'Chromatismi in ligno nephritico causa', ibid., p. 815. 'The optical properties of lignum nephriticum…described by [Nicolas] Monardes and Kircher, both of whom Boyle read': M. Boas, *Robert Boyle and 17th Century Chemistry*, p. 136.

[164] Boyle, *Works*, vol. 5, p. 731.

copied most faithfully almost all that he has about vitriol, suppressing the name of the true author'.[165] Were we to be similarly motivated, we might mention that in the 158 pages of Ettmuller's work we find no less than 70 authorities quoted, some of them many times (Helmont is quoted 24 times.) Such a collection of formulae and recipes from earlier writers is, however, a typical feature of all the manuals of the century.[166]

Ettmuller's criticism is, however, a just one, making the reaction of a nameless critic in 1722 all the more open to wonder. In reviewing a certain book, this wretched perjurer says, presumably with the intention of crushing the submitted work on enamel, 'il n'y avoit pas de Chimiste ou d'Alchymiste dont Athanase Kircher ne connaît les secrets, et les souplesses'. This is crass flattery, but permissible: but the mind boggles at the next statement: 'quand je dirois que Kircher est le premier qui ait débrouillé la Chymie et qu'en la débrouillant il l'a portée a une perfection à quoi on a bien peu ajouté depuis ce temps-là, je ne craindrois pas d'en trop dire'.[167] One suspects irony, crushing sarcasm: but no, the fellow is in earnest. It is as though an eighteenth-century Kircher has arisen to defend his name and honour, out-Heroding Herod. It is certainly clear evidence of the eternal unreliability of book critics, but a marvellous conclusion to this short survey of Kircher's knowledge of chemistry.[168]

## Mathematics

Mathematics, with the allied arts of geometry and algebra, were hallowed subjects in Kircher's lifetime, and somewhat like Latin, were the basis of any man's education. Kircher had extensive Jesuit grounding in Euclid, Pythagoras and Aristotle.[169] His early aptitude for horology,

---

[165] Ettmuller, *Chymia rationalis et experimentalis*, p. 23.

[166] Cf. J.J. Becher's *Chymischer Glückshafen*.

[167] Review of J.-Ph. Ferrand, *L'art de feu ou de peindre en émail, etc.*, in [Journal de] *Trevoux* (July 1722): 1234ff.

[168] Sommervogel notes, in his short list of Kircherian manuscripts, *Chymische Zeichen und ihre Bedeutung*: [with] *Catalogue de Heerdegen, a Nürenberg*. Nürenberg 1837, pt. IV, pp. 75, 94: [Mss] nos. 1075, 1101.

[169] This universal Aristotelian basis is clearly revealed in the title of a book very possibly used by Kircher: Giuseppe Biancini SJ, *Aristotelis loca mathematica*. L. Thorndike (*History of Magic and Natural Science*, p. 48) refers drily to this work as 'one of those sterile and futile compilations at which members of his Order delighted to spend

catoptrics and cartography, as well as his skill in erecting mechanical and physical apparatuses, shows the fundamental solidity of his mathematical grounding. Throughout his life, his knowledge of mathematics was to pervade most of his scientific works, where he explains himself to good advantage with elaborate texts and illustrations—he seems to have learned early in life that one good drawing will replace ten pages of text. We must remember, too, that Kircher's first full-time academic appointment, in Würzburg in 1629, was as Professor of Oriental Languages and Professor of Mathematics.

Bearing this strong tradition in mind and the wide, encyclopaedic knowledge of the man, it is surprising that his mathematical studies were not more distinguished. Admittedly, at his death in 1680, the *Theatrum Europaeum* noted: 'schliesslich der Weyland Wolehrwürdige und Hochgelahrte Herr P. Kircherus, ein Weltberühmter Mathematicus, im Dezember zu Rom im selbigen Jesuiten-Collegio',[170] and in 1749 the Senate of the University of Würzburg passed the resolution: 'It is our earnest desire that mathematics, in which our university once so excelled, under the famous professors Kircher, Schott and others, should be restored to its pristine dignity and splendour'.[171] But this notwithstanding, posterity has not concentrated on Kircher's mathematical abilities.

It is probable that other more compelling attractions soon devoured any time Kircher may have preserved for his mathematical studies. We see this illustrated in the *Ars magna*,[172] where Kircher takes a geometrical figure, the star-shaped septagon, and, in the manner of the age, following Kepler and Girard, demonstrates with it, not subtle Euclidean precepts, but the days of the week and their respective planets, which, in decreasing order of distance from the earth, are Saturn, Jupiter, Mars, Sun, Venus, Mercury and the Moon. Write these names in a circle, then start from Saturn and, missing two planets in turn, draw straight lines from each point. The resultant order is, in their correct sequence, Saturn, Sun, Moon, Mars, Mercury, Jupiter and Venus. This

---

their time and which required little or no thought, and least of all any independence of thought'.

[170] Part 12, p. 266 (1678–1680) under the heading: 'Etliche Todesfalle unterschiedlicher Standspersonen, und sonst berühmter Leute so in diesem 1680 Jahr sich ereignet'.

[171] Quoted by F.X. von Wegele, *Geschichte der Universität Wirzburg*, vol. 2, p. 417.

[172] Cited by M. Cantor, *Geschichte der Mathematik*, vol. 2, p. 627.

is a prime example of Kircher's fundamentally mathematical outlook, which was reduplicated in each of his works.[173]

Kircher wrote several mathematically-based works, in all of which there is that identical urge to make uniform, to rationalize. It is as though Kircher is trying to present the whole of science in a tailor-made form acceptable to his generation. Hence his love for gadgets, for peculiar mechanical creations where one twists a knob and the information instantly appears. The first of these machines is presented in the *Specula Melitensis*, first published in Messina in 1638 and then, shortly afterwards, in Naples. This book, written at the instigation of the Grand Master of the Knights of Malta on the occasion of Kircher's visit to the island, was published under the name of the same Grand Master. The work is possibly the rarest of all Kircher's publications. Fortunately, it was reprinted in 1665 by Kaspar Schott in a slightly altered form. The title is derived from the curious appearance of the contraption it discusses, which closely resembles a lighthouse. If it is true that Kircher wrote the book for the instruction of the younger Knights of Malta, then the title is curiously apt. The machine was, generally speaking, box-shaped, but had wheels or circular tables on each face which, when adjusted, resolved the various problems of the calendar, of medicine, of trigonometry, of astrology.[174] This primitive teaching machine must have cost Kircher many hours of academic and medical labour. The idea is good, if a little rigid in application and achievement, but one wonders how the good Knights of Malta reacted to their new academic tutor.

In the *Specula* we find mention of the 'pantometrum', or, in English, the 'pantometer', an elaborate surveying tool somewhat like a multisectional draughts board, which when pointed at various earthly and celestial bodies calculated respectively distances, weights and dimensions—altogether a most desirable instrument.[175] This early precision tool is described at greater length in the *Pantometrum Kircherianum* of

[173] Similarly, as Gunther (*Vermischte Untersuchungen zur Geschichte der mathematischen Wissenschaften*, pp. 15–16) points out, Kircher is one of the first to employ an eccentric pentagon in a discussion on amulets and tokens (*Arithmologia*, p. 217).

[174] Cf. *Specula Melitensis*, 'Proposition LXIX, Which disease is to be healed at any given hour on the planetarium' or, finally, 'Proposition LXXIX. To find simple medicines for healing the infirmities of the entire human body'.

[175] Also briefly described in *Ars magna lucis et umbrae*, II. II, ch. 3. Weiss, *Biographie universelle*, vol. 22 (1818), p. 442, 'Une planchette un peu compliqué'.

1660, published by Kaspar Schott, who had accompanied Kircher in its baptismal days.[176] In the same place, Schott tells us that Kircher first thought of such a device in the company of Fr J.R. Ziegler, with whom, as we know, Kircher spent some months during 1623 in the Aschaffenburg Residence of the Elector of Mainz.

At about this time, Kircher's next mathematical work, the *Arithmologia* of 1665, appeared. It was a dull and lengthy treatise written in strict conformity with the mathematical trends of the seventeenth century, and containing little of interest. A little later came another of Kircher's cerebral gadgets, described in Schott's *Organum mathematicum* of 1668.[177] Of it Kircher says: 'By means of a few easily obtainable tablets, concealed in a small box constructed on the model of the pneumatic organ, many mathematical systems are delivered up in a new and simple way'. The box had various divisions and tiny cubbyholes and even more minute alveola, all bristling with mathematical formulae and simplified theorems: 'I have thought out, for the use of princes and for those who are put off by the tedious rules of arithmetic, how, with the removal of the difficulties of calculation, the practical functioning of a universal geometry might be explained'.[178] It is of interest to note that the first case or section contained the tables or batons of John Napier, the inventor of logarithms.[179] Although Kircher himself is of little significance in the development of logarithms, his analytical mind and, one suspects, passion for orderly figures, made him a ready convert. The title, applied by Kircher, is derived from the apparatus' fancied resemblance to a harmonium-type organ. In Schott's *Technica curiosa* (pp. 831–833) is a letter from Fr G. Aloys Kinner to Schott, where the former describes the organum as built by Kircher in Rome in 1662 and presented to Archduke Charles Joseph. It needs little imagination to see how popular such elaborate and pseudo-scientific toys must have been in the seventeenth-century courts of Europe.

---

[176] 'Ac proinde P. Gaspari Schotto, meo tunc temporis hic Romae in re Litteraria Socio, hujus instrumenti usus tum facilitas, tum certitudo, quam vario et multiplici exercitio cibi comparaverat'. Quoted from the 'Testimonium R.P. Athanasij Kircheri, e Soc. Jesu. Operis Auctori datum, benevolo lectori. ATHANASIUS KIRCHERUS S.I.' dated 25 March 1656.

[177] This work is a slightly more mature version of the *Specula Melitensis*.

[178] Kircher, letter to Schott, 25 March 1656.

[179] Napier published his *Rabdologiae* in 1617. The work describes ingenious methods of performing fundamental operations of division and multiplication by means of 'rods' or 'bones'.

Possibly Kircher's most solid, and certainly most accessible mathematical work was embodied in his *Tariffa Kircheriana* of 1679. The work, which was well received, had neither preface nor explanation. On the initiative of one Benedictus de Benedictis Bonaviensis, 'a Roman citizen, professor of mathematics', the work was piloted through the press and dedicated to Livius Odeschali, nephew of Pope Innocent XII. The main part of the book consists of multiplication tables of 1 to 100. On each side there are 25 numbers and, consequently, a complete set every four sides. Each of the one hundred multiplicands is placed opposite the corresponding multiplacator. Four mathematical combinations are offered: the simple product; the area of the triangle of which the multiplicand forms the base; the volume of the resultant prism; and the volume of the pyramid, both of which have for their base the square of the multiplicand and for their height the multiplicator.[180] The first section also contains a short description of the pantometer. The whole work, with its objective reasoning and concise presentation, is a valuable step forward. It is perhaps significant that such useful work occurs so close to Kircher's death.

There is yet another work which no doubt owed its genesis both to Kircher's mathematical inclinations and the age in which he lived. This is his *Polygraphia nova* of 1663, by means of which nation might speak unto nation in a pure mathematical language intelligible to all: 'A new discovery, by means of which anyone, even with only one vernacular language, whatever that language may be, can correspond in writing with all peoples and nations of the world by a reciprocal exchange of letters'.[181] This idea was not a new one. Its roots were to be found in the nascent seventeenth-century idea of a philosophy which in both appearance and content might be as clear as a mathematical proposition. Under the stimuli of Hobbes and Erhard Weigel this device,

[180] This work is found in manuscript form in the Archives of the Gregoriana, No. 769. Other mathematical works in manuscript in Rome are: (a) Mathematica Curiosa, In quatuor partes divisa. In Arithmeticam, in Geometricam, in Musicam et Astronomian. Authore P. Athanasio Kircher, Anno Domini, MDCXXXX (Bibl. Naz. S. Francesco di Paola 4. 1841). This work has 187 quarto pages and includes chapters on, for example, 'De Arithmetica Militari' (Cap. VI), 'De aquarum pondere' (p. 66, Cap. II) and 'De carbunculo rubino granato' (p. 135, Section IX). (b) 'Diatribe Arithmetica de Priscis Numerorum Notis earumque origine et fabrica' (Bibl. Vat. Chigi F. IV. 64) originally presented to Pope Alexander VII and including specimen chapters on (Cap. I) 'Adam primus numerorum Inventor' and (Cap. IV) 'de Algorithmo, id est, de Zyphrarum, sive hodierna die usitatorum numerorum origine et fabrica' (41 pp.).

[181] From the *Synopsis syntagmatum. synt. primum.*

whereby thought could be accredited with conceptual signs of scientific clarity, found its fullest expression in the works of Leibniz. Several of Kircher's other more purely mathematical writings reveal the germs of that same Cartesian method, preceded by Raimund Lull and Giordano Bruno, which sought to transform mathematical method into a regular art of invention.

Such a philosophy was crystallizing, at the time of Kircher's *Polygraphia*, into the thought and practice of expressing fundamental metaphysical concepts, and the logical operations of their combination, after the manner of a mathematical sign-language, by definite characters. This seemed to offer the possibility of writing a philosophical investigation in general formulae, and by such means raising it beyond a definite language, to a universal scientific language. This desire was mirrored in Leibniz's theories of a 'characteristic universal language'[182] and methods of philosophical calculus. A slightly less elevated motive, but one that commanded powerful support on all sides, was the growing inadequacy of Latin as a universal mode of scientific expression.

Several works preceded Kircher's attempt. The earliest printed work on cryptography[183] was the *Polygraphia*, published posthumously in 1518 by the Abbot of Sponheim, Johann Trithemius von Trittenheim (1462–1516).[184] Here, too, we see for the first time the use of the word 'polygraphia' in such a context. Two years before Kircher's book, the Englishman George Dalgarno (*c.* 1626–1687) published a somewhat ineffectual treatise, *Ars signorum*, in an attempt to devise a universal language, and his failure was paralleled in Germany by J.J. Bechar in the same year.[185] Some years later, John Wilkins (1614–1672), Bishop of Chester, a later opponent of Kircher's hieroglyphical theories, wrote his *Essay towards a Real Character and a Philosophical Language*,[186] but his attempt was similarly unsuccessful. Kircher's own inspiration for this work came, he tells us,[187] from a suggestion (which was inevitably a command) made by Ferdinand III, who died in 1657. It would

[182] W. Windelband, *History of Philosophy*, p. 397.

[183] 'Steganography' is the earlier word for cryptography and signifies 'hidden writing' as opposed to 'secret writing' (cryptography).

[184] Also attributed to him is a *Steganographia* (published in 1551 [?] in Lyons), which was, however, placed on the Index.

[185] *Character pro notitia linguarum universali.*

[186] This was, however, in 1688: already in 1641 he had published an anonymous treatise devoted purely to cryptography: *Mercury, or the Secret and Swift Messenger*.

[187] See in Kircher's *Polygraphia nova*, Praef.; cf. Trithemius, *Polygraphia.*

seem, therefore, that Kircher gained minimum encouragement from the works which so closely preceded his own. Certainly we find little in his *Polygraphia* deriving from Dalgarno or Becher, or from Bacon's contributions to cryptography.[188]

The *Polygraphia* is divided into three parts or 'syntagmata'. The first part, to Kircher's eyes the most important, contains his scheme for a system of a universal script, technically called pasigraphy. Examples are given in five languages (Latin, Italian, French, Spanish and German) and the vocabulary extends to about 1600 words. The system consists of columns of words in each language, whereby each noun, adverb and phrase has its own number.[189] The number corresponds in all five languages, the idea being that one writes the letter, transcribes it into the correct cryptographical form and sends it off. The recipient merely looks up the numbers in his own language and then works the process in reverse to find out the message.

As a sort of postscript to Proposition I, Kircher points out that the lists have slightly more prosaic uses than that of universal communication: they may be used as a lexicon or vocabulary list. More important (though not in Kircher's opinion), the system could be used for secret communications. The second and third parts, which dwindle in importance in the author's eyes,[190] contain respectively an ingenious steganography along the lines of Trithemius and a steganographic apparatus (one cannot really avoid these mechanical wonders in Kircher's works) for the easier interpretation of codified messages. The whole system is cumbersome and delightfully reminiscent of the secret monastic languages and codes of mediaeval Europe. It has,

---

[188] Since cryptography had become a distinct art, Bacon classed it as a part of grammar under the name 'ciphers'. He proposed an ingenious system on the plan of the so-called double cipher.

[189] This system had already been suggested by Becher, *Chymischer Glückshafen*, but he went no further.

[190] 'Proposition II. It contains a method [devised] by Trithemius, once already mentioned in his *Polygraphia* but completely understood by nobody, by which anyone, even one ignorant of languages, working in any language he chooses, could make the thoughts in his mind known to a distant friend. It is inscribed THE TRANSLATION OF ONE LANGUAGE INTO ALL OTHERS'. 'Proposition III. It contains a secret hidden writing which is new and universal, or a method of writing that human ingenuity could not penetrate. This method also has been set out by Trithemius in his *Polygraphia*, but just as it has so far been accepted by no one, so too it is generally judged by most people to be absurd. Now at last, vindicated against such false judgments, it is brought out into the light with all the numbers completed'.

however, found present-day adherents[191] and, we must soberly remind ourselves, no more successful idea has yet been evolved.

Although Kircher's attempts at universal linguistic suffrage were almost inevitably stillborn, the purely cryptographical aspects of his work are worthy of remark. The *Polygraphia* contains within itself the earliest surviving code system. Little attention has been paid to it by cryptographers,[192] but a recent critic describes the work as 'a landmark in the history of cryptography'.[193] Obviously, the modern codal elements are only found here in an embryonic form, but, even if only in this aspect, we see Kircher's work pleasingly vindicated.[194]

Elsewhere in his works Kircher found time to devote himself more painstakingly to the exclusively steganographical aspect of cryptography. Although Johann Klueber, in his detailed work on cryptography, *Die Kryptographik*, omits this aspect of the *Polygraphia*, he does consider Kircher's 'artificium cryptographicum, seu abacus numeralis',[195] which he tells us[196] had its origin in a challenge offered to Kircher by Count Bernhard von Martinitz, Viceroy of Bohemia, to clarify the more obscure aspects of Trithemius' work.[197] Kircher's solution differs little from that of Trithemius: where the Abbot of Spenheim employed letters, Kircher preferred numbers, the key to his galaxy of figures being the 'abacus numeralis'.[198] On this account, although the essential difference is small, Klueber sees in Kircher the inventor of the 'Punctirchiffre mit Ziffern'.[199] This work, relatively obscure, was obviously finished before 1657, for we are told that Kircher explained

---

[191] See C. Weiss, in his article on Kircher in Michaud's *Biographie universelle*, mentions a certain [J.] Cambry whose *Manuel interprète de correspondence* has a similar basis.

[192] See for example the bibliography of A. Lange and E.A. Soudart, *Traité de cryptographie*.

[193] G.E. McCracken, 'Athanasius Kircher's Universal Polygraphy', *Isis* 39 (1948): 215–228.

[194] McCracken, 'Athanasius Kircher's Universal'; the author writing at length on the complicated technical aspects of this code.

[195] In Schott, 'Thaumaturgus physicus' in *Magia universalis*, IV. I, Syntagmatum IV, p. 38.

[196] Klueber, *Die Kryptographik*, p. 245.

[197] Certain of these, suppressed by Trithemius for fear of persecution in his own lifetime, are revealed in a letter from him to Johann Bost, a Carmelite monk (first printed in J. Bost's posthumous *Tritemii steganographia*, ch. 4.

[198] A similar system evolved subsequently by Hieronymus Neyron used ciphers, letters (both Greek and Latin) and astronomical signs: Klueber, *Die Kryptographik*, p. 167.

[199] Klueber, *Kryptographik*, p. 163.

his system in detail to Emperor Ferdinand III (d. 1657) and Archduke Leopold, Governor of the Netherlands, before revealing it to its instigator, Count von Martinitz.[200]

Kircher's name has also been linked with one of the more celebrated cryptographical puzzles of the twentieth century. In 1921 the book-dealer Wilfrid M. Voynich purchased from the owner of a castle somewhere in Europe[201] a putative thirteenth-century cryptographical manuscript which defeated all attempts at decipherment. Attached to the manuscript, which is possibly one of Roger Bacon's mediaeval works,[202] is a letter from Joannes Marcus Marci of Cronland[203] to Athanasius Kircher of Rome. The letter, addressed 'in Christo Reverende et Eximie Domine Pater', is dated 19 August 1665 (or possibly 1666; the handwriting is obscure), and reveals that on this date Marci sent to Kircher a cryptographical work for solution. He mentions deprecatingly that the previous owner had already sent a sample to Kircher for decipherment but had subsequently heard nothing. Glossing over this possible lapse on Kircher's part, he adds that the former owner[204] of the manuscript is now dead after much futile labour, which was all the more futile because 'sphinxes of this kind obey no one but their Kircher'.

From the letter, we learn further that a certain Dr Raphael (identified as the tutor of Ferdinand III during his monarchy of Bohemia) had told Marci that the book had been brought by the Emperor Rudolph (Rudolph II, 1552–1612) for 600 Ducats, a considerable sum. The letter says much for Marci's generosity and trust in Kircher's cryptographical abilities: 'at any rate, I am convinced that it can be read by nobody but yourself'. Despite Marci's final pious hope, there is nothing known of Kircher's reaction to this princely gift. The manuscript is not mentioned in any of his works and is not included in the

---

[200] In close pursuit of his learned teacher we find Schott in *Schola steganographica*.

[201] The location of the castle—possibly northern Italy—remains obscure.

[202] Aucthorum vero ipsum putabat esse Rogerium Baconem Anglem': the subject of 'putabat' is not clear. From a letter from Marci to Kircher photographically reproduced in W.R. Newbold, *Roger Bacon*, plate I, p. 32.

[203] See below Chapter 10.

[204] The erstwhile owner is unnamed. If the manuscript is genuinely from the hands of Bacon, it seems probable that it could have been brought to Bohemia by John Dee (Shakespeare's Prospero), who enjoyed an invaluable Boswellian relationship with the great scholar, who, in turn, was much admired in Central Europe: cf. the great rabbi, Bezolel Loew of Prague, famous for his cabbalistic learning, known as 'der kleine Bacon'.

Amsterdam list of donations to the Musaeum Kircherianum.[205] It is assumed that the manuscript, with its embarrassing implications of omniscience on Kircher's part, was quietly passed on to some Farnese nobleman of the Court of Parma, and as quietly forgotten, until its rediscovery in 1921.

## Geography (and its Allied Sciences)

It may come as somewhat of a surprise to think of Kircher, comfortably ensconced in Rome for most of his life, as the author of one of the foremost geographical treatises of the seventeenth century.[206] And yet, when we bear in mind his unrivalled position at the nerve centre of the Jesuit machine at home and abroad, with full access to the varied reports sent home by the exiled fathers, we realize that there could be nothing more logical than that Kircher should presume himself an authority—and be so accepted—on geography and the allied sciences of geomorphology, mineralogy, geology, hydrology and palaeology.

The value of Kircher's work is twofold: first, we see this conglomeration of exotic facts and fiction, along with odd scraps of truth and the occasional flash of brilliance; and second, we find a first-class anthology and interpretation of the store of geographical knowledge extant in Europe from the beginnings until Kircher's day. The privilege of selection is not one which Kircher could judiciously handle, but we are the gainers.[207] Almost the whole of Kircher's geographical knowledge is contained in his *Mundus subterraneus*, an expensive and ponderous work which nonetheless enjoyed a brief European career of adulation. Kircher was virtually the first in the field. His two volumes aimed at reducing the whole of geography into a tangible whole. They are expressly compiled to reveal the harmony and omniscience of God. A slightly earlier writer on the subterranean properties of the earth was

[205] De Sepi, *Romani Collegii Soc. Jesu Musaeum celeberrimum* p. 65.

[206] 'In spite of its many weaknesses and inaccuracies, Kircher's *Mundus subterraneus* must always command a high place in literature as the first effort to describe the earth from a physical standpoint': K.A. Zittel, *History of Geology*, p. 25.

[207] H. Oldenberg, in a letter to Robert Boyle (28 September 1665), describing his discovery in a bookshop of the *Mundus subterraneus* ('newly come over'), expresses his suspicions: 'I do much fear he gives us rather collections, as his custom is, of what is already extant and known, than any considerable new discoveries'; see Boyle, *Works*, vol. 5, p. 195.

Descartes, but Kircher shows little evidence of having consulted his *Principia philosophiae*.

Kircher's work was rapidly followed by several rather more specialized—and, it must be admitted, better balanced examinations of certain physical aspects of the earth's surface. In 1668 Edmé Mariotte produced his classic work on the movements of the sea and water in general, one of the very earliest works on hydrology to contain modern ideas, while the following year the Danish anatomist Nicolaus Steno published his curiously modern ideas on geology and petrefaction.[208] The masterwork came in 1650 when Bernhard Varenius wrote his *Geographia generalis* at the age of 28 and succeeded in establishing himself as the first authority in all things geographical. It is of interest to note—mediaevalism versus modernity—that in the third edition of his *Mundus subterraneus* in 1678, Kircher, although making considerable additions and improvements, fails to include either the ideas or the names of his sounder contemporaries.[209]

As one might expect, Kircher could not regard the earth and its components as purely mechanical functions of the solar system. The earth was intended by God for Man and Man was the spectator of divine achievements, of the wonders and harmony of the world. The powers and secrets of the firmament and the hidden strength of the galaxies were all to be found within the earth's compass. The earth, its development and growth after the fall from grace, were the centre of created totality and mirrored thereby the process of continuous creation. Just as the earth was created for Man, so it received a frame and an organization which was similar to Man's: thus the earth's internal 'hydrophylacia', 'pyrophylacia', 'aerophylacia' and 'seminaria' may be compared to the internal organs of man. Food and sustenance (fire, water and air) are rushed along the subterranean channels of the earth to maintain the inner heat.

Kircher saw the origin of earth and its constituents in that force which moulded substance from Chaos: the 'vis spermatica', embodied in a 'vapor spirituosus sulphurec-salino-mecurialis', whose very comprehensiveness had the Protean power to adapt itself to all demands of

---

[208] Mariotte, *Traité du movement des eaux*; Steno, *De solido intra solidum naturaliter contento*.

[209] Kircher's views, on the other hand, found convincing expression in J.B. Riccioli, *Geographia et Hydrographia reformata*, and in the Swedish work of 1694 by Urban Hiarne (1641–1724).

the 'matrix'. This precious seed of all creation had the ability to form metals, minerals, vegetable and animal forms. This 'vis spermatica' was imbued by the Godhead with two powers which in turn are the 'architectrices' of all earthly substances: the 'vis plastica' and the 'vis magnetica', both of which are capable of infinite variations in reproduction and generation.[210] Possessed of this knowledge, Kircher could with equanimity defend the current theological controversy of 'generatio aquatica' in animal and vegetable life, a thesis he extends and develops at greater length in Book XII of *Mundus subterraneus*.

So much for the spiritual essence of this huge work. What of the actual contents, of the scientific innovations that people its pages? It would be tedious and virtually impossible to attempt a summary of the whole work. Let us, however, get some idea of the views expressed and their relative merits.[211]

Early in the first volume, which deals with physical geography (geomorphology etc.), Kircher propounds his theory that the earth possesses its own skeleton and symmetry of design. He sought to define this mediaeval theory[212] further by illustrating the meridional nature of the mountains, especially where they intersect on different parallels. Kircher extends his argument into the sea itself and resurrects Atlantis and other sunken islands (thereby providing fruitful material for de Maillet and Buffon) to prove his point.[213] His hypothetical assumptions on submerged mountain systems and submarine prolongations of continents were later upheld by both Kant and Ritter[214] and were refuted only towards the end of the nineteenth century. Similarly, Kircher's doctrine of the framework of the globe ('ossatura globi') was revived by Philippe Buache in 1752[215] and lived a lingering death until

---

[210] This aspect of Kircher's work was elaborated and further developed in Kircher's lifetime by A.W. Fischbeck, *Dissertatio academica de viventibus sponte nascentibus*, Propositio LIX.

[211] Kircher's geographical and geological ideas are summarised in F.D. Adams, *The Birth and Development of the Geological Sciences*, pp. 433–439 and Thorndike, A *History of Magic and Experimental Science*, pp. 567–580.

[212] Mediaeval thought attributed to the earth a soul and a body: the sea, with its tides, flowed into the body of the earth and out again, like water through the gills of a fish. See *Mundus subterraneus*, I, p. 69.

[213] The first disquisition on submarine topography is to be found in Strabo's (b. 63 BC) *Geography*; see E. Suess, *Das Antlitz der Erde*.

[214] I. Kant, *Betrachtungen der seit einiger Zeit wahrgenommenen Erderschütterungen*; K. Ritter, *Studien über die geographische Stellung*.

[215] Buache, *Essai de geographie physique*.

about 1870, periodically resuscitated by the works of Torbern Bergman[216] and the German school of Gatterer,[217] Kant, Zenne and Ritter.

Since in his opinion general mean precipitation (of snow, dew and rain) could not suffice to feed all the rivers, lakes and the sea, Kircher drew from Antiquity the idea of immense underground reservoirs which acted in both a storage and refuelling capacity. He christened this new multitude of lakes hidden high in the mountains and under plateaux as 'hydrophyllaciae'. Both the seasons and the weather combined to pump new fuel into this brooding progeny which, moreover, enjoyed a system of very close co-operation. Each individual 'hydrophyllacia' was linked by subterranean tunnels to its neighbours and in this way reinforcements could be hurriedly poured into an ailing source. The mineral and thermal qualities of various waters were simply the result of underground channels passing through a nearby mineral strata or subterranean fire. Although Kircher (and later Varenius) completely rejects the Aristotelian theory of a cycle of condensation,[218] rain and further condensation, he admits that snow and rain might cause small springs to appear intermittently. As for the rest, they are only to be explained by the underworld 'hydrophyllaciae'.

In this book we find the first map of the ocean currents: there are two, clearly preceding Halley[219] by some fifteen years, and on them we find the equatorial current of the Pacific and the Peruvian coastal flow.[220] Kircher reveals his knowledge of the division of the equatorial current off Brazil and its penetration into the Gulf of Mexico. However, he wrongly attributes the Gulf Stream to another division of the equatorial current passing around the Antilles and, as might be expected, he is not short of theories about these wonderful tidal phenomena.[221] He explains the tropical east–west currents with engaging candour: as the sun travels along in the sky, its heat causes instant evaporation

---

[216] Bergman (1735–1784) was a Swedish professor of chemistry and mineralogy: *Die Welt Beschreibung*.

[217] C.W. Gatterer, *Allgemeines Repertorium der mineralogischen*.

[218] Later adherents to this theory were Marcus Vitruvius Pollio, *De architectura*, VIII; B. Palissy, *Discours admirables de la nature des eaux*; I. Vossius, *De Nili et aliorum fluminum origine*.

[219] E. Halley, *Catalogus stellarum australium*, a work embodying his observations on St Helena.

[220] These tidal charts were later duplicated by E.W. Happel in his *Relationes curiosae* and his *Mundus mirabilis tripartitus*.

[221] The two relevant charts in *Mundus subterraneus* are facing I. III, pp. 144 and 134: the former is far superior.

and this in turn creates a compensatory current. To clarify this simple explanation, Kircher tells us of an experiment made to demonstrate its truth. A red-hot ball of metal is passed slowly over a tub of water and the current is at once discernible.[222] As an afterthought, Kircher adds that winds and tides can also cause currents. A further current, unknown to science, is also postulated: at the North Pole, the seas drain into a huge thirsty whirlpool and are led by devious routes through the earth to re-emerge, purified by the inner fire, at the South Pole, there to resume the endless ebb and flow.

This tidiness of thought is logically transferred to the contemplation of the oceans. Thus Kircher describes the underground connections between the Black Sea and both the Caspian Sea and Persian Gulf; the Red Sea with the Mediterranean and the Dead Sea; the Gulf of Bothnia with the White Sea and the Atlantic, which, en route for north-east Europe, passes under Sicily. Finally, Kircher hinted generously at the probable connection of the mountain lakes of Mexico with the Mexican Gulf. Since, in the view of the Ancients and later mediaeval scholars, the earth was undeniably riddled with tunnels, channels and natural pipelines, Kircher found little opposition to such ideas. Even the forward-looking Varenius admitted that mean precipitation alone would not suffice for earthly rivers, although he did view with scepticism the alarming number of marine tunnels and flatly denied the possibility of a link between the Caspian and the Mediterranean. Varenius saw the Caspian as a former part of the ocean which had somehow been cut off from its parent.[223]

On the object of erosion, Kircher left his Greek predecessors far behind. Possibly inspired by the model of Georg Agricola,[224] Kircher represents erosion as a chemical process whereby snow and rain carry away tiny grains, and also as a mechanical operation where ice and freezing, splitting stones contribute greatly to the denudation of the land.[225] Kircher knew too that oval pieces of gravel were rubbed smooth by running water and that the greatest mountains might be lessened by the erosive effects of moving water. It is not clear whether he recog-

[222] *Mundus subterraneus*, III, ch. 2, p. 135: Kircher adds, with the nonchalance of the adept: 'and let this suffice about the general motion east–west or south–north'.
[223] *Geographia generalis*, pp. 272, 278.
[224] *De natura eorum quae effluunt e terra.*
[225] O. Maull, *Handbuch der Geomorphologie*, p. 9.

nized the natural process of valley formation.[226] Kircher was similarly well informed about the geological activity of wind. He pointed out that rivers with their deposits of moving sand owed their dune-like formations both to the violence of the wind and the strength of the river current. He notes the sand-dunes at the mouth of the Tiber in Ostia and compares them to the continental dunes of Africa and Asia, formed and shaped by the weather and the wind.[227]

Kircher's views on petrefaction and palaeology were less distinct.[228] Although fossil nummulites (protozoa) had been known to the ancients, their rediscovery near Paris in 1665 by Conrad Gesner, who called them Ammonites, had reawakened general interest.[229] Despite the flood of good illustrations, Kircher still clung to the ancient ideas about their origin. Just as Aldrovandi in *Istoria naturale* had seen them as sports of nature, Kircher described the fossil ammonites as 'carraway seeds'[230] and attributed both their creation and that of kindred forms to a mysterious power possessed by nature ('natura lithogenetica', literally 'stone-bearing nature'), which produced living forms, even those of plants, modelled in stone.[231]

Apart from this, Kircher attributes the origin of 'dendrites' to the fact that seeds and spores of fern had fallen into the stone when it was still soft and had then matured inside the rock, thus giving it its outward form. Failing this, there was always the power of the 'spiritus lapidificius' ('stone-making spirit').[232] In 1456 the whole skeleton of a prehistoric elephant had been exhumed at Crussol (Rhône) and

---

[226] Although Varenius puts forward the theory that tiny streams and brooks might make their own beds, he is convinced that the larger rivers flow in man-made channels, a view that seemed feasible to a man living in Holland.

[227] *Mundus subterraneus*, I. VII, ch. 1, p. 353, 'de mutationis geocosmicis causis'. As well as these theories, there were some valuable observations. They were neglected until G. Greenwood's *Rain and Rivers* (1857), possibly because, though undeniably true, there was little that could be done about them.

[228] They are contained in *Mundus subterraneus*, Bk. VIII 'De lapidosa telluris substantia: de ossibus, cornibusque fossilibus, item de subterraneis animalibus, hominibus, daemonibus'.

[229] J.F. Gmelin (*Die mineralogia*, p. 4) lists three authorities before Kircher: Agricola, *De natura fossilium*; G. Fallopio, *De metallis atque fossilibus liber*; Schwenkfelt, *Fossilium*.

[230] *Mundus subterraneus*, I. VIII, p. 400, 'de cuminis'.

[231] 'Crucifixus lapidibus impressus' and, as an example of 'humanae figurae imaginum in lapidibus expressio' (*Mundus subterraneus*, p. 33), 'Virginis cum Filio et draconis effigies' (p. 34).

[232] 'Lapidificius quis spiritus architectonicus': ibid., p. 6.

a second in the Dauphine in 1613. In 1638 Kircher himself, on his return from Malta via Sicily, viewed antediluvian fragments at Trapani and Palermo, but was content to dismiss the fossilised bones as freaks of nature.

By far the more spectacular of Kircher's geomorphological contributions are those on the theory of volcanicity or vulcanism.[233] Much of Kircher's observation in this respect was subjective: he himself had visited Etna, Stromboli and Vesuvius. He gives exact measurements, lists all previous eruptions and advances the theory that volcanoes are continually growing, a theory which he had found ably supported in the sudden appearance of the Monte Nuovo at Pozzuoli in 1538.[234] He adds a catalogue or list of volcanoes and indicates their positions on a map of the world. We may conclude from the sites of several non-existent volcanoes that Kircher's information was not always as accurate as might be wished.[235]

Kircher was the first to redefine ancient beliefs about the earth's inner core, the fiery mass and the beehive-like net of tunnels. What in Plato and Theophrastus was vague and imprecise is vividly and decisively illustrated in the *Mundus subterraneus*.[236] The centre of the earth was, for Kircher as for Leibniz, a glowing, molten mass of inexhaustible fire.[237] Connected to this by means of fire-tunnels ('pyragogi') were peripheral furnaces,[238] which in turn were closely connected with volcanoes. Volcanoes were then the outlet of the inner fire and at the same time necessary draught-holes for the sustenance of the internal flames, which, Divine in origin, found unceasing encouragement in

---

[233] Cf. J. Darby, *The Volcanoes or Burning and Fire-Vomiting Mountains*. In the Preface we read that 'The subject and Argument so admirable and curious may excuse other defects'.

[234] *Mundus subterraneus*, Praef. to ch. 3: 'De montis Vesuvil reliquarumque insularum exploratione ab auctore facta'. The value of such subjective interpretations based on first-hand observations is approvingly noted in J. Roth, *Die Ungebung von Vesuvius*, p. 44.

[235] B. Varenius included a lexicon of volcanoes in his own work *Geographia generalis* of 1672.

[236] *Mundus subterraneus*, I, p. 194, an illustrated cross-section of the earth.

[237] Kircher can, on occasions, be dogmatic: 'That there is such a thing as a subterranean fire is so certain that only a philosopher of insane mind could say there is not': IV, ch. 1.

[238] This belief was reflected much later, in 1901, by A. Stubel, *Ein Wort über den Sitz der vulkanischen Kräfte*.

the subterranean 'spiritus'.[239] Occasional wind storms might fan the flames to greater excess, or perhaps some fresh ignition of flammable substance would cause the earth's surface to shake and produce the inner rumbling so often connected with earthquakes, so frequently noticed in the vicinity of volcanoes. This theory rests on Kircher's own observations made in 1638, of the coincidence of renewed activity by Stromboli with repeated shocks on the Calabrian coastline.[240] Similar theories based on identical observations were subsequently formed by Conte Ippolito, Grimaldi and, more recently, Ferrara.

One of Kircher's more curious and bizarre works, *Diatribe de prodigiosis crucibus*, owes its inception to the Vesuvian eruption of 1660. This work, now rare, describes the incidence of cross-shaped or cruciform markings on clothes and even altar drapes which were observed immediately after the eruption. The marks, which were described to Kircher by a Neapolitan Jesuit whose report furnishes the basis of Kircher's book, were found to have penetrated locked chests and shuttered rooms and were often to be noted in great profusion. The whole occurrence was something of a nine days' wonder, with hourly expectation of the approaching Day of Judgment. The event, based this time on Kircher's book, is excitedly described by Hermann Conring in a letter to the Elector of Mainz,[241] in which matters of European import are brusquely placed on one side and dismissed in favour of news of Kircher's work: 'as for the Turkish war, everything is as yet uncertain'. Scientifically regarded, this phenomenon was probably due to fine smuts and ejected particles of dust, which settled on linen and other cross-woven materials on the intersecting lines of the woof and the weft.[242]

---

[239] Later philosophers were to doubt Kircher's ingenious pyro-technology. Cf. Newton, *Philosophiae naturalis principia mathematica*. The subsequent battle of the Plutonists and the Neptunists is described in H. Thiene, *Temperatur und Zustand des Erdinnern*.

[240] Suess, *Das Antlitz der Erde*, vol. 1, p. 113.

[241] Dated Helmstedt: 5 July 1661, in H. Conring[ius], *Anecdota Boine-burgica*, pp. 557–580.

[242] Somewhat more miraculous cruciform apparitions are mentioned in the *Mundus Subterraneus*, VIII. IX, p. 47: 'in the kingdom of the Chinese, shortly before the Gospel of Christ was introduced there, river-crabs in an unusual state of affairs were all seen to have images of crosses on their back in a signally unusual manner…in Japan also, at the very beginning of the preaching of the Gospel, the figure on the cross appeared on cuttings from trees'.

In the tenth book of *Mundus subterraneus*, Kircher devotes himself mainly to mineralogy. Apart from listing some eighty minerals, he gives the results of his enquiry through the medium of Jesuit priests on the temperatures in mines in Eastern Europe. Kircher was one of the first to instigate such an investigation and only in 1704 could definite conclusions be reached by Gensanne who, from observations in the lead mines of Giromagny in the Vosges, concluded that an increase of one degree centigrade was to be noted for each 114 feet in depth.[243] Kircher's answers were less precise but nevertheless encouraging to the Jesuit in his belief about the internal fire. From Chemnitz came the report that in well-ventilated mines the heat was scarcely perceptible but in poor ventilation always noticeable, while Johann Schapelmann of the mines at Herrngrund in Hungary[244] noted a gradual increase in heat in strict ratio to depth, especially in marcasite workings.

Of perhaps greater importance was Kircher's advice that the pathological action of dust in mines should be counteracted by wearing masks.[245] This opinion, although preceded by that of Isbrand van Dismerbroeck (1609–1674),[246] is noted approvingly by Bernardino Ramazzini in 1700[247] and is all the more remarkable when one remembers that only in 1931 was silicosis recognised in England as an industrial disease. Here too, Kircher follows Agricola and precedes Boyle[248] in denying the metallic value of the divining rod. Kircher reports on the divining rod of the Ancients, as may be expected, first in his *Ars magnetica* of 1641, recording various experiments with samples of different metals. Boyle, in turn, tried the rod while walking over known mines, but in vain.

Kircher's *Mundus subterraneus* is one of his more positive works and has consequently been the focus of varied receptions, most of which can be easily omitted since, whether good or bad, their opinions are repetitive.[249] A typically vague, favourable opinion, is delivered by

---

[243] Zittel, *History of Geology*, p. 24.
[244] *Mundus subterraneus*, II, p. 205.
[245] J. Delore, 'Les maladies pulmonaires', p. 46.
[246] *Disputationum practicarum de historiis aegrorum, morbis thoracis laborantium.*
[247] *De morbis artificium diatriba.*
[248] Boyle, *Works*, vol. 5, p. 342.
[249] An unknown seventeenth-century French scholar paid Kircher a decisive compliment in translating this work into French. The manuscript translation extends to nine bulky quarto volumes and is noted by P. Leblanc as 'travail immense, exécuté avec beaucoup de soin': M.J. Bouchard-Houzard, *Catalogue de la Bibliothèque de Feu*, vol. 1, n. 1893.

the *Journal des Scavans*: 'les choses qui sont cachées dans les entrailles de la terre sont aussi admirables que celles qui paraissent au dehors et la connaissance n'en est pas moins utile…c'est pourquoy le P. Kircher s'est appliqué à cultiver cette partie de la physique à laquelle on n'avoit point encore traveillé…il faudroit un Journal entier pour indiquer ce qu'il y a de remarquable dans cet ouvrage'.[250]

Not surprisingly, Morhof's judgement, though similarly vague, is far from favourable:

> Kircher does not fulfil the expectation he had raised by his promises. With open mouth, he promised many magnificent things in *Mundus subterraneus*, but that saying of Horace fits: 'What was to be an amphora ends up barely a jug'. For although the book is huge, it is poor in content, and sometimes omits what is necessary, piles up much that is superfluous, serves up stale repetitions, sows with a miserly hand, copies much from predecessors, and frequently exaggerates.[251]

On the other hand we find the scholarly Mr Oldenburg in 'the Bishop's Head in St Paul's Churchyard where abideth Mr Thompson' bargaining with the bookseller on the 50/- price of the *Mundus subterraneus* ('and yet but one volume'): 'I have already offered Mr Thompson the value of 40/- in books I intend to part with and yet he demurs to make the exchange, though Kircher's book make but one middle-sized volume, the cuts of it being also not very many and most of them in wood'.[252]

Two more of Kircher's works are of some early geographical significance and, despite adverse criticism,[253] contain valuable maps. The one, *Latium*, deals with the immediate surroundings of Rome and the Campagna and is chiefly written from a historical perspective: yet, as its title implies ('geographico-historico-physico-Ratiocinio'), Kircher does not allow his fundamentally antiquarian approach to submerge his various other interests. So, for example, we find remarks on malaria, on marbles and on maps. Two fine cartographical representations are

---

[250] Review in *Journal des Scavans* 26 (28 June 1666): 180

[251] Morhof, *Polyhistor*, ch. 39, p. 433.

[252] Letter to Robert Boyle (dated London, 28 September 1665): Boyle, *Works*, vol. 6, p. 195.

[253] Criticism of the *China illustrata* was strong, Struvius saying, for example: 'Kircher's China is truly a fantasy of the author's. But so it is judged, since Jesuit fathers recently returned [from there] repudiate most of the facts in that book'. Quoted by Feller, in his *Biographie universelle*, vol. 5, p. 75.

the 'Tusculani Territorii Topographia' and the even more impressive 'Territorii Tiburtini Veteris et Novi descriptio'.[254]

The second work is Kircher's more exotically derived *China illustrata* of 1667. Part IV is devoted to the geographical aspects of China and treats, among other subjects, 'de montibus Chinae, stupendisque Naturae, quae in iis observantur, Prodigiis' (IV, ch. 4, p. 169) and, inevitably, 'de lapidum mineraliumque in China admirandis' (IV, ch. 11, p. 205). A comprehensive map of the Empire is shown opposite p. 2: 'Imperium Sinicum in XV Regna seu Provincias distributum', and the full complement of maps is completed by the 'Tabula Geodoborica itinerum a varijs in Cataium susceptiorum rationem exhibens' (p. 47).

[254] *Latium*, pp. 70, 142.

CHAPTER SIX

# A LOVE FOR ANTIQUITIES

Of Kircher's first interests in antiquities we know very little.[1] Certainly his strict Classical upbringing among the Jesuits and his early life in Fulda must have proved strong influences. The Renaissance too had been and passed, with its new appreciation of ancient art. Kircher's mind was schooled—and remained so all his life—in the truths of the past. In his wholehearted interest in Egyptology, we see the strong inclinations of a mind so oriented. Possibly Kircher's first positive influence in this area was Fabri de Peiresc.[2] Peiresc's considerable collection of Egyptological curiosities has already been noted in Chapter 1, and we possess an interesting glimpse of the latter's urge to collect: in an inventory drawn up after his death in 1638, covering a 'quantité de petrifications de feuilles, fruits, fleurs, escrevisses, herissons, poissons, os humains, etc'.

Certainly, in Rome, Kircher found inspiration to devote himself to the study of antiquities. Both the city itself and the surrounding Campagna were dotted with ruins and inscriptions,[3] while in Italy there were to be found the strange and exciting remnants of the lost civilization of the Etruscans.[4] Rome was again a cultural centre. The eyes of Europe were drawn to the galaxy of learned scholars and worldly society that thronged the papal courts, the lesser but often more intensely active palaces of the minor nobility and the cardinals and, of course, the constant retinue of the converted Queen Christina of Sweden.[5]

---

[1] At least one eighteenth-century writer on antiquities calls Kircher 'the great Antiquary': J. Breval, *Remarks on Europe*, vol. 1, p. 81.

[2] We must not forget, however, that Kircher had come across a considerable collection of antiquities, formed by Bishop Julius, during his stay in Würzburg; see Bönicke: *Grundriss*, vol. 1, p. 53.

[3] This aspect of the Roman countryside was to inspire at least two of Kircher's works: *Latium* and *Historia Eustachio-Mariana*.

[4] According to Sommervogel et al., *Bibliothèque*, vol. 4, p. 1073, Kircher was, at his death, preparing to publish an *Iter Hetruscum*, but all traces of it seem to have vanished.

[5] Rome as the cynosure of all eyes was soon disputed: cf. J.P. Ludewig, *Einlitung zu dem teutschen Münzwesen*. '…nöthiger Eifer der Teutschen für römische Sachen und Kaltsinnigkeit derselben gegen ihre eigene Sachen'.

Christina herself possessed an extensive collection of numismatic and antiquarian pieces under the general custodianship of Abbot Pietro Belloni[6] and numbered among her protégés figures such as the Austrian Johann Bernard Fischer von Erlach, upon whom Kircher is said to have exerted valuable influence.[7]

As Kircher's own fame increased, more and more letters found their way to him. They often enclosed curious antiques, coins or inscriptions for his considered judgement. In one instance we hear of a curiously lettered pebble,[8] while on the other hand we see Kircher himself industriously corresponding on 'a dissertation about the tomb of the ancient Furii fairly recently discovered, on Mount Tusculanum,' to no less a figure than Pope Alexander VII.[9] Other letters to the same august personage deal with 'Annuli'[10] or 'sacred vessels found in the tomb'[11] and, in an illustrated letter 'about urns and lamps'.[12] Kircher seems to have devoted himself with good effect to the study of numismatics.[13] Several of his coins, as illustrated in his *Oedipus Aegyptiacus*, were favourably discussed as late as 1781 when Kircher's own speculative attempts at decipherment were handsomely acknowledged under 'Kircher first of all'.[14]

A late eighteenth-century reference says of Kircher, 'tout ce qui portoit l'empreint de l'antiquité, étoit divin à ses yeux',[15] which is certainly near to the truth. This quotation, and much of posterity's reactions to Kircher as an antiquarian, are based on the Musaeum Kircherianum, a varied collection of *objets d'art* and things singular and curious which survived in its entirety in Rome until the early years of the

---

[6] In 1650, Belloni issued, possibly at Kircher's request, a highly pleasing 'Testimonium de Kircheri Obelisco Pamphilio'; see Epist. VII. 114 (Rome, 14 August 1650). For more detail on this point, see Chapter 11.

[7] Von Erlach, *Die grossen Deutschen*, vol. 2, p. 36.

[8] 'Thinking it a benefit for the growth of scholarship, he sent to Rome to Athanasius Kircher of the Society of Jesus a picture of himself and an unusual ornament from a previous century': S. Orsato, *Monumenta Patavina Sertorio Ursati, etc.*, p. 216.

[9] C.D. Fea, *Miscellanea filologica*, 'litteras del P. Athanasio Kirchero', p. 221.

[10] Fea, *Miscellanea filologica*, p. 322.

[11] Fea, *Miscellanea filologica*, p. 324.

[12] Fea, *Miscellanea filologica*, p. 326.

[13] 'There is much in coins and ancient inscriptions that escapes us'! Several purely technical references to Kircher and coins are to be found in: Z. Goetz, *Epistolae de re numismatica*; Goetz, *De numis dissertationes XX*; L. Berger, *Tractatus historico-moralis de numis*.

[14] F. Pérez-Bayer, *De nummis Hebraeo-Samaritanis*, p. 82n.

[15] L.M. Chaudon (dir.), *Nouveau dictionnaire historique-portatif, etc.*, vol. 5, p. 95.

twentieth century when it was dissolved into both the Museo Nationale and the Museo Etnografico e Preistorico in Rome.[16] The Musaeum Kircherianum—'das erste grössere Museum einer vissenschaftlichen Anstalt'[17]—was the name given to the varied collection of curiosities and antiquities acquired by Kircher himself or through princely donations, and which was housed in the Collegium Romanum. It is possible that Robert Southwell refers to this nascent collection when he writes of visiting Kircher in his 'gallery'.[18] Certainly, the Museum did much to keep Kircher's name alive in posterity.[19]

It was, however, first started by Alphonsus Donninus of Tuscany, and our present knowledge of the Museum is due to the patient catalogues of four of Kircher's successors. One of these, Giovanni Battarra, gives a concise account of the actual inception of the collection:

---

[16] On Kircher's Museum, see the following works: de Sepi, R*omani Collegii*; J. Huguetan, *Voyage d'Italie curieux et nouveau*, pp. 88–91; J. Limberg von Roden, *Denkwürdige Reisebeschreibung durch Deutschland, etc.*, pp. 269ff.; F.M. Misson, *Nouveau voyage d'Italie*, vol. 2, pp. 118–121; F. Buonanni, *Musaeum Kircherianum*; B. de Montfaucon, *L'Antiquité expliquée et représentée, etc.*, vol. 1, p. 281, vol. 2, pp. 322, 340–353, vol. 3, p. 52; C.F. Neickel, *Museographia*, pp. 93ff.; B. de Dairval, *De l'utilité des voyages*, vol. 1, pp. 425ff.; Moreri, *Le grand dictionnaire historique*, vol. 4, pp. 457ff.; J.G. Keysler, *Neueste Reise durch Deutschland*, pp. 667ff.; G. d'Artigny, *Nouveaux memoires d'histoire*, vol. 3, pp. 348–351; G.A. Battara, *Rerum naturalium historia*; C. Contucci, *Musei Kircheriani*; J.J. Volkmann, *Nachrichten von Italien*, vol. 2, pp. 393ff.; J. Bernouilli, *Zusätze zu den neuesten Nachrichten von Italien*, vol. 1, pp. 447–448, 274, vol. 2, p. 270; S.A. Morcelli, *Inscriptiones*, pp. 301, 302; Brunati, *Musei Kircheriani inscriptiones*; J. Marchi, *L'Aes grave del Museo Kircheriano*; G. Lafaye, 'Le Musée Kircher'; J. Faucher, *Ein Winter in Italien, Griechenland und Konstantinopel*, vol. 1, pp. 197ff.; Garrucci, 'Catalogo del Museo Kircheriano' and 'Origine e vicende del Museo Kircheriano'; Rinaldi, *La Fondazione del Collegio Romano*, pp. 121ff.; Capparoni, 'Il calamaio di Atanasio Chircher', loc. cit.; Cabrol-Leclercq, *Dictionnaire de l'archéologie chrétienne et de liturgie*, vol. 8, pp. 772–776; von Pastor, *Geschichte der Päpste*, vol. 14, pp. 499ff.; C. Piccirillo, *Il piu antico museo dal Collegio Romano*, No. 4, pp. 17–19.

[17] Duhr, *Geschichte der Jesuiten in den Ländern deutscher Zunge*, p. 594.

[18] Southwell in a letter from Rome of 30 March 1661 to Boyle, in the latter's *Works*, vol. 6, p. 299. Allusions to Kircher's *galleria* abound in his correspondence: one of the earliest references is that made in 1650 by Johann Schega to 'tuum privatum Musaeum': Epist. VII. 156 (Brussels, 19 November 1650); while five years later, anticipating posterity, Nikolaus Kedd SJ mentions the 'Musaeum Anthanasium': XIII. 128 (Mainz, 12 July 1655).

[19] Of this collection, the acrimonious F. Erman says: 'denn diese letzten sind im Wesentlichen sein Werk, und, wenn wir an den litterarischen Produkten Kirchers wenig zu loben finden, an dieser Hinterlassenschaft des eifrigen Mannes können wir uns mit gutem Gewissen freuen. Das Museum Kircherianum wird seinen Namen nicht untergehen lassen': in *Allgemeine Deutsche Biographie*, vol. 16, p. 1882.

> It has happened, besides, that Alphonsus Donninus, a citizen of Tusculanum, formerly secretary to the Senate and People of Rome, has left in his will to the Collegium Romanum many instructive monuments of antiquity. These our Kircher has increased partly through his own efforts, partly thanks to the generosity of various princes, so that quite quickly that collection has grown to such an extent that it is crammed with items from the mists of antiquity, machines for use in medicine, and objects from Nature.[20]

The first account of the Museum to be printed was that by Giorgio de Sepi in 1678.[21] De Sepi had built several of Kircher's mathematical machines,[22] but his catalogue, although well illustrated, indexed and including a 'list of the books which Fr Athanasius Kircher has so far published or, God willing, will publish', is held to be somewhat imperfect.

After Kircher's death, the Museum was neglected and languished, several pieces going astray, until in 1709 Philip Buonanni decided to reorganize and reinforce its contents. In the same year he published a comprehensive, engraved catalogue of the Museum and in his Preface, in talking of 'Fr Athanasius Kircher, a man especially famous for his linguistic skills', he noted, more in sorrow than in anger, that 'after his death what he had collected with such great zeal and toil to the glory of the divine Name and the profit of the literary Republic almost all perished'.[23] Buonanni himself was a noted antiquarian and his works were renowned for their sumptuous and pleasing engravings. Already, in 1696, he had received much acclaim for his massive *Numismata pontificum*, and his zeal and energy in the rebuilding of the Kircherianum did much to re-establish the collection's earlier reputation and stature.

Some 50 years later, two large volumes, which illustrated in greater detail the statuary and vases of the Kircheriana, were published by Contuccio de Contucci, and this work in turn was closely followed by Battara's folio volume, which differed from its predecessors in that it included a 'commentariolum de vita et scriptis Athanasii Kircher'.

---

[20] Battara, *Rerum naturalium historia*, p. 35.

[21] De Sepi, *Romani Collegii*, pp. 65ff.

[22] 'Giorgio de Sepi, dont le père Kircher se servoit pour construire ses machines': review in *Journal des Scavans* (June, 1709): [1f.].

[23] Buonanni, *Musaeum Kircherianum*. The book was reviewed in the *Journal de Trevoux* (October 1709); and is incidentally mentioned in the *Journal des Scavans* (1666, 1672, 1686, 1710, 1718, 1738, 1740).

Both books were, however, valuable contributions to the furtherance of Classical knowledge in the new wave of Hellenistic appreciation sweeping over Europe. An early work to draw upon the treasures of the Kircherianum, as opposed to those entirely dedicated to its appraisal, was published in 1719 by the Benedictine monk Bernard de Montfaucon.[24] Most of the objects illustrated from the Museum were cameos or small pieces of jewellery and it is probable that Montfaucon in turn relied rather heavily upon Buonanni's work. Nevertheless, during the eighteenth century and later, the Kircherianum did attract some learned attention.

In 1777 Johan Bernouilli described the Museum in some detail and added: 'das füllt eine lange Reihe Schränke an, und war ehemals viel merkwürdiger als zu jetziger Zeit, da es so viele weit schönere und reichere Sammlungen dieser Art giebt'.[25] A little earlier, Winckelmann's friend Johannes Volkmann had devoted special attention to the cameos in the collection[26] and his remarks had in turn been enlarged by the Abbot Pizzi in an address to the Paris Académie des Inscriptions.[27] As if in answer to the new wave of interest, a book appearing in Rome in 1783 contained a reproduction of the eulogy to Kircher, and his followers erected an inscription by Cardinal Francis X. Zelada at the entrance to the Museum.[28] In the early days of Baedekke and Cook, one J. Faucher visited the Museum and, impressed at its size and diversity, hazarded the view that 'das Musaeum, welches er wohl hauptsächlich zum Zwecke seiner Vorlesungen zusammenbrachte, ist denn auch eine Sammlung von grosser Mannichfaltigkeit, in welcher fast alle Studienzweige bedacht sind'.[29] Probably the most modern comprehensive description of the Museum is to be found in Cabrol-Leclercq.[30] Here again we find Kircher's statuary and vases lavishly reproduced, although, inevitably, many of the items discussed were introduced into the Museum by Buonanni and his successors rather than by Kircher.

Kircher's obvious love and reverence for antiquity is patent in most of his books. Although this conscious orientation towards the past was to obscure much of his scientific works, there are several productions

---

[24] Contucci, *Musei Kircheriani*; de Montfaucon, *L'antiquité expliquée et représentée.*
[25] *Zusätze zu den neueste Nachrichen aus Italien*, p. 448.
[26] *Nachrichten*, vol. 2, p. 393.
[27] G. Pizzi, *Dissertazione sopra un antico cammeo*, p. 89.
[28] Morcelli, *Inscriptiones*, pp. 301, 302.
[29] Faucher, *Ein Winter in Italien, Griechenland und Konstantinopel*, vol. 1, p. 197.
[30] *Dictionnaire*, vol. 8, pp. 772–776.

in which such a tendency forms the integral motif. Kircher's antiquarian works may be divided into three groups: geographical-historical, biblical and historical, of which each group has two examples.

## Geographical-historical Works

The first book of this type was the comprehensive *China illustrata*, in the composition of which Kircher was aided by Fr Johann Gruber of Linz and Fr Heinrich Roth, 'two German fathers distinguished for their culture'.[31] Such a book was well within the Jesuit tradition.[32] Already in 1577 Matteo Ricci, the 'Apostle of China', had introduced via India Jesuit missionaries into the Land of Cathay. By 1661, under the moderatorship of Adam Schall, there were 38 Jesuit colleges and residences and 151 churches. Apart from the two Jesuits mentioned above, Kircher had numerous other helpers, including Andreas Sin, a Chinese Jesuit, and Joseph, a Christian of the Mogors country, who had returned from China with Fr Roth and, despite his 85 years, was strong and lusty.[33]

The historical interest of the book is centred in Part I, 'The interpretation of a Syro-Chinese monument'. Part II, 'Concerning various journeys undertaken into China', is also historically oriented but lacks the interest of the first part. Part VI is in itself of historical significance, being one of the first attempts in Europe to depict the Chinese alphabet.[34] The first part of the book contains a transcription of the celebrated stone inscription of Si-gnan-fu, the name given to an early Nestorian memorial which, much to the Jesuits' delight, came to light in

---

[31] *China illustrata*, Proem. Kircher corresponded with both these Jesuit missionaries.

[32] For a modern perspective on the value of this work see B. Szczesniak, 'Ath. Kircher's "China Illustrata"'.

[33] Roth spent most of 1666 in Rome before returning to Peking. He was born in Augsburg and from 1653 to 1664 was the Superior of the Jesuit College in Agra; see *China illustrata*, 'Mogore Christianorum moderator', pp. 49, 83, 156. Elsewhere (p. 90), Kircher calls him Rhodius, as does Bayer in *Commentarii Academiae Scientiarum Imperialis Petropolitanae*, vol. 3, p. 392, while François Bernier used the name Roa: *Voyages*, vol. 2, p. 140.

[34] This section of Kircher's work is again dealt with, in great detail by Szczesniak, 'Origins of the Chinese Language'. The first Chinese characters to appear in print in Europe were in J. Golius, *Additamentum Atlas Sinensis*, 1655. In 1663 Jean Caramuel de Lobkowitz in his *Primus columnus* dedicated to Kircher a poem in Chinese characters, with their pronunciation; cf. Kircher's *China*, VI 'De Sinensium Literatura', p. 225.

China in 1625. The veracity of this description has often been doubted and Kircher's version was, among others, severely attacked by the Oriental scholar Yusef Assemani.[35] The stone was first made known in Europe by an early Italian translation of 1631;[36] a faulty version was reproduced by Kircher in his *Prodromus coptus* of 1636 and this in turn was replaced by the full version of 1667. According to modern thought,[37] Kircher's version of 1667, though marred by unnecessary repetition, would seem to be basically correct. It is interesting to note that Kircher's illustrations were the only ones known to Europe until 1886.[38] Perhaps the only other feature worthy of mention in the whole work is the fact that it contains, for the very first time in Western Europe, samples of the Devanagari script in Sanskrit.[39] These examples come from Fr Roth and are entitled: 'Concerning the literature of the Brahmins: the elements of the Sanskrit language elegantly transcribed by the hand of Fr Roth'.[40]

The second book of this nature is defined by Kircher himself as 'geographico-historico-physico-ratiocinio' and is the famous, vastly erroneous *Latium* of 1669.[41] Of it, Niceron wrote, with perhaps some justice; 'dieses Werck sowol, als alle andre von Kircher sind mehr belustigend, als genau und richtig'.[42] Indeed the patient accumulation of errors so exasperated one seventeenth-century antiquarian that he published a list of corrections in an attempt to clarify some of Kircher's more obscure points.[43] However many errors there were, the work was not neglected. Despite, or rather because of, the immense detail

---

[35] J.S. Assemani, *Bibliotheca Orientalis*, vol. 3, pp. 445–446.

[36] L. Gaillaud, 'La Pierre de Si-gnan-fou', p. 115. This first transcription was made by the Jesuit Fr Couplet; see J. Kesson: *The Cross and the Dragon*, p. 16.

[37] I.H. Hall, 'The Syriac Part of the Chinese Nestorian Tablet'; J.E. Heller, 'Das Nestorianische Denkmal'.

[38] On 16 June 1886, J. Thorne made a careful rubbing of the monument, which was published in America in 1887 as the 'Bible House Impression'.

[39] *Prodromus coptus*, III, ch. 7. See T. Zachariae, 'Das Daranagari Alphabet bei Athanasius Kircher'; R. Hauschild, 'Die erste Publikation der indischen Nagari-Schriftzeichen in Europa durch Athan. Kircher und Heinrich Roth', *Wissenschaftliche Zeitschrift der Friedrich-Schiller-Universität*, 5 (1956): 499–520.

[40] *China illustrata*, pp. 162–163. The Sanskrit reproductions in Kircher's treatise were faithfully copied by Chamberlayne and published in his *Oratio Dominica*, p. 21, as an example of the Pater Noster in Sanskrit.

[41] Reviewed in the *Journal des Scavans*, 11 June 1672.

[42] *Nachrichten von den Begebenheiten und Schriften berühmter Gelehrten*, vol. 21, p. 361.

[43] R. Fabretti, 'Dissertazione'. This work, in manuscript, is present in the Vatican Archives and is dated 1672: Chigi N. III, 82.

and patiently laborious descriptions of each landmark in the vicinity of Rome, the book has still preserved much of its charm. Goethe, by using Kircher's *Latium*[44] in the compilation of his essay 'Homers Apotheose', was probably typical of the host of eighteenth-century incipient antiquarians who found valuable illustrations and the occasional fruitful idea in Kircher's works.

One such idea lies hidden among discussions on coins, Christian catacombs and attacks on the pestilential air of the Campagna; it is the first indication we have of the correct location of Lucullus' tomb. This humble chapter heading in the book, 'Tusculanum Lucii Luculli',[45] has given rise to more controversy than the whole work.[46] It is certainly to Kircher's credit that he should associate this villa—Tusculanum—with the name of Lucullus, but he himself is guilty of an incomprehensible error by incorrectly labelling his three accompanying engravings.

The book as a whole is at least evidence of Kircher's own spirit of enquiry. Admittedly much of the content is highly theoretical (cp. Book I, 'de origine et antiquitate Latii', where Kircher muses on questions such as 'who was Hercules?'[47] and establishes the age of Latium and its founding in a strictly orthodox manner, 'calculated from the frequent flooding over the years'.[48] But despite such mediaeval pondering, the book reveals extensive first-hand knowledge of historical and geographical perspectives. It is pleasant to imagine the elderly Jesuit leaving his quiet study to ramble around the tiny Roman villages of the Campagna—perhaps with a patient mule and certainly to the complete astonishment of all who beheld him delightedly tracing a weathered inscription or diligently measuring and recording mysterious proportions.

---

[44] Goethe, *Werke* (Weimar edn.), vol. 49b, p. 25. 1. 14 and p. 257 1. 19; cf. Goethe's letter of 3 November 1827 to Peter C.W. Beuth: 'Um alles auf die Vergötterung Homers, in jenem…wichtigen Marmor dargestellt, Bezügliche sich vergegenwärtigen zu können, wurden die Nachbildungen des Santo Bartoli und Galestruzzi hervorgesucht, nicht weniger was durch Pater Kircher, Cuper, Polenus und andern darüber ausgesprochen worden, woraus denn ein kleiner Aufsatz enstand': *Werke*, vol. 23, p. 145. 15.

[45] *Latium*, II, ch. 5, pp. 72–77.

[46] Kircher's findings and their effect on European antiquarian thought are summed up in G.E. McCracken, 'Lucullus' Tomb'.

[47] *Latium*, I, ch. 3, p. 11.

[48] *Latium*, I, ch. 5, p. 161.

## Biblical Works

Kircher's biblical works have received little attention from posterity.[49] Based on strict orthodoxy and occasionally enlightened by Kircher's own ingenious theories, as for example his 'geographical conjecture about the transformation of the earth after the Flood',[50] they emerge only seldom from the great seventeenth-century limbo of theologically based works.

The first of these treatises, chronologically speaking, came late in Kircher's life. This is his *Arca Noë* of 1675, an attempt to describe and verify the whole episode of the Flood on the basis of the biblical version. Kircher sketches the world and its conditions before the Flood, grows almost lyrical in his description of the valiant Noah and descends to incredible depths in picturing the actual Ark. The measurements are carefully calculated from the indications given in the Bible, while among the animals entering the Ark we see sirens and griffins. This *faux pas*, to be interpreted charitably as Kircher's attempt to hold back the sceptical current by insisting upon the orthodox view,[51] has been met with barely suppressed cries of rage from eminent zoologists.[52]

Kircher's second biblical work, in which we find superb engravings[53] showing the view of Babel as developed by the theological imagination, is his *Turris Babel* of 1679, which has been described by bibliographers as 'très savant et plein de recherche quelquefois etrangère au sujet'[54] and, similarly, 'peu commune et vraiment singulière'.[55] The whole work abounds in the fantastic and the curious. Despite its late date,[56] the book is clear evidence that the author's powers of

---

[49] A startling exception to this statement is the prominence accorded to Kircher's ideas on generation and reproduction, and the evolution of certain species. See his *Arca Noë*, pp. 74–78, 95–97, and ch. 4: 'De reptilium insectorumque varietate, natura et propietate'; see also D. Rosa, 'Il Rev. Padre Kircher trasformista', *Bolletino dei Musei di Zoologica ed Anatomia di Torino*, 17, 421 (1902): [1ff.]; and J. Gutmann, *Athanasius. Kircher und das Schöpfungs und Entwicklungsproblem*.

[50] *Arca Noë*, III.

[51] Wolf, *History of Science, Technology and Philosophy*, p. 298.

[52] J.V. Carus: *Geschichte der Zoologie*, p. 317.

[53] The engravers are I.V. Munnichuysen and C. Decker, who often acknowledges inspiration from the Dutchman I. Cruyl.

[54] Weiss, art. on Kircher in Michaud's *Biographie universelle*, vol. 21, p. 644.

[55] Feller, art. on Kircher in the former's *Biographie universelle*, vol. 5, p. 76.

[56] The 'Typis mandetur' is, curiously, dated 10 February 1672.

imagination showed little sign of diminishing. The book is divided into three main parts. In Book I we find a reasonably calm and judicious survey of 'the history of the period of 130 years after the Flood', but in the second book, on the construction of the Tower of Babel, we can sense Kircher's powers of logic and reasoning succumbing in the struggle with imagination. Kircher writes learnedly on 'different opinions on the height of the Tower'[57] and, to emphasise the essentially prosaic nature of the actual edifice, discourses on various wonders of the ancient world such as 'de turri in civitate Babylonica a Nino et Simiramide'[58] or 'de stupendis fabricarum miraculis…ad Babyloniorum et Assyriorum imitationem semultationemque exhibuerunt'.[59]

Not surprisingly, Kircher finds space and opportunity for a short dissertation on 'pyramides et obelisci in Aegypto erecti'[60] and, after pausing awhile to admire the labour and workmanship of 'a shrine made out of one stone',[61] continues his tour of the ancient science of engineering via the Minotaur's Labyrinth and the Colossus of Rhodes. Somewhat incongruously wedged between an essay on the towns of the Tigris and Euphrates and an introduction to the coronation of Nimrod, we find a tiny chapter on 'Genealogia Noe, Japheth, Cham, Sem, filiorumque. De ortu Phaleg et divisione linguarum et gentium'.[62]

This in turn is a valuable hint of the third book, 'Prodromus in Atlantem Polyglossum', where all restraint finally vanishes and the reader is plunged into a sea of Coptic conjugations, Samaritan syntax and Ethiopian roots, the whole of which is miraculously and conclusively compressed into one 'tabula combinatoria'[63] and rounded off by concise summaries of various ancient and modern, Asian and European and African languages including 'de linguae Germanicae origine, propagatione et corruptione'.[64] Certainly, despite the wonderful engravings, there is little here of positive antiquarian value. It is hardly unkind to say that such a work, at its appearance in 1679, was already severely dated and must have been immediately rejected by the more forward-looking of Kircher's contemporaries.

---

[57] *Arca Noë*, II. III, p. 32. [Following JF in this and the subsequent notes—Ed.]
[58] *Arca Noë*, II. II, ch. 3, p. 51.
[59] *Arca Noë*, II. II, ch. 7, p. 64.
[60] *Arca Noë*, II. III, ch. 1, p. 72.
[61] *Arca Noë*, II. III, ch. 2, p. 73.
[62] *Arca Noë*, II. III, ch. 12, p. 104.
[63] *Arca Noë*, III. I, ch. 6, p. 157.
[64] *Arca Noë*, III. III, ch. 4, p. 212.

## Historical Works

In the *Vita*, Kircher describes his discovery of a ruined church on the 'monte Eustachio' near Tivoli, during his peregrinations in the course of compiling his *Latium*. A small overgrown tablet of marble tells him: 'This is the place where the holy St Eustachius underwent conversion to Christianity. Here the crucified Christ appeared to him on the antlers of a stag. In memory of this the emperor Constantine the Great erected this church, which was solemnly consecrated by Pope St Sylvester in honour of the Virgin and of St Eustachius'. Kircher wonders why such a hallowed place should be so deserted, and is suddenly moved 'in my innermost being' to do something to show his thanks to the Virgin Mary. Consequently, he tells us, he began to reconstruct the church from the gifts of his rich patrons. They help swell the fund of donations he made his purpose clear in the Preface to his history of the church, *Historia Eustachio-Mariana*. Although the renovated church rapidly grew in popularity as a pilgrim centre, there is little worthy of note in the actual book. Possibly the only thing of value in this rare quarto volume is the accompanying engraving of the church itself. The book's remarkable brevity is no doubt due to Kircher's own haste in rushing through its production.[65]

The second work in this sphere is essentially a biography rather than an account designed to be of antiquarian interest. This is, in fact, the obscure and generally forgotten *Splendor et Gloria*, a moving tribute by Kircher to the Spanish Jesuit Antonio Joannes de Centellas of the seventeenth century. Exactly what links bound these two men together is yet to be established. Certainly from Kircher's treatment, the Spanish Jesuit seems himself to have been something of a universal genius. His knowledge of mathematics, social sciences and languages is much praised, as is his diplomacy in handling those of both high and low, spiritual and temporal standings.[66] A slight indication of Don Joannes' passion for antiquarian studies is given in the chapter entitled 'How very knowledgeable Honoratius was about antiquities',[67] but this

[65] Kircher's unique relationship to this church is summarised in A. Vermeersch, *Le Sanctuaire de la Mentorella*.

[66] *Splendor et Gloria*, II. II, ch. 12, p. 200. 'Concerning the reputation of Honoratius in civil and ecclesiastical actions'.

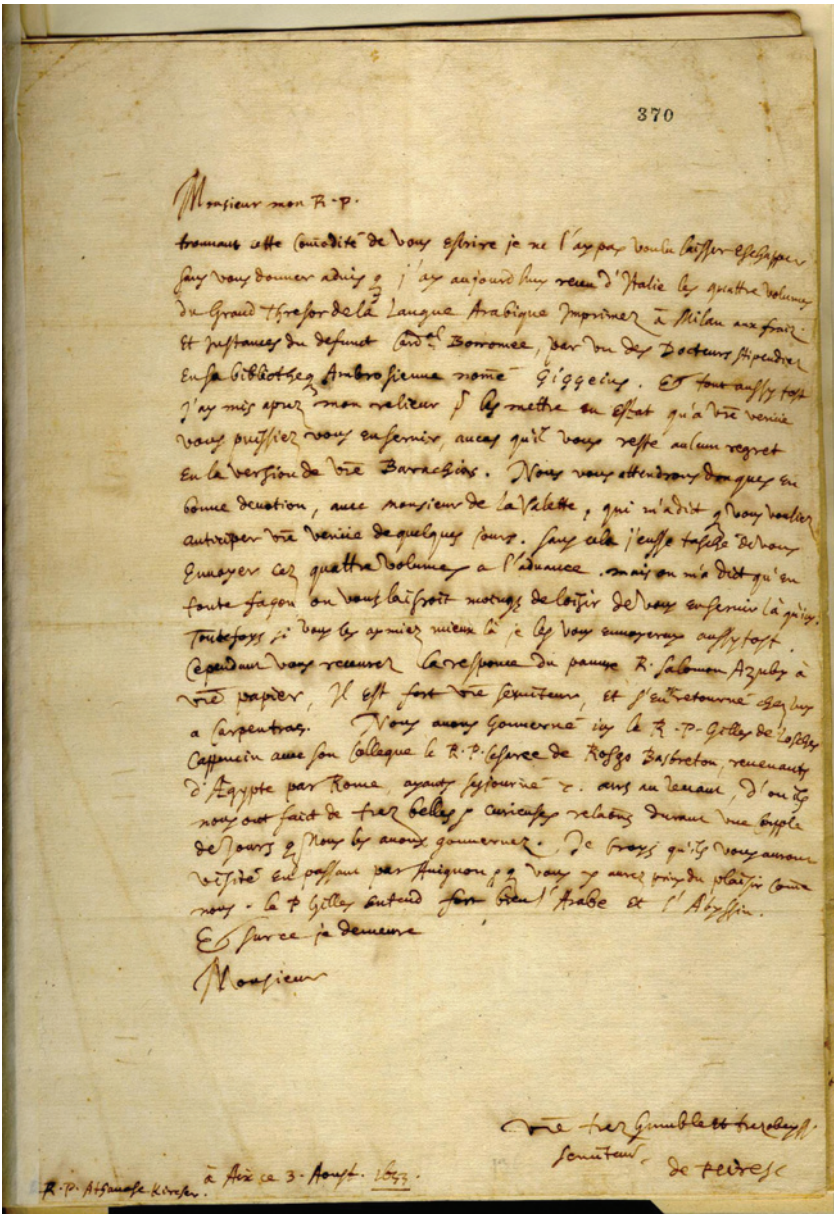
[67] *Splendor et Gloria*, ch. 13, p. 205.

work, for all its eloquence and considerable length, has never played an eminent role in the list of Kircher's written works.

This brief chapter is little more than a sketch of Kircher's antiquarian interests. A history of the Musaeum Kircherianum alone could grow into a small book, while were we to combine Kircher's correspondence on historical matters with the points raised by his various works, all proportion and perspective would be necessarily forfeit. As we must constantly bear in mind when examining one of Kircher's varied interests, each segmented study is merely part of an organic whole.

# PART II

# KIRCHER'S CORRESPONDENCE



370

Monsieur mon R. P.

trouuant cette occasion de vous escrire je ne l'ay pas voulu laisser escapper
sans vous donner aduis q. j'ay aujourd'huy receu d'Italie les quattre volumes
du Grand Thresor de la Langue Arabique imprimez à Milan aux frais
et despenses du defunct Card.al Borromee, par vn des Docteurs stipendiez
en sa bibliotheq. Ambrosienne nommé Giggeius. Et tout aussy tost
j'ay mis apres mon valiseur pr le mettre en estat qu'à vostre venue
vous puissiez vous en seruir, au cas qu'il vous reste aucun regret
en la version de vostre Barachias. Nous vous attendrons donques en
bonne deuotion, avec monsieur de la Valette, qui m'a dit q. vous vouliez
anticiper vostre venue de quelques jours. Sans cela j'eusse tasché de vous
enuoyer ces quattre volumes a l'aduance. mais on m'a dit qu'en
toute façon on vous laisseroit moyens de loisir de vous en seruir la qu'il y.
Toutefoys si vous les aymiez mieux là je les vous enuoyeray aussy tost.
Cependant vous receurez la response du pauure R. Salomon Azulay à
vostre papier, il est fort vostre seruiteur, et s'en retourne cy bas
a Carpentras. Nous auons gouuerné icy le R. P. Gilles de l'ordre
Capucin auec son Collegue le R. P. Cyprice de Rofzo Bastreton, reuenant
d'Egypte par Rome, ayant sejourné 2. ans au Leuant, d'où ils
nous ont fait de fort belles & curieuses relations durant vne triple
de jours q. nous les auons gouuernez, de sorte qu'ils vous auroient
visité en passant par Aix, quand vous y auez esté du plaisir comme
nous. Le P. Gilles entend fort bien l'Arabe et l'Abyssin.
Et sur ce je demeure
Monsieur
Vostre tres humble et tres affect.
seruiteur, de Peiresc
à Aix ce 3. Aoust. 1633.
R. P. Athanase Kircher.

Illustration 1. Letter in French from Nicolas Claude Fabri de Peiresc, Aix en Provence, 3 August 1633 (APUG 568, f. 370r). Peiresc, an antiquarian and early patron of Kircher, writes with news of publications and personalities in Arabic studies.

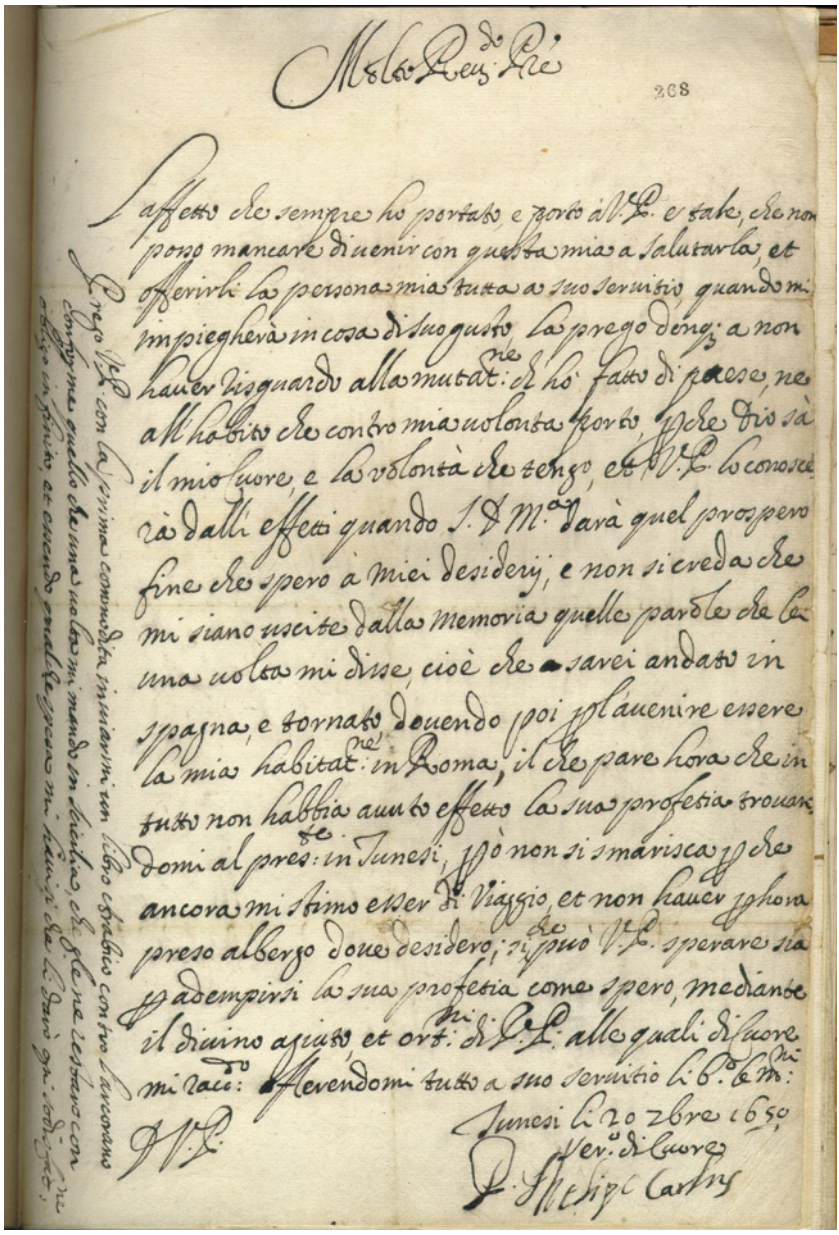
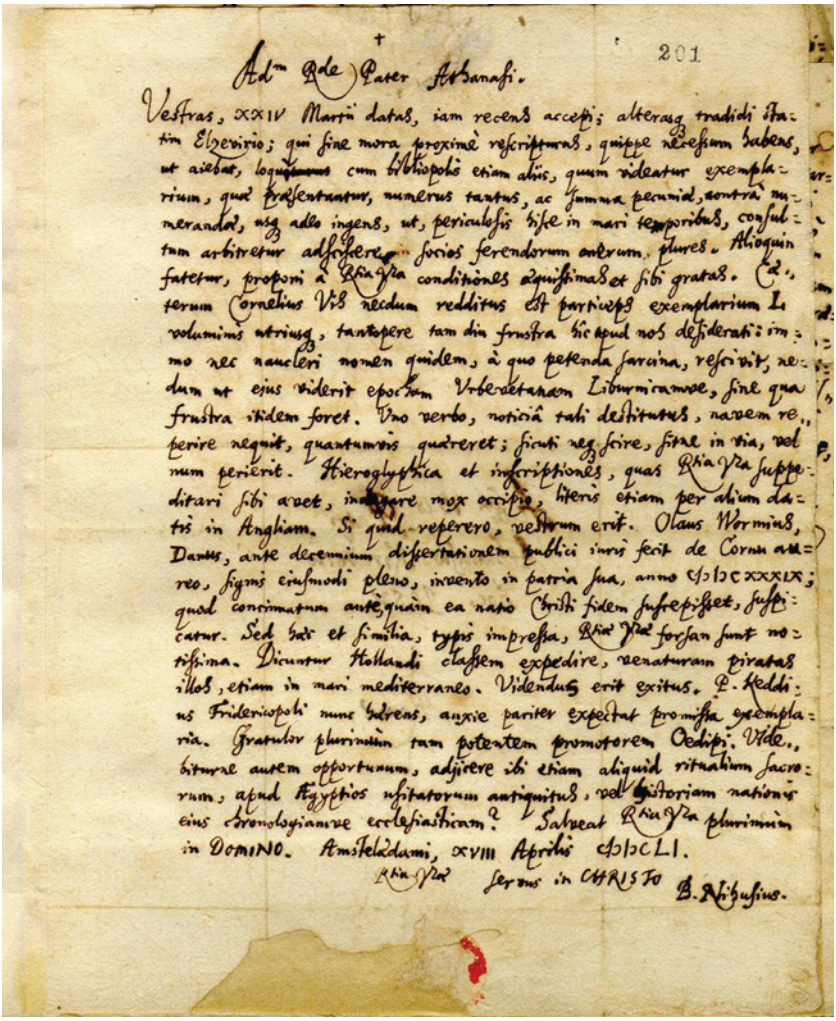


Illustration 2. Letter in Italian from Carlo Filippo, Prince of Tunis, Tunis, 20 September 1650 (APUG 556, f. 268r). The prince, a Catholic convert from Islam, regrets his inability to move to Europe and asks for an Arabic treatise against the Quran.



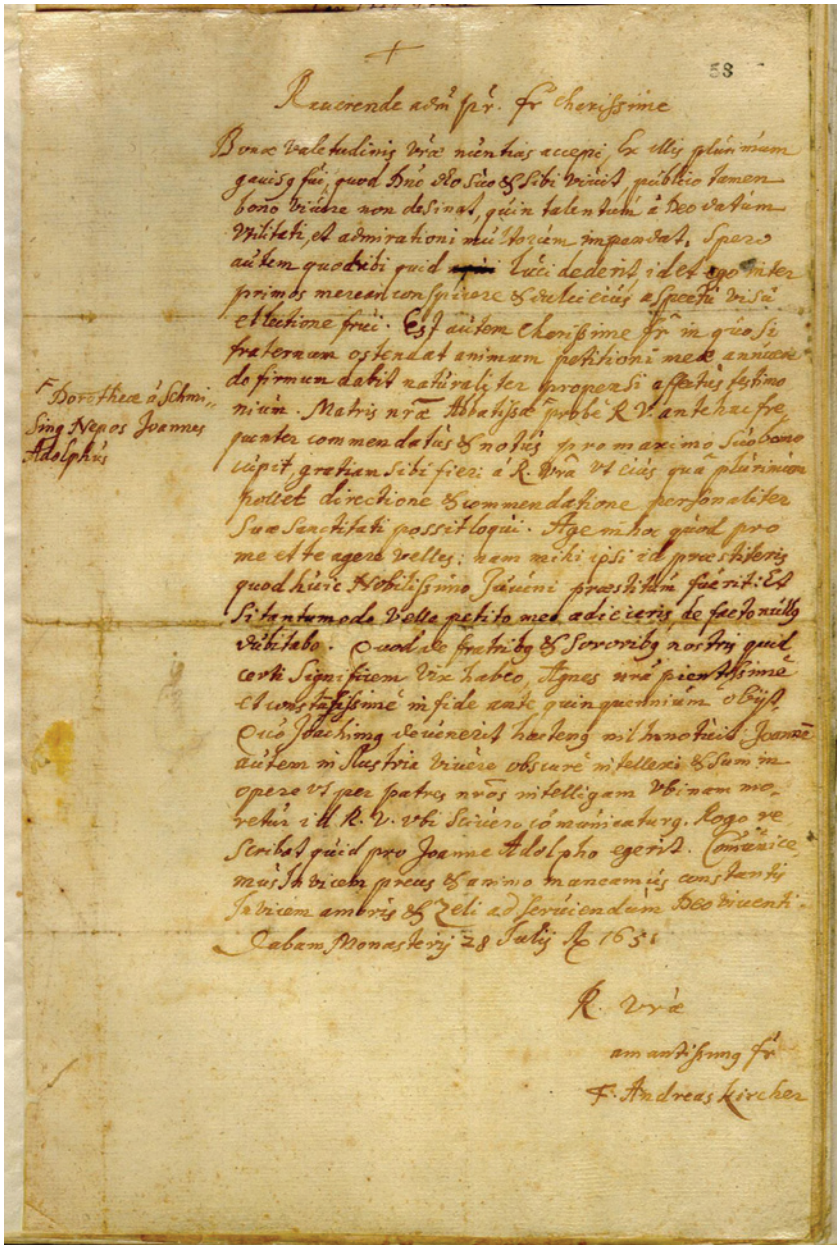
201

Ad m Rde Pater Athanasi.

Vestras, XXIV Martii datas, iam recens accepi; alteraq tradidi Ista-
tim Elzevirio; qui sine mora proxime rescripturus, quippe Regium habens,
ut aiebat, loquimur cum Bibliopolis etiam aliis, quem videatur exempla-
rium, quod praestentur, numerus tantus, ac summa pecunia, contra nu-
merandae, usq adeo ingens, ut, periculosis hisce in mari temporibus, consul-
tum arbitretur adscribere socios ferendorum onerum plures. Alioquin
fatetur, proponi a Ria Va conditiones aequissimas et sibi gratas. Ce-
terum Cornelius Vis nedum redditus est particeps exemplarium I.
voluminis utriusq, tantopere tam diu frustra hic apud nos desiderati: im-
mo nec nauclerii nomen quidem, a quo petenda farina, respivit, ne-
dum ut ejus viderit epocham Urbis Cretanae Liburniamve, sine qua
frustra itidem foret. Uno verbo, notitia tali destitutus, navem re-
perire nequit, quantumvis quaereret; sicuti neq scire, sitne in via, vel
num perierit. Hieroglyphica et inscriptiones, quas Ria Va suppe-
ditari sibi avet, investigare mox ecripio, literis etiam per alium da-
tis in Angliam. Si quid reperero, vestrum erit. Olaus Wormius,
Danus, ante decennium dissertationem publici iuris fecit de Cornu ali-
reo, signis eiusmodi pleno, invento in patria sua, anno CIↃIↃCXXXIX;
quod confirmatum ante, quam ea natio Christi fidem susceperit, suspi-
catur. Sed haec et similia, typis impressa, Ria Vae forsan sunt no-
tissima. Dicuntur Hollandi classem expedire, aeraturam piratas
illos, etiam in mari mediterraneo. Videndus erit exitus. P. Heddi-
us Friderici-poli nunc haereas, anxie pariter expectat promissa exempla-
ria. Gratulor plurimum tam potentem promotorem Oedipi. Vide-
bitur autem opportunum, adjicere ibi etiam aliquid ritualium sacro-
rum, apud Aegyptios habitatorum antiquitus, vel historiam nationis
eius chronologicam ecclesiasticam? Valeat Ria Va plurimum
in DOMINO. Amstelodami, XVIII Aprilis CIↃIↃCLI.

Ria Vae servus in CHRISTO B. Nihusius.

Illustration 3. Letter in Latin from Barthold Nihus, Amsterdam, 18 April 1651 (APUG 557, f. 201r). Nihus, a Catholic convert and apologist, writes about publishers, books, and the hazards of sea travel.



58

Reuerende adm pr. fr cherissime

Bonae valetudinis Vrae nuentias accepi, ex illis plurimum gauisus fui, quod Deo suo & sibi viuit, publico tamen bono viuere non desinat, quin talentum a Deo datum Vtilitati et admirationi multorum impendat. Spero autem quod tibi quid ~~[illegible]~~ Luci dederit idet ego inter primos mereari conspicere & de luce eius aspectu Vrae et lectione frui. Est autem cherissime fr in quo se praeterea ostendat animum petitioni meae annuere do firmum dabit naturaliter propensi affectus fertimonium. Matris nrae Abbatissae pbbe R. V. ante hac frequenter commendatus & nostis fr o maximo suo bono capet gratiam sibi fieri a R. Vra vt eius qua plurimum pollet directione & commendatione personaliter Suae Sanctitati possit loqui. Age mihi quod pro me et te agere velles; nam mihi ipsi id praestiteris quod huic Nobilissimo Juueni praestitum fuerit. Et si tantumodo Velle petito mea adiceris de facto nullo dubitabo. Quod de fratribus & sororibus nostris quid certi significem Vrae habeo, Agnes vra pientissime clarissime in fide ante quinquennium obiit. Quo Joachim deuenerit hactenus nil innotuit. Joanne autem in Illustria Viuere obscure intellexi & sum in opere vt per patres nros intelligam vbinam moretur. Ill. R. V. vti Seruo nominatur. Logo re scribat quid pro Joanne Adolpho egerit. Commanice mus Ch. vicem precus & animo maneamus constanti fervorem ambris & Zeli ad seruiendum Deo viuenti.

Cabam Monasterij 28 Julij Ao 1651

R. Vra

amantissimus fr

F. Andreas Kircher

Dorothea a Schmising Nepos Joannes Adolphus

Illustration 4. Letter in Latin from Andreas Kircher, Münster, 28 July 1651 (APUG 557, f. 58r). Andreas, a monk, was Athanasius's elder brother. He writes with news of their brothers Joachim and Johann, and reports the death of their sister Agnes.

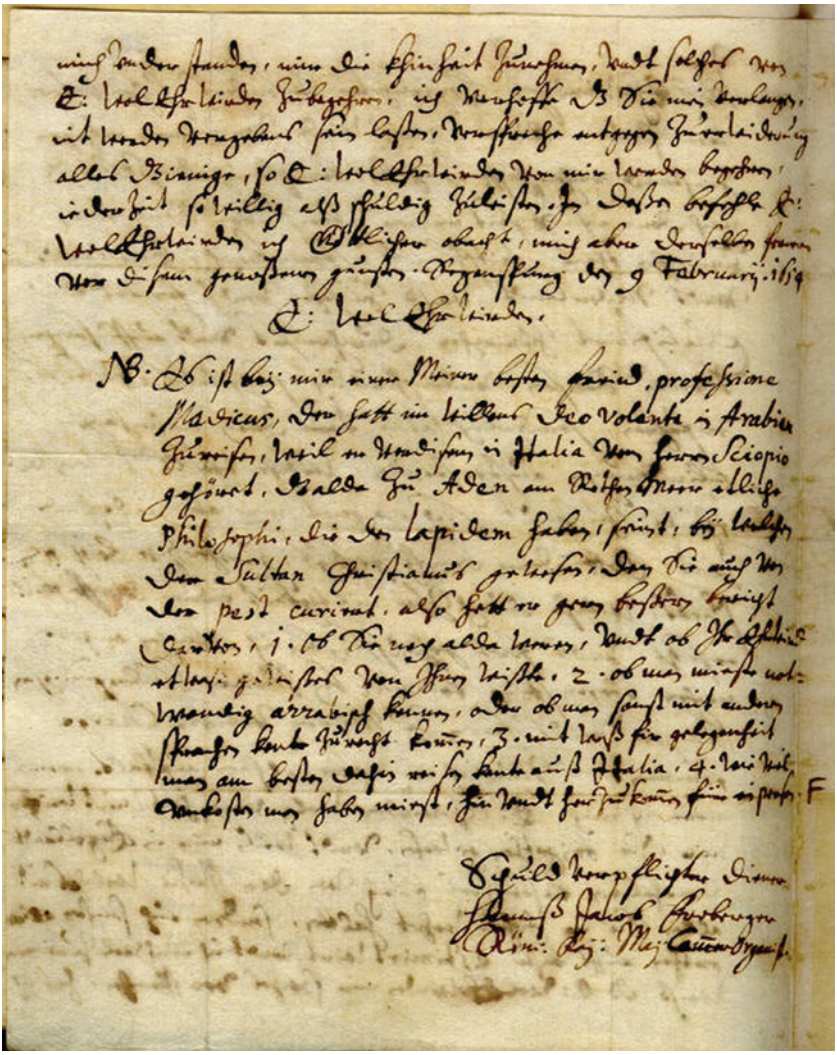


Illustration 5A

Illustration 5. Letter in German from Johann Jacob Froberger, Regensburg, 9 February 1654 (APUG 557, f. 309v). The composer and organist writes with news of his travels and employment, and asks for advice about going to Aden to seek the Philosopher's Stone.

Wohl Ehrwürdiger, Hochgelehrter, Insonders Hochgeehrter
Herr Pater, Eure Wohlehrwürden von meinem jetzigen
Zustand ungefaßt Zugeben, bewegte ich dieselben, es
nach dem ich ~~es~~ seit meiner abreis von Rom einen
ziemlichen theil teutschlandts, Poenkreich, Engellandt
und Niederlandt Krafs zu sehen und ferner mich
Qualificirt zumachen, durchreiset, und auff solchen
Meinen Reisen mandigfaltig so gutes als bösses
erfahren, sonderlich aber ~~auch~~ durch mancherlei
hindernuß aufgestanden, welche theils zu bessern
theils zu landt sich zeigeten, mir aber in dem andern
Zeit Gott dann durch gesagt, gutthätige hilff ein
stiftet, welche durch Ihre mildigkeit meiner dürftigkeit
erfreyt, und fort geholffen, bin ich endlichen anhero
nach Regenspurg kommen, bey Meinem Allergnädigsten
Kaiser und herren zu Meiner Wenigen Charge
kommen. Nun ist mich aber alhier aufgehalten, nun
wann ich mich E: Wohlehrwürden Wolgelegenheit, mit welcher
mir Die zugethan gewesen, und treulich mir in Engellandt
dieselben bestehen durch Von der Music, welche nit
allein Die in hohen werth halten, sondern auch sonsten allen
andern auff beste estimiert haben, und ich mich wol zu erinnern
weiß, es E: Wohlehrwürden mir solches versprochen, habe ich

Multum R.de in X.o P.r

14

Pax Xpi cum

Oedipum Aegyptiacum, Musurgiam, Itinera extatica, ac librum de peste, cum amicissimis RV.i literis accepi: habeoqz quam possum maximas ob tantum, tamqz praeclarum munus gratiarum actiones. Obeliscum Pamphilium, quem RV.a ait, se etiam ad me mittere, non accepi, et doleo; quia expressimè citatur in Oedipo, nec a me consulipotest, nisi RV.i munificentia etiam illum huc transmittat, Cum Magnete quarcum excuso, et auctor, qui crebro etiam a RV.a in istis quos habeo, Laudatur. Quid vero sentiam de huiusmodi summi ingenij foetibus, non minus arduum mihi est, dicere, quam exiguâ immensum Oceanum includere concha, vel in infinitum exponere ex florum membranas in exiguas charculo brevissimo angustias contrahere. Cum legero, et legam quamprimum in posterum tam enim pene omnes compacti sunt, scribam ad R.am V.am nisi stupor, quem certò conijcio perculsurum admiratione mentem meam, etiam motum manui meae denegat ad scribendum. Dicam praeterea non parua, nec contemnenda de novo hac orbe, video enim Patres Nostros non satis ex amussi R.am V.am direxisse in notitiam Indorum Vestrorum, deqz solis resultis mexicanis qui vltimi et non multum ante hispanos huc appulerunt de etemitis qui primi a diluvio novam hanc hispaniam incoluere nihil dictum, nec de eorum lingua, quam ego linguarum omnium sufficiissimam et copiosissimam esse arbitror. Et ad reficiendas R.a V.a vires longis, gloriosisqz africas laboribus mitto 25 libras chocolate de meliore nova, saccharum veruj immiscerj nec marcore per itinera maritima vitiaretur; parum admodum piperis nostri, quod Chile vocamus, miscetur, ne secum noceret summâ curâ a me pussum fieri vt RV.a prodesse possit et vitam eius, longè mihi, meâ chariorem prorogare. vt emittere possit in lucem humanae celebriatis reliquos quos promittit ingenij sui foetus ad maiorem Dei optimi nostrqz boni gloriam Angelopolj in nova hispania 20 Aprl. An. 1661

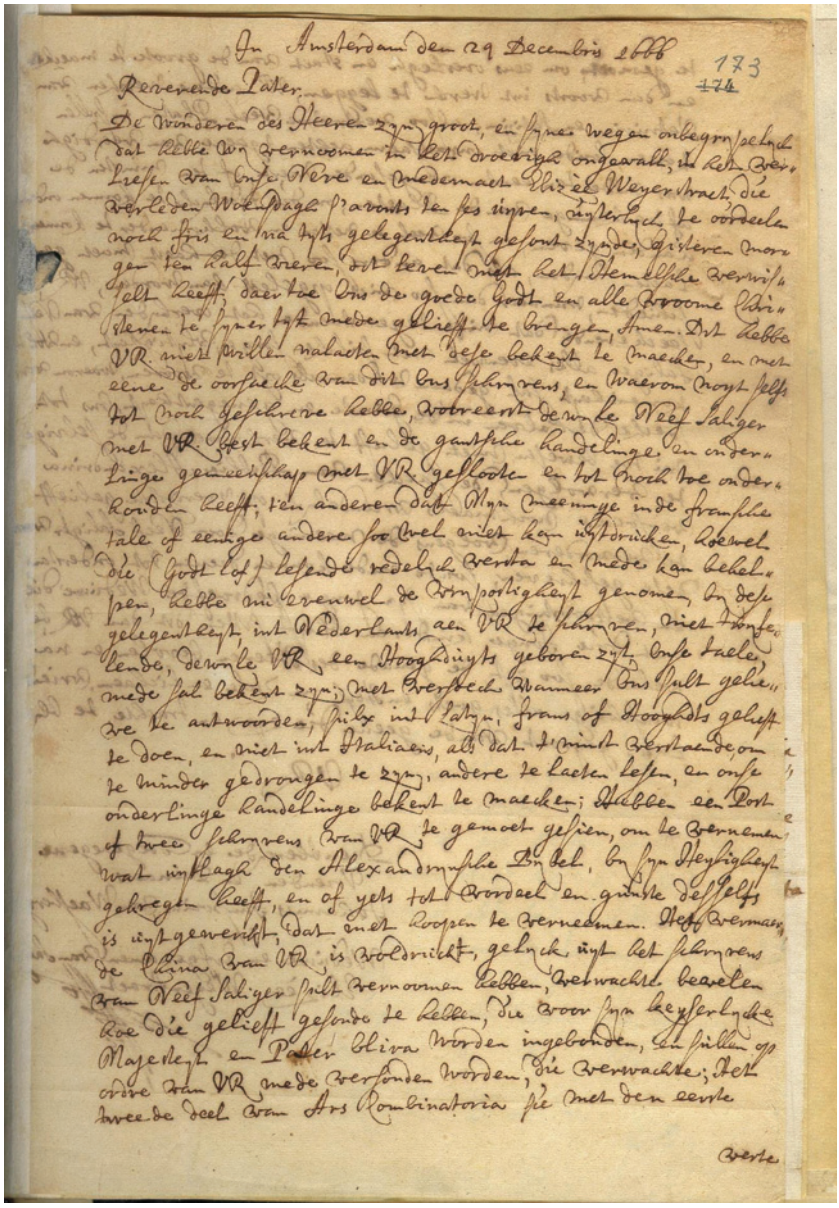
R.de in X.o P.r

Reverentiae vestrae

Amantissimus frater ac servus in Dno.

Franciscus Ximenez

Illustration 6. Letter in Latin from Francis Ximénez, Los Angeles, Mexico, 20 April 1661 (APUG 562, f. 14r). Ximénez, a French Jesuit, acknowledges the receipt of Kircher's books and promises him a shipment of chocolate and chili peppers.



In Amsterdam den 29 Decembris 1666

173
~~174~~

Reverende Pater,

De wonderen des Heeren zyn groot, en syne wegen onbegrypelyck
dat hebbe wy vernomen in het droevigh ongeval, in Rom voor-
leden van onse Vere en medemaet Elizabet Weyerstraet, die
verleden Woensdagh s'avonts ten ses uyren, zynder bed, te voorsien
noch fris en machtyts gelegentheyt gesont zynde, d'ysteren mor-
gen ten half twee, uit leven met het Hemelsche vermis-
selt heeft, daertoe ons de goede Godt en alle troome Ver-
steuen te sparen mede gelieft te brengen, Amen. Dat hebbe
VR. niet willen nalaten met dese bekent te maecken, en met
eene de oorsaeke van dit ons schrijven, en waeron mogt selfs
tot noch geschreven hebbe, vertreurt derwyle Neef Saliger
met VR. zeer bekent en de gantsche handelinge, en onder-
linge gemeinschap met VR. geslooten en tot noch toe onder-
houden heeft; t'een andere dat Myn meeninge inde franssche
tale of eenige andere soo wel niet kan uytdrukken, hoewel
die (Godt lof) lesende redelyck verstaa en mede kan behel-
pen, hebbe nu evenwel de vryporligheyt genomen, en dese
gelegentheyt, int Nederlants aen VR. te schryven, niet tonse-
lende, dewyle VR. een Hooghduyts geboren zyt, onse taele
mede sal bekent zyn; met verbeet waneer ons sulx gelie-
ve te antwoorden, sulx int Latyn, frans of Hooghduts geliefte
te doen, en niet int Italiaens, als dat d'minst verstaende, om
te minder gedrongen te zyn, andere te lacten lesen, en onse
onderlinge handelinge bekent te maecken; Hebbe een Dort
of twee schryvens van VR. te gemoet gesien, om te vernemen
wat inslagh den Alexandrynsche Bibel, by syn Heyligheyt
gehouden heeft, en of yets tot voordeel en gunste desselfs
is uytgeverkt, dat niet hoopen te vernemen. Neff vermaes
de Plina van VR. is voldoeckt, gelyck uyt het schryven
van Neef Saliger sulx vernomen hebbe, verwachte beveelen
roe die gelieft gesonde te hebben, die voor syn keyserlycke
Majesteyt en Pater Oliva worden ingebonden, en sullen op
ordre van VR. mede verfonden worden, die verwachte; Het
tweede deel van Ars Combinatoria sie met den eerste

verse

Illustration 7A

Illustration 7A. Letter in Dutch from Johannes Jansson van Waesberghe, Amsterdam, 29 December 1666 (APUG 562, f. 173r and v). Jansson, who published most of Kircher's later works, reports on their progress and on that of the polyglot Bible.

te gemoet, om eens overleghe en staet van de groote te maecken,
en dan voorts int werck te leggen, VR andere werken van
Hebreuwsche en Latijn, alsoo verstraine veel Plaeten in sullen
komen, sonde niet onpaetsaem achten, t geene van voorsigho
was mede den eersten overgeleyden wiert, of ten minsten de
afsaechenninge van de Plaeten, om die indelingh te komen onder
handen geven, om soo veel te netter en volkomender te komen
laeten vinden, als dat anders soo met der haast mocht gee
schiedt, wanneer dan soo vrich opgelett dan worden, VR
seechende dat niet tegenstaende het overlijden
saliger alles evenwel met sulcken sorge, vlijtigheyt,
komentheyt sal gedaen worden als oyt te voren, w
soecke derhalven in de grondt en genegentheyt, ons tot
mi toe bewesen, niet gelieft te verkonnen, dan de selvige
te vervolgen, de paeden van Biblia Alexandrina
versoecke nochmaels vriendelijck, ons yverigste gelieft
te verorderen, volgens de meeninge door weef saliger van
deze geschreven, sonde mede konnen dienen tot onderstant
en verstroostinge van sijn jonge bedroefde Weduwe die
met drie jonge kinderen blijft sitten, ons dan VR be
velende, soo zijt de genade des Heeren bevolen, en na
wenschinge alles goets en heyl na ziele en lichaem, vriende
lijck gegroet van de geene die zijn en trachte te blive

VR.

Dienstberende en toegenegene
Vrienden en Dienaers
Johannes Jansonius van Waesberge
en
Weduwe en erfgenamen van saliger
Elizee Weyerstraet

Illustration 7B

Beatissime Pater

102

Elisabetha prosapiâ Palatina, Ducis Lunchorgentis Vxor, etsi catholica fide
nondum imbuta ab ea tamen non alienâ, virorum Literatorum praesertim
Soc. nostrae, quibuscum iam diuum in Germania assueuerat commercium ambit,
quod quidem meliuis non se consequi posse putat, quam si nostrum in Collegio Rom.
et domo professa musaeum et Bibliothecam uisendi facultas daretur; respondi eius-
modi facultatem neq; me, neq; P. Generalem, neq quemquam alium concedere posse
utpote soli Summo Pontifici, cui iure eclisionis omnes subimur, reseruatam; subiun-
xit illa, et quis tandem mi pater modus esse posset, ut uotorum meorum compos
fiam? equidem suae sanctitati haud illibenter supplicarem, verum cum acatholica
sim, uertor ne temeritatis meae poenas luens, non sine rubore repulsam patiar; ad haec dixi:
Suam beatitudinem, pro innata sibi benignitatis et clementiae affectu, quo uti omnes
ita potissimum Germaniae Principes paterne complectitur, dictam facultatem haud inuito
animo concessuram; subdit illa, si ita est pater, tuarum partium erit, hanc a sua
sanctitate meo nomine facultatem obtinere; dixi me, quantum tenuis perioae meae
conditio permitteret in gratiam suae celsitudinis item tentaturum.
Hisce itaq; Sanctissime Pater, Beatitudini vestae anxium huius feminae desiderium exponen-
dum duxi; ea qua possum animi submissione supplicando, ut cum ipsa aliarum gratiarum
Spiritualium, incapax sit; hanc ipsi solam pro suo in omnes affectu ueteri paterno considere non
dedignetur; ubi enim bona uolentes, bonorum operum sanctarum, resolutionum radix est; ita quoq;
tum ex huius nobilis feminae bona uolentis affectu, tum ex facultate, quam Deo instante petit
a Beat.du Vra ipsi concessa, insigne aliquid bonum ad diuini nominis et sanctitatis uestra gloriam
emanaturum confido. ita uouet
Sanctitatis Vrae

omnium fidelium et obseq.mus
seruus
Athanasius Kircher

Illustration 8. Autograph copy of a letter in Latin from Kircher to Pope Alexander VII, Rome, undated (APUG 555, f. 102r). Kircher asks permission to admit to his museum Princess Elizabeth of the Palatine, wife of the Duke of Lüneburg, who is a Protestant.

Serenissimo Principe

58

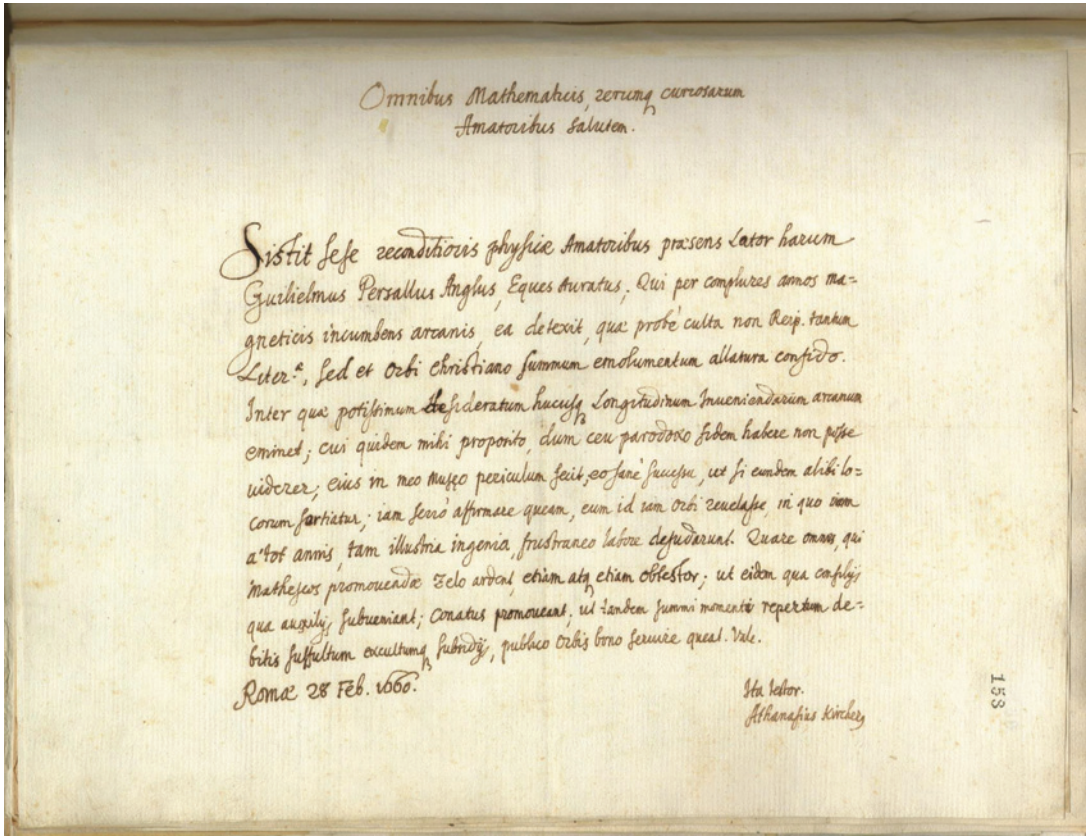
Con occasione della partenza del Ser.mo Sig.r Gio. Paolo Card.le inviai à V.a Alt.za Ser.ma una delle mie opere nouamente uscita in publico intitolata Itinerarium Extaticum acciòche servisse à sua Alt.za non tanto per pascere il suo subtile intendimento, quanto per hauerne V. Alt. sui.ma questo nuouo pegno, quanto lo stesso della mia osseruanza, e mai interrotto affetto di servitù. E uscita la detta opera alla publica luce del mondo non tanto per proprio indrizzo, quanto per la curiosità lodeuolissima della Maestà del Imperatore mio Sig.r La quale già un pezzo me sollecitò con grand'instanza, ad esporre la mia sentenza ò opinione intorno la natura, composizione, e fabrica de globi celesti, cioè de pianeti e stelle fisse; hò messo in esecuzione quello che la sua Maestà à lungo commendato, con che successo non tocca à me di interessarmi, hà il tutto sottoposto al giudicio de periti. Questo posso asserire che hò hauuto sempre per filo d'Ariadne le esquisitissime osseruationi del famoso Galileo Mat.co di V.a Alt.za, onde spero che per questa cagione ne sarà riuscito a sua Alt.za, e se la V.a Alt.a aggiudicarà questa mia picciola fatica, non ciò altro sarà che di seruirsi di nuouo sprone ad imprese maggiori. Mi sopragiunse alquanti giorni poi la presente Flora Vinesis da Vienna, raccomandatami dal R. Padre Redd. di Nostra Compagnia, per inuiarla à V. Alt. di sua mano, e con questa presente mi sciolgo di questo debito in particolare, godendo estremamente in vedere che V. A. da mie parti del mondo con perquisite curiosità venga ricercata per conformarsi longa serie d'anni felicissimamente all'honore di Dio all'ingrandimento della Serenissima casa à pro de suoi sudditi fedeli con i quali vantandomi inchino humile con profonda riuerenza prego à Sua Alt. Ser.ma dal cielo ogni colmo di felicità.

Roma 15 di Giugno 1656.

Di V.a Alt. Ser.ma

Seruo humile et affet.mo,
Athanasio Kircher

Illustration 9. Autograph copy of a letter in Italian from Kircher to Grand Duke Ferdinand II de' Medici, Rome, 15 June 1655 (APUG 561, f 58r). Enclosing his *Itinerarium exstaticum*, Kircher credits Galileo's "exquisite observations" as his "Ariadne's thread."



Omnibus Mathematicis, rerumq; curiosarum
Amatoribus Salutem.

Sistit sese recondioris physicæ Amatoribus præsens Lator harum
Gulielmus Persallus Anglus, Eques auratus; Qui per complures annos ma-
gneticis incumbens arcanis, ea detexit, quæ probe culta non Reip. tantum
Lit.ae, sed et Orbi christiano summum emolumentum allatura confido.
Inter quæ potissimum desideratum hucusq; Longitudinum Inveniendarum arcanum
enimvero; cui quidem mihi proposito, dum ceu paradoxo fidem habere non posse
videretur; eius in meo Musæo periculum fecit, eo fere successu, ut si eundem alibi lo-
corum fortiatur; iam ferò affirmare queam, eum id iam Orbi revelasse, in quo tam
a'tot annis, tam illustrium ingenia, frustraneo labore desudarunt. Quare omnes, qui
Matheseos promovendæ Zelo ardent, etiam atq; etiam obtestor; ut eidem quæ consilij
quæ auxilij, subveniant; Conatus promoveant, ut tandem summi momenti repertum de-
bitis suffultum excultumq; subsidijs, publico Orbis bono serviat quod. Vale.

Romæ 28 Feb. 1660.

Ita Lector.
Athanasius Kircher

158

Illustration 10. Autograph copy of a letter in Latin from Kircher to "All Mathematicians and lovers of curiosities" introducing Sir William Persall, Rome, 28 February 1666 (APUG 563, f. 158r). Persall was a founding member of the Royal Society. Kircher praises his studies in magnetism and the determination of longitude.

CHAPTER SEVEN

# KIRCHER'S CORRESPONDENCE

The letters of Athanasius Kircher are housed in the Archives of the Pontificia Università Gregoriana in Rome.[1] This, the lineal descendant of Kircher's Collegium Romanum, is one of the five papal universities in Rome and is administered by the Society of Jesus. The students who attend courses in this imposing building are novice priests drawn from the four corners of the globe. The lectures they hear are given in Latin; public notices, the university newspaper and library slips are similarly in Latin.

Kircher's correspondence is bound in fourteen bulky folio volumes (Mss 555–568). This would seem to date from Kircher's own day for, in 1678, Giorgio de Sepi notes that Kircher's letters were present in the Musaeum Kircherianum and were collected into twelve large folios. Little is known of the subsequent history of these letters. One of the present volumes (3, no. 557) bears the device 'ex Bibliotheca privata P. Petri Beck', but of this nineteenth-century appropriation (Beck died in 1887) we know little. Each volume was preceded by a spidery manuscript index, since superseded by a typewritten version, which has, however, preserved many of the original errors.[2]

The letters, which span Kircher's residence in Rome, 1631–1680, know of no order, either chronological or alphabetical, and are seldom grouped together even when written by the same correspondent.[3] Many of them bear their original seals, while several are mutilated

[1] These manuscripts were readily made available to me by the late Archivist of the Gregoriana, Fr Vincenzo Monachino. I am particularly grateful to Fr Marcus Dykmans, Librarian 1961–1966, for allowing me to work in the library during certain hours when it was normally closed. [The new index to Kircher's letters by W. Gramatowski and M. Rebernik (GR) was unknown to JF and its manner of citation—apart from the dates—is different.—Ed.]

[2] For de Sepi, see his *Romani Collegii Soc. Jesu Musaeum celeberrimum*, p. 65.

[3] The first two volumes (555–556) consist mainly of letters written to Kircher by his more noble correspondents, the third (557) and fourteenth (568) contain letters of scientific interest, while those bound in the thirteenth folio (567) were mostly written by Kircher's fellow Jesuits. Beyond this arbitrary and often inconsistent grouping, little is in logical sequence.

or otherwise imperfect. Every letter and document was examined. The voluminous nature of Kircher's correspondence is shown in the sheer number of letters: 2143 letters written to Kircher; 148 written by him and usually preserved as draft copies; 763 correspondents, 436 of whom (57%) have only one letter preserved. The letters are written in several languages: Latin 1349 (63%); Italian 622 (29%); Spanish 64 (3%); French 52 (2.5%); German 33 (1.5%); and Dutch, Armenian, Persian, Arabic, Chinese, Samaritan, Coptic, Greek, Chaldaic, etc. 23 (1%). Kircher's own letters, preserved in these archives in draft form, are invariably written in Latin.[4]

[4] In 1940 there appeared a brief article on the fourteen volumes of Kircher's correspondence: Gabrieli, 'Il Carteggio Kircheriano'.

CHAPTER EIGHT

# LETTERS FROM PERSONS OF QUALITY

Athanasius Kircher's more select correspondents include emperors, princes, a queen, several popes and a host of cardinals, prelates, abbots, minor dukes, counts and landgraves. This glittering galaxy of European celebrities was inevitable in the days of court patronage. On the one side Kircher actively appealed to the secular world for aid and monetary advancement; on the other, his fellow priests and ecclesiastical superiors showed a lively and appreciative interest in the Jesuit's activities 'in republica litteraria'. Much of this correspondence is taken up by letters of formal thanks and acknowledgement, sometimes in appreciation of a personal dedication, sometimes merely in the grateful receipt of a text. Often—and this too is typical of an age where high-born people took an active interest in the furtherance of human knowledge—their letters contain questions on various scholarly topics. Many letters impart as much information as they wish to receive, which in turn was readily absorbed by Kircher and often put to use in his own bulky volumes.

Kircher's most eminent ecclesiastical writer was without doubt Pope Alexander VII, formerly Fabio Chigi (1599–1667). This Pope, whom posterity has accused of being too fervent a supporter of the papal practice of nepotism, became the Secretary of Innocent X and served as Papal Nuncio in Malta, Ferrara, Cologne and Münster. He was actively concerned in negotiations leading to the Peace of Westphalia (1648) and his letters to Kircher date mainly from that period. During his stay in Northern Germany he visited Kircher's brother Andreas, who as a Capuchin monk tended to the spiritual welfare of the inmates of a convent of the Sisters of Clare at Münster.[1] In a letter written during the same year he thanks Kircher for the receipt of his 'Arbor Soc. Jesu horologiam'[2] and draws his attention to a similar, more elaborately constructed example made in cylindrical form by P. Heinrich Modersohm. In his letters, he constantly writes of recent scientific works

[1] Epist. II. 27. Münster (10 September 1646).
[2] II. 13. Münster (9 March 1646).

and usually appends his own anxious desires to see the new Kircherian productions.

There is a marked decrease in the number of Chigi's letters once he had entered on his pontificate (1655). Four very hasty and sketchy letters are preserved, written in pencil in a sprawling, ungainly hand,[3] but these merely contain reiterated acknowledgements of literary gifts from Kircher; just as, in a letter written two years before his death, he thanks the Jesuit for the gift of his *Life of St Eustace* and adds, graciously, 'è molto erudito, scripto come è costume della sua penna'.[4] In an earlier letter, written from Münster, he thanked Kircher for the part taken in the General Congregation of that year: 'I therefore thank your Reverence. I also congratulate you on the successfully completed General Congregation: may it be favourable and fruitful in the Lord'.

In another sphere of society, a letter written by Wenceslaus Ardensbach von Ardensdorff, a Bohemian nobleman, was reasonably representative of the letters written from this type of minor noble.[5] In this informative letter, Ardensbach discourses on chemistry, drawing freely on Kircher's own *Mundus subterraneus*, and mentions a foundation erected in Frankfurt for the coronation of Leopold as Emperor of the Holy Roman Empire. The writer's own affinities become clear when he elaborates the theories of Dr Zwelfer contained in a new edition of his *Pharmacopaea* on the prodigious alchemical practices of Ferdinand III, who had successfully and strikingly produced two and a half pounds of gold from one grain of tincture of mercury. Kircher's own views on the practice of alchemy were already public at this time (see Chapter 5).[6]

Two letters are preserved from yet another noted patron of the science of alchemy, Maximilian Heinrich von Wittelsbach, Archbishop of Cologne, who died in 1688 after a lifetime of struggle and conflict with both Church and Holy Roman Emperor. Both letters acknowledge the receipt of books;[7] the second more expressly records the arrival of *Mundus subterraneus*, the *Historia Eustachio-Mariana*, and one 'which is about occult mysteries of numbers', a reference to Kircher's *Arithmologia*. This same letter records the return to Cologne of the

[3] I. 12–16 (without dates).
[4] I. 32. Castel Gandolfo (16 May 1665).
[5] X. 95. (Brno, 17 October 1668).
[6] *Mundus subterraneus*, X.
[7] Epist. I. 73 (Bonn, 29 July 1663).

Rhenish Vicar-General from Rome and his consequent benevolent regard for Fr Kircher.[8] A similar letter of thanks was sent by Cardinal Brancaccio,[9] who had forwarded a letter from Kircher by Fr Valentinus Stebaer: 'he added, besides, the golden works of your admirable talent and erudition about the triple magnet, which you wanted me to have as a gift'.[10] An undated letter from Bernard Gustav, Cardinal Archbishop of Baden,[11] thanks Kircher for his letter of the preceding year and expresses delight at the gift of several of his works: he comments on Kircher's growing fame ('as the subtleties of your Reverend's genius have shone out in different parts of the world') and wonders in what way he can repay his kindness and so deliver himself from such pressing obligations.

One of Kircher's more active ecclesiastical patrons was Cardinal Francesco Barberini (1597–1679), who, despite his chaste and sober way of life, fell into disfavour with Innocent X and had to leave Rome for France in 1646. There he became, under Mazarin, the Queen's Almoner, which did little to further his cause in Rome. In 1633 Barbarini had, at the prompting of Peiresc, interceded with the papal and Jesuit authorities to have Kircher sent to Rome instead of Vienna. This plea was successful and the young Jesuit, who was so actively interested in solving the secrets of the hieroglyphics, came instead to Rome. Surprisingly, only one letter is preserved from this cardinal, and this was written from Rome in November 1637. Enclosed with the letter is a copy of a Coptic Psalter, 'which has shown me on this occasion new proof of your kindness. Great thanks to you'.[12] One of the more learned and modest cardinals of Kircher's days was Carlo de' Medici (1596–1666), Cardinal of Florence, who, becoming a cardinal at the age of 19, dedicated his life to the Church rather than to princely society. He was a deep admirer of Kircher's learning and religious fervour and interested himself, as the solitary letter still preserved from him reveals, in the religious conversion of the King of Tunisia, with whose son Kircher, as we have seen, was in communication.[13]

---

[8] I. 101 (Bonn, 13 December 1663).
[9] X. 34 (Viterbo, 3 February 1664).
[10] This was Kircher's *Magneticum naturae regnum*, published in 1667.
[11] Epist. XI. 24.
[12] II. 104 (Rome, 7 November 1637).
[13] X. 38 (Rome, 7 June 1659). There is in fact a brief factual note on Seidi Mohammed, King of Tunisia, compiled by Fr Lelio da Treviso from Kircher's information under XIV. 272.

A rather avuncular note is struck in a letter written by François-Amédée Milliet, Archbishop of Tarentaise, to thank Kircher for befriending his brother, Fr Claudius Franciscus Milliet de Challes. The Archbishop is deeply conscious of the honour thus rendered to the family by correspondence with a man 'famous throughout the world for his exceptional learning'.[14] At the same time, this letter is of interest in that it reveals that the stored correspondence in Rome is by no means complete. Although this prelate speaks of Kircher's 'humanissimas litteras' to his brother, there are no letters extant in Rome from this correspondent.

In 1650, Ludovicus Henricus, Count of Brienne (1635–1698), who at the death of his wife in 1665 was to resign his position as Secretary of State to Louis XIV of France and retire into the Order of the Oratorians,[15] wrote to Kircher, hoping thereby to initiate a 'commercium literarium'[16] with a man whose works filled the whole world with applause ('mox incredibili cum voluptate libros legi, quos unico totius orbis plausu edidisti') and who was to be found at Rome surrounded by the mysteries of nature and of the higher sciences ('Te Romae in museo naturae mysteria legibus matheosos componentem suspexi'). Since this is the only letter preserved from this noble writer, it would seem unlikely that Kircher accepted his pressing invitation. A slightly more formal letter of praise is extant from the Elector of Trier, Karl Kaspar.[17] He had received by messenger a copy of the book 'which with wonderful power deals of things hidden until now in the bowels of the earth' and he adds that not only the Pope and the Emperor but the whole world of Christendom would be gratified at the appearance of Kircher's *Mundus subterraneus*. He also refers to the list of works contained in Kircher's covering letter and mentions his eager expectation of their proposed publication.

From Karl Ludwig, Elector of the Palatinate, in 1661, Kircher received a letter[18] introducing one Ezechiel von Spanheim, who was desirous of seeing the way Italians governed their country, the books they read, and, above all, of receiving the advice of Fr Kircher: 'And so, as you study and work on the things worth seeing which are avail-

[14] XI. 365 (Cambrai, 21 August 1676).
[15] See F. du Toc, *Histoire des secrétaires d'état*.
[16] Epist. III. 278 (Compiègne, 4 September 1650).
[17] I. 38 (Trier, 12 October 1665).
[18] I. 265 (Heidelberg, 4 April 1661).

able in Rome in such great quantity, as if in the greatest theatre in the world, things which pertain to a more elegant culture, I come to ask you to help me with your advice and experience'.[19] An earlier letter from the Elector had thanked Kircher for the list of his proposed works and for the gift of his engraved likeness, the excellence of which had merely served to increase the Elector's admiration for the learned Jesuit.[20] A still earlier letter, written almost a year after the original letter from Kircher, thanked the Jesuit for his copy of the *Oedipus aegyptiacus*, which the Elector had fleetingly read with much pleasure: 'I have long been acquainted, Father, with the artist who has acquired a name famous among painters of his time, and I have seen a number of outstanding examples of his copperplate etching. So I consider his hand deserves to be the one by which the portrait of so great a man should be displayed in public'.[21] He had derived even greater pleasure from the proposal of Kircher and Kaspar Schott to dedicate the third volume to him personally and to his co-elector.[22]

Two seemingly straightforward letters from one of Kircher's correspondents, the Hungarian Count Ferenc Nádasdy, tell us little of the activities that led to his execution five years later.[23] One of these letters thanks Kircher for his *Mundus subterraneus*, received from Holland ('opus certe prodigiosum et aeterna memoria dignum').[24] The second acknowledges the gift of one of Kircher's 'tuba optica' and contrasts it favourably with those described by Eustace Divini.[25] He also inquires on the best method of finding the exact longitude of specific points.[26]

A letter of congratulation to Kircher on his *Musurgia universalis* is preserved from the warlike Ottavio di Piccolomini (1599–1656), Duke

---

[19] 'Quapropter te rogatum venio, ut in perscrutandis et lustrandis iis, quae Romae tanquam in amplissimo Orbis Theatro visu digna magna se offerunt copia ac politiorem litteraturam spectant, tuo consilio et opera ipsum iuves, tibique certo persuadeas'.

[20] I. 278 (Heidelberg, 30 December 1659).

[21] 'Notus mihi fuit olim artifex, Pater, celebre inter sui temporis pictores nomen adeptus vidique, nonnulla egregia ex aere filu specimina ideoque dignam eius manum arbitror, qua tanti viri effigies publico exhibeatur'.

[22] II. 82. Heidelberg, 3 April 1656: 'because of so outstanding a work, I promise myself great pleasure in reading it, when I have the leisure' and 'on this account, too, I thank you, and will not fail to do so at the next opportunity'.

[23] He tried to overthrow the Emperor Leopold in a bid to gain the position of Palatin of Hungary.

[24] I. 158 (Pottendorf, 26 July 1665).

[25] His experiment to establish the better of the two instruments was, he tells Kircher, witnessed by the Abbot Rossius 'in meo hospitio'.

[26] VIII. 123 (Pottendorf, 21 March 1666).

of Amalfi, who was promoted to the status of prince of the realm for his furious and terrible activity on the battlefield. Such letters are interesting glimpses of the personal diversity of many of these seventeenth-century figures. Piccolomini talks glowingly of the work as an 'opera di materia sublime e curiosa' and describes Kircher as an 'autore di dottrina così rara e di tua fama'. It is hard to reconcile such considered statements on academic fitness with prowess on the battlefield.[27]

Another minor count, later elevated to the rank of Count of the Empire, was Christoph Rantzow. He made little claim to scholarship and his letters, after he had left Rome in 1650, contain the events of his travels and give evidence of his own growing inclination towards the Church of Rome. The letter from Venice in 1651,[28] describing his peregrinations through Northern Italy with his mother and younger brother, briefly mentions his time as being occupied with business matters—'innumeris negotiis iam implicitus sum', and concludes with the firm resolve not to die a Lutheran. He also sends his best wishes to Fr Oliva, later General of the Society of Jesus. In a letter from Vienna, he thanks Kircher for his continued signs of friendship and in a letter of the following month sends warmest regards to a long string of Kircher's Roman contemporaries.[29] In another letter, from Paris,[30] he expounds on the dangers he has passed through and piously adds his conviction that he—and presumably his mother and brother—escaped them purely through the divine mercy of God. He goes on to enquire of the result of the election of the General of the Society, comments on Friedrich von Hessen's elevation to the cardinalate, and requests further information on the Duke of Brunswick and Lüneburg. His casual, informative letters are a refreshing change in an age that regarded letters as a means of imparting knowledge rather than conveying news. After his earlier protestations it is a relief to learn that he subsequently became a Catholic, soon after his marriage to a former abbess.[31]

One of Kircher's more enthusiastic Italian admirers was the Count of Diano. In 1663 he received a copy of the Jesuit's *Polygraphia* and

[27] II. 358 (Nürnberg, 9 May 1650).

[28] II. 351 (11 March 1651). Most of his letters are written 'raptim', a convenient seventeenth-century device to explain away illegible and scribbled notes.

[29] II. 352 (12 August 1651).

[30] II. 347 (Paris, 1 February 1652).

[31] This was his second wife: she was Dorothea Hedwig, a daughter of Friedrich, Duke of Holstein-Norburg, and formerly abbess at Gandesheim.

within two[32] days of its arrival was writing glowingly on the nobility of its conception ('ho letto tutto il libro et ho ammirato la grandezza della sua doctrina'). In almost the same breath he went on to talk of the arcana of occult philosophy revealed in the works of one Eusebio Neirembergh and of the heights of hyperhole reached by this author. Two years later, Kircher's 'osservatione della cometa' produced similar results and similar admiration of the 'effetti maravigliosi' of 'un tanto Maestro, mio singolar padrone et amico'.[33] In 1661 Diano had already received an engraved portrait of the 'great and celebrated man' and commented favourably on its essential humanity and virtue.[34] In the same letter of acknowledgement he encloses two ancient inscriptions for translation and appends a passage from Fr Luce Mandelli's *Historia Lucaniae* on the giants of Ancient Britain for insertion into Kircher's promised *Mundus subterraneus*.

A mutilated letter from the same source in 1665[35] thanks Kircher for his 'novità genealogica della gran famiglia Conti', which was probably in manuscript form. Already, in the preceding year,[36] Diano had received the *Mundus subterraneus*, which he had read eagerly and found to be full of the most wonderful and praiseworthy matter. Strangely enough, Diano reserves his greatest applause for the *Arithmologia*, whose wisdom and profound philosophy he considers to form an integral part of the knowledge and learning of both today and tomorrow.[37] The following year Diano was to praise *Mundus subterraneus* in a rather less sweeping manner, finding its best feature to be the Ciceronian style of writing.[38] He concludes his eulogy by a rather unsubtle request for a copy of *China illustrata*. A second Italian nobleman who wrote less often but who nonetheless did not stint his praises of Kircher's

---

[32] I. 210 (Naples, 22 July 1663).

[33] I. 229 (Naples, 22 March 1665). Early in 1665 Kircher sent to most of his correspondents a printed sheet embodying his latest astronomical observations and entitled 'Iter Cometae a. 1664 a 14. Dec. usque ad 30. Romae observatum'.

[34] 'Sapientiae tuae specimen…effigie designavit virtutens, indicavit humanitatem': I. 289 (Naples, 15 November 1661).

[35] IX. 84 (Naples, 17 October 1665). In the official record Conti is Giovanni Nicola Conti di Poli, cardinal of Sabina-Poggio Mirteto (1691–1998).

[36] IX. 90 (Naples, 29 December 1664).

[37] IX. 96 (Naples, 15 August 1665). 'Che in questi tempi non solo sarà utile, et molto applaudita, ma era assai necessaria, perché questa professione si è troppo allargata et mi rallegro con V.S. che ogni giorno faccia vedere al mondo nobilissime parti del suo sovrano sapere et dottrina, che lo renderanno in tutti tempi venerabile, come a tutti è di ammiratione'.

[38] IX. 279 (Naples, 14 May 1666).

worldwide reputation was Emanuel, Duke of Savoy.[39] The single letter preserved in Rome contains the traditional eulogy and a veiled request for further correspondence. It would seem, again, that the Jesuit hesitated to pursue this opportunity.

Another of Kircher's highly placed correspondents was the Emperor Ferdinand III (1608–1653), noted mostly for his hatred of flattery and dislike of all Italians.[40] Several of his scribe-written letters are preserved in Rome, mostly formal acknowledgements of the gift of written works by Kircher. In the longest of these letters[41] he warmly thanks the Jesuit for the dedication of the *Oedipus aegyptiacus*, praises the book for its ingenious wisdom and laudable services to scholarship and humanity, and prophesies the future immortality of this, the fruit of so many years of dedicated study. A similar series of letters is preserved from the Electoral Prince Ferdinand Maria of Bavaria (1636–1679), whose political relations with the House of Austria were often tense and strained. In turn he acknowledges his grateful receipt of Kircher's *Musurgia* ('which has been brilliantly worked on by your Reverence with your outstanding erudition and industry');[42] of the four volumes of his *Oedipus aegyptiacus*;[43] of 'that brilliant work [the *Polygraphia nova*], the invention, namely, of a universal language…which, by your genius and study, all those eager for a knowledge of languages [acknowledge] with the highest praise and admiration';[44] and finally of the *Latium*, which he saw both as a sign of Kircher's deep friendship and as a book destined to serve posterity as well as its own day.[45]

One of Kircher's more influential supporters in his reconstruction of the Church of St Eustace at Mentorella was Cardinal Giovanni Nicola Conti (1618–1698), a tireless ecclesiastical politician who only narrowly missed the papal tiara in the Conclave of 1676 after the death of Clement X. In 1670 he presented Kircher with six scudi towards

---

[39] I. 78 (Turin, 1 August 1663).

[40] M. Koch, *Geschichte des deutschen Reichs unter der Regierung Ferdinands III*, vol. 1, p. 77.

[41] Epist. II. 204 (Vienna, 27 October 1655).

[42] II. 179 (Münster, 1650).

[43] II. 177 (Münster, 20 October 1655).

[44] I. 114 (Münster, 19 October 1663). 'Opus illud eximium, Universalis nimirum linguae inventum…quod ingenio suo studioque, omnes linguarum scientiae avidi, summa eum eiusdem laude e admiratione'.

[45] VI. 66 (Landshut, 22 October 1671): 'Indeed posterity itself will preserve praise and remembrance for so many brilliant writings read by the worthiest of learned men'.

the cost of finding an incumbent for the tiny church[46] and two years later offered to officiate at the yearly mission held at the church on the feast of St Michael.[47] Conti's subsequent correspondence[48] is exclusively taken up with references to the edifying work being carried out at Mentorella and in one letter in particular he notes with pleased surprise the extraordinary piety and fervour of both the celebrant and congregation during the Apostolic Mass.[49] Curiously, there are no references to any of Kircher's works in his letters.

Interest in Kircher's attempts at Mentorella was also shown by the Bishop of Bamberg, Peter Philipp von Dernbach (1618–1683), who strikingly, and not without rhetoric, declaims 'et quis non amaret litteratum huius saeculi nostri prodigiosum?' ('and who would not love a prodigious man of learning of these times of ours?')[50] In the same rather florid letter he thanks Kircher for forwarding, via one Burcard Florinus Hoffman, a copy of his *Historia* and resoundingly concludes, possibly in the fond hope of being witty, 'valeat Athanata memoria Patris Athanasii'.[51] In a letter written some twenty years previously in Italian,[52] this same Peter Philipp discourses on optics and complains of having little spare time ('sono piu che mei accumalate l'occupantioni'), which does not, however, prevent him from hoping to enjoy further proofs of Kircher's valued friendship: 'mi conservi l'honnore della sun bona con la continuatione della desideratissima tua amicitia'.

One of Kircher's more exotic correspondents was Filippo Carlo, Prince of Tunis. Kircher, to whom he had already sent botanical specimens, was instrumental in converting this son of the King of Tunisia to the Christian faith. In one letter,[53] Filippo talks of his approaching Confirmation and expands on the machinations of the English,

[46] V. 66 (Ancona, 25 September 1670).
[47] VI. 17 (Tivoli, 30 June 1672).
[48] XII. 51–61 (Ancona, written between 1 June 1673 and 4 June 1679).
[49] XII. 60 (Ancona, 18 November 1674).
[50] XI. 34 (Bamberg, 4 June 1673).
[51] Kircher's more learned correspondents delighted in delicate allusions to the flavour of immortality present in the Jesuit's name of Athanasius, from the Greek words for undying or deathless. Even Leibniz was not above such punning; see V.166 (Mainz, 16 May 1670).
[52] XIV. 247 (Wolffsberg, 28 January 1653). Peter Philipp von Dernbach, who was a nephew of the Prince Abbot Balthasar, had studied 'with great profit' at the Collegium Germanicum in Rome from 1643 to 1647; see G. Allmanz, 'Fuldaer Germaniker', *Fuldaer Geschichtsblatter*, 8, 10 (1916 [?]): 145.
[53] Epist. XI. 205 (Tunis, 12 June 1655).

who, in some unexplained way, were preventing him from escaping from Tunis and travelling to Rome. Apparently Fr Kaspar Schott was also lending a helping hand, but, again, the details are lacking. The whole correspondence has an air of mystery and intrigue and contrasts strangely with the stereotyped formulae of Kircher's other august writers. Carlo talks of 'la maggior caldezza di spirito' of his feelings towards the Church and prudently encloses a chest of spices and dates for Kircher's more immediate satisfaction.

Some four years after his arrival in Rome, Kircher received a warm letter from the Abbot of Fulda, Georg Hermann (1635–1644), congratulating him on his appointment as father confessor to the Landgrave of Hessen.[54] The letter recalls to Kircher his own upbringing and education in Fulda and points out that a word rightly placed in the ears of those in high authority might do much to help the Abbey, damaged and despoiled as it was by the unsettled times. A second letter, written four months later, thanks Kircher for his answer to the Abbot's first tentative communication received on 26 April and urges more instant intervention on behalf of the Abbey with both Landgrave Friedrich and Cardinal Barbarini. A desolate picture is painted of the ruined abbey and of the senseless burning and slaughtering seen in the city: 'houses burnt, in sum everything hostile, endless payments to afflicted subjects…places pillaged and burnt and people killed'. The Abbot piously comments that in the midst of such terrible scenes one naturally turns first to God, but he cannot refrain from pointing out that Kircher has now acquired some very influential friends.[55]

The successor to Georg Hermann as Abbot of Fulda was Joachim von Gravenegg, from whom three letters to Kircher are extant. The first merely thanks the Jesuit for his partial dedication of the *Oedipus*.[56] In the second the Abbot thanks Kircher for his *Diatribe de mirandosis crucibus* and for the Jesuit's extended interest in the Abbey and city of Fulda. He mentions, too, the case of one Joannes Caspar Hein of Geisa, selected by the Abbot for entry into the Collegium Germanicum in Rome but unable to travel to Italy because of his parents' unwillingness to let him go. The Abbot concludes by expressing his warm admiration for the work of Kaspar Schott, while to Kircher he sends

[54] II. 201 (Hamburg, 26 February 1637).
[55] II. 199 (Neuenhof, 26 June 1637).
[56] VIII. 99 (Fulda, 18 March 1659). Kircher dedicated part VIII of vol. III to Joachim.

cordial wishes of 'omnes eius compatriotes'.[57] The final letter confirms the safe arrival of the Christian martyrs' relics sent by Kircher 'to your fellow countrymen of Geisa', and mentions that work on rebuilding a new and more sumptuous Abbey has not been started.[58]

Another German Abbot, Michal Anton Hach of Hamburg, wrote in 1673 to thank Kircher for the kindness and attention shown to him during his recent stay in Rome.[59] It would certainly appear that many of Kircher's compatriots did seek him out in Rome, and that he often proved himself a charitable host. Of his kindness, Hach could write in retrospect: 'I cannot express adequately how much I have enjoyed his consideration and patronage from the time of my stay in Rome'.

Considering the close ties between Kircher and Friedrich, Landgrave, later Cardinal, of Hessen, it is surprising that more of Friedrich's letters are not preserved. Those that do remain are of little note, mostly being stylised acknowledgements and sterile notes of little value. Friedrich did, of course, try hard to justify his series of ecclesiastical honours, but his advancement was due entirely to the political intrigues of the Curia and owed little to his own personal strivings within the Church. In a fairly late letter, the Cardinal thanks Kircher for his continued interest and friendship: 'ne ringratio di tutto il cuore della memoria che tiene di mi compartendomi ancor che Contano li suoi favori'.[60]

Kircher's correspondence with the German ducal House of Holstein was varied but undistinguished. Among the more interesting pieces is a letter from Adolph Johann, Prince of Holstein, written from Milan, and promising his speedy return to demonstrate some unspecified experiment before the learned Father,[61] while a second, written by Johann Friedrich, Duke of Holstein, praises Kircher for his 'usual and incomparable Germanness'. 'I do not love you, Reverend Father', he says, 'but venerate you, and I shall not cease venerating you whether I write or whether I am silent, until I am silent for ever'. This same noble becomes, in this letter, almost embarrassingly enthusiastic about the good Father's earthly virtues. He talks of his reverence for Kircher and explains how Kircher's kindness to him in Rome has engraved these virtues on his heart. In Rome apparently, he had also become the

[57] VIII. 86 (Fulda, 13 February 1665).
[58] VIII. 29 (Fulda, 16 June 1665).
[59] XI. 326 (Hamburg, 11 October 1673).
[60] I. 28 (Heytersheim, 21 June 1661).
[61] III. 311 (Gottorp, 15 February 1652).

owner of a 'Cistula musurgica', a rare gift which would seem to have been conferred only upon Kircher's truest and most highly admired friends. After such fulsome adulation, the reserved praise of the Archduke of Austria, Joseph Karl, seems cold and distant: 'placet mihi sedulitas tua' ('your assiduity pleases me').[62] This was the Archduke's reaction to his acceptance of Kircher's letter expounding the principles of his *Organum mathematicum*. Joseph Karl was not slow in realising the value of such an instrument 'ut magna cum facilitate copiam disciplinas Matematicas', and in the name of all mathematicians and scientists congratulated the Jesuit on his invention.[63]

Kircher often received more than empty words, however pleasing these might be. Early in 1651, the Secretary of the Holy Roman Emperor, Johann Maximilian Lamberg, was pleased to send the sum of 700 scudi, a considerable amount of money even for the Emperor. This was a contribution towards the successful completion of 'opus illud magnum', the *Oedipus aegyptiacus*, for which special type had to be manufactured.[64] The previous year, on behalf of his imperial master, Lamberg had written inquiringly about the exact contents of the promised *Mundus subterraneus* and had also appended questions on the optical discoveries of Eustachio Divini. With the full weight of his authority he could also add—and this was perhaps unfair comment on the productive power of our burdened writer—'I expect a reply to the above before the feast of Pentecost'.[65] Some seven weeks later, the Emperor's Secretary was repeating his demands: 'The Kaiser . . . expects very soon the synopsis of *Mundus subterraneus*', with the new request for further information about the rumoured vegetable phoenix. To lessen the seeming bluntness of these peremptory requests,[66] the imperial amanuensis added that the sum of 70 scudi in silver was being forwarded to Rome in the hands of P. Hippolite Boncompagni, ostensibly to aid Kircher in his research into the optical tubes of Eustachio Divini.[67]

Another distinguished supporter in Vienna of Kircher's works was Leopold Wilhelm, Archduke of Austria. A letter written by him in

---

[62] I. 79 (Vienna, 31 December 1661).

[63] *Organum mathematicum*, p. 858. Kircher's explanation of this invention was posthumously edited and published by Schott.

[64] Epist. II. 265 (Mantua, 21 March 1651).

[65] II. 343 (Vienna, 9 April 1650).

[66] The letter bears the casual note 'raptim'.

[67] II. 345 (Vienna, 4 June 1650).

1660 records his deep satisfaction and surprised pleasure at Kircher's attempts to invent a world language.[68] He sees this as further proof of Kircher's vast genius and finds his noble efforts towards the furtherance of a world language—'You are making the peoples of the world practically speakers of one language'—worthy of permanent record in posterity. Kircher was well appreciated by his Viennese patrons. In 1666 the Emperor Leopold, commenting on the letters received from Rome, suggested that they should be printed in some permanent form, so pleasing was their content and stylistic skill ('indeed both weighty and written in your particularly ornate and highly polished style').[69] He noted that, as with Kircher's *Obeliscus aegyptiacus*, this work was distinguished for its honesty and humanity. Some three years later, Kircher was to dedicate his *Ars magna sciendi* to the Emperor. In return he received a letter bursting with high-flown praise for his 'most ingenious work' and, perhaps more satisfactorily, a continuation of the yearly pension of 100 scudi, for 'the last years of your life'.[70] A final letter from Leopold in 1671 upon the safe arrival of Kircher's *Latium* was of necessity far less excited in its praises. Leopold thanks the Jesuit for his constant kindness ('hence it has been right to assume the sincerity of your singular respect and devotion in our regard') and prudently recalls the existing bonds of affectionate duty between his own imperial person and the Society of Jesus.[71]

One of Kircher's more noble acquaintances in Avignon had been the Duke of Blaynac, Tondutus Sanlegerius, who, ignoring the differences of time and distance ('amicitiae nostrae vincula nullius temporis aut loci intervallo'), wrote to Kircher in 1640 with several pertinent questions on the exact determination of the earth's longitude. He mentioned, too, the eclipse of Mercury noted at Naples on 20 May 1630 by Gassendi and Bouillardus, and also Kircher's interpretation of their findings.[72] A second letter congratulates Kircher on the publication of his *Ars magna lucis et umbrae* (1646) and describes the profound feeling of satisfaction experienced in Avignon at this work: 'in this common applause of the whole world you really do share in the glory of our Avignon Academy'. He goes on to invite Kircher to

[68] I. 52 (Vienna, 3 April 1660).
[69] I. 19 (Vienna, 6 August 1666).
[70] V. 64 (Vienna, 8 March 1669).
[71] VI. 5 (Vienna, 29 July 1671).
[72] III. 396 (Avignon, 20 August 1640).

become a nominal professor of the Papal Academy at Avignon and assures the Jesuit that the acceptance of this offer would bring much honour to the city.[73] Another French nobleman to write to Kircher was Raimund Sanset de Puig.[74] On his return from Rome, he recalls the wonderful things he had seen in the Jesuit's Museum and is puzzled by a passage he had found in the *Musurgia universalis* concerning the relative oscillation of the pendulum—a demonstration he had already seen in the Galleria Kircheriana. He humbly asks the Jesuit for further elucidation on this point.

A short note, marvelling on the profound wisdom of the *Oedipus aegyptiacus*, is preserved from Franz Erdtmann, Duke of Saxony.[75] Erdtmann admired the work as a great compilation of hitherto unrecorded aspects of civilization ('in quo opere magno et labore multis eruditis hactenus exotico') and in this was, critically speaking, more just than most of Kircher's contemporaries, who allowed the imaginative scope of the *Oedipus* to obscure its enduring characteristics. A scribe-written letter, on the other hand, from the Electoral Prince of Saxony, Johann Georg II, briefly thanks Kircher for his *Mundus subterraneus*, held to be 'opus excellentissimum',[76] and then elaborates on sending New Year's wishes to the Jesuit with special concern on his 'saving of the Republic and the world of learning'. As with most letters of this nature, the writer is deeply conscious of and grateful for Kircher's continued good will and friendship.

A German prince who made many demands on Kircher's factual knowledge was Johann Ferdinand, Prince of Liechtenstein. Most of his correspondence deals with astronomical and chemical questions and he seems to have visited Rome some time before April 1651, since he writes in a letter of that month 'della buona memoria…di Ia R.V. mi sono grandem rallegrato'.[77] Many of his letters contain information about the timing of lunar and solar eclipses. In 1665 he thanks Kircher for his 'observationes Cometae' and comments, from his own observations, on the long comet tail ('terribilem habet caudam') and wryly adds that he almost missed observing the comet because of its

[73] III. 398 (Avignon, 28 February 1649). It would be pleasing to record Kircher's acceptance of this privilege, but documentary proof is lacking.
[74] XI. 247 (Barcelona, 2 November 1677).
[75] L. 279 (Ratzburg, 16–24 January 1660).
[76] I. 109 (Dresden, June 1666).
[77] II. 209 (Prague, 3 April 1651).

awesome speed. In the same letter he mentions the correspondence of Fr Bohm and adds that he was visited by Fr Johann Grueber from China on his way to Constantinople.[78]

One of the Emperor's Privy Councillors, Bernhard, Count of Martinitz, shared Kircher's delight in the invention of abstruse codes, puzzles and anagrams. His numerous letters sent to Rome, besides revealing a keen appreciation of Kircher's own printed works, include discourses on the 'arcana arcanissima' of Trithemius von Trittenheim,[79] pious cryptics[80] and, in one instance, the outline of a secret code based on Hebraic characters.[81] This last letter bears marks of Kircher's own interest in the subject: very few of the massed letters in Rome show signs of Kircher's own writing, but these letters of Martinitz dwelling on codes and cryptics, abound with scribbled notes by Kircher.

One single letter is preserved from a rather more pressing correspondent. This is Francisco Mascareñas, Count of Cocolini, who early in 1679 sent an outrageously flattering letter to the Jesuit, explaining how moved he was by Kircher's works and inviting him to his home.[82] Cocolini talks of Kircher's worldwide fame and the intense qualities of virtue to be found in his 'excellent works'. In his concluding salutation he calls the Jesuit the outstanding adornment of the century: 'The renown of your name, O pre-eminent Kircher, which has made itself known far and wide in the world…O unique ornament of our age'. It was never Kircher's practice to visit his elevated patrons and this invitation came at a time of life when he was feeling his own advancing years. He was indeed gradually slipping into a series of long, drowsy days spent mostly in contemplation and prayer. The Jesuit's answer to this flattering note would make interesting reading.

Another visitor to Rome and willing victim of the kindly attentions of Fr Kircher was Gustav Adolph, the last Duke of Mecklenburg.[83] After leaving the city in 1652 he wrote a nostalgic letter from Nürnburg,

---

[78] I. 187 (Cromau, 29 April 1665).

[79] II. 279 (Prague, 1 December 1650).

[80] Ibid. virgInI gentrICI sIve orIgInIs Labe ConCepta propVgnata et LIberata VrbIs ergo: Caesar plus et IVstVs hanC statVam ponIt ('To the Virgin Mother conceived without original stain, for the city defended and freed, therefore the Kaiser, pious and just, sets up this statue'), the whole giving the date 1650.

[81] II. 314 (Prague, Vigilia Epiph. 1656).

[82] XII. 46 (Lisbon, 13 March 1679).

[83] Gustavus Adolphus died in 1695 without leaving a male successor.

describing his sense of deep gratitude to the German Jesuit.[84] He saw himself as eternally in Kircher's debt and looked forward to the rest of his empty life with a feeling of blank resignation, lightened only by the prospect of exchanging letters with one of whose erudition he will always be conscious: 'meanwhile I would wish you to know that of those most devoted to you I shall be the greatest admirer'.

It is surprising that not more letters are preserved from Franciszek Gothard, Count of Schaffgotsch (b. 1629), who, before becoming a canon in Breslau in 1651, spent three years in Rome at the Collegium Germanicum and returned there late in 1665 to be present at the reception of Christina of Sweden. His great study was that of genealogy, and since Kircher himself had interests in this field,[85] it is remarkable that the one letter extant from the Count should contain no reference to their mutual interest. The letter is in fact a formal acceptance of Kircher's *China illustrata*[86] and contains some rather cruel and admittedly general remarks on the folly of 'both the immensity of the work and also the future pointless purchase of too many tomes'. Possibly the Count was rather worried by the alarming propinquity of the Turks, on which he delivers several brooding remarks.

It is interesting to speculate on the ratio of letters written by Kircher compared to those written by his correspondents. In one of the letters sent by Friedrich, Duke of Schleswig, we find that the Duke received two letters from Kircher before writing in return, some nine months after the receipt of the first letter.[87] On the other hand, he begins a later letter with the gentle admonition, 'for a long time now, Reverend Father, we have received nothing in writing from you'.[88] At least with regard to correspondents of such distinction, the onus of maintaining the exchange was laid on Kircher's shoulders. The letters are unremarkable and are mostly stereotyped lists of eulogistic formulae: in acknowledging the *Musurgia*, for example, Friedrich calls it 'the fruit of your stupendous and most blessed genius'[89] and later talks of Kircher's 'tireless industry', which is 'admired by the whole world'.

---

[84] II. 247 (Nürnberg, 13 November 1652).

[85] See Kircher's subsequent correspondence, detailed below, with Alessandro Segni.

[86] X. 146 (Wroclaw, 5 July 1667).

[87] II. 94 (Gottorp, 24 September 1650). Kircher's letters were received on 18 January and 10 June of that year (Corresp. 20–21).

[88] II. 102 (Gottorp, 4 September 1657).

[89] II. 94 (Gottorp, 24 Sepember 1650).

A rather similar note of praise, this time of the *Polygraphia*, is to be noted in the single letter written by the Count of Slavata, Ferdinand.[90]

Some noblemen's letters came in response to Kircher's suspected movements. In 1641, Frantisek, Baron of Sternberg, heard a rumour that Athanasius Kircher had arrived in Germany. He quickly wrote to Kircher about it urging him, if the rumour were true, to visit him in Prague. Rather ambiguously, he then proceeded to describe the present turbulent state of the war in Bohemia, assuring the Jesuit that 'in every situation, either troubled or tranquil, I remain always your Reverence's faithful and constant servant'.[91] A Spanish nobleman, Diego Vincencio de Vidania, who wrote to Kircher of his impending visit to Italy to study law in various universities,[92] charmingly described himself as being a willing shipwreck in the seas of antiquity—'el oceano de la antiquedad'. He prudently adds his praise of the *Oedipus* some sixteen years after its publication, seeing in it the overwhelming total of all human understanding, 'assombro de la comprehension humana'. Such letters were an essential part of seventeenth-century courtly behaviour. It was the fashion of the day to be in correspondence—with whom was not important; it was more a question of feeling in contact, of having a link with the outside world, which books alone could not satisfy. Often commendatory letters were written by other people on the behalf of their young protégés; often the person concerned had to write his own introductory testimonial. The Don cautiously begins by mentioning the name of a mutual friend, Viencenzio de Bastania, whom he describes as 'erudito antiquario'.

An unsolicited letter of praise came in 1662 from Wilderich, Baron of Waldendorff, in Silesia. This Silesian nobleman merely sends his best wishes for Kircher's continued progress—'progressum vitae longioris felicem ac incolumem', and hopes that he will continue his study of the mysteries of this earth— 'arcana Studiorum hiorum mundo'.[93] Such letters were continually being received by Kircher. Often one of Kircher's more serious and regular correspondents would mention his name, talk of his kindness, and one of his listeners or friends would take up his pen and write, sometimes out of curiosity, sometimes with a genuine desire to pay his respects.

---

[90] VIII. 106 (Neuhaus, 9 November 1663).
[91] II. 354 (Prague, 17 April 1641).
[92] X. 132 (Huesca de Aragón, 4 September 1668); XI. 118 (Zaragoza, 26 July 1672).
[93] VIII. 104 (Vienna, 30 September 1662).

One of Kircher's more serious correspondents, on the other hand, was Johann Friedrich, Count Waldstein, Archbishop of Prague and Chancellor of the University of Prague in perpetuity (d. 1694). This prelate, noted for his piety and learning, was a constant friend and source of information to Kircher. His letters mirror the troubled state of Poland and Bohemia in the latter years of Kircher's life. He also took a sympathetic view of the Jesuit's attempts to re-establish the church of Mentorella. In an early letter he comments on Kircher's visit to Mentorella and thanks him for his friendly concern about his health and well-being.[94] His letters are noticeable for their fervour and constant exhortation to the Jesuit to honour the Virgin in all ways. In a later letter he talks of his disappointment at the prospect of having to cancel a proposed trip to Rome on behalf of the Emperor, a blow that means he will once again miss seeing the holy relics in the city.[95] In 1671 he writes again to thank Kircher for the 'book inscribed with my name' and assures him that his remissful communication indicates neither forgetfulness nor dislike.[96] In the following year he talks of Kircher's deep veneration of the Virgin and of the holy work he is engaged on at Mentorella,[97] while a letter written three months later dwells on the troublesome and dangerous times for those in Poland and Bohemia ('maxime hoc periculose tempore, ubi undique bella premiant hostilia').[98] He describes in detail the activities of the French and Spanish troops under the Emperor Leopold and their attempts to drive back the Turks from Poland and Hungary.

A brief message early in 1673 informs Kircher of the proposed arrival in Rome of Johann Friedrich's nephew[99] Count Ernst von Waldstein, who, he assures Kircher, will be able to demonstrate the affection and admiration felt by his uncle for the Jesuit. Several inconsequential letters follow, one[100] recording the arrival of Kircher's *Arca Noë*, another testifying again to his reverence for the Virgin,[101] until in 1676 he is able to write excusing his silence, and speaks of a proposed truce in Poland with the Turks. Despite this cheering news, he still talks of

[94] IV. 72 (Olmütz, 11 July 1669).
[95] VI. 31 (Vienna, 27 July 1670).
[96] VI. 120 (Olmütz, 17 December 1671).
[97] VI. 122 (Vienna, 5 June 1672).
[98] XI. 33 (Vienna, 25 September 1672).
[99] XI. 37 (Olmütz, 8 January 1673).
[100] XII. 92 (Prague, 18 July 1676).
[101] XII. 89 (Vienna, 9 December 1674).

the wretched state of his own bishopric and begs Kircher to pray for their cause to the Holy Virgin.[102] Some four months later Friedrich sends Kircher a gift of 100 scudi towards his work at Mentorella,[103] and in a second letter of the same year, written in a more hopeful state of mind, he reports of the safe arrival from Rome of one August Fleischmann, from whom he is grieved to learn of Kircher's ill health, a fact he accepts, however, in the philosophical vein 'that we are indeed all mortal'. Inevitably he talks of the state of the Turkish wars, mentioning with rather uneasy admiration the terrible machines of war ('ingentos apparatos belli') employed by the Moslems. He concludes by describing a certain man of letters of his acquaintance who claims to have in his possession the Philosophers' Stone. Although he himself bravely asserts that the whole thing is a fable, he is prudent enough to append a note asking for Kircher's advice on this delicate matter.[104]

Another prelate close to the Emperor, and indeed his chaplain, was Albert Ernest, Count of Wartenberg (1635–1715), who was also Bishop of Laodicea and Regensburg. A curious letter, preserved from this ecclesiastical dignitary, was written soon after his departure from Rome,[105] desiring from Kircher an exact account of a peculiar stone marked with an engraving of a fish, said to have been, in fact, taken from the belly of none other than a fish.[106] The bishop, without losing his air of grave enquiry, further requests an exact drawing of this perfect representation.

[102] XII. 91 (Prague, 7 November 1676).
[103] XII. 93 (Prague, 13 March 1677).
[104] XII. 90 (Prague, 10 July 1677).
[105] VIII. 83 (Regensburg, 10 March 1661).
[106] A list of similar oddities noted in Kircher's works is to be found in C.F. Paullini, *Observationes medico*, pp. 37–42.

CHAPTER NINE

# LETTERS FROM FELLOW JESUITS

For almost 50 years Athanasius Kircher was in continual correspondence with fellow members of the Society of Jesus. These letters, inevitably, range from the trivial to the important, from the tragic to the ridiculous. By their very diversity, they help to typify the spirit of cohesion and unity which so strongly characterised a society whose members were drawn from every social class, and whose common aim was to serve God.

Jesuits of the seventeenth century must have felt keenly the pressure of Kircher's presence in Rome. He seems to have been approached by all and, especially to the Jesuit missionaries, represented a homely, accessible figure at the heart of the Catholic Church. The proliferation of Kircher's correspondence is largely due to his accessibility and to his constant readiness to reply with encouraging words and expressions of thanks. Of course, Kircher was not guided by sunny philanthropy alone: he culled many valuable snippets of information from the letters that snowballed into his study, and often reproduced relevant passages in his own works.[1] For the main part, however, the letters remain an eloquent witness to Kircher's essential humanity: the one lesson Kircher never forgot was the simple truism, never stop learning.

His Jesuit correspondents can be loosely grouped under the headings of missionary Jesuits; Jesuits reporting on astronomy and natural sciences, and general Jesuit correspondence.

## Missionary Jesuits

Jesuits have been called the storm-troops of the Pope. While the militant aspect of their activities may be exaggerated, there is little doubt that the aims of teaching and evangelisation which prevailed within the Society invariably imposed severe demands on those members

[1] The varied scientific and literary help received by Kircher from his fellow Jesuits is acknowledged in *Oedipus aegyptiacus* vol. 1, pp. 396–398; *Magnes sive de arte magnetica*, pp. 314ff.; *China illustrata*, Praef.; de Sepi, *Romani Collegii*, pp. 65–67.

who were chosen to work overseas. Kircher himself is said to have applied, in 1629, for permission to dedicate himself to missionary work in China,[2] and there can be no doubt of his keen interest in and sympathy for fellow Jesuits who were fortunate enough to work abroad.

Consequently his correspondence bristles with notes on all aspects of missionary work. A letter in 1672 from Adam Aigenler,[3] who was to die some few months after reaching China and who had been professor of Hebrew at Ingolstadt, contains an enquiry on how best to learn Chinese and on how to locate the works of Adam Schall,[4] while a letter from Domingos Barbosa, in Brazil, describes the initial difficulties experienced by the author after leaving Rome.[5] An example of Kircher's friendly forethought is that Borges had found, against expectations, letters awaiting him from Kircher in his port of embarkation. Another Jesuit, Johannes Ciermans, this time on his way to China, wrote to offer his observations as an astronomer and geographer.[6] His initiatory letter contains various references to the works on magnetism of Cabeus and Gilbert, but unfortunately Ciermans was to die in Portugal on his way to the Far East. In a related field, Hermann Crombach wrote to Kircher with astronomical observations sent from a colleague in Malabar and offered to send Kircher his own *Persicae linguae rudimenta*.[7]

China was a popular field for mission work in the seventeenth century, but so arduous was the journey there and existing conditions in 'Sinis Tartarum Dominati' that only the strongest could hope to survive. Albert d'Orville, one of Kircher's correspondents, left Brussels in 1656 for China, arrived there in 1659 and died in April 1662 in Agra. Just before starting the journey he wrote to Kircher to ensure a plentiful supply of books and made arrangements for 24 copies of the *Musurgia* and twelve of the *Oedipus* to be delivered to one Joannes Jasmer, a Dutch bookseller. We learn that the *Musurgia* in Holland

---

[2] In an article on Kircher by A. Müller in *The Catholic Encyclopedia*, vol. 8, p. 66.

[3] Epist. VI. 57 (Ingolstadt, 17 November 1671).

[4] Kircher himself wrote to Adam Schall, mathematician and astronomer, to the Court of Peking; see IX. 292 (Rome, 16 April 1664). There is, however, no reply from Schall extant among Kircher's correspondence; it is possible that Kircher's letter reached Peking only after Schall's death in 1666.

[5] X. 185 (Bahia, 20 August 1661).

[6] III. 50 (Louvain, 7 March 1640).

[7] XIII. 32 (Cologne, 3 October 1639).

cost 8 Roman scudi.[8] While waiting for the books, d'Orville and his fellow missionaries were not idle: 'Here, meanwhile, we labour strenuously in the vineyard of the Lord'. Among other things, they were learning that there was more in the world than Rome. In a letter from Macao, D'Orville describes the innumerable dangers of their voyage and the daily perils they face, 'ob innumera ac quotidiana pericula'. The entire letter details, in patient resignation, the countless dangers to which the brothers were exposed.[9] He mentions, with gloomy satisfaction, the deaths of three Bavarian monks and concludes his letter with a brave sigh and almost too casual an account of their 'Evangelice peregrinationis'.

Another China-based missionary was Johann Grueber (1623–1665), who arrived in Peking in 1659 after leaving Austria in 1656 and who returned overland in 1661. His way led him through uncharted regions and dangerous territory.[10] Worn out by his travels, he fell ill at Constantinople in 1664 and died the following year in Florence. His letters to Kircher were printed in *China illustrata*.[11] Preserved in Rome are some answers he gave to questions by the Duke of Tuscany on China, which were later appended to the French version of *China illustrata*.[12] The questions deal mainly with the geographical position and cultural growth of China, and ask Grueber for his opinion of the travels of Marco Polo.

A second factually useful correspondent from China was Fr Martino de Martini (1614–1661), who returned from China in 1651 to Rome, only to leave again, after an interval of a few years, to travel once more to China. He wrote several books on China during his stay in Rome,[13] where he no doubt became acquainted with Kircher, who was at that time collecting material for his *China*. Fr Martini, following the tradition established by Adam Schall, wrote several theological works

[8] XIV. 73 (Lisbon, 18 October 1656).

[9] VIII. 36 (Macao, 1 February 1659).

[10] 'Iter e China in Mogor': *China illustrata*.

[11] 'Epistola ad A.K. scripta Venetiis 10 Mai 1664: de Campanis (see Blue Book) Pekingensibus: *China illustrata*, I. V.

[12] 'La bréve et exacte résponse du P. Jean Grueber a toutes les questions que lui a faites le Sérénissime Grand Duc de Toscane': *La Chine illustrée*, transl. Dalquie, appendix.

[13] See his *De bello inter Tartaros et Chinenses; Brevis relatio… de qualitate Christianorum apud Sinos; Historia Sinensis*.

in Chinese.[14] His letters to Kircher were little else but reports on subjects such as magnetic readings in Spain,[15] tables of altitude compiled in Goa and 'near China'[16] and, finally, an existing map of China, in which for further problems he advised Kircher to consult Fr Boym.[17]

Letters of a similar factual content were also received by Kircher from a former pupil of his, Nicolò Mascardi (1625–1658), who left Rome for Chile in 1652. Four years after leaving Kircher, he sent a letter describing the wonderful southern constellations and referring to the comets he had observed in the vicinity of the Straits of Magellan—'de mira australis caeli facie de stellis Europae incognitis caeterisque'.[18] In an undated letter he draws Kircher's attention to the work of Fr Valentino Stanzel, 'a distinguished mathematician and formerly my companion in literary matters' on the observation of comets from Bahia in Brazil in the years 1664–1665.[19] Mascardi himself, at this point, adds three closely written sheets of astronomical observations.[20]

A less exotically placed correspondent was Fr Giacomo Masò, who at the persistent instigation of the Grand Master of the Company was teaching some 50 Knights of Malta, two hours weekly, philosophy and mathematics. He was paid 100 scudi a year for this work and was finding plenty of time to concentrate on the latest productions from Kircher's pen.[21] This letter is essentially an appeal for books of all kinds, with which to feed his hungry mind and that of his unwitting scholars. Giovanni Montel was rather unusual in reporting a safe and prosperous journey home to the Philippines from Rome: 'il nostro viaggio da Roma insino alle Filippine fu felicissimo e brevissimo'.[22] He records his grateful appreciation of Kircher's kindness during his stay in Rome, and describes how Kircher spent a whole day with him talking of his work and his books, a favour much esteemed in 'queste ultime parti del mondo'. Another grateful correspondent, this time

[14] Among others, *De existentia et attributis Dei* and *Contra Pythagoricam transmigrationem animarum*.
[15] Epist. XIII. 74 (Evora, 6 February 1639).
[16] XIII. 189 (Macao, 1 November 1642).
[17] XIII. 252 (Brussels, 21 February 1654).
[18] X. 89 (Chilé, 14 March 1666).
[19] See V. Stanzel, *Legatus Uranicus exorbe novo in veterem.*
[20] Epist. X. 89 v. Mascardi sent back to Kircher a report on the geographical features of Patagonia. See de Sepi, *Romani Collegii*, p. 66.
[21] XIII. 300 (Malta, 15 November 1654).
[22] XIII. 155 (Manila, 15 July 1654).

in Syria, Adrien de Parvilliers (1619–1678), recorded his receipt of Kircher's gift of a Syriac grammar by Ebn Amiro.[23]

The Indian missionary Henricus Roth was a special friend of Kircher. Roth returned from India in 1664 and spent a short time in Rome where he communicated to Kircher factual information which Kircher was later to incorporate into *China illustrata*. Roth himself seems to have been surprised at the warmth of his reception, and after his return to Venice in May 1664 he thanks Kircher 'for so many favours and expressions of the greatest kindness which I experienced at Rome'.[24] He begs Kircher not to forget him and concludes wonderingly that 'Athanasius [is] great not only in his teaching but also in his humility'. Later the same year he writes commenting on the Emperor's desire to see his 'Grammatica Brahmanica' in print, but is forced to admit that this would seem impossible in his absence.[25]

Despite talk of absence, Roth was still in Vienna the following May when he wrote recalling Kircher's kindness to him in Rome and his parting words of encouragement at the Ponte Milvio.[26] Roth talks of his impending departure 'among various nations, non-Catholic ones also', and mentions vaguely his destination as being away beyond Moscow into the frozen north. He paints a glowing picture of their attempts—that is, he and his 'Socios Jesuitos'—to bring enlightenment to the freezing wastes and, half coyly, half daringly, ventures to suggest that this will eventually mean more readers to enjoy Kircher's works. Did he have a mental picture of Eskimos huddled in their igloos, poring in rapt fascination over the two thousand folio pages of the *Oedipus aegyptiacus*? If so, he wisely refrained from saying so.

## Jesuits Reporting on Astronomy and Natural Sciences

This is a large and varied field, all the more so since the seventeenth-century scholar showed an alarming tendency, as we see in Kircher, to spread rather than concentrate the divided aspects of his knowledge. In this way, correspondents who were scientifically inclined

[23] IX. 254 (Angi, 10 June 1662): this letter is written in a mixture of French, Arabic and Persian.
[24] VIII. 113 (Venice, 7 May 1664).
[25] IX 281 (Vienna, 7 September 1664).
[26] IX. 78 (Vienna, 16 May 1665).

seldom limited themselves to discussion or reports on one topic alone. However long-winded such letters may seem to us, it is important to remember the valuable work they performed in their own news-starved contexts.

Giacomo Bonvicino, for example, talks in one letter of problems in spherical and conical geometry[27] and then in a second letter gives valuable information on sea currents, winds and tides in Greenland, Iceland and the Azores. He specifically describes the Gulf Stream and the divergent influence of the Azores islands in its path.[28] Typically, he adds a pious footnote on his fervent expectations of seeing the *Oedipus* in his own hands. An earlier letter from Genoa begins in a most gripping manner—'Saturday, 21 December, at about the second hour of the night'. One tenses oneself in expectation, only to read on and discover little more than the sighting of a comet.[29] A later letter discourses in an entirely different vein on the plight of Don Philippo in Tunis.[30] Much of the correspondence is concentrated on two aspects of Kircher's work: the sighting and continued close observation of comets and eclipses; and readings of longitude and latitude, based mainly on the magnetic pole and usually inspired by the various tables and experiments detailed in Kircher's *Magnes*.

In similar vein, the mathematician Pierre Bourdin (1595–1653), in a letter from Paris, talks glowingly of Fr Mersenne OM, 'a man very well known for his works' who enjoyed a reputation in Paris rather like that of Kircher in Rome, and, for the most part, expounds on his magnetic experiments.[31] Often the letters are illustrated with diagrams, as in the case of a letter written by Andreas Brobavig,[32] who explains in this way his sighting, with Fr Philipp Müller, of the comet of 28 October 1639, 'which however had the shortest life'. He refers to a letter written by Kircher on 4 October and received in Vienna on 30 October, and apologizes for not being able to comply immediately with his wishes: 'I do not have an outline of the *Magnes*, but on the first convenient occasion I will copy the same outline and send it [to you]'. It is mainly

[27] III. 24v (Naples, 2 May 1643).
[28] XIII. 279 (Genoa, 9 October 1655).
[29] XIII. 280 (Genoa, 21 December 1652).
[30] II. 340 (Genoa, 25 March 1656).
[31] XIII. 76 (Paris, 4 March 1640).
[32] XIII. 20 (Vienna, Kal. Jan 1640).

through odd references such as this that we catch glimpses of how Kircher collected his material.

Kircher seems to have started amassing observations on eclipses and suchlike quite early in his academic career. A letter written to him at Avignon by Pierre François Chifflet (1590–1682) refers to his desire to publish a compendium of worldwide eclipses, and encloses observations on lunar and solar eclipses occurring in 1631.[33] Observations on the moon and on Jupiter were sent to him from Prague by Balthasar Conrad, who also included a new reading on the latitude of Prague, made by Marci with the revised instruments first used by Tycho Brahe.[34] Two years later the same Jesuit forwarded his observations of the lunar eclipse of that February and politely asked Kircher to send details, if known, of eclipse sightings made in China, 'observations about the visual diameter of stars, moon and sun', for the sake of 're litteraria'. He inserts as well a casual and seemingly irrelevant query on Faber's work in France about the resuscitation of plant life and asks whether he has seen anything special about this.[35] A second Conrad, Bernard, also of Prague, thanked Kircher for his 'monumenti magnetici' and with references to the work of Nicolaus Cabeus and Martino Santini included four magnetic questions for Kircher's deliberation and judgment.[36] Similar letters quoting Cabeus[37] and with many questions on the *Magnes*[38] were also sent by Jacob Grandamy (1588–1672), himself an writer on both theological and magnetical questions.[39]

Extensive magnetic readings were also sent by Johann Grothaus (1601–1669), who published several theological works and who, on one occasion, when prevented by cloudy skies from including his own work, sent Kircher[40] comprehensive extracts from Chapter 4 of Adrian Metius Alemariensis' work *De arte navigandi institutionem*, which derived its tables of compass readings from the work undertaken by Hugo Grotius. These readings included those taken 'in extremis Hiberniae' and in the mouth of the river Contami in China, among

[33] XIII. 266 (Brussels, 24 January 1632).
[34] III. 27v (Prague, 1 November 1642).
[35] III. 29 (Prague, 18 February 1645).
[36] III 51v (Prague, 13 January 1646). [Note: In GR this is listed under Balthasar Conrad.—Ed.].
[37] III. 400 (Tours, 9 May 1640).
[38] XIII. 190 (Rouen, 17 October 1642).
[39] See esp. Grandamy's *Nova demonstrati immobilitatis terrae ex virtute magnetica.*
[40] Epist. III. 41 (Cologne, 1 March 1640).

many others, and were later incorporated by Kircher into his own work. A second letter, which acknowledges Kircher's 'exhortationes ad observandas futuras eclipses',[41] includes comprehensive tables of soundings from England, while a third,[42] temporarily eschewing matters navigational, sends drawings of presumed Chinese or Japanese coin inscriptions and asks for their elucidation.

A rather gloomy letter from Gerhard Hansen[43] records the sighting, 'in nostra Germania', of the February comet of 1653 and harks back to the ominous comet of 1634, 'tristissimi effectus', seeing the celestial visitation as 'a new omen of scourges from heaven'. Less foreboding seems present in the letter sent by Andreas Kobavius (1594–1644) on the February comet of 1640, sighted in Palermo. This correspondent has a problem: rather wonderingly, he observes that 'here in Vienna there is no declination of a magnet from the pole', a fact that remains constant, despite his many attempts to determine the reading: 'I have tested [it] on many days and in many ways'.[44] Hansen's co-operation is briefly mentioned in an earlier letter from Würzburg by the theologian Enrico Marcello, who wrote mainly to congratulate Kircher on his tables of magnetic declinations in the *Magnes*. Inevitably the letter includes an eclipse observation, which had been favoured by good visibility.[45]

A rather different letter was sent by Fr Jakub Marquard. Marquard explained how he had been a member of the Society for almost 45 years and for twenty years Confessor to the Duke of Neuburg. He described how he had always been attracted to the study of mathematics. Only now, freed from his duties at court, does he have the time to revert to his earlier studies. His open and modest letter asks for Kircher's advice and, if possible, books to help further these selfsame studies.[46]

Returning to the field of magnetism, we find a long, conversational letter by Lorenz Mattenkloth, who talks at length on various declinations noted by Kircher, Gilbert and Cabeus, and goes on from here to discuss new books on astronomy, magnetism, geography and mathematics. Only at the end, hastily recalling the dues of courtesy, does

[41] XIII. (79 (Cologne, 1642).
[42] XIII. 118 (Cologne, 12 November 1648).
[43] XIII. 221 (Speyer, 10 February 1653).
[44] XIII. 205 (Vienna, 20 February 1640).
[45] XIII. 58 (Würzburg, 19 April 1642).
[46] XIII. 199. (Warsaw, 17 September 1644).

he offer belated praise to Kircher on his own work and endeavours.[47] More to the point was the report in 1642 of the May lunar eclipse in Prague, made by Theodor Moretus (d. 1677, Breslau). It stressed the accuracy of his sightings, adding that they were witnessed by an impressive array of notabilities, including one of Kircher's correspondents Joannes Marcus Marci and Dionysius Niceron, Prefect of the Imperial Treasury.

One of Kircher's better-known astronomer-correspondents was Giovanni-Battista Riccioli (1598–1671), professor of natural science and philosophy at Bologna, and author of one of the more popular astronomical works of the seventeenth century, *Almagestum novum astronomiam veteram et novam complectens*. Most of Riccioli's letters are in acknowledgement of Kircher's apparent information on eclipses and comets. In an earlier letter, Riccioli congratulates him 'vehementer' on his return to good health and thanks him for his 'generous sharing of his observations of the eclipse'.[48] Riccioli, who often quotes Tycho Brahe's works with the warmest approval, sends with the same letter the instruments he had used for his own observations of the eclipse of 14 April.

The following month Riccioli records the arrival of observations made by Kircher in Cologne and Paderborn,[49] and eagerly anticipates the eclipse of 7 October and mentions his own work in the company of the astronomer and physicist Grimaldi.[50] In 1648, one of his letters talks enthusiastically of the progress of his work on the *Almagestum*,[51] while we see from a letter written in 1653 that Kircher was still sending him his readings and observations of the planets: 'very many thanks for the observations, your Reverence'.[52] A much later, and final, letter talks generally[53] of observations made in the Southern Hemisphere, with frequent references to his own work on the subject, *Geographia et hydrographia reformata*.

After Riccioli's scientific objectivity, we suffer a slight shock in reading the letter from Vito Scafili,[54] detailing the dire troubles which befell

[47] XIII. 159 (Münster, 8 March 1640).
[48] VII. 177 (Bologna, 5 July 1642).
[49] VII. 182 (Bologna, 30 August 1642).
[50] VII. 174 (Bologna, 22 December 1646).
[51] VII. 181 (Bologna, 16 December 1648).
[52] VII. 200 (Bologna, 13 February 1653).
[53] IV. 32 (Bologna, 26 February 1661).
[54] IX. 27 (Trapani, 30 November 1666).

the world as a result of the comet of 1664–1665—'la scena all' infauste tragedie…è l'essercitatione del cometa'. Scafili broods darkly on the evil cloud which has passed over the Earth—without defining it more precisely—and the reader is left stunned at such a violent dichotomy within the structure of seventeenth-century science.

A rambling letter from the Austrian Jesuit Michael Staudacher (1613–1672), a noted preacher and theological writer, is tersely summed up by a note in Kircher's own hand: 'Observatio eclipsi anni 1642 14 Aprilis'.[55] A letter from Fr Storheber could well have met a similar fate. This Jesuit, who remarks that he had passed on Kircher's letter to the Elector, thanks the German Jesuit for his *Ars magna*[56] and sees in him the new spirit of Clavius and Grienberger. Finally, a short letter from Antoine Valat gives an observation of a lunar eclipse of that April and adds, for good measure, a random sprinkling of questions on latitude determination.[57]

## Other Jesuits

Much of Kircher's correspondence with his fellow Jesuits cannot be classified under such convenient headings as those above. An example of this would be the letter of recommendation written by Franciscus Abegra for the son of the Consul of Cologne, Johannes Gervinus von Kregs, who had studied under Abegra in Vienna,[58] and who was now desirous of seeing Rome, 'which celebrates your Reverence's fame far and wide'. Abegra hopes that Kircher will not be unduly put out by this impending visit.

In a different sphere, Jacobus de Billy recommended to Kircher a new book on geometry just published by a Roman professor of mathematics, Antonius Sanctinus.[59] Billy was himself a mathematician of note and we may forgive his presumption in drawing Kircher's attention to a book published by a fellow citizen. A far more eminent correspondent, whose letter is, however, surprisingly nondescript,[60]

[55] XIII. 153 (Trento, 26 April 1642).
[56] XIII. 3 (Hersek, 7 September 1646).
[57] III. 359 (Toulouse, 16 May 1642).
[58] XI. 249 (Leoben, 23 November 1676).
[59] XI. 291 (Auxerre, 10 September 1673).
[60] XIII. 35 (Antwerp, 11 March 1639).

was Johannes Bolland, theologian and editor of the monumental *Acta Sanctorum*.[61]

A noted Jesuit author of the seventeenth century who also corresponded with Kircher was Melchior Cornaeus, who drew Kircher's attention to the fact that they had studied together in Paderborn. He tells Kircher that he has been teaching theology in Würzburg for the last ten years and emphasises that he is keeping his lectures short. He sends Kircher his edition of *Aristoteles*, which he had dedicated to the Prince Abbot of Fulda, and comments of himself, disarmingly: 'et ego vir simplex sum'.[62]

Another of Kircher's German correspondents was Udalricus Dirckhaimer, who winningly introduces himself as 'your unworthy brother' and then expands on the present virulent form of plague, a 'divine scourge' which is destroying so much of Germany. According to Dirckhaimer, this is the same plague that had raged in Austria, spreading confusion and death everywhere. Dirckhaimer explains how he has come across a translation into German of Kircher's own great work on the plague, and that he had compared it to the Latin original and found it to be a pleasingly accurate translation. Consequently, 'for the good of our community at home', he would like to have this translation printed, but this would however be neither seemly nor possible without Kircher's gracious permission. He cunningly points out that this would mean a greater dissemination in Europe of Kircher's own learning and fame and includes a specimen of the proposed title page.[63]

A prominent German theologian and polemicist, Vitus Erbermann (1597–1675), who was also for some time Superior of the Papal Seminary at Fulda, wrote to Kircher in 1654[64] to thank him for forwarding 'your remarkable explanatory work on Roman healing' and mentioned that he was still awaiting the five obelisks for which he had already paid the Seminary in Fulda ten 'regios'. Erbermann seems to have been unlucky in this respect for he also describes himself as awaiting

[61] One of Bolland's collaborators in this work was the European scholar Márton Daniel Papebroeck (1628–1714), who wrote to Kircher in 1663 with questions on Hebraic and Arabic syntax: Epist. IX 198 (Antwerp, 19 May 1663). Kircher's answer, in which each enumerated point is concisely explained, was written on 9 June 1663 from Rome: X. IX 200.

[62] XIII. 183 (Hersek, 16 April 1653).

[63] XII. 196 (Vienna, 1 December 1679).

[64] XIII. 220 (Würzburg, 21 October 1654).

a copy of the *Historia Concilii Tridentini* by Fr Sforza Pallavicino. Erbermann's letter bristles with allusions to fellow theologians, and it is with the relief of friendly recognition that we note the final homely, and inevitable, tribute to Kircher's learned reputation. In a second letter,[65] Erbermann forwards his *Trophaea Romana* and rages at the absurdity and lack of understanding of the Lutherans and Calvinists. The final sentence is significant: 'there is no word now from the apostate Wigand'.

A more personal note is present in the letters of Fr Ferrand, obviously a firm friend from Kircher's stay in Avignon, who wrote to Rome some five months after Kircher's departure from France telling him the local news and wondering how he was settling down.[66] A second letter, the following year, contains a few remarks on horology and includes an effusive, but no less sincere, eulogy in Latin verse on Kircher and his activities.[67] A more scholarly request from France was that made by Georges Fournier (1595–1652) for information on the observation of eclipses abroad[68] for inclusion in his own comprehensive (24 books) of '*Hydrographia seu de arte navigandi*'.[69] The same letter contains too his request for one of Kircher's 'tubos opticos' to aid him in his own astronomical observations. A second letter, written the following month, praises the works of Gassendi and Ismael Bullialdi, whom he considers to be 'homines omni literatura excultos'. In comparison to such figures he sees himself—presumably, he feels that Kircher would appreciate an astronomical metaphor—as the night sky during a total eclipse of the moon.[70]

Towards the end of his life, Kircher received a mysterious letter from one Georgius Gailer. He described the discovery by a certain 'honest man', Michael Zenker, a native of Alsace, of an 'arcanum', which would prevent corn or grain from losing its effectiveness. The find was made while Zenker was wandering around Germany with his wife and children, homeless as a result of the wars. Gailer goes on to describe its ability to prevent grain from rotting. Zenker had tried to sell his marvellous discovery in Holland, Lübeck and Hamburg,

[65] XI. 165 (Mainz, 28 July 1672).
[66] XIII. 18 (Aix, 14 March 1634).
[67] XIII. 146 (Avignon, 5 August 1635).
[68] XIII. 84 (Paris, 29 March 1642).
[69] Thus Fournier's *Hydrographie, contenant la théorie et la pratique de toutes les parties de la navigation* (in fol.).
[70] Epist. XIII. 112 (Paris, 18 April 1642).

without success. Now he was offering it, through Gailer as an intermediary, to the powers-that-be in Rome, as a service to the whole of Rome, 'Pontificii Romano in emolumentum granarii et totius urbis Romae'. Bearing in mind the Turkish wars, Gailer urges Kircher to examine the proposal, the only condition being an honest remuneration for the homeless Zenker.[71]

At about the same time, Kircher received a letter from Fridericus Geiger of Fulda, beginning with the statement: 'Fuldensibus quodam modo genitale est…certe amare scientiam Matheseos'.[72] Geiger seems to realize that this is rather sweeping, and goes on to explain that this natural tendency of the natives towards mathematical finesse is reinforced by the mathematical examples left there by Kircher. Geiger paints a moving picture of the unhappy state of affairs in Fulda, which although proud of her world-famous son, has now lost him forever and must therefore mourn 'that our homeland is unlucky because of your good luck!' There is a distinct feeling of bathos in this letter in that Geiger, after extolling the mathematical virtues and wisdom of every Fulda schoolboy, must needs ask Kircher to explain his sundial, located in the College there. He soon recovers, however, from his sense of shame and concludes with a distich of 28 lines on the intriguing 'horoscopium astronomicum'.

One of Kircher's more enthusiastic admirers in the last decade of his life was Udalricus Gering, who seems to have been reduced to a sentimental wreck by Kircher's letters. In an early letter, he records the view on Kircher held by the Provincial of Bavaria, Fr Jacobus Nassler: 'monstrum hominis, et orbis prodigium'.[73] In a second letter, wholly devoted to Gering's views on nephritic wood, he describes his own reception of Kircher's letter and exclaims 'mirare non satis etiam nul potest V. Rae. Humanitate'.[74] Some three years later, Gering writes repeating his earlier eulogistic style, to ask for a specimen of Kircher's 'nova acusticae tubae opera' so that knowledge of it might be disseminated throughout Europe.[75] The following year, in wishing Kircher a long life, he tumbles into the same fulsome pun that had been going

[71] XII. 184 (Oradea, 25 October 1678).
[72] XII. 186 (Fulda, 5 September 1678).
[73] V. 84 (Landshut, 13 February 1670).
[74] V. 13 (Landshut, 2 July 1670).
[75] XI. 97 (Innsbruck, 10 September 1673). The work referred to is Kircher's *Phonurgia nova*.

round Europe for the last 50 years: 'cum prorsus putent ejusmodi Virum athanatu esse oportere, et tum vere Athanasiu futuru'.[76] A later letter is unexpectedly serious in tone and content. Gering inquires, rather anxiously, about Kircher's germ theories of the spread of plagues. More importantly, he wonders if Kircher has found any sure method of controlling the plague. He ruminates on the efficacy of mercury and on ways of circumventing the postulated magnetic force behind the flow of 'vermes in sanguine'.[77] Perhaps this interest was less than purely academic. At any rate, this is the last letter preserved from Udalricus Gering's hand.

In 1672 Georgius Gobat, in an agreeably short letter, demonstrated a replacement code to Kircher,[78] while another letter, written about the same time, recommends to him a young, honest artist of apparently only mediocre skill. The author of this strangely honest testimonial, Pierre de Gourdan, adds that he himself is occupied in the completion of a church started some 50 years ago, which prevents him 'd'avoir le temps pour travailler a la Miniature et pour luy envoyer quelque chose de bien fini. . . .'[79]

Kircher received news of the death of Vitus Erbermann in a letter written to him by an erstwhile acquaintance in Rome, one Jacobus Hartman.[80] Hartman tells Kircher too of the lectures being held in Mainz and after his funeral eulogy on Erbermann talks gloomily of the present sad times. Whole parts of Germany are occupied, including 'patriam fuldensem', by troops from Prussia, Alsace and France, and to complete the picture of desolation, there comes the threat of Muslim invasion from the East. Such additions about political affairs throw light on the purveying of international news across Europe. One of Bollandus's fellow workers on the *Acta Sanctorum*, Godefridus Henschenius (1601–1681), himself an author of no mean repute, wrote to Kircher in 1666 and called him 'noster Germano-Atticus', praising his command of foreign languages. But reality peeps briefly into the correspondence as well when Henschenius mentions the naval battles between the English and the Dutch in the North Sea.[81]

---

[76] Epist. XI. 164 (Munich, 10 April 1674).
[77] XI. 246 (Munich, 11 October 1675).
[78] VI. 130 (Konstanz, 5 April 1672).
[79] X. 74 (Marseilles, 8 May 1668).
[80] XI. 235 (Mainz, 12 April 1675).
[81] IX. 330 (Antwerp, 18 June 1666).

Kircher seems to be constantly receiving letters full of warmth and admiration from people whom he had known, be it ever so slightly, in the past. One such example is the letter written in 1676 by Andreas Huck, who for no other reason but that their paths had once crossed, sent a long and effusive letter in which he dwells cheerily on the durability of friendship and the goodness of God. There is no request in the letter, only a coy interest in Kircher's work, although it would seem that Huck was also from Fulda.[82] Such letters must to a large extent have effaced the bitter attacks of critics and scoffers that Kircher faced in his later years.

Even while Kircher was returning home from Malta through the earthquakes of mainland Sicily, he still seems to have been corresponding. In 1637, Melchior Inchofer (1584–1648), one of the stormier, reform-advocating Jesuits of Kircher's day, wrote to him congratulating him on his close escape from death in Santa Euphemia.[83] In a later letter Inchofer, at that time fighting against an expulsion order from Rome, discourses from Innsbruck on magnetism, mentioning his learned friend Johann Cysatus's views and inquiring after the promised *Lingua Aegyptiaca restituta*.[84] Another correspondent from this city was Jacobus Irsing (1596–1669), who apologized for being unable to send any good news on account of the 'iniquitous times, in which misfortunes increase daily'. Despite such turbulent conditions, Irsing's letter contains an urbane plea for advice on the selection of marble to be used in the building of their church.[85] A similar curious letter is still preserved from Philippus Kadus, who informs Kircher that several music enthusiasts of the vicinity have formed a musical society dedicated to St Joseph. The writer wonders if Kircher can suggest any chants 'in the Italian style' that would be appropriate for this occasion. A consolatory postscript describes the recent excavation 'in hoc Julaie districta' of several Roman antiquities.[86]

Information of a slightly more personal nature was sent by Adam Kalkhoven of Fulda who, besides sending his regards to Holstenius, described the growing population of the Papal Seminary in Fulda as consisting of 30 young men of noble rank, as well as 60 others who

[82] XI. 229 (Heiligenstadt, 29 July 1676).
[83] VII. 111 (Rome, 1 June 1637).
[84] XIII. 177 (Innsbruck, 15 June 1640).
[85] XIII. 15 (Innsbruck, 26 November 1639).
[86] XIII. 233 (Marcador, 7 May 1646).

received stipends.[87] Neither personal nor informative was a letter from Johann König (1639–1693), who wrote in 1676 from Dillingen asking Kircher's help in the preparation of his mathematical theses for their public disputation.[88]

Many of Kircher's letters seem little else but glowing personal euologies. Often these were inspired by his fellow Jesuits as the result of a visit to Rome, and their experience of Kircher's kindness. This is obvious in a letter written by Stanislas Koprowski in 1664.[89] He details his thoughts on Kircher and his museum, and his admiration for Kircher's efforts to understand the mysteries of the heavens. Koprowski, who also expresses his feelings for Rome, prudently wishes Kircher the serene old age that is his due. Often, of course, the eulogies were combined with a request for information, like the letter from a former theological student in Rome, Joannes Ferdinandes Körning, in which a curious pillar of white salt surmounted by a star-shaped stone is described. Since no one else dare venture a suggestion, Kircher is asked to pronounce on the significance of this curiosity.[90] Körning also mentions the persistent encroaching of the Swedes, but he resolutely places his trust in the Virgin Mary, the divine purpose, and the workings of the Catholic faith.

Another of Kircher's Fulda correspondents was Bernardus Linnius who, late in 1646, wrote of the destruction and havoc left by the Swedes, and the present efforts of the Landgrave of Hesse to repair the damage. Among the places singled out for aid was Geisa, 'your homeland'. Linnius stresses the urgent needs of the Abbey and the Papal Seminary and, moving into wider issues, laments the spread of lax religion and Protestantism. These dangers are in turn combined, in such unsettled days, with a very real danger to life and limb.[91] A second letter, some six months later, is far more cheerful, and rather touchingly recalls how the Superior of the Fulda College had read out Kircher's letters to the assembled members. The main part of Linnius'

[87] XIII. 249 (Fulda, 28 December 1645).
[88] XI. 223 (Dillingen an der Donau, 18 August 1676).
[89] IX. 288 (Krakow, 1 March 1664).
[90] VI. 136 (Sagani in Silesia, 5 June 1672). In a similar enquiry, Giov. Francesco Vanni asked for information on a scorpion-shaped stone with the Greek inscription 'theos'. V. 83 (Viterbo, 22 December 1669).
[91] XIII. 240 (Fulda, 18 December 1646).

letter refers to Kircher's 'stella comparata', which he had constructed during his residence in Fulda.[92]

The necessity of writing letters to Kircher, instead of being able to speak to him personally, often irked correspondents. Claudius Maltraict (1621–1674), Rector of the College at Toulouse, tried to hide his exasperation in the guise of a well-turned compliment. But his feelings of annoyance peep through in this very long letter.[93] Maltraict was a fervent admirer of Kircher's knowledge of Egyptology and the Oriental tongues,[94] and his exhaustive letter is well stocked with relevant quotations from Kircher's own *Obeliscus Pamphilius*.

An admirer of and colleague in Kircher's mastery of Arabic was Ludovicus Marraccius, Professor of Arabic in Rome and former collaborator with Kircher on the Vatican translation of the Dead Books.[95] This learned Orientalist, who was also confessor to Pope Innocent XI, spent some 40 years working on his translation of the Koran,[96] and his letter to Kircher is merely a nostalgic memento of their mutual work in the past. The whole letter is a handsome tribute to Kircher's own work in the field of Oriental Studies.[97] Tributes did of course form an integral part of Kircher's correspondence. Of perhaps lesser academic significance is the glowing praise given by Andreas Mikker to Kircher's *Musurgia*.[98] A more straightforward letter is written by Joannes Misch in 1660, in which he expresses his eager impatience in awaiting the publication of the *Mundus subterraneus*. Misch goes on to quote seven contemporary authorities on the subject of mercury and asks Kircher's opinion of the possibility of rings and coins being made in mercury.[99] A second, much briefer letter reports the sighting and description of an unspecified celestial phenomenon.[100]

In 1675 Kircher received a letter from Johannes Nadasi (1614–1695), former Latin secretary in Rome to Vitelleschi and Oliva and at that time confessor to the widow of the Emperor Ferdinand III. The letter

---

[92] XIII. 237 (Fulda, 8 July 1647).

[93] IX. 59 (Toulouse, 6 September 1662).

[94] In a letter to Pierre Poussin S.I., Maltraict remarks of Kircher: 'qui me la peut mieux enseigneur qu'un homme, qui a comme luy une parfaite connoissence de la langue Coptique …' IX. 210 (Tolouse, 17 March 1662).

[95] See T.D. Kendrick, *St James in Spain*, pp. 104–116, 212.

[96] Published Padua 1698 in fol.

[97] Epist. XII. 171 (Vatican, 21 October 1676).

[98] XIII. 179 (Graz, 30 May 1650).

[99] IV. 92 (Trnava, 29 April 1660).

[100] IV. 34 (Trnava, 1660 [exact date not given by JF—Ed.]).

introduces to Kircher a certain Johann von Tam, brother of the Privy Secretary to the Count of Bohemia, who was proposing to visit Rome. Nadasi adds his fervent hope that his friend might be allowed to penetrate and examine what he terms the 'Kircheriana Mysteria'.[101]

Just as Kircher had held correspondence with Mutius Vitelleschi, he also wrote to his successor as General, Giovanni Paolo Oliva (1600–1681). Their exchange of letters was undistinguished. There are several formal permissions to print and Oliva does not restrain the admiration he felt towards Kircher and his wisdom and piety. Oliva also demonstrated keen interest in Kircher's undertaking at Guadagnola.[102]

One of Kircher's French correspondents was Ignace Gaston Pardies (1636–1673), who published works on a variety of subjects,[103] was suspected of adhering to Cartesianism, and who died at Easter in 1673 from exhaustion brought on by a series of impassioned sermons given at the command of his superiors. In one letter he forwards to Kircher a 'Gallicum triphonium', and asks his opinion of Fr. Meynard's work on music.[104] In a second letter, Pardies proudly exclaims that he has built a clock based on Kircher's suggestions, and mentions too that he had already shown this clock to Fr Maignan and gained his approval. The minutes and hours were marked off in a straight line and the clock was conspicuous in that 'iidem numeri designant horas simul Italicas, Babylonicas novas illas Lugdounenses et Villaregias'. Apart from giving, among others, Babylonian time, this wonderful toy also included a range of other pieces of edifying information on 'magnitudinem crepusculi, longitudinem diei et noctis'.[105]

One of Pardies' more famous compatriots to correspond with Kircher was the humanist Dionysius Petavius (Denis Pétau, 1583–1652) upon whom Urban VIII wished to confer the Cardinal's hat but who was jealously kept in France by Louis XIV for the greater glory of his realm. Petavius was conspicuous in his day for his bitter and concentrated hatred of all things Protestant.[106] In his letter to Kircher, he congratulates him on his ingenious and erudite *Lingua aegyptiaca*

---

[101] XII. 172 (Vienna, 12 October 1675).

[102] IX. 323 (Rome, 9 October 1666).

[103] Examples include *Horologum thaumanticum duplex; De motu et natura cometarum; Discourse de la connoissance des bestes*.

[104] Epist. IX. 217–218 (Bordeaux, 9 March 1661).

[105] IX. 252-2 (Bordeaux, 20 August 1665).

[106] This is most apparent in his *De Tridentini Concilii Interpretations e S. Augustini doctrina dissertationes duae*.

*restituta*. Most of the letter is written in the same vein but Petavius has also a request to make, for any information that Kircher can give on the ancient Egyptian system for marking off the months and years.[107] Another French scholar was Pierre Poussin (1609–1686), who lectured in Narbonne and Toulouse on theology and Hebrew. In a letter to Kircher he records the safe arrival of the *Obeliscus Pamphilius*, with six copies of the *Musurgia*.[108] Poussin's letter is permeated with righteous indignation against Fr Maignan O.M. who, in company with Fr Lalovère had demonstrated the falseness of an experiment described in Kircher's *Musurgia*.[109] The French Jesuit, having gravely reported this disturbing attack on Kircher's fame, anxiously awaits his response and inevitable self-vindication.

Although many of Kircher's letters contained unexpected items, both of news and inquiry, not all were so probingly blunt as Poussin's. In a letter of 1671 Simon Schurer, besides detailing all the gossip of the Bohemian court, sends a gift of 100 'aureii' in recompense for Kircher's works. He describes how the money must first be sent from Breslau to Prague, and then from Prague to Rome, forwarded as bills of exchange drawn upon the Regent of Prague, Fr Christoph Todtfeller.[110] Nor did Kircher lack less tangible evidence of adulation. Writing from Avignon in 1668 a French Jesuit, de Sernoulles, admitted he did not know Kircher, 'autrement que toute l'Europe la connoit par les merveilleux ouvrages'. He did not hesitate to recommend to his Roman confrère a young German, notable for his 'beaux talents d'esprit', who was desirous of visiting Rome. De Sernoulles goes on to record the general admiration felt in Avignon for Kircher's beautiful clocks, and mentions his own plans to retrace in oils the weathering and damage suffered by these works 'affin que cet ouvrage soit aussi Immortel qu'il est digne de l'estre'.[111] De Sernoulles concludes with a remark on the possibility of his coming to Rome when he will be able to demonstrate to Kircher his skill in the painting of miniatures. The following year, one Carolus Soll was also to hint at his own impending

[107] Epist. III. 20 (Paris, 3 August 1645).
[108] XIII. 215 (Toulouse, 5 August 1651).
[109] *Musurgia* (1650 edn.), Bk I. p. 12.
[110] VI. 46 (Strausberg, 23 July 1671).
[111] X. 6 (Avignon, 26 May 1668).

visit to Rome, where he proposed to instruct himself in the world-famous 'Roman sciences'.[112]

Another reference to one of Kircher's clocks, this time to the one in Mainz, is found in a letter written by Albert Spieh in 1646. He recalls that he had studied physics alongside Kircher in Cologne in 1622–1623, and that they met again in Mainz in 1626. He describes the clock, possibly the one in the College in Coblenz, and seeks his opinion. Most of Spieh's letter is taken up with gossip about the Landgrave of Hessen 'who wants to be a Cardinal', and with congratulations on Kircher's share in converting the Landgrave to the cause of Rome. The letter is otherwise inconsequential. A possible motive for its composition might be found in Spieh's description of the great poverty he has been living under for the past five years, but since this is merely fulfilling a condition of the Order, it might not be a motive.[113]

In later years, Kircher himself was to receive an annual pension of 100 scudi from the Imperial Court in Vienna. A letter from Christoph Stettinger in 1677 confirms the award of the pension but dwells on possible difficulties in its transfer from Vienna to Rome. This letter, from its tone, is possibly in answer to a query from Rome on the non-appearance of the aforementioned pension. It also thanks Kircher for intervening successfully in a dispute with one Franciscus Rudolphus de Satis. The nature of the argument is not disclosed.[114]

Kircher's traffic in books was not always one-sided. Often he received works from other authors, in much the same way as he himself distributed his own works. An example of this is the work sent by Antonio Terillo in 1660. From Terillo's letter, it would seem that he had already met Kircher, of whom he has strong memories, but as his language is as vaguely ambiguous as his compliments, it is difficult to decide whether personal contact is meant.[115] A Polish Jesuit who not only sent books to Kircher but actually dedicated one of his works to him was Albert Tylkowski (1625–1695), who published a wide variety of works,[116] spent four years at the Vatican, and later became Rector of the College in Vilna. His letters to Kircher testify to his profound

[112] IV. 44 (Breslau, 30 July 1669).
[113] XIII. 251 (Koblenz, 22 April 1646).
[114] XI. 231 (Vienna, 14 February 1677).
[115] IX. 224 (Parma, 11 May 1660).
[116] Tylkowski seems to have had little difficulty in entitling his works: *Arithmetica curiosa; Philosophia curiosa, Meteorologia curiosa.*

admiration of the German Jesuit, which often transformed itself into extravagant flattery: 'dilectissime Pater', 'Pharon scientiarum prospicio', and 'ut Herculeum non plus ultra in lucubrationibus admiror'.[117] The following year (1673), Tylkowski, who is bringing out a second edition of his *Philosophia curiosa*,[118] tells Kircher that he is thinking of adding 'Kircherianes' to the title since his debt to Kircher is so great and since his name occurs so often in the work.[119] Tylkowski refers again to this sense of indebtedness in a letter written some nine months later when he says 'tutto il mio sapere ho avuto dalla vostra sapienza'.[120] Interestingly, Tylkowski comments on the proposed translation into Polish of his work on the Virgin.[121]

Karl Ultsch, Rector of the Seminary in Fulda, writes to inquire about the elections in 1676 for a new pope, and begins bluntly, 'if Father is still living'.[122] But this may be condoned because the second half of the letter deals with the new scarcity of funds which was threatening the continued work of the Seminary. Despite his initial lack of tact, Ultsch was content merely to paint the picture, leaving the obvious solution to Kircher's perception. Many Jesuits in this period seem to have moved with alarming frequency from one court to the next, or more usually from one mission to another. Kircher's own early life is a good indication of the type of nomadic existence which many Jesuit scholars were compelled to lead. Another itinerant reporter would seem to be Joannes Baptist Van Hollant who wrote on the arrival of Queen Christina of Sweden in Brussels,[123] reviewed Kircher's manuscript *Polygraphia* with its code-system of symbols,[124] and finally commented from Frankfurt on the Elector's collection of 'numismata, monumenta, inscriptiones'.[125]

Of more immediate use to Kircher were the activities of Jacques Viva (1605–1650), astronomer friend of Riccioli,[126] who collaborated

---

[117] Epist. XI. 208 (Loreto, 8 December 1672).
[118] *Philosophia curiosa seu universa Aristotelis philosophia, etc.*
[119] Epist. XI. 295 (Vilna, 22 July 1673).
[120] XI. 318 (Vilna, 18 March 1674).
[121] *Pietas Christiana seu Compendium Christianae perfectionis.*
[122] Epist. XI. 322 (Fulda, 16 September 1676).
[123] VII. 170 (Brussels, 21 March 1654).
[124] I. 305 (Vienna, 17 April 1660).
[125] XIII. 158 (Frankfurt, 3 June 1658).
[126] In Riccioli's *Almagestum novum*, [pt.] I, pp. 377, 387 we find astronomical observations made by Viva.

with Kircher to some extent in the compilation of his *Musurgia*.[127] He was also friendly with the Scotsman Murray, with whom he lectured in Ingolstadt,[128] and whose regards he often included in his letters. These letters display very little of interest to the historian of music and mostly contain points on Hebrew, Greek and Egyptology. Viva, who was of Swiss origin, came to Rome in 1646 and died in Loreto on 25 April 1650, the year in which the *Musurgia* appeared.

One of the more profound scholars of Greek in Kircher's day was Simon Wagnereck (1605–1657), who was to spend most of his later life at the Imperial Court in Vienna because of his expert knowledge of ancient coins. His letters to Kircher are profound and penetrating: in the one he talks of his fellow antiquarians, Stephan Pighius, a Belgian priest, and Andreas Schott, 'a man most famous for his knowledge of antiqities', and of the work of antiquarians through Europe,[129] while in the other he amplifies several of Kircher's statements in the *Oedipus*.[130] Even here, in a heavily underlined letter bristling with Greek and Hebraic references, he find time to draw Kircher's attention to new-found Roman gems and coins. Another Jesuit who was also interested in gems was Alexander Wiltheim, who combined questions on precious stones with the rather more practical attempt to gain advice on problems in spherical geometry.[131]

## General Jesuit Correspondence

One of Kircher's compatriots in the Jesuit College at Avignon, Albertus Bartholomaeus wrote to Kircher the year after his departure from Avignon. In this frankly envious letter, Bartholomaeus reports how he and several others left Avignon in the November after Kircher's departure and travelled to Salamanca. He describes their itinerary and cannot help allowing a note of nostalgic envy creep into his voice when he thinks of Kircher favoured by all and at the centre of everything in Rome.[132] In a second letter, written some eleven years later, he reminds Kircher of their mutual German heritage, and asks his opinion of the

[127] Fr Jacques Viva wrote Praef. III for the *Musurgia*.
[128] Epist. VII. 254 (Ingolstadt, 25 December 1642).
[129] XIII. 272 (Munich, 25 March 1650).
[130] XIII. 268 ([Vienna?], no date: probably after 1653).
[131] XIII. 203 (Luxembourg, 17 October 1653).
[132] XIII. 264 (Salamanca, 8 August 1634).

latest work by Fr Eusebio Nieremberg. He seeks Kircher's advice particularly in detailing some dozen propositions contained in the work, notably 'non movere Planetas circum terram'.[133]

It is refreshing to read in a letter from Fr Johann Altingh some few remarks on Kircher's elder brother Andreas.[134] Altingh was obviously acquainted with Fr Andreas, and his comments on his health and general wellbeing enliven an otherwise uneventful epistle. It is indeed a little sobering to realize how completely out of touch with his family Kircher had become. No doubt this is to be expected in a youngest son who virtually left home at the age of ten, but even so, it is pleasing to hear more of his family. Altingh talks of Fr Andreas as being still 'robustis bene compactis' but adds, objectively if not tactfully, his doubts about the brother's bodily constitution.

Inevitably one feels an air of tension upon coming across a letter written by Fr Friedrich Ampringer, an Austrian Jesuit who was to look after Kircher as he lay on his death-bed. Indeed, the letter itself talks of a recommended cure for some unspecified illness contracted by Kircher. Ampringer would seem to have played the role of nurse among the Jesuits; possibly he had medical qualifications. Both this letter and the one preceding bear ironic overtones, a feeling hardly lessened by the good Father's admonition 'Vivat meus P. Athanasius'.[135] A rather gloomy letter written by Fr Johann Beirlé (1624–1700) begins by saying that the writer had thought that Kircher was already dead some years ago.[136] The letter, which in many ways is typical of a good number of the notes received by Kircher in that it both elicits and imparts information, cheerfully goes on to question Kircher on fatalities due to the plague. Beirlé appends a number of questions, all designed to avoid dying of the plague, on the efficiency of amulets, the relevance of climate and temperature, and finally asks Kircher for his views on the theories aired by one Busonius, 'our doctor'.[137] He dwells, with a somewhat morbid delight, on the virulence of the 'pestis Romana' and then, rather late in the day, deftly changes the theme of his letter by adding that he has heard of Kircher's attacks of gout.

---

[133] III. 31 (Spain, 30 July 1654). See J.E. Nieremberg, *Trophaea Mariana, etc.*

[134] XIII. 173 (Münster, 30 June 1651).

[135] VI. 151 (Trento, 8 March 1671).

[136] The news had come to Beirlé from Switzerland to the effect that Kircher had died of a heart attack.

[137] XI. 210 (Mindelheim, 1 October 1675).

Kircher was constantly being asked to solve, to decipher or to pronounce judgment on various quaint conundrums, not least by his fellow Jesuits. To be presumed omniscient was for Kircher one of the less pleasing aspects of his scholastic reputation. Early in 1641, in a church in the Kingdom of Naples, a chest of bones accompanied by an unknown script was unearthed from beneath the altar. The Neapolitan Jesuits lost no time in applying to Kircher 'like an oracle' and sent him an exact copy of the inscription.[138] Certainly the Fathers in Naples were not over-gifted with the spirit of exact research: they merely mention that the find was made 'in a church of this region' and add nothing of its known history. The outcome of their inquiry is unknown.[139]

A letter from Fr Nithard Biber, Provincial of the Upper Rhine (1648–1661), who seems to have been a personal friend of Kircher, reports on the arrival in the bookshops of his *Musurgia and Obeliscus Pamphilius*.[140] The letter leaps gaily from topic to topic, discusses the reception of the *Musurgia*, and talks glibly of Kircher's 'orbem scientiarum lucubrationibus'. After urging the speedy completion of the *Mundus subterraneus*, Biber concludes by wishing divine aid for Kircher's labours. From a second similarly chaotic letter little emerges apart from the love he feels towards Kircher 'from the bottom of my heart', and a haphazard reference to the new-born 'Musaeum Athanasium'.[141]

Another lively Jesuit correspondent is Georg Bierdorff of the Seminary at Erfurt who, while selflessly wishing that Kircher's 'glory and fame' might continue to grow, saw his own presence in the theatre of war in Erfurt as extra punishment for his own sins.[142] In a second letter (his letters are remarkable examples of fluent Latin badinage), he forwards details, already requested by Kircher, of the Great Bell of Erfurt, details kindly provided by the Dean of Erfurt, whose kindness he guardedly advises Kircher to acknowledge if and when such information is printed. Again he bewails his continued presence in Erfurt 'held tight these eleven years in this ultima Thule', and describes the continued ravages of the war, despite, he solemnly adds, the plentiful presence of health-giving springs in Thuringia. He then returns to the more serious matter of the continued existence of the Church in such

[138] In a letter written by Giovanni Berardo SJ.
[139] XIII. 282 (Naples, 8 May 1641).
[140] XIII. 172 (Molsheim, 14 December 1650).
[141] XIII. 128 (Mainz, 12 July 1655).
[142] XIII. 184 (Erfurt, 2 February 1645).

evil and strife-torn times, piously praying for help and consolation from God.[143]

A third letter is written from Aschaffenburg, from where he hopes, now that he is free from Erfurt—'Erfurto liberato!'—to progress to Mainz. Most of the letter is taken up with a description of a mineral spring near Halberstadt, where several miraculous cures are reported to have taken place. He reports several of these cases, admits that the water has a definite iron content, but pronounces that the cures were not divinely inspired, but rather arose from the naturally curative power of the water.[144] His fourth and last letter is written again from Erfurt. He describes their retreat from Mainz before the Swedish armies and tells Kircher that the perilous escape and weary march back to Erfurt seem to have done him more good than harm. The last view we have of this sprightly individualist is of him casting covetous glances at Kircher's own safe and seemingly perfect surroundings—'in your earthly Paradise'.[145]

Correspondents like Bierdorff were few and far between. Inevitably, more serious matters presented themselves. A letter from Fr Philippus Callmus deals with the literary manscripts found after the death of Fr Kaspar Schott, who died on 22 May 1666. He was possibly the only one of Kircher's scholars to attain a recognized intellectual maturity. Kircher had already heard of the death of his friend, possibly from Callmus himself, and had obviously written inquiring about Schott's literary legacy. Callmus notes Kircher's grief at the news but expresses the fear that the transmission of Schott's unfinished work could prove difficult. He mentions too the safe arrival of twenty copies of the *Historia Eustachio-Mariana*.[146] Schott's last work was, he notes, the *Organum mathematicum*. Callmus was looking forward to the publication of this work, although at the time he reports it to be 'sub censura'. Of other works there was nothing to be found. The natural and befitting gloom of the letter is not lightened appreciably by his final note on the plague then raging in and around Mainz, where the mortality rate was unusually high, 'higher at that time than it had been for many years in Germany'.

---

[143] XIII. 246 (Erfurt, 1 September 1646).
[144] XIII. 239 (Aschaffenburg, 14 March 1647).
[145] XIII. 245 (Erfurt, 2 September 1648).
[146] IV. 17 (Würzburg, 20 July 1666).

At sporadic intervals Kircher would receive letters from various Jesuits detailing their missionary travels and often enclosing accounts of the more interesting aspects of their apostolic stations. Possibly most of these were written by people who had already met Kircher in Rome. No doubt the Jesuit indicated how welcome their letters and reports would be. More often than not, the letters were written in very general terms and could have provided only the sketchiest bases for any work planned by Kircher. An example of this type of dilettante foreign correspondent is Fr Antonio Ceschi. In one letter he describes his ten-day journey from Rome to Livorno. Inevitably all Jesuit travels seem to have been beset by formidable storms and boiling seas. To complicate matters, on their arrival Ceschi and his brothers found the town bristling with English Calvinists, who were holding a meeting or assembly there.[147]

A second letter, in which Ceschi mentions having written twice already from Goa, both letters having apparently been lost, was written from Surat in 1648.[148] He also talks of having sent to Kircher in the preceding year two precious stones. As a possible explanation of Kircher's silence, he had heard from Fr Carvallis, the Provincial Procurator, of Kircher's death in Rome, which was of course untrue. Ceschi expounds on the problems facing the Jesuit missionaries in their efforts to convert the Indian heathens and Muslims—'pagans and Saracens', although he nonetheless records their activity in the sphere of natural sciences—before announcing his imminent departure for Agra. From thence comes a third and final letter, wondering whether Kircher has forgotten him.[149] He realises that Kircher is extremely busy, Kircher's 'tasks being useful to the whole world', and talks of his own feverish activity in a region so fully given over into the hands of the Devil.[150] He mentions a two-month journey with Fr Alexander Rodes into the heat of Ethiopia to the court of the Mogul Emperor. On this second journey he did not omit to take the polar altitude—'it is incredible, Father, how many dreadful errors there are' in the extant geographical tables. As yet he has been unable to determine the exact latitude of his present station. Ceschi's letters are full of intermittent scientific

[147] XIII. 59 (Livorno, 14 November 1643).
[148] XIII. 156 (Surrata, 12 June 1648).
[149] XIII. 154 (Agra, 24 September 1648).
[150] He describes his time being spent in 'tot animarum millia ex inferni faucibus eripere'.

observations, talk of his own work and that of his colleagues, and his own protestations at Kircher's valuable achievements and humanistic activities: 'vivat me Pater Athanasi aeternum vivat et mundi totius utilitati uti solet sedulo laboret'.

The Jesuits who were sent abroad on missionary work often acquired a deep knowledge of the language and culture of the people in whose midst they lived. A good example of such a keen and inquiring mind was Amatus de Chezaud, one of Kircher's regular correspondents,[151] who was active in Syria and Persia from 1639 until his death in 1661. Chezaud wrote enthusiastically on Arabian horology[152] and Jewish history,[153] defended the Armenian Christians and called for an end to their persecution,[154] and wrote encyclopaedic dictionaries of Arabic, Turkish and Armenian.[155] Basically, Chezaud's studies were 'for the propagation of the faith', but his keen thirst for scholarship exceeded these nominal bounds. He became a notable defender of Jewish, Turkish and Arabian science, especially in the fields of horology, astronomy and medicine[156] and even wrote to Kircher in Arabic.[157] His favourite field was the study of the lesser stars, and he supplied Kircher with numerous scientific and astronomical observations.

One of Kircher's more humble and grateful correspondents was Reinhold Dehn SJ, whom the German Jesuit had earlier converted to Roman Catholicism[158] and who was to spend his life in the company of Fr Simon Wagnereck classifying the Greek manuscripts in the Imperial Library at Vienna. His letters to Kircher reveal his feelings of deep gratitude towards Kircher's humanity and kindness, even though he seems to have been extremely busy during most of his days—'work prohibits me writing more'[159]—a fact which, although he was able to

[151] Reports from Chezaud are printed by Kircher in *Oedipus aegyptiacus* II. I. pp. 118–119 and *China illustrata*, p. 87.

[152] Epist. XIII. 207 (Aleppo, 1 August 1643).

[153] XIII. 247 (Aleppo, 5 April 1644).

[154] XIII. 225 (Aleppo, 29 December 1639); he describes his compilation of French, Arabic, Latin-Arabic, Italian-Turkish and Turkish–Latin dictionaries.

[155] XIII. 225 (Aleppo, 29 December 1639).

[156] XIV. 76 (Guilfae, 12 June 1654).

[157] This is suggested in a letter XIII. 225. Aleppo, 29 December 1639. A letter written by him to Kircher in Armenian is still preserved in Rome: XIV. 329; another in Armenian and Arabic: XIV. 323.

[158] This is from Sommervogel et al., *Bibliothèque*, vol. 2, p. 1884, and is possibly culled from Jesuit archives.

[159] Epist. VII. 257 (Vienna, 30 December 1654).

discourse on the sources of the Nile with reference to Aristophanes,[160] prevented him from reading the *Oedipus* until much later.[161] In the same letter, he describes his great task as a labour of Hercules. Once he did get round to reading the *Oedipus*, his admiration for Kircher and the way in which the mysteries of the East had for all time been revealed by him, knew no bounds.[162] In later letters he records his admiration for Christina of Sweden,[163] comments acutely on the present political unrest in Bohemia[164] and, after bewailing the death of Fr Wagnereck, vanishes in a flurry of activity among the Imperial Archives.[165]

We find one of Kircher's more persevering Jesuit correspondents is another Viennese figure, the confessor of Ferdinand III. Johann Gans (1591–1662) was a noted preacher and theologian, a devoted student of the affairs of the Holy Roman Empire, and a man who did not hesitate to follow his emperor on to the field of battle. His letters to Kircher, often prompted by the Emperor, reveal a mind occupied with curious details and frequently irrelevant trivia. One of his constant themes seems to have been the contention that the work of Fr Saliani on the date of Christ's death was inaccurate.[166] Some eleven letters are preserved in which Gans makes a particular point and repeats it *ad nauseam*. He only notices Kircher's silence on the matter in parentheses. In the same letter he forwards an Imperial musical composition, 'musicam Caesaream, textum Archidux fecit, notas Caesar', and asks Kircher to have it performed and to note the audience's reactions. He reports, too, of having performed some experiment outlines by Kircher but without any appreciable success.[167] Oddly enough, he mentions in the same communication that the whole experiment, made in a spirit of 'learned curiosity', had much pleased Cardinal Pamphilius.

---

[160] VII. 258 (Vienna, 17 March 1656).
[161] VII. 260 (Vienna, 26 November 1655).
[162] VII. 261 (Vienna, 26 May 1656). He describes his difficulty in getting a copy, eventually borrowing the copy owned by Fr Jodocus Kedd, see VII. 263 (Vienna, 18 February 1656).
[163] VII. 263 (Vienna, 18 February 1656).
[164] IX. 161 (Vienna, 4 February 1662). He describes the presence in Hungary of Count von Robbal and the Count of Montecuduli with 2000 foot and 1000 horse soldiers.
[165] IX. 161 (Vienna, 4 February 1662).
[166] III. 30 (Prague, 3 February 1645).
[167] III. 30v (Prague, 3 February 1645).

On several occasions he forwards Kircher the gift of 100 scudi.[168] He also mentions the receipt of several of Kircher's works,[169] and adds later that the Emperor is awaiting the arrival of others.[170] He talks too of the Emperor's interest in the construction of clocks and includes in one letter a description of the latest Imperial brainchild, a water-clock that shows phases of the moon.[171] The faint echo of the Saliani controversy runs through his whole correspondence and is accompanied by a steady stream of varied astrological and horological queries. In his final letter, when the correspondence stops,[172] he congratulates Kircher on the visit paid to him by Queen Christina.[173]

A rather similarly inexhaustible correspondent is Fr Joducus Kedd, alias Theodor Berck (1597–1657), renowned in his day for a series of violently polemical works denouncing the heresy of the Lutheran faith.[174] These found an appreciative audience, one of his converts being Angelus Silesius, who dedicated to him his own subsequent declaration of faith *Gründliche Ursachen und Motive*. However well his theological pamplets were written, Kedd seems to have renounced all his literary skill in the composition of his own personal letters. They are, for the most part, insipidly inconsequential and soon lose themselves in fulsome trivia. He seems to have acted as some sort of literary clearing-house for Kircher in Bohemia. In one letter[175] he mentions having received 50 copies of the *Obeliscus Pamphilius*, while in others he writes vaguely about his connections with Johann Gans and other local correspondents of the Roman Jesuits. In similar vein, on behalf of the Duke of Holsatius, he expresses the hope that Kircher's promised *Musurgia universalis* is in transit.[176]

His interest in astronomy is apparent. He frequently records observations of comets and eclipses, but for the most part his letters are concerned with his writings 'contra haereticos', with ecstatic references to

---

[168] VII. 116 (Vienna, 18 March 1651); VII. 130 (Ebersdorf. 11 October 1642); III. 35 (Lintz. 9 July 1646).

[169] III. 30v (Prague, 3 February 1645).

[170] VII. 133 (Vienna, 6 February 1649).

[171] VII. 120 (Bratislava, 19 March 1644).

[172] Even as early as 1651, five years earlier, Gans had been compelled to use an amanuensis because of his 'propter tremorem manis dextera'. VII. 116 (Vienna, 18 March 1651).

[173] VII. 115 (Vienna, 1 March 1656).

[174] One of his most bitter attacks was his *Zwoelff künstreich calvinistische Atzelsprueng*.

[175] Epist. VII. 202 (Vienna, 23 October, year unknown).

[176] VII. 36 (Antwerp, 1 September, year unknown).

Kircher's various published works. The untidy gossip-column appearance of these letters is all the more disappointing and frustrating in that Kedd was so well placed as a liaison between Kircher and the Imperial houses of Vienna and Prague. His letters are mostly inflated and pompous. Only one seems to have been written with any real feeling; it describes a sea voyage entailing very real danger and an unpleasant bout of sea-sickness.[177]

One of Kircher's former mathematical students in Rome, who was later to enter into correspondence with the Jesuit,[178] was the Pole Adamandus Kochanski (1631–1700). He seems to have been in regular receipt of Kircher's printed works and, despite his teaching commitments at Mainz where he lectured on theology, developed a strong interest in Kircher's sinological work. Letters from him include problems of latitude and magnetical readings and also illustrate Kochanski's interest in the works of Kaspar Schott.[179] Elsewhere Kochanski rather nostalgically records the fact that all his fellow-countrymen were about to depart for Lithuania while he, despite his applications to the Procurator of the Rhine Province, had to remain in Mainz, 'ad majorem Dei in scientiis gloriam'.[180] In a letter of 1664[181] he comments delightedly on Kircher's continued good health and records wryly his attempts to get his own 'Observationes in polygraphicis steganographicis' published. Between the publication of the *Oedipus* and of *China illustrata*, Kochanski's interest in Egyptology and Sinology grew rapidly. Soon we find him questioning Kircher on specific points arising out of these works.[182] Indeed, in one letter, he quotes some seven separate problems relating to hieroglyphic codes and to machines constructed to demonstrate perpetual motion.[183]

In a final letter,[184] Kochanski sends Kircher a copy of Andreas Müller's *Monumenti Sinici*, a work attacking several points raised in the *China illustrata*. Müller's equally severe *Hebdomadas observationum*

---

[177] VII. 28 (Friedrichstadt, 16 December 1650).
[178] IX. 79 (Mainz, 14 April 1664).
[179] IX. 71 (Florence, 20 November 1666).
[180] IX. 79 (Mainz, 14 April 1664). Perhaps this was just as well, since he had already reported on the 'tumulti bellici' in Lithuania and Poland. IX. 203 (Molsheim, 2 February 1657).
[181] IX. 162 (Mainz, 23 June 1664).
[182] IX. 194 (Mainz, 28 March 1661).
[183] IX. 223 (Mainz, 9 June 1661).
[184] XI. 162 (Olomouc, 11 Aug 1675).

were also known to Kochanski, and he comments darkly on the 'suspecta argumenta fidei catholica veritate' present in the work. Kochanski assures Kircher of his loyal support against this admittedly learned but mistaken zealot and cunningly draws into prominence the views of the theologian Barthold Nihus who had been heard to profess merely lukewarm admiration for Müller's insidious works.[185] Rather appropriately, Kochanski drops into Italian to tell Kircher of the presence of the Collegio Romano of Francesco, brother of one of his former Florentine pupils, Michelangelo Buonarotti, and concludes charmingly, this time in French 'plus les cloches sont haut, tant plus ils sont battus' [*sic*], a consoling sentiment, however ungrammatically expressed, which could well have encouraged the ageing Kircher.

Just as Kircher exchanged letters with the confessor of the Emperor Leopold, he was also the correspondent of Fr François de la Chaise (1625–1709), who administered to the spiritual needs of Louis XIV. Fr La Chaise was an ardent astronomer[186] and antiquarian but his letters reveal surprisingly little on these subjects, apart from an odd reference to the mummies[187] described by Kircher in his *Sphynx mystagoga*. Indeed, the French priest's letters are unremarkable. They show a grateful appreciation of Kircher's profound learning[188] and reveal La Chaise's own strong feelings on the acquisition of new works for his library, but beyond that there is little worthy of comment. In his letter thanking Kircher for the *Sphynx*, La Chaise comments on the favourable reaction to the work from the Archbishop of Lyons[189] and his Most Christian Majesty, and mentions his own feelings of approval towards the good work being done by Jansson van Waesberge.[190] In his own eulogies on Kircher's *Arca Noë*, La Chaise draws attention to the pleasure of Cardinal de Retz at the appearance of this work.[191]

---

[185] Müller, *Monumenti Sinici*, *Hebdomadas Observationum de rebus Sinicis, etc.* cf. *De Sinarum magnaeque, etc.*

[186] When teaching in the Jesuit Seminary in Lyons, Fr de la Chaise erected an observatory and founded a notable collection of antiques: G. Guitton, *Le Père de la Chaize*, vol. 1, pp. 37ff.

[187] Epist. XI. 290 (Lyons, 23 November 167): 'de hieroglyphicis notis Mumiae'.

[188] XI. 369 (Paris, 24 January 1677). He also expresses his delight elsewhere at Kircher's *Arca Noë*—'ut sine magna voluptate perlustravi non possit'. Epist. XII. 210 (Paris, 13 August 1677).

[189] Kircher's *Sphinx mystagoga* was in fact dedicated to Camille de Neufville, Archbishop of Lyons.

[190] Epist. XI. 367 (Ex castris, 15 May 1676).

[191] XII. 211 (Paris, 4 December 1676).

A good example of the comprehensive, scientifically based letters so often sent to Kircher are those written by Fr Heinrich Modersohn from Münster. These letters, full of relevant and useful material, are interspersed with odd references to the progress of the war, the prospects for peace, and the final efforts on these lines made by cardinal Fabio Chigi, then Papal Legate in Germany. A letter written in 1643 contains the following points: notes on the eclipse observed in October 1642, with appended extracts from a book by Fr Jacob Cruickel; a reference to the dreadful war damage in Paderborn, especially to the College; notes on the eclipse of 27 September 1642, spoiled by continuous rain and poor visibility; sample readings of magnetic declinations in Paderborn; remarks on observations made by P Mattenklodt; a reference to the comet of 1642; and finally, notes on recent publications within the Society of Jesus.[192]

Modersohn specialized in the compilation of such letters, at least where Kircher was concerned. His comprehensive and detailed reports on eclipses and comets[193] were in many ways typical of the varied help the Jesuit regularly received from all parts of the globe. His comments on the attempts of Cardinal Chigi to sue for peace on the occupation of the town by the Swedes, and his dark fears about the future of the Roman Church, while illuminating and interesting, are merely interpolations in what are essentially scientific reports.[194] In one letter he broods momentarily on his own future, set against so much black uncertainty, but after writing for a couple of lines on this theme, plunges straightway into a disquisition on the various astronomical systems of Ptolemy, Copernicus, Tycho and Lansperg.[195] This is followed eventually by a list of his own planetary observations, and then in a brief, almost furtive return to reality, he inquires about current elections in Rome for a new pope and a new general of the Society. It is difficult not to admire the truly scientific detachment of such men, who were quietly pursuing their own research in a time of such large-scale misery and bloodshed.

One of Kircher's more voluminous, if less informative correspondents was Fr Philipp Müller (1613–1676), the Austrian Confessor of Leopold, Archduke and later Holy Roman Emperor. Jesuits in such

[192] III. 38 (Münster, 29 January 1643).
[193] XIII. 120 (Paderborn, 25 July 1642).
[194] XIII. 200 (Münster, 17 May 1646).
[195] XIII. 227 (Münster, 5 January 1646).

positions are always difficult to evaluate. One can never be sure how much is written by them at their own inspiration, and how much is obediently expressing the desires and opinions of their royal masters. Müller's contemporaries in Austria included Fr Jodocus Kedd and Marcus Marci of Kronland. His letters bristle with random references to sundry prelates and bishops, all apparently eager to send their best wishes to Kircher. Müller himself was not above including the odd latitude reading, and after receiving four ancient coins from Kircher even went so far as to promise him a portrait of the Emperor.[196]

He duly received, in company with most of Kircher's correspondents, the Jesuit's 'minor work on comets' and after modestly transmitting his own notes on the comet, sagely remarked how much he had enjoyed Kircher's work.[197] A later letter, similarly grateful, records the safe arrival of a gift of chocolate.[198] This mood of sunny approval was jarred a little by a rather indignant letter written in 1672, where Fr Müller, having received from Kircher 'informationem super constructione tubae acusticae' and having duly made the instrument, found that it did not work.[199] He is charitable enough to assume that this could well be his own fault and encloses a drawing of his product to ensure Kircher's speedy remedy of the trouble. Some five months before his own death, Müller congratulated Kircher on his good health 'in suo senio'[200] and went on to talk rather vaguely of the up and coming generation of Bohemian scientists and their 'experientia arcani'. His letters are tinged with a faintly disapproving air[201] and were no doubt sympathetically received by Kircher, who had himself just completed his *Turris Babel* and *Arca Noë* and was preparing himself to spend his last years in prayer and meditation.

One of Kircher's more single-minded correspondents was Andreas Schaffer (1612–1674) who had entered the Society in 1633, largely at the instigation of Kircher. He was responsible for Kircher's knowledge of the various mineral workings in Hungary[202] and was himself to volunteer information and help. In a letter from Neustadt in 1659

[196] VII. 144 (Ebersdorf, 14 September 1655).
[197] VIII. 73 (Luxembourg, 25 April 1665).
[198] X. 135 (Vienna, 6 October 1667).
[199] XI. 69 (Vienna, 16 October 1672).
[200] XII. 173 (Vienna, 17 November 1675).
[201] XII. 75 (Vienna, 9 February 1675).
[202] Schaffer was born in Silesian Leibnitz, studied and taught in Leoben and Vienna and died in Tyrnan.

he tells Kircher how he had heard, from a letter sent by Fr Johannes Eissert of Traunkirchen,[203] of Kircher's search for reliable information on minerals.[204] In the same letter, Schaffer talks of the various base and precious metals mined in Hungary and, 'pro publico bono' agrees to send Kircher as much material as possible.

The following October he writes to tell Kircher that he had forwarded his request to several well-placed men in the mining industry in the Hungarian mountains, and adds that some 10,000 Germans are busy in this sphere in these districts.[205] By December of the same year, Schaffer was himself in Hungary and explaining that a little delay is inevitable until his correspondents all replied. The number of Germans in Hungary had now reached 20,000 and Schaffer, to offset the irritating delay, promises to send mineral specimens to Rome.[206] By February of the following year,[207] Schaffer is in a position to send a preliminary list, legible and informative, of the required minerals, in furtherance of Kircher's desires—for the good of the people, and of course for the greater honour of the Catholic Church. He describes, too, as an afterthought, the work of Germans in the restoration of their local church. In April he sends best wishes for the Paschal feast, stresses once again the embracing significance of his research work and includes a new list, in which numbers refer to more explicit and elaborate diagrams and sketches.[208] From a letter written three weeks later, we learn that the list contained some thirty-seven minerals, each with a sample specimen.[209]

Thirteen months later, he sends a final letter of explanation in which he translates certain technical German terms and describes the various processes and treatments undergone by the metals during mining and, later, in smelting and refining.[210] Schaffer's letters are clear and explicit, as is his response. Upon receiving Kircher's first request, he set himself about the task and reduced it to practical terms. Then he fulfilled the request, scientifically and without encumbering his letters

[203] P. Eissert also corresponded directly with Kircher: VII. 240 (Traunkirchen, 29 July 1659); XIII. 70 (Traunkirchen, 7 October 1659 [2]).
[204] XIII. 115 (Neustadt, 19 July 1659).
[205] V. 133 (Neustadt, 6 October 1659).
[206] V. 134 (Tirnavia, 21 December 1659).
[207] IV. 35 (Tirnavia, 19 February 1660).
[208] IV. 50 (Tirnavia, 1 April 1660).
[209] V. 137 (Tirnavia, 25 April 1660).
[210] IV. 37 (Hantlovia, 20 May 1661).

with local gossip or the usual protestations of friendship and regard which so many of Kircher's correspondents seem to regard as necessary. His efforts did not go unrewarded: Kircher included his reports in his *Mundus subterraneus* under the headings 'De differentibus mineralibus quae in fodinis Hungaricis reperiunter'[211] and 'Processus in Hungaria uisitatus separandi aurum ab argento'.[212]

One of the more prominent Jesuit scientific figures of the early seventeenth century was Christoph Scheiner (1575–1650), Professor of Hebrew and Mathematics at Ingolstadt and Freiburg, and later confessor of Archduke Karl of Austria. He was the first to observe and report several solar phenomena, notably the occurrence of sunspots.[213] He also wrote treatises on the human eye and on light refraction, and invented the heliscopium. There is one letter preserved from him to Kircher. For the most part the letter is unremarkable. It mentions Scheiner's correspondence with Peiresc, confesses ignorance of the Neapolitan Miracle previously referred to by Kircher, admires Kircher's grasp of languages and talks of optical inventions, of his own *Rosa ursina*, and finally of the rebels in Wratislavia at present being routed by Count à Dona, Knight of Malta.[214]

This letter is very significant as an example of the dichotomy between modern and mediaeval thought so conspicuous in the Jesuit scientists of the day, and for its contribution to the history of science, in the condemnation of Galileo and in Scheiner's approval of the 'promulgatione damnati' issued in Rome. The wholehearted support by such an eminent scientist as Scheiner of the thesis 'terra stabili et sole mobili' is an indictment of the powers of reaction to which Kircher himself almost fell victim.

Less well known to posterity perhaps is Stanislas Solski, born in Poland in 1617. After eight years of missionary work in Constantinople, he spent his remaining years in Krakow. His letters to Kircher are enthusiastic and rambling. While still in Turkey, he complained of the constant interruptions to his study of theology and philosophy—'now Scythian invasion, now plague'—and brooded, in a letter to Kircher, on his perpetually narrowing chance of ever returning to

---

[211] *Mundus subterraneus*, II, pp. 207–209.
[212] *Mundus subterraneus*, pp. 233–234.
[213] See his *De maculis solarib, etc.* and *Rosa ursina*.
[214] Epist. XIII. 33 (Vienna, 25 March 1634).

Poland.[215] Most of his correspondence is occupied with his work, on Kircher's behalf, on the obelisk in Constantinople. In 1655 he writes of his daily expectation of receiving a description of the obelisk from one Dn. Panaiatus,[216] but not until four years later is he able to send a full and explicit description of the inscriptions and dimensions of this Egyptian monument.[217]

In the same letter he adds the longtitude and latitude of Constantinople, 'this most famous city', and several reports on lunar eclipses made by the city astronomer. Then, drawing a deep breath, he literally bombards Kircher with a series of problems, hypotheses and puzzles, all neatly drawn out of the *Ars magna* and presented for unravelling. In a letter written the following year Solski, fearing that his initial report may have been lost, repeats the mixture and this time adds, as a postscript, the latitude of Warsaw.[218] After this frenzy of factual reports, apart from a lone letter of thanks in 1665 for the *Polygraphia*, 'which makes extraordinarly difficult things seems so simple',[219] Solski slowly fades away. It is possible, indeed it is likely, that he wrote more letters, but the only ones preserved are those dealing, as here, with astronomy and the Turkish obelisk.

While Kircher was still in Avignon he received a flattering letter from the General of the Society, Mutio Vitelleschi (1563–1648).[220] Vitelleschi encourages Kircher in his work which will glorify both God and the Society and lets it be understood that he is willing to provide help should this be necessary. Vitelleschi seems to have remained favourably disposed to Kircher for the rest of his life. A note in 1637 congratulates Kircher on his zeal and pedagogic endeavours, and promises to speak to Cardinal Barberini on the subject of fresh aid towards the young Jesuit's works.[221] A later letter gives encouragement to Kircher for his part in the spiritual education of the Landgrave of Hesse.[222]

Of more personal interest to Kircher, however pleasing letters from the General of the Order might be, were the friendly notes he received from Andreas Wigand (1606–1674). Wigand was born in

[215] XIII. 94 (Galatae, 2 June 1654).
[216] XIII. 42 (Galatae, 13 February 1655).
[217] XIII. 8 (Galatae, 14 September 1659).
[218] IX. 201 (Warsaw, 14 June 1660).
[219] IX. 75 (Legoli, 29 November 1665).
[220] VII. 16 (Rome, 31 July 1632).
[221] VII. 19 (Rome, 30 July 1637).
[222] VII. 18 (Rome, 7 January 1638).

Fulda, educated there in the Papal Seminary and later at Würzburg, where he studied mathematics under Kircher and from where he was also to flee with Kircher to France.[223] In 1630, while at Würzburg and under Kircher's aegis, he defended several theses drawn from the whole field of philosophy with such skill that he was deemed worthy of the Master's degree. In fact he was not to receive this academic distinction until twelve years later in Mainz, when his promotor is reported to have said: 'Melior est humilis Philosophus, quam superbus rusticus'.[224] Wigand's life was spent in teaching and preaching, at various centres including Fulda.[225] His final act, on Ascension Day 1671, was to renounce his belief in the Roman Catholic Church and to become a Protestant. Needless to say, no suggestion of this supreme decision had been mooted before or during his connection with Kircher.

In his first letter from Worms, in 1659, he tells Kircher of the interest shown by the Elector of the Palatinate in his works, and asks for a complete list of books so far published by him. He mentions his own teaching in Fulda some two years past and tells Kircher of a thesis successfully defended by the Benedictine monk Bernard Faber, a native of Geisa. Wigand himself had visited Geisa where, he reports, Kircher's memory was still treasured by his townspeople. In the rest of the letter, Wigand expands on his own activities in Germany and especially in the service of the Church, 'de aliis rebus pro re catholica'.[226] A second letter is less comprehensive. We hear of the impending arrival in Rome of the only son of a privy councillor of the Elector of Mainz, one Andreas Lasser, whose virtues are extolled. Kircher is asked to show kindness and friendship towards the youth, 'a young man of whom much is expected'. There is a vague reference to Kircher's presumed love of Fulda and with this, the succinct letter closes.[227]

A more distant correspondent was Franciscus Ximenez (1600–1680), who introduced himself to Kircher in a letter written from Mexico in 1655: 'ego sum ille quem Ra. Va. Lugduni amicorum suorum catalogo

[223] XIII. 121 (Worms, 7 November 1659). Wigand reminds him of this in a postscript.

[224] See Zedler, *Universal-Lexicon*, s.v. A. Wigand.

[225] In his sermons at the funeral of the Emperor Ferdinand III in Vienna, he caused wide-felt admiration by his faultless memory of the entire family-tree of the House of Austria, complete with the dates of births, deaths and marriages.

[226] Epist. XIII. 121 (Worms, 7 November 1659). According to this letter, Wigand was present when several of Kircher's eagerly awaited works were presented to the Prince Bishop, Joachim von Graveneck.

[227] XIII. 217 (Würzburg, 12 May, year unknown).

inscriptsu Franciscus Giliotus'.[228] Ximenez admits that his thoughts were turned to Kircher by a hurried perusal of his *Magnes*, a copy of which some German Fathers, who had passed through on their way to the Philippines, had in their possession. He has, he tells Kircher, heard of the *Prodromus*—'o doctum! o curiosum! ac prac excellentem librum!'—but he has not yet been able to see a copy. Kircher was not slow to respond to this call from the wilderness and in his next letter we find Ximenez, who was obviously starved of books, extolling the virtues of the *Oedipus* and *Itinerarium exstaticum*. He talks of his own literary 'vehemens desiderium' and thanks Kircher feelingly.[229]

Two months later, Ximenez again writes, confirming the arrival of the *Oedipus*, the *Musurgia*, the *Itinerarium exstaticum* and the 'book about the plague'. The promised *Obeliscus Pamphilius* had failed to arrive—'et doleo'! In trying to express his feelings of gratitude for such priceless gifts, Ximenz loses himself 'like a seashell' in an ocean of eloquence as large as the Atlantic (the simile is his): 'quid vero sentiam de huiusmodi summi ingenii foetibus'. To express his gratitude more forcibly, Ximenez sends Kircher 25 pounds of chocolate mixed with saccharine to prevent deterioration on the sea voyage, and a few of their more select peppers 'that are called Chile'.[230] In a letter written three years later[231] Ximenez discusses the doubtful return of the Spanish ships which bear his letters. He tells Kircher of the eventual arrival in Rome of a certain Fr Alexander who, he assures his correspondent, will be able to tell him more about Mexico.

In 1672, Ximenez writes sympathizing with Kircher on the recent defection of Andreas Wigand. More to the point, at least as far as he is concerned, are his doubts on the safe arrival of Kircher's letters and books. In conclusion, he mentions how willingly he would send Kircher more chocolate but, he adds dolefully and in French, 'ces gens ici s'offensent: je veux dire ceux qui sont a Rome s'offensent et se resserrent fort, si nous envoyons du chocolat a d'autres qu'a eux'.[232] How refreshingly mortal such a remark appears. The picture it conjures up, of learned prelates and sober scholars eagerly wooing a steady supply

[228] I. 166 (Puebla de los Angelos, Kal April 1655). [Ximénez was in fact the criollo cleric Alejandro Favián who had renamed himself and was not a Jesuit, but was a friend of them; P. Findlen, 'A Jesuit's Books in the New World'. In idem (ed.), *Athanasius Kircher*, pp. 335ff.—Ed.]

[229] IX. 232 (Puebla de los Angelos, 18 February 1661).

[230] VIII. 14 (Puebla de los Angelos, 20 April 1661).

[231] VIII. 80 (Mexico, 28 August 1664).

[232] XI. 89 (Mexico, 8 May 1672).

of chocolate, is a welcome contrast to the serious unremitting dedication 'ad majorem DEI gloriam'. It is of interest to note that chocolate soon became a polemical issue in Europe and was proved, by one eminent cardinal, to constitute nothing less than a breaking of the fast.[233]

Nearer to home, Kircher's resident Netherlands correspondent was the Dutch Jesuit Otto Zylius (1588–1656), who besides taking an active interest in Kircher's work, provided a ready stream of information on events happening in the Low Countries. In a letter written in 1651 we hear both of Zylius' eager expectation of the second volume of the *Oedipus* and of the arrival in Brussels on 8 May of John of Austria. He also mentions the appearance of French and English noblemen in the court of Holland to act as mediators in the war between England and Holland.[234]

Almost exactly two years later, Zylius informs Kircher of the new work just published by Marcus Meibom,[235] in the preface of which Kircher's *Musurgia* is bitterly attacked. If Kircher has not seen the book, he advises him to do so as soon as possible, since certain points in the preface not only concern but indeed assault Kircher's ideas. Five months later, Zylius writes approvingly of Kircher's indignant refutation of Meibom and broods on the adverse effect such detractors have on the glory and honour of the Society. This in turn leads him to ponder on the present feelings of antipathy towards the Society.[236] In the second half of his letter he talks of the suspension of trade in Holland on account of the maritime war with England.

Letters of a purely informative nature were a valuable part of the seventeenth-century scene. Early the following year Zylius writes to tell Kircher more about Meibom. His age is about 33 years, he has taught in Flanders and France, and written *Maecenatis historiam*.[237] His three sons have all died. Similarly, Zylius records the triumphant entry, on 22 September 1655 in Louvain, of Christina, Queen of Sweden. The personal qualities of the Queen have made a favourable impact and raised the people's opinion of the new Pope, who managed

---

[233] This view was developed by one of Kircher's own correspondents, Cardinal Francisco Maria Brancassio: *De chocolatis potu diatribe*.

[234] VII. 271 (Brussels, 13 May 1651).

[235] *Antiquae musicae authores septem Graece et Latine. Marcus Meibomius restituit et notis explicavit*.

[236] VII. 29 (Brussels, 20 Sept. 1653).

[237] VII. 30 (Brussels, 21 Feb. 1654).

to secure such a worthy figure as a convert.[238] Again acting as a faithful reporter for those in Rome—for naturally Kircher's letters would be passed around the city—Zylius describes in detail the appearance and constitution of the Queen's retinue. This letter, written some ten months before his own death of a heart attack, is the last we possess from Zylius, many of whose translations of the lives of the saints from Czech into Latin were, incidentally, incorporated into the *Acta Sanctorum* by Bollandus.

[238] VII. 272 (Brussels, 25 September 1655).

CHAPTER TEN

# LETTERS FROM CONTEMPORARY MEN OF SCIENCE

Kircher's fame as a scientist and his readiness to answer letters of scientific inquiry did not remain for long the strict preserve of his fellow Jesuits. As Kircher's works multiplied and were republished, more and more men of scientific leaning, from the famous to the obscure, began to write to Rome, to the 'most expert instructor of the abstruse sciences',[1] in an attempt to have their own thorny problems reduced to reason and logic.

Their questions were often abstruse, often quaintly naive, often little else but thinly veiled flattery. The men who wrote them ranged from European celebrities and courtiers to doctors, lawyers and astrologers—indeed, representatives of almost every social class and intellectual grouping. For this reason alone, but also because of the baroque love of digression and reiteration, their letters are almost impossible to classify. Where one will write vaguely of ellipses, triangles and trigonometry,[2] another might send a bulky letter reminding Kircher of an earlier meeting and talk of being led into Kircherian light from his earlier state of mental pessimism,[3] concluding with a lengthy list of mutual correspondents active in both Cologne and Amsterdam.[4] Often, too, their letters seem more especially vague in that they contain no specific allusions to what has gone before. In such cases, where we lack the initial introductory letters, and must remain therefore contextually uncertain, the varied references and allusions are tantalizingly scanty and inadequate. We must bear such consideration in mind as we glance at an alphabetically ordered (for want of more cogent common factors) selection of Kircher's scientific correspondents.

Most of Kircher's medical correspondents were encouraged to write to Rome by the appearance in 1658 of his *Scrutinium pestis*. Often

---

[1] This is the address-formula in a letter written by Giovanni Balthasar: Epist. XI. 175 (Carolstadt, 12 October 1672).

[2] Vincenzo Alias: X. 114 (Messina, 29 February 1668).

[3] The reference is to Kircher's *Ars magna*.

[4] Epist. IV. 109 (Amsterdam, 8 June 1669, from Andreas Alexander); V. 52 (Cologne, 30 December 1669).

their letters were little more than enthusiastic acclamations of Kircher's penetrating foresight: it is curious to note that Kircher's work, though so eagerly welcomed, did little to promote active medical research, most of his contemporaries being inclined to welcome the work as further proof of Kircher's perspicacity without realizing the implications of his discoveries. Such was the reaction of Giovanni Bindi, a doctor who had himself published in the same year two medical tracts[5] and who with his colleagues contented himself with distant applause rather than active co-operation.[6]

In the allied and somewhat younger science of chemistry (the first chair of chemistry was founded in 1609 in Uppsala), Kircher was similarly held in high repute, as we see from a lengthy letter written by Daniel Bockelmann containing various questions on the uses of mercury.[7] Bockelmann's inquiry, in the erudite fashion of the age, is liberally padded with numerous references from earlier and contemporary writers. Less obvious is a letter from Francesco Carli, who thanks Kircher for sending him details of 'La Maravigliosa Esperienza…quanto scherzevole la Natura'.[8] Possibly the experiment referred to was of a mathematical nature, since in a later letter of the same month Carli discusses 'le delicie matematiche del Schwentero, et un altro simil libro del Harstorffer delle curiosità inaudite'.[9] In a more personal rather than strictly inquiring letter, Carli describes his correspondence with Kircher as 'delle cose del mondo le più preciose' and sends his best wishes towards the furtherance of Kircher's plans in Mentorella.[10]

Kircher's correspondents often combined scientific reports and queries with personal reminiscences and allusions to mutual friends, as in the case with a letter written by one Lucio Carrara soon after Kircher had concluded his investigations into the earthquake in southern Italy in 1638. Here, Carrara comments on 'li gran terremoti,' and refers to what he describes as the 'casi curiosi del Vesuvio'. He also mentions and sends the regards from several Jesuit fathers who had been in

[5] E.g., Bindi's *De rara epilepsiae differentia consultatio.*
[6] Epist. III. 315 (Foligno, 5 October 1658).
[7] IX. 139 (Graz, 7 March 1662).
[8] X. 113 (4 February 1669).
[9] Cf. D. Schwenter, *Delitiae mathematicae et physicae*. On Harsdörffer, see pp. 358ff.
[10] Epist. V. 167 (Verona, 19 February 1669).

Kircher's company.[11] The information contained in such letters was, as we know, later incorporated into the *Mundus subterraneus* in 1665.

One of Kircher's less ephemeral correspondents was Giovanni Domenico Cassini (1625–1712), the noted astronomer who, after refusing a cardinal's hat from the Pope, became director of the Academie des Sciences in Paris and later held the same position in the Royal Observatory there. He was for a while (1652–1670) professor of astronomy in Bologna, from where he wrote in 1666, thanking Kircher for sending him his observations on the orbital revolutions of Jupiter.[12] Soon after his arrival in Paris he wrote again, mentioning his work towards determination of the meridian, his observations on the eclipse of the moon, and his sighting of Venus.[13] Cassini's letters to Kircher are brief and functional; there is little attention paid to the more formal salutations so typical of the age. Both he and Kircher seem to have shared a genuine admiration for each other.

A correspondent who found in Kircher both a scientist and a friend was John Dodington, an Englishman resident in Venice. On the scientific side, Dodington seems to have acted as honorary agent for the diffusion of Italian telescopes and microscopes in England. In a letter written in 1671, he thanks Kircher for the receipt of several telescopes and microscopes and describes how he had promptly written to England describing these instruments.[14] Two months later he wrote again drawing Kircher's attention to the elliptical lenses used by 'i nostri Filosofi in Inghilterra', which he considers to be 'le più perfecte per prospettiva' capable of facilitating better observation of spherical objects.[15] With this same letter, Dodington sent a monograph by Robert Boyle 'contenenti nuovi experimenti nella materia dell'Aria'.[16] Shortly afterwards, Dodington wrote again, this time requesting more information on the optical instruments of Eustachio Divini and Guiseppe Campani. He explains his eagerness in this respect by referring to the need of the Royal Society in London for such instruments 'de' più perfetti'.[17] The

[11] XIV. 366 (no placed, 4 June 1638).
[12] IX. 313 (Bologna, 24 April 1666).
[13] VI. 160 (Paris, 17 July 1671).
[14] VI. 50 (Venice, 3 January 1671): 'alli cannochiali e microscopii, circa di ho hieri scrivi in Inghilterra.'
[15] VI. 97 (Venice, 21 March 1671).
[16] Probably this was Boyle's *New Experiments Physico-Mechanicall touching the Spring of the Air*.
[17] Epist. V. 21 (Venice, 17 January 1671).

same letter also contains requests for news of new developments 'in re mathematica, et Philosophia naturale'. Another letter describes his safe return 'con la gratia di Dio in bona salute' to Venice, after visiting Milan, where, because of his friendship with Kircher, had been very kindly treated by the antiquarian Manfredo Settala.[18]

On the more personal side, Dodington seems to have found in Kircher a ready mentor and moral guide for his son, who was then studying 'nel Seminario romano'. He unhesitatingly recommends his son 'dalla cura e disciplina di Suo Paternità', hoping thereby to ensure his ready acquisition of every virtue.[19] When his son failed to write, Kircher was asked to look into the matter.[20] Dodington appears to have held definite views about his son's education. In a later letter, he talks again of the boy's acquisition of knowledge and virtue and lays down his own ideal subjects of study: 'Artura, Musica, Scultura, Architettura, Fortificatione', in fact all 'antiche virtù e simil virtù'.[21]

A slightly more versatile correspondent than our solicitious Englishman was the Silesian Johann Elichmann (d. 1640), a practitioner of medicine in Leyden, whose knowledge of Persian was held to be incomparable, and who published works on Pythagoras and on Arabic medicine. This latter interest led him to write to Kircher, and his letter is abundantly stocked with Arabic phrases and words, with a polite request for Kircher's help in their deciphering.[22]

As we have seen, Kircher was continually receiving letters from people he had already met, and from people in places where he had already spent some time. In this respect, a letter from Christoph Emertz of Fulda is rather typical.[23] Emertz wrote apparently in answer to a request from Kircher for details on the 'delineationem stellae persilis in basilica Fuldensis' and excused himself for the delay in replying caused by the inevitable 'continuis incommodis bellicis impeditus'. Emertz, again rather typically, does not hesitate to ask Kircher for a sample 'tubum opticum' to enable closer examination of 'each and everything, even the most minute'. Emertz himself complains of being rather busily occupied by what he calls the 'the Gordian knot and the

[18] VI. 176 (Venice, 14 May 1672).
[19] VI. 97 (Venice, 21 March 1671).
[20] VI. 23 (Venice, 3 January 1671).
[21] V. 21 (Venice, 17 January 1671).
[22] III. 366 (Leyden, 29 July 1638).
[23] XIV. 11 (Fulda, 13 January 1648).

labyrinth' of work and describes the difficulty he had had in freeing himself from these pressing duties.

Another person to appear rather vaguely from Kircher's native background was Albrecht Otto Faber, who wrote a glowing tribute on the *Ars magna* but spent most of his letter reminiscing on the proximity of their respective birthplaces ('Tu Fuldae, ego Laubaci Comiti Salmensium natus sum') and musing on their consequent 'consanguinitas' and their growth to manhood in the 'provinciae macrocosmi matris nostrae'.[24] A similarly ardent but this time unrelated admirer was Giovanni Camillo Glorioso (1573–1643) of Naples, whose appreciation of Kircher's magnetic experiments and of his 'mathematicis subtilitatibus' must certainly have encouraged 'doctissimus Athanasius'.[25] Glorioso had been professor at Padua, from which ancient university there came in 1668 another tribute to Kircher's learning and fame ('maxima et illustris nominis Tui et stupendae eruditionis fama in ultimo fore Europae'), this time from a fellow countryman, Johann Hartmann Gramann. Most of Gramann's letter is taken up with scholarly news; he tells Kircher of the publication of Zwelfer's *Pharmacopeia Augustuum reformata* and of Valeriano Bonvicino's death some three weeks earlier.[26]

One of Kircher's most important medical correspondents was the Dresden doctor August Hauptmann (1607–1674), a close friend of Christian Lange.[27] Hauptmann, who wrote on chemistry and medicine, was an early adherent to the doctrine of 'living putrefaction' with its attendant swarm of disease-spreading vermicules. This was of course the theory taken up and developed in Kircher's *Scrutinium pestis* in 1658. In an early letter to Kircher, Hauptmann describes a work by Petro a Castro on 'puncticular fevers',[28] which in turn leads him to talk of the minute worms found in the blood of fever patients ('vermibus minutissimis sanguinem maligne febricitantium') and observed by the 'ars microscopica'. Kircher is referred to Pliny. Hauptmann further quotes Alhasen and Avicenna and earnestly advises Kircher to examine and follow Castro's observations: 'ac beneficio microscopici

[24] III. 341 (Paris, 10 February 1651).
[25] III. 387 (Naples, 4 May 1640).
[26] X. 141 (Padua, 31 August 1668).
[27] Lange is described by Hauptmann as 'the great crown of many men': III 17 (Dresden, 15 December 1657).
[28] See Petro a Castro, *Febris maligna puncticularis aphorismis delineata*.

instrumenti in sanguine et lacte…vermiculos minutos cum laudato Petro a Castro observavit'. Hauptmann's letter is remarkable in that it contains the first known drawing of an itchmite ('Germanice Reitzliesen S. Molben'; see Chapter 4), which Hauptmann compares in turn to the insects found in cheese and milk. Hauptmann postulates finally the relationship between these vermicules and those observed 'in capillary vessels in puncticular fevers and those akin to them'.[29]

In a second letter, Hauptmann muses on the cause of the plague and disease, and the supposed theories of others: 'many indeed have written a great deal about the plague'. He talks of the 'putredinem verminosam' and of the tremendous help offered by the microscope, which makes such creatures not only visible but almost tangible. For a moment the mediaeval background looms large when Hauptmann dilates on the evil humours engendered by a waxing moon, 'when the air swarms with innumerable germs', and then recedes again as quickly, when the forward-looking scientist emerges: 'man himself is like a fungus that springs up overnight, and on the morrow is full of rottenness and worms'. In a postscript, Haupman forgoes his preoccupation with death and corruption and politely describes the interest with which he is awaiting the promised copy of Kircher's *Mundus subterraneus*.[30] A third and final letter describes Hauptmann's quiet satisfaction at Kircher's *Scrutinium de peste*, 'by which he expresses the more abstruse quintessence of his teaching and all the central causes of things most effectively'. He launches into an elaborate comparison of Kircher's greatness within the 'Republica Naturalis' with the dazzling, peerless splendour of the sun within the firmament.[31] And so the tributes continue.

Inevitably, not all of Kircher's correspondents enjoyed a contemporary eminence like that of Hauptmann. Another chance acquaintance who wrote to Kircher—22 years after their encounter on the ship from Marseilles to Genoa—was Johann Hellwig, who had been called to Regensburg by the suffragan bishop, Sebastian Dernich (another of Kircher's correspondents) after spending sixteen years in Nürnberg, where he had become friendly with Georg Harsdörffer. All this information is contained in the letter. Hellwig rather naively wonders

[29] III. 13 (Dresden, 20 February 1657).
[30] III. 17 (Dresden, 15 December 1657).
[31] III. 11 (Dresden, 31 November 1658).

if Kircher still remembers him in the black costume[32] customary in French schools of medical studies, and mentions how impressed he had been by their conversations ('colloquii humanissimi ac eruditissimi').[33] Apart from such reminiscences, Hellewigius' main purpose in writing to such a renowned scholar ('per omnes Europa provincius ob doctrinam et polymathsim celebratissima') was to send him a pyramidal eulogy composed by Harsdörffer in his honour ('interim subscribo urbis nobilissimi et ingeniosissimi Georgii Philippi Harsdörffer'), the effect of which is rather spoiled by its being dedicated to one 'Athanasio Kirchnero'.[34]

Another of Kircher's acquaintances from roughly the same period was the renowned astronomer Jan Heveliusz (1611–1687), who from his observatory in Gdansk identified and plotted the courses of some 603 new stars: Heveliusz, whose astronomical discoveries were chiefly embodied in his *Selenographia* of 1647 and his *Cometographia* of 1668, met Kircher in Avignon in 1632 during his European peregrinations. Writing in 1647, he recalls Kircher's kindness with his opening words: 'humanitas tua, qua me Avenione anno 1632 excepisti'. In this same letter, Heveliusz describes the pride and pleasure he feels in corresponding with such a famous scholar and expresses the wish that Kircher's learning should not long remain hidden: 'would that all the rest, which still lie hid within the capacious depths of your mind, might be promulgated for public use'. The rest of the letter is taken up with describing his own progress with his *Selenographia* and with a humble request for any observations, whether of stars or eclipses, from Rome or elsewhere, that Kircher may come across.[35] With a second letter, Heveliusz sends both an engraving of the moon and pious wishes towards Kircher's fruitful longevity.[36] Heveliusz seems to have had a deep and genuine regard for Kircher. Although most of his letters are taken up with his own works, he does mention the feeling of

[32] Despite the use of the word 'consocius', Heveliusz was not a Jesuit, since he later on refers to 'Vestrae Societatis Collegium'.

[33] XIV. 109 (Regensburg, 10 January 1655).

[34] 'Athanasio Kirchero qui arcano magnetismo pietatis, acie ingenii perspicacissimi, linguarum exoticarum stupenda peritia, eruditionis miracula edidit monumentum hoc Mnemosyne cum filiis suis L: M: Q: posuit'. ('To Athanasius Kircher, who by the arcane magnetism of his piety, the keenness of his clear-sighted genius, by his stupendous skill in exotic languages, produced miracles of erudition, [the Muse of] Memory and her children have erected this monument, L.M.Q.')

[35] III. 346 (Gdansk, 28 August 1647).

[36] III. 336 (Gdansk, 4 May 1648).

eager anticipation with which he is awaiting 'tua artis magnae Consoni et dissoni'[37] and again repeats his desire for Kircher's preservation and happiness.

When Heveliusz announced to Kircher in 1648 that his *Selenographia* was finally ready, he also mentioned how useful such a work would be to Kircher's fellow Jesuits in helping to teach mathematics and astronomy.[38] Apparently Heveliusz received no immediate answer to this letter since he writes again questioningly, some nine months later: 'I have absolutely no doubt that you have safely received my letters, which I sent you together with [my] *Selenographia* conveyed through Fathers of your Society'.[39] There are several references in this letter to the optical instruments made by Eustachio Divini, for Heveliusz himself enjoyed the reputation of being an expert on the preparation of telescopes and microscopes. Most of the letter is taken up with talk of new books. He mentions his desire to see Kircher's *Musurgia* and *Obeliscus Pamphilius* and Riccioli's *Almagestum* and wonders 'if some similar recent [work] that is new and learned may have come out'. He recommends in turn to Kircher a lavishly engraved work just appeared in Frankfurt: Johann Jonston's *Historia de piscibus*. Heveliusz concludes, inevitably, with a reference to his latest observations on a solar eclipse and sends his best wishes to Jacobus Viva and Divini.

In his final letter Heveliusz remarks that he is still awaiting his copy of the *Musurgia*. He had, however, acquired a copy from his bookseller and generously praises Kircher's tremendous erudition in this compilation. He had also failed to receive several lenses promised by Divini, but this, too, he understandingly attributes to the dangerous and rigorous journey. In this letter, Heveliusz orders from Divini a telescope 45 palms in length, not costing more than 70 imperial thalers. He also sends the regards of Dr Burattini of Warsaw, an academic interested in Kircher's 'antiquitatos illos hieroglyphicos' and mentions the avid interest with which he is awaiting Riccioli's *Almagestum*. In a postscript he refers to a letter received from Kircher, of 30 April 1650, in which the Jesuit had described the transmitted copy of the *Selenographia* as being spoiled by rain and torn, and adds that he has already despatched a new copy.[40]

---

[37] III. 344 (Gdansk, 7 April 1649), referring to the subtitle of Kircher's *Musurgia*.
[38] XIV. 3 (Gdansk, 12 June 1649).
[39] III. 342 (Gdansk, 12 March 1650).
[40] XIV. 120 (Gdansk, 7 October 1652).

Kircher often received letters that contained little else but a request for one or several of his works. Only very rarely is the question of payment raised. Perhaps this was merely a gentlemanly reticence, or perhaps Kircher was noted for his generosity. A case in point would be a letter from Giovanni Battista Hodierna (d. 1678), a famous Neapolitan lawyer and later privy councillor. Apart from mentioning a meeting with Kircher in 1639 in Rome, Hodierna merely requests a copy of the third edition (about which he had heard from Kaspar Schott in Palermo) of Kircher's *Magnes*. Hodierna also employs, typically, a little judicious flattery, but possibly its effect is marred by his careless orthography in extolling the virtues of one Athanasius Kirchier…[41]

From Italian lawyer to German pastor is but a small step when dealing with Kircher's ranks of correspondents. Alexander Hofer, writing from Landshut, did not stint his admiration of Kircher's erudition when he wrote requesting information both on the 'lignum nephriticum' and 'de ligno solari horidictuo'. Kircher had dealt with these points—supplemented with information from Jesuit fathers in Brazil—some five years earlier in his *Mundus subterraneus* and had ever since been kept busy answering similar queries, perhaps because, as Hofer saw it, he was 'the Father whose wonders fill the world with admiration'.[42]

Kircher's correspondents were not always like Hodierna and Hofer. Often he received letters full of praise alone. In 1652, the noted German doctor Johann Daniel Horst[43] wrote complementing his fellow countryman on his 'elegantissimus scripta de Magnete', the complete effect of which he found to be 'so refined and learned'. Horstius also politely mentions the desire with which he is awaiting Kircher's 'opus illud magnum hieroglyphicum', and concludes his letter with a well-balanced reference to the antiquities of Rome. A cynic, or possibly a realist, might see in such an innocently pleasing letter a veiled request for the *Oedipus*, and possibly this is how Kircher himself would have reacted, but this notwithstanding, such letters are a pleasant relief from other, more direct requests.[44]

---

[41] XIV. 95 (Agrigento, 1 June 1653).

[42] V. 180 (Landshut, 2 July 1670).

[43] Horst (1617–1685) was court physician to the Landgrave of Hessen-Darmstadt and author of several medical and astronomical works of which the most famous was, perhaps, his *Pharmocopoeia Galeno: Chymica catholica*.

[44] III. 415. (Darmstadt, 16 April 1652).

From the tone of a letter written by the celebrated Dutch scientist Christian Huygens (1629–1695), discoverer of the pendulum, one might expect that both he and Kircher were firm friends. Unfortunately, only one letter is preserved and despite Huygens' statement that 'ho sodisfacto alla nostra conversatione', there seems to be little to show that the two actually met.[45] Huygens' letter, written just before his departure for France[46] to accept a pension offered by Louis XIV (he was to stay in Paris for twenty years) is devoid of scientific points[47] and describes his loneliness and daily state of mind ('fatigata giornalmente') in talking to one Count Ulfeld. Throughout, Huygens stresses his tiredness and feelings of boredom, to relieve that, he explains 'passo il mio tempo con ricogliere nella memoria e per liggere suoi libri'. He concludes his mournful, and surprising, report by assuring Kircher of his constant admiration: 'in me sempre fanatico affetto verso la sua persona'.[48]

In 1647, Kircher received a rather belated New Year's greeting in March from Iodocus Kalcoven, who also took the opportunity of wishing him 'felicissimam longaevam et sanam vitam'. Kalcoven praises Kircher's *Ars magna* and goes on to muse on his proposed *Mundus subterraneus* and reports encouragingly on the financial prospects of such a work in the North: 'in Anglia, Hollandia, in hisce partibus, in partibus septentrionalibus est valde celebris et plausibilis'.[49] On the back of his letter, Kalcoven reports that his Jesuit brother, Fr Adam Kalcoven, for ten years Rector in Fulda, is now in Aschaffenburg. Kircher corresponded with both brothers, who were possibly from the Fulda district.

In 1666 a certain Alphonsus Khonn or Gonn (1640–1713), a doctor of medicine from Ulm, travelled to Rome ('urbium Europae celeberrimam'), where he met Kircher. The following year he wrote from his home town to thank the Jesuit for 'your singular affection', with the vague hope of starting a correspondence with him—'Nothing can ever happen to me more pleasing than to receive letters from distinguished

[45] Huygens did not visit Italy: A.F. Bell, *Christian Huygens and the Development of Science.*

[46] Huygens was a member of both the French and English Royal Societies.

[47] Huygens' own extensive correspondence is summarised in G. Loria, 'La Vita scientifica de Cristiano Huygens, etc.', *Pontificia Academia Scientiarum Commentationes* 6, 24 (1942): 1079–1138.

[48] Epist. I. 160 (Osterholm, 27 November 1661).

[49] III. 436 (Cologne, 17 March 1647).

men', as Khonn rather innocently expresses himself.[50] Kircher seems to have accepted the invitation, for three years later we find Khonn thanking him for his 'affectu ac amicitia erga me' and still reminiscing on 'splendissimam Romam'. Khonn diligently reports on and sends summaries of new works by Paulo Zacchia[51] 'medicii quondam Romani famosissimi', and Heveliusz' 'insigne de Cometis opus'.[52] To present as rounded a letter as possible, he adds details of the King of France's campaigns in Lorraine and, to cover all possible contingencies, winds up by giving Kircher the name of an itinerant merchant, Giovanni Pietro David, to whom the reply may safely be entrusted.[53]

Khonn's letters gradually come to resemble lyrical appeals to Kircher's greatness, the opening paragraphs generally being devoted solely to extolling the great man's merits and virtues: 'Which quality it is that I admire more among the many things I admire in Your Reverence, the greatness of your kindness or the superabundance of your learning, I do not know.'[54] In some cases the opening paragraphs tend to swell, and in their expansion completely conceal the initial point of the letter, which eventually is found rather shamefaced in the postscript.[55] In this case, the adulation even invades the address on the front of the letter: 'To the most reverend Master A. Kircher of the Society of Jesus, most excellent of men and renowned for his recondite erudition, investigator of things in nature, most wise and everywhere most famous, a sponsor and patron to be especially revered with singular attention to honour and deference'. Khonn's initial gratitude to Kircher seems to have grown into an embarrassing and thoroughly unrealistic adulation.

A more matter-of-fact correspondent was Cyprian Kinner, whose solitary letter to Kircher represents in its variety and sober treatment the more genuine scientific correspondent of the seventeenth century.[56] Kinner's opening paragraphs deal with Cardanus and the influence

---

[50] X. 79 (Ulm, 23 April 1667).

[51] *Libros tres De affectionibus hypochondriacis*: *Zacchia*, who subsequently became Physician to the Pope, helped Kircher in the preparation of his *Scrutinium de Peste*; see Praef. ad Lect.

[52] Referring either to Heveliusz' *Prodromus cometicus* (of 1665) or mre probably his *Cometographia* (1668); cf. n. 55 below.

[53] Epist. V. 190 (Ulm, 5–15 October 1670).

[54] V. 184 (Ulm, 4 January 1671).

[55] In this letter the postcript rather absently announces the author's perusal of Heveliusz' *Cometographia*.

[56] Epist. III. 237 (Elbing, 16 September 1647).

of Paracelsus—'such erudition in a Germanic man seemingly stupendous to the Italians'—which topic leads him to hermetic philosophy and in logical sequence to Kircher's proposed *Mundus subterraneus* and its contents: 'the mineral kingdom as spoken of by the Hermetic philosophers or the total interior structure of the earthly globe'. Kinner, at this point, still true to the seventeenth-century letter, introduces Heveliusz' *Selenographia*, which he defines, in contradistinction to Kircher's work, as 'mundus Aethereus', and which he considers, though he doubts whether the book will yet have crossed the Alps, to be 'a work that will certainly deserve to be an ornament of the Vatican Library'. His final reference—this time one of specific information—is to the Trevisana Machina, an apparatus illustrating perpetual motion, in support of which he quotes both Archimedes ('Archimedea Sphaera, incluso spiritu agitata') and Cornelis Drebbel.[57]

The professor of mathematics at the University of Copenhagen, Wilhelm Langius (1623–1682), was another of Kircher's more serious correspondents. In 1658 he wrote asking if Kircher had received his copy of *De veritatibus geometricis*, where 'I make honourable mention of you' and in which Langius had refuted the claims ('Calumnias quas contra Veteris novosque Geometros stolide effusiat') of Marcus Meibom, that 'impudentissimus . . . et insultissimus homo'. Although this is the main point of the letter, Langius also adds his request for a copy of a letter received by Kircher from China on the various methods of calculating time used by the Chinese.[58]

One of the very last letters to be received by Kircher was written by the Roman doctor Elia Georgio Loreti and is remarkable for the feeling way in which the writer comments on fame and its earthly attributes. The letter is basically written to thank Kircher for his *Physiologia Kircheriana*,[59] 'nominis sui immortalitatem'. Of fame itself, Loreti tells the Jesuit: 'everyone aspires to Fame: hence you may see here and there and everywhere, in mausoleums, triumphal gates, meeting-places, the frontispieces of temples, places, books, Fame with huge wings, puffed-out cheeks, bulging eyes'. This is not all. Loreti goes on to discourse on the universality of fame's appeal, on its powerful presence in every man. His letter, without being obsequious, is impressively flattering,

[57] See Drebbel, *Een Kort Tractaet van de Natuere der Elementen*.
[58] Epist. III. 452 (Copenhagen, 17 April 1658).
[59] Kestler, *Physiologia Kicheriana experimentalis*.

especially when he lists Kircher's more obvious claims to fame in the spheres of 'Ars Medica, Chymica, Philosophica, Mathematica, Rhetorica, Poetica, Historica'.[60]

Such deeply philosophical letters were only rarely received by Kircher: far more often his letters would fit into the average pattern of information given, information received, and the exchange of books or news about scholarly friends. In this respect, a letter written by the Pole Stanislaw Lubieniecki would appear typical. Most of this communication concerns astronomy. Lubieniecki thanks Kircher for his book about the Italian comet[61] and goes on, perhaps not very tactfully, to discuss Riccioli and the *Prodomum cometicum Hevelianum*. Once the initial barriers are down, Lubieniecki bounds gloriously on through the theories of Copernicus and the exact sightings of various constellations. Rather skilfully, he drags in a reference to the moon as depicted in Kircher's *Mundus subterraneus*,[62] and this reminds him of Riccioli, once more 'your companion and longtime devotee', and of his personal friend Ismael Bullialdi (1605–1694), chiefly noted for astronomical works. After a brief discourse on tides and volcanic eruptions, he concludes his letter with a diplomatic reference to Kircher and 'the virtue of so great a talent'.[63] A very similar letter, both in content and length, is preserved from one Joannes Magirus who talks or rather perorates on astronomy and gives veiled references to Kircher's knowledge of 'other secrets of nature'.[64]

Where Lubieniecki and Magirus talked of astronomy, another of Kircher's correspondents, Bernard von Mallinckrodt (d. 1658), contented himself with a huge letter bursting with questions on the problems inherent in the exact determination of longitude. This was inspired by the receipt of Kircher's *Magnes*, which had been forwarded to him 'from the workshop of Kalcovinna'.[65] Although Mallinckrodt was a phenomenally gifted scholar who spent most of his days in hospitable but temperate carousing and studied during the night, he had

---

[60] Epist. VI. 128 (Rome, 20 June 1667).

[61] This probably refers to a work inspired by Kircher, G.A. Petrucci's *Fisiologia nuova della natura* and quoted by J.C. Harenberg, *Pragmatische Geschichte des Ordens der Jesuiten*, p. 1313.

[62] Vol. I, pp. 62–64: 'Schema corporum Solaris Lunaeque prout ab Authore et P. Scheinero Romae An. 1635 observatum'.

[63] Epist. IX. 40 (Hamburg, 24 June 1665).

[64] XIV. 135 (Zerbst, 1 October 1653).

[65] XIV. 126 (Münster, 10 October 1646).

the misfortune to fall foul of the Church, and in 1651 was excommunicated during a visit to Vienna.[66] He spent the last seven years of his life incarcerated in Schloss Ottenstein near Münster. Unlike most of Kircher's correspondents from Münster, he fails to mention Kircher's brother Andreas, though he does conform to the rule by talking of the efforts being made to sue for peace.

Although Mallinckrodt might hint by implication at Kircher's erudition and celebrity, another writer, Jacques Martin, made his admiration far less ambiguous. He did this by sending to Kircher a simple epigram:

> Orbis prodigium, Medicus, Magus, Astrologusque
> Helluo librorum, dives idemque parens:
> Esserit, toto dum nil ignorat in orbe,
> Nullus est in toto notior orbe foret.[67]

> (World prodigy, physician, wise man, astrologer, A glutton for books and a begetter of them, too. Hungry for knowledge, while there is nothing in all the world he does not know There's no one in all the world better known, perhaps.)

It is interesting to observe that already, a year before the publication of his *Scrutinium pestis*, Kircher was being described as a 'medicus' of note.

Obviously, most people knew long in advance of Kircher's proposed plans, since Kircher himself had never been backward in publishing details of his future work.[68] Very often, Kircher must have received queries, in answering which he would inevitably anticipate work to be published. This happened for example, in 1660 when a certain Maximilian Martinitz sent a detailed letter on the 'cognitionem et metallorum investigationem' in Bohemia. Martinitz also included specific points for Kircher's appraisal, besides talking generally of the nature of metals of the 'arcana Naturae' and the treasures to be found 'intra viscera terrarum'. One of Martinitz's more detailed questions was on

---

[66] This extreme measure was taken because of his intrigues and schemes to gain a bishopric: at his death, however, he was buried with pomp and honour in the church at Bredona.

[67] X. 127 (Rome, 1657). This epigram is repeated by Jean François Payen with minor variations: 'Prodigium Mundi, Medicus, Magus, Astrologus Helluo Librorum semper idemque parens, Efficit, ut toto cum nil ignoret in orbe In toto mnemo notior orbe foret': IV. 189 (Galliae, [no date]).

[68] In Alegambe's *Bibliotheca scriptorum Soc. Jesu*, p. 49, for example, we find details of the proposed *Ars magna sciendi*.

the best way of making steel out of iron; he also showed interest in Kircher's views on the correct use of the divining rod in the location of water and minerals.[69]

One wonders sometimes how genuine the enquiries were. Often the questions seem so general and unrelated to any specific Kircherian specialities that Kircher seems to be reduced to the level of an academic factotum, ever ready to produce the basic outlines of some future work. We can see this in the letters written by Pierre Massol, who requests information on chemical problems, the correct measurements of the volume of a sphere and a pyramid,[70] and the niceties of canal construction.[71] Another curious aspect of Kircher's correspondence (assuming the Gregoriana archives to be complete), well illustrated by Massol's letters, is the erratic way in which the letters and their writers suddenly appear and then die away into the obscurity from which they emerged.

Kircher had very few correspondents from the British Isles, except for one or two itinerant scholars such as John Dodington, who eventually settled in Venice. Another Briton, whom Kircher probably came to know through Fr Jacobus Viva in Ingolstadt and with whom he corresponded, was the Scotsman Robert Murray,[72] knighted by Charles I after the battle of Oxford in 1643. Murray led a life of adventure and intrigue and eventually attained a respected old age under Charles II, with whose approval he helped to found the Royal Society. Murray, whose genius has been compared to that of Peircesc,[73] was soon in contact with Kircher after leaving the Civil War in England. The first letter we have from him was written from Ingolstadt in 1644 while Murray was a prisoner of war. In it he describes how he had borrowed a copy of Kircher's *Magnes* from Fr Viva and, after reading it, had wanted to congratulate its author ('vir vere philosophe philomagnetico') for his

[69] Epist. X. 172 (Prague, 20 March 1660).
[70] VI. 95 (Dijon, 31 March 1671).
[71] VI. 162 (Dijon, 15 June 1671).
[72] After leaving England, Sir Robert Murray (d. 1673) served under Louis XIII, became friendly with Cardinal Mazarin, and fought in Germany, becoming in 1644 a prisoner of war in Ingolstadt. He later negotiated between London and Paris and, in 1654, after an abortive uprising in Scotland, joined Charles II in Paris. From 1657 to 1660 he was at Maastricht. After the Restoration he mixed largely in London society, became friendly with Evelyn and Samuel Pepys and was often visited in his laboratory in Whitehall by Charles II. He was buried at the King's expense in Westminster Abbey. See *Dictionary of National Biography*, London 1894, vol. 13, p. 1299.
[73] See G. Burnet, *A History of His own Time*, vol. 2, p. 20.

defence of the doctrine of 'Hercules Trismegistus'. His praise is often lyrical: 'Perge, perge, Magne, Magnes, instituta feliciter exequi…'[74]

It is possible that Kircher interceded in some way with his fellow Jesuits in Ingolstadt for Murray's release, for in a later letter Murray exclaims at the outset, 'your most welcome letters were given not to a prisoner but to a free man', and tells Kircher how, in a few hours' time, he hopes to travel to France. Incongruously, he allows himself a few remarks on a 'horologium annularium'—possibly in answer to a query from Kircher, and refers him to an observation made by Johann Marcus Marci. The suspicion that Kircher may in some way have contributed to his release is strengthened by his final remark: 'The love that you have proved so beautifully, and your friendship, I shall always consider the greatest happiness and among the most precious things in my life.'[75]

Six weeks later, Murray writes again, this time from Paris, where he had arrived after some twenty days' travelling. He describes how he is working for Cardinal Mazarin ('Galliae Regis eximio ministro, ac eruditorum patrono') and mentions the possibility of his being sent to Rome ('quod spero!'). He says he has written about Kircher's works to England, and in particular to the antiquarian Sir Kenelm Digby ('a man of great talent and erudition in the natural sciences and a lover of curiosities…a decorated knight'), who was himself hoping to arrive in Rome in five or six weeks' time. Digby already knew of Kircher and his works. Murray adds, in this respect: 'He has long vigorously praised many things about you and [has done so] to all men of learning; and he makes many promises about publicizing your books.' A second English scholar whom Murray glowingly describes as 'peritia totius Angliae celeberrimus' was the historian John Selden, whose knowledge of Oriental languages and publications on the Ancient Jews give Murray an opportunity to defend English scholarship. Murray's final paragraph mentions that he has received readings of the moon, Mars and Saturn by 'some Florentine or other', forwarded to him by Fr Viva. He promises Kircher more information on 'de observatore observationibus et tubo optico', assuring him that he must not doubt his word.[76]

---

[74] Epist. III. 46 (Ingolstadt, 1 June 1644).
[75] III. 36. (Ingolstadt, 24 January 1645).
[76] III. 26 (Paris, 12 March 1645). Cf., e.g., Selden's *De Dis Syris syntagmata II.*

With daily improvements in the production of telescopes, it was inevitable that enquiring minds should turn more and more to the study of astronomy. Most well read intellectuals at least dabbled in this science. As we can see, Murray, even though statesman and soldier, was careful to keep abreast with the new discoveries and inventions in this field. A more wholehearted enthusiast was Carlo Moscheni, basically a historian, who bombarded Kircher with reams of comet observations, carping comments on ageing scholars of astronomy (in this case 'that very wise old man Reverend Father Christopher Claudius of your Society')[77] and, perhaps more charitably, precious stones for Kircher's Museum.[78]

One of Kircher's more constructive critics was Georg Müntzer,[79] who was possibly from the Fulda district of Franconia. Although he allows his eyes to grow moist when recalling Kircher's closing words in his previous letter ('farewell, my jewel of a friend'), he is quick to express surprise at an apparent omission: 'Why did he not include *De Purgatorio S. Patricii* in the Pyrologum chapter of the *Mundus subterraneus*?[80] In a second letter, Müntzer describes his travels through Bohemia, Voigtland and Upper Germany and elaborates on the warm springs in Karlsbad where he had seen fish as big as a man's head swimming unconcernedly in the hot water. Some three (Italian) miles from the town, he had also remarked on 'a circular drain, the size of a round dining table', noted for its constantly turbulent waters, rather like, he naively explains, 'nostra lavatoria'. There is a laconic postscript to the letter: 'I wish to be informed: is Fulda still inside, or is it outside the confines of Franconia?'[81]

Two letters from Don Vicente Mut of Majorca are unremarkable save for a rather biting comment in the second: 'after the great deal I have written, allow me to wonder at your silence.'[82] Both this and the first letter[83] deal with trigonometrical and astronomical problems, and

[77] Epist. IX. 282 (Ancona, 16 July).
[78] IX. 119 (Ancona, 6 August 1665).
[79] A friend of Fr Philipp Müller, the Imperial Confessor and also a correspondent of Kircher's.
[80] IX. 293 (Vienna, 5 December 1665).
[81] IX. 38 (Vienna, 23 July 1666).
[82] XIV. 79 (Majorca, 19 July 1649).
[83] XIV. 113 (Majorca, 14 Oct. 1647).

one contains observations of the lunar eclipse of 25 May, but only of the opening phase.[84]

A member of the Order of Minimes who corresponded with Kircher was Fr Jean François Niceron (b. 1613), who paid two visits to Rome and was noted for his studies on the science of optics.[85] A letter preserved from him was written on his return journey from Rome to Paris and reports the results of the magnetic observations made en route. He regrets his inability to obtain accurate first-hand fixings in Florence because of a raging outburst of plague that has depopulated the whole province, but promises better results from Lyons and Paris.[86]

When Kircher was called from Avignon in 1633, he left in the printer's hands his work on sundials and general time-telling devices worked by the sun, *Primitiae gnomonicae catoptricae*. To surpervise the printing he deputed one Jean François Payen (b. 1610), later to become a lawyer, statesman and astronomer of note in Paris. Some five months after Kircher's departure, Payen wrote to him complaining of his new loneliness: 'si par lettres au moins je ne me tournois vers le soleil de nostre temps pour luy tesmoigner le regret d'une separation qui me prive de ses favorables influences et doctes enseignements.' He tells Kircher that work is held up on his book, despite his daily attendance at the printers, waiting for new type to be cast. He reiterates his 'ennuy de mes peines et oysiveté du temps en la quelle vostre absence me reduit'.

Apparently Kircher had amassed a considerable stock of sunflower seeds during his stay in Avignon. Payen, pointing out that 'des grains d'heliotrope ne retenoit pas la vertu de tourner come il fait sur la plante', naively enquires how he is to dispose of these inanimate husks. He humbly solicits a letter from Kircher even though 'cette hardiesse merite un refus, la science de mestre doit estre comunicatue au disciple'. This letter is rather unusual in that the address does not bear Kircher's name: instead, the homely directions are 'Recommandée a M. de Sarpillon…tenir promptement au Jesuite Allemand qui estoit a Avignon'.[87] Writing some six months later, Payen expresses his satisfaction at the interest shown in Kircher by Cardinal Barberini and Peiresc and fills the rest of his long and unwieldy letter with references

[84] XIV. 79 (Majorca, 19 July 1649).
[85] Niceron, *Perspective curieuse ou magie artificielle des effets merveilleux de l'optique*.
[86] Epist. III. 383 (Lyons, 1 May 1640).
[87] XIV. 255 (Avignon, 7 January 1634).

to mutual friends. He reports that the printers were still held up with Kircher's work and proudly describes his horological experiments, this time abandoning sunflower seeds for lupin seeds. In the second half of his letter he adds an epigram to be inserted in Kircher's book, 'because it is permissible to [make known] praise that is deserved and the glory of so great an author'.[88]

Some twenty years later Payen, his style now far more soberly contained, wrote to thank Kircher for his *Oedipus*, of which the section on 'l'astronomia egipitiaca' with its 'effetti curiosi et non volguari' had especially pleased him. He mentions, so that we are left in no doubt as to his one great interest, that he has recently received observations on eclipses from Riccioli in Bologna.[89] Between the first two letters, Payen had written twice to Kircher: once, in 1640, to send him a long list of magnetic declinations[90] and again, in 1642, to congratulate him on his *Magnes* and to urge him to continue his observations of eclipses 'ac publicum Astronomiae et Geographiae Bonum'.[91]

In 1666 Payen, now himself the author of several works,[92] wrote again to Kircher enclosing five printed sheets—not corrected—depicting a lunar eclipse and intended for Queen Christina of Sweden.[93] Payen, diplomatically thanking Kircher for forwarding 'l'osservatione della cometa del 1664 de febraio e marto e l'osservaru dell'eclisse lunae dell' 20 di iuglio 1665', wonders if Kircher might correct the sheets, which have already been examined by Frs Fabri and Gottignes. The last letter we possess from Payen is, in contrast to the first examined, a brief business-like epistle,[94] hurriedly referring to the exigent demands of the printing press and nonchalantly bandying about names such as Riccioli, Scheiner and Bullialdi. The brisk professional scientist and astronomer has ousted forever the pining sunflower who saw in Kircher his only sun.

---

[88] XIV. 9 (Avignon, 18 May 1634). This epigram was in fact printed at the beginning of Kircher's *Primitiae* and is signed by Payen, his student, now a doctor of law. The fourteen-line epigram concludes: 'Artis et authorem, cogitat esse Jovem: Iupiter Author adest: quis enim nisi Iupiter alter, Sic immensa levi contrahat astra domo' ('He thinks Jove author of this skill, for surely Jupiter is here: only a second Jupiter could bind and bring the vast stars within so small and slight a home').

[89] Epist. XIV. 3 (Avignon, 25 August 1655).

[90] III. 360 (Avignon, 30 June 1640).

[91] III. 413 (Avignon, 4 June 1642).

[92] Including *Prodromus Justinianus* and *Emblema astronomicum*.

[93] Epist. IX 236 (Paris, 11 June 1666).

[94] IX. 18 (Paris, 12 July 1666).

One of Payen's fellow astronomers and friends in Paris—he is incidentally mentioned in the foregoing letter—was Pierre Petit (1617–1687), who first trained as a doctor and later dedicated himself to the humanities, becoming, among other things, a noted Latin poet. Petit was the author of several curious works and, as might be expected, corresponded with Kircher. However, his letters are of little interest, merely containing such matters as readings of the solar eclipse of 12 August 1654, taken in Paris.[95] Another of Kircher's correspondents who succeeded brilliantly, in combining both poetry and natural sciences was the anatomist-poet Francesco Redi (1626–1698). His experiments on the generation of life and his pure dithyrambs performed equally distinguished service to science and poetry.[96] His letters to Kircher are, unfortunately, devoid of literary or scientific interest. In the one he refers to an unnamed book that he is sending to Kircher and complains of his own 'debolezza de' miei talenti',[97] while in the second he expresses his gratitude to Kircher 'che è il più celebre litterato dell Europa' for taking such a lively interest in his work.[98]

Salomon Reisel, also a doctor who corresponded with Kircher, was at the time of his letter medical officer in Worms. He later became physician to the Duke of Wüttemberg in Stuttgart. Besides being the author of numerous medical works, Reiselius was the inventor of what he described as a 'statua humana circulatoria' which visually demonstrated the workings of the major organs and great arteries of the body. This rather grisly machine was sent to the ageing Kircher in 1677, some three years after its initial construction. In his covering letter, Reiselius reiterates the main functions of his machine, addressing Kircher as 'your polymath Reverence'.[99]

After the publication of his *Scrutinium*, Kircher's fame in the sphere of medicine grew yearly and in 1664 he received an adulatory letter from Werner Rolfinck (1599–1673), professor of anatomy in Jena,[100]

---

[95] III. 285 (Paris, 28 May 1655).

[96] See A. Belloni, *Francesco Redi*; P. Boringhieri, *Francesco Redi*.

[97] Epist. VI. 27 (Florence, 10 November 1671). Probably the book was his *Esperienze intorno a diverse cose naturali*, which Redi dedicated to 'al curiosissimo Atanasio Chircherio'.

[98] Epist. XII. 40 (Florence, 24 June 1675).

[99] XI. 324 (Worms, 5 February 1677).

[100] Rolfinck was an anatomist of such zeal that condemned criminals were said to piously express the hope that they might escape being 'gerolfinckt' after their execution.

explaining how 'the fame of the name Kircher had arrived after spreading through all Europe.' Rolfinck, who was later to dedicate one of his works to Kircher,[101] tells the Jesuit of the use he is making in his lectures of Kircher's book on the 'causas morborum animatas'. Rolfinck confidently expresses his views on the lasting value of the *Scrutinium* and describes the daily growth of its fame.[102] Rolfinck did not confine his open admiration for Kircher to such personal and direct approaches. In 1667 he wrote to his colleague Hartmann Gramann, then resident in Rome as personal physician to the Duke of Moscow, expressing his high regard for Kircher ('a man born for the admiration of the age') and hoping that Gramann would convey to Kircher his warm friendship and personal interest. In this testimonial Rolfinck speaks of Kircher as 'a temple of virtues and honours, worthy of congratulation and veneration'.[103]

Not all of Kircher's medical correspondents wrote in their professional capacity. Bernardus Rottendorff, for example, city physician at Münster and himself author of a work on the plague,[104] preferred to describe the Egyptological acquisitions 'in Museo meo' which he had received from Bartholdus Nihusius and, in a postscript, append the good wishes of Kircher's brother Andreas.[105] The same lack of interest is found in a letter from the Swiss scientist Johann Heinrich Ruegh, in a note written during his stay in Rome, which contains nothing but praise for Kircher's piety and intellectual powers,[106] observed by Ruegh during a recent visit.

Similar letters were written to Kircher by Philipp Jakob Sachs von Löwenheim (1627–1672), a prominent doctor and scientist in Breslau, shortly after his return from Rome. In the one he recalls his admiration of the Jesuit's 'painstaking labours',[107] while in a second communication he describes the joy he experienced on learning of Kircher's recovery from illness: 'all Germany congratulates itself on the happy outcome.'[108] Often, of course, such letters of praise were directed to a specific work, rather than in general appraisal of Kircher as an

---

[101] Rolfinck, *Liber de purgantibus vegetabilibus*.
[102] Epist. IX. 190 (Jena, 17 March 1664).
[103] V. 165 (Rome, 1669).
[104] *Dreyfaches Gutachten von der neuen Fiebersucht, etc.*
[105] Epist. XIV. 11 (Münster, 24 October 1655).
[106] VI. 168 (Rome, 19 January 1672).
[107] XI. 319 (Breslau, 16 August 1671).
[108] VI. 155 (Breslau, 7 September 1671).

individual. A case in point would be the equally enthusiastic letter sent by Karl Saffyr, centred on Kircher's *Mundus subterraneus* and its revelation of a new underground world.[109]

A rather mysterious letter from the chemist Martino Santini includes a reference to some chemical apparatus which reveals 'certain great mysteries drawn from the innermost shrine of chemistry', whose very existence seems doubtful—'fraudi suspicioni', and yet for which the massive sum of 600 Florentines is demanded.[110] Fortunately, such intriguing letters occur only rarely in Kircher's correspondence, but wherever one does stumble across them, they seem all the more tantalizing. Santini, about whom little is known, writes from Prague, the mediaeval home of alchemy, and it is possible that the process referred to could have some connection with that unfortunate science.

Frequently, letters written to Kircher seem to have no specific point to make, or perhaps it is that they invariably try to concentrate too many details into one letter. In one such letter written in 1652, Giacomo Scafili talks admiringly of Kircher's Egyptological works, muses on the rarity of a dragon's heart[111] and includes illustrations of a mummy in solid silver seen in Alexandria.[112] In a second letter, this rather perplexing writer expands on 'la Famosissima Biblioteca de Fulda, tua patria', which in turn leads to a short essay on Rhabanus Maurus, the supposed founder of the library.[113] In a third letter, Scafili, bearing in mind Kircher's proposed *Mundus subterraneus*, discusses several underground 'miracula' and sends Kircher specimens of corals[114] and seashells.[115] He also finds time to tell Kircher (whom he sees as 'Sane Kyrcherius') of his generative experiments with fish-roe in tubs of milk.

References to Kircher's *Mundus subterraneus* are legion in his correspondence. Apart from casual asides and incidental observations

---

[109] X. 56 (Dresden, 17 July 1668).

[110] XIII. 89 (Prague, 14 October 1645).

[111] In the *Mundus subterraneus* Kircher accepts the existence of air-borne dragons, and describes the capture of one near Rome in 1660. Its head was brought to Kircher's museum but soon putrefied, while the extraordinarily successful hunter died that same night from the dragon's poisoned breath: II, pp. 89–99.

[112] Epist. XIV. 141 (Trapani, 4 December 1652).

[113] XIV. 145 (Trapani, 3 March 1653). [Rhabanus (*ca*. 780–856) was a famous scholar from Carolingian times—Ed.].

[114] Kircher classified coral as an intermediate stage between mineral and vegetable: *Mundus Subterraneus*, I, pp. 158, 160.

[115] Epist. XIV. 167 (Trapani, 13 January 1653).

on various mineral and thermal phenomena, all carefully utilised by Kircher, there are several detailed and circumstantial reports from men actively engaged in mining. One of these was sent by Hans Schaplmann, from Hungary,[116] one of Kircher's favourite collection grounds on account of its close proximity to the great Jesuit and courtly centres of Vienna and Prague. Schaplmann's closely written and comprehensive review includes nineteen sections on various mineralogical topics which deal, among other things, with:

> The properties of mineral waters and some experiments with metals (*De aquarum mineralium proprietate et de experientis quibusdam metallicis*) (i)
>
> Machines to draw up subterranean water (*Quibusnam machinis exhauriat aquam subterraneam*) (iv).
>
> The effects of noxious properties generated by the metallic airs in underground places on cures (*Quomodo remedicent aurae pestiferae, ex spiritibus metallicis genitae in subterraniis locis*) (v).
>
> Whether little demons, called Bergimanell, would really be visible (*Num vere sub inde compareant Daemunculi subterranei, quos Bergimannell vocant*) (vi).[117]
>
> Whether rivers and springs are to be found underground (*De fluminibus et fontibus subterraneis an vere ibi reperiantur*?) (ix).

Under each heading Schaplmann deals, in German, with its relevant aspects. Schaplmann, who describes himself accurately enough as a 'metallurgus', was not the only mining initiate to report to Kircher. The Jesuit also received impressive and first-hand accounts from one Hans Görglweiß[118] in Schembrinz (Hungary) and also from Philipp Bernardus of Brno.[119]

After such careful preparation, of which we see a sample above, came the publication; after the publication came the questions. Georg

---

[116] Schaplmann's extensive letter is undated (XI. 101) and is entitled 'Relatio de mineris, fodinis, thermis, aquis mineralibus et aliis rebus, mineralibus in Ungaria inventis'.

[117] In this connection it is interesting to note that Kircher firmly believed in subterranean sprites, demons and goblins, but rejected the existence of pygmies: *Mundus subterraneus* II, pp. 101–102.

[118] Epist. XI. 108 (Schembrinz, 17 December 1659), entitled, 'H.G. et alii metallurgi et praefecti mineralium: Realtio alia de rebus mineralibus'.

[119] XI. 116. (Brno, 1657): 'P.B. a Prun praefectus Ferrifodinarum prope Naosolium in Ungharia, alia relatio de rebus mineralibus'.

Schaidenperger, 'philosophiae ac medicinae doctor et physicus'—was in Rome for the Jubilee year of 1650 when he met Kircher, of whose fame he says, 'at this time he has become known to the city and to the world'. He describes how, unable to buy his own copy because of lack of money he had managed to read, 'with the greatest delight of spirit', the copy belonging to Georgius Lipparus, Archbishop of Prague. He seems unfazed by such unorthodox means of perusing this work, 'which almost surpasses understanding', and coolly proceeds to draw Kircher's attention to nine obvious mistakes in the section on exploration and the advancement of science. He sums up his genial chat with the observation 'ego appello Te Kircherum favorem'. For his authorities he takes scholars such as Sennert, Faber, Helmontius, Paracelsus, Zwelfer, Glauber (he also quotes from Kircher's own *Scrutinium*) and thrashes out with obvious enjoyment his differences of opinion with Kircher.[120] Schaidenperger's letter is a notable example of the thoroughness of seventeenth-century scholarship, though it inevitably takes on the appearance of a lexicon of late mediaeval and early modern scientists. Considering the disinterested aspect of the letter, it is possible that he was moved to write it in tribute to his colleague Rolfinck's deep admiration for Kircher.

Joseph Theodor Schenck (1619–1671) was another visitor to Rome, where he was fortunate enough to become acquainted with Kircher in 1642. His letter, written in 1663, reminds Kircher of their meeting: 'it is 26 years now since as an unknown guest I entered Rome, the city of cities, and approached your Excellence, astonished with admiration of you.'[121] Schenck later became city physican in Chemnitz and then, in 1653, professor of medicine in Jena, where he associated with Rolfinck.[122]

Kircher also exchanged letters with the enigmatic figure of Niels Stensen, the Danish anatomist and geologist better known to his European contemporaries as Nicolaus Steno (1638–1686). Steno, who discovered the parotid duct ('ductus Stenomianus') and was the first to positively identify fossils as organic remains,[123] was in 1665 appointed

[120] VIII. 158 (Trnava, 1 December 1666).

[121] X. 59 (Jena, 4 January 1668).

[122] Like Rolfinck, Schenck was an exceptionally fruitful author and wrote over 50 works of medicinal interest.

[123] Steno also wrote on the erosive qualities of running water and wind; see his renowned *De solido intra solidum naturaliter contento*.

physician to Grand Duke Ferdinand II in Florence. This move from Paris was instrumental in bringing about his conversion in 1667 to the Church of Rome, and in 1676 he became apostolic vicar of northern Germany and Scandinavia. He lived a life of extreme poverty and privation and, after his death in Schwerin in 1686, his body, remarkably well preserved and lifelike, was brought to Florence for burial. Steno, whose tiny but explosive publications were in marked contrast to Kircher's bulky folios, enjoyed a cordial, if not warmly enthusiastic, correspondence with Kircher. Even as a young man of 21, Steno had evinced, in his unpublished sketch on the being of Chaos,[124] a warm regard for Kircher and had incorporated into this work large extracts[125] from the *Magnes*.

Steno's first letter to Kircher was written two years after his conversion and politely includes the request for a recommendation to the Imperial Court at Vienna: 'di volere procurarmi la commodità di poter vedere le curiosità che a Vienna e ne luoghi vi glintorno si veggono'.[126] Steno refers vaguely to their previous meeting in Rome and sends, with his letter, 'un esemplare del mio libretto', a copy of his *De solido*. A second, later letter is less formal and informs Kircher of the reasons why Steno decided to become a priest: possibly this explanation is in answer to a request made by Kircher, since in the same letter Steno acknowledges the safe arrival of a letter from Rome in the hands of the itinerant Jakob von Rautanfels: 'Recognizing the dignity of the priesthood and that within it both thanks for blessings and pardon for sins, and other things pleasing to God, may be offered at God's altar, I asked for and obtained the possibility of offering the immaculate Victim to the eternal Father for myself and for others.'[127]

A year later we find Steno approvingly returning a synopsis of Kircher's new work, *Sphinx mystagoga*, and referring warmly to the valiant service performed by 'Signore Gianseio', better known as Johann Jansson van Waesberghe, who published about a hundred works between 1651 and 1681. With this letter,[128] Steno seems to be in the mood for philosophy, declaring patiently 'however much the

---

[124] Florence, Bib. Naz. MS Gal.291, fol. 38r ff; [Ziggelaar, *Chaos*.]

[125] Principally cf. the third book, 'Magnetica catena' and of the last three extracts: 'De magnetismo musicae', 'De magnetismo amoris' and 'Deus, rerum omnium centralis magnes'.

[126] Epist. IV. 22 (Innsbruck, 12 May 1669).

[127] XI. 299 (Florence, 28 May 1675).

[128] XII. 112 (Florence, 14 April 1676).

time they steal from us, so much they filch from eternity. He returns a letter already forwarded by Kircher and written to him by 'del Signor Dottor Paullini'. We see here an example of the news-and-information role played by the letters of the seventeenth century. Steno returns to the topic of Jansson some five months later and expresses his desire to see Kircher's newly printed work. He refers at the same time to having received three letters and mentions having shown the first to the Grand Duke.[129] Oddly enough, Steno says much the same thing in a letter sent two weeks later, including on this occasion the best wishes of Jakob von Rautenfels,[130] whose arrival in Florence had possibly spurred Steno to write again so soon.

Lest we imagine that German doctors held the monopoly in Kircher's correspondence, let us turn to the letters written by Francesco Travagino, a learned physicist and doctor resident in Venice. On the whole, his letters are undistinguished. In one he comments on Kircher's 'incredible multi-faceted erudition' in arranging a list of minerals 'by command of His Holiness', but soon moves on to talk of his own works by starting a paragraph 'My *Prodromus*, which I have prepared from my experiments in physics…', which modest start invades and completely captures the rest of the letter.[131] A second letter apologizes for the break in correspondence[132] and details a recent book by his friend D. Georgius Arus.[133] In 1667, Travagino writes in recommendation of his brother's son, Pietro, 'a modest youth interested in the fine arts', who is shortly to come to Rome, and then goes on to describe in great detail his theories on the movements of earthquakes.[134] He appeals for Kircher's judgement and support, and develops the idea that earthquakes move from east to west when they occur. Travagino based these theories on observations made between Ragusa and Venice[135] and concluded that it was due to the combustion of minerals within the earth's crust. He was later to publish a book in support of this theory.[136]

---

[129] XI. 366 (Florence, 15 September 1676).
[130] XI. 374 (Florence, 29 September 1676).
[131] VIII. 144 (Venice, 4 April 1665).
[132] VIII. 164 (Venice, 13 November 1666).
[133] *Elenchus medicamentoria spagyricorum*.
[134] Epist. XI. 130 (Venice, 7 May 1667).
[135] Earthquakes occurred in Venice in 1661 and 1667.
[136] *Super observationibus a se factis tempore ultimorum terraemotuum*.

Some 30 years earlier there had lived a young doctor in Venice, Johann Vesling (1598–1649), who later became professor of anatomy in Padua.[137] Vesling was a scholar who had early travelled to the Holy Land where he became a Knight of the Holy Sepulchre. He died at the age of 51 as a result of his labours in Ceylon gathering rare plants for the medical garden in Padua, of which he was director. He was keenly interest in Egyptian plants[138] and corresponded with Kircher on this point.[139] He admired the German Jesuit for his 'painstaking study of natural things'[140] and recommended various friends to him.

Another German doctor, who possibly came from Kircher's own native district of Fulda and who had since settled in Vienna, was Johann Konrad Wechtler, who, in admiring Kircher's command of so many languages, rather drily commented: 'At Geisa no one speaks Arabic, Syriac, Egyptian or Ethiopian, but only Buchonian, and that by chance.' Wechtler, who seems to have disliked things foreign, proudly states his own interests and disclaims the value of Oriental writings. He is most interested in magnetism and things medicinal.[141]

Possibly Kircher's oldest correspondent was the celebrated mathematician Gottfried Wendelin (b. 1580), named the Ptolemy of his age. Wendelin, who had visited Rome in the Jubilee year of 1600 (33 years before Kircher's arrival in the city), eventually became a canon of the Church in Condet and Dornich (his birthplace). He wrote to Kircher in his eightieth year and showed himself still highly capable of turning out a fair sample of the seventeenth-century learned letter. He questions Kircher on hieroglyphs and Greek, and on the existence of Chaos. He includes too an observation table of the lunar eclipse of 30 October, the preceding year.[142] If nothing else, this scientific data is a tribute to his well-preserved eyesight.

---

[137] 'Mihi a ser Senatu Veneto, ad publicum hic docendi munus evocatus fuissem': Epist. III. 323b.

[138] Cf. his *De plantis aegyptis observationes*.

[139] Epist. III. 334 (1 July 1648).

[140] III. 323b (Padua, 11 September 1647).

[141] III. 44v (Vienna, 11 April 1643).

[142] IX. 225 (Ghent, 22 September 1660).

## Polymath Correspondents

Several of Kircher's correspondents, while mainly belonging to the above class of scientists and investigators, exhibited, rather like Kircher himself, broader and less exclusive tendencies and interests in the world of knowledge, and may thus be described as polyhistors or polymaths. This curious breed of scholars, of which the seventeenth century has a proliferation, described almost every aspect of the then known sum of human knowledge. Few became lastingly famous, but in their own day they commanded the respect of popes, emperors and their fellow men. In the manner of their age, they were all dedicated correspondents, and often the sum of their written letters alone excites admiration. Peiresc, for example, is said to have written some 20,000 letters during his life. The story of their lives is the story of seventeenth-century scholarship. Their peregrinations in search of wisdom and in the incidental acquisition of ecclesiastical and academic honours mirror both their troubled times and the fluidity and currency of knowledge.

Juan Caramuel de Lobkowitz (1606–1682), who was born in Madrid and studied mathematics under the Maronite Joannes Esronita, was one of Kircher's most regular correspondents. Caramuel studied at Salamanca and after entering the Cistercian Order received the abbotship of the Abbey of Melrose. He later became professor of theology in Louvain and was then nominated Abbot of the Benedictines in Vienna by Ferdinand III. At the same time he was appointed vicar of Cardinal von Harrach, Archbishop of Prague. Here he accompanied the Emperor in the field and superintended the erection of fortresses in Bohemia. He was highly regarded by Pope Alexander VII and in 1667 became Bishop of Compagna in Naples. He died in 1682 as the Bishop of Vigevano in Milan. Caramuel wrote theological tracts, understood 24 languages, invented a new form of organ, a universal script for the world's languages, a sign-language and a modern philosophical terminology, and fabricated ingenious machines. Being a man of his century, he was also a devoted astronomer, and it was largely in this sphere that his correspondence with Kircher evolved.[143]

[143] Kircher's exchange of letters with Caramuel is studied in R. Cenal, 'Juan Caramuel. Su epistolario con Atanasio Kircher. S.I.', *Crisis: Revista espanola de Filosofia* 1 (1954): 101–147.

We first hear of his interest in Kircher in a letter written to Leander Bandtius, Abbot of Disenberg, where he tells his learned friend, to whom he sends his new work on music,[144] that he has just received details from Kircher of several Arabic manuscripts newly acquired 'ex Oriente' which the Jesuit is shortly proposing to translate and publish. In a letter the following year, Caramuel reports his observation of the sun from Alderspach near Passau and asks for Kircher's intervention 'in causa mea' with Stephanus Ugolinus.[145] In 1647 Caramuel wrote to Kircher describing a meeting with his old friend Johann Marcus von Marci.[146] Comparing his position in the battlefield to Kircher's, safely ensconced in Rome, he lyrically declaims with true academic zeal: 'O how busy writing! how busy speaking! with what intelligence! in the library always dedicating to the Muses hours others dedicate to profit, eager not for gold but for learning.' No doubt influenced by these longing thoughts, he goes on to commend Kircher's works for their varied contributions to the world of science. He singles out Kircher's help in 'linguae Latinae institutiones', Hebrew studies, in which Caramuel himself is working—'I am reducing Hebrew to its first foundations'—and in music. This last contribution leads to comments on Caramuel's own studies. He illustrates his new logarithms based on natural numbers,[147] logarithms and octaves, refers to the artificial production of music glanced at by Robert Fludd[148] and promised by Kircher in his *Musurgia*, 'quam impatienter expecto', and finally describes his own attempts to reduce the 'consonantiarum labyrinthos' to some order and cohesion.[149] In his concluding paragraph, Caramuel tells Kircher of his plans to publish his *Nova musica* in Belgium and Germany, and then wait for any censure from Italian critics.[150]

---

[144] Epist. II. 364 (unplaced, 26 July 1644).

[145] II. 369 (Munich, 24 October 1645).

[146] Both Kircher and Caramuel were on friendly terms with Marci, a third polyhistor. After Marci's death in 1667 Caramuel wrote asking Kircher for 'the name of that author who described the life of our friend Joannes Marci': X. 46 (unplaced and undated).

[147] Whereby:

| Numeri Naturales | Logarithmi | Octava |
|---|---|---|
| 10.000.000 | 0 | c |
| 2.300.000 | 2 | cc |
| 78.125 | 7 | ccccccc |

[148] In his *Naturae simia*; see also his *Utriusque cosmi, etc.*

[149] In this sphere, 'res armonica a Musis', Caramuel envisaged three stages: 'Recursus, Metamorphoses, and Transfigurationes'.

[150] II. 232 (Prague, 2 November 1647).

After this burst of confidence, Caramuel disappeared into his own varied activities for several years, until in 1661 he wrote congratulating Kircher on his increasing fame in the sphere of letters, and urging him to publish as much as possible. His last sentence, considering his own prolific activities, bears the stamp of true friendship: 'in the meantime, if I can help you in any way, give the command, and live happy years.'[151] Some eighteen months later Caramuel writes to announce the publication in Rome of his *Cursus mathematicus.* He enquires at the same time if Kircher possesses observations of the last lunar eclipse taken both in Rome and Bologna. It says much for Kircher's reputation that Caramuel can write 'for I suppose your Reverence to have both…?'[152] Caramuel returned to astronomical topics three years later when he thanked Kircher for his 'observations taken in the month of December' and pondered on the relative speed of the comet observed. Like most scientists of that age, Caramuel did not long remain immune to the intriguing mystery of this comet. Two months after this letter, he wrote to Kircher appending his own illustrated explanation of the comet's path.[153]

Caramuel, for all his sober astronomical queries, was not above gossip, and in 1666 he wrote from Campagna relating the new and wonderful claims of one doctor of medicine and theology, Morabita, lately from Constantinople. Caramuel does not hesitate to dismiss Morabita's vaunted healing powers: 'whatever wrenches respect from the Saracens will be superstitious or at least vain'. Inevitably, the letter concludes with mention of an eclipse, which 'deserved to be observed carefully', a rather intriguing statement, which could be interpreted as gentle reproof to Kircher (assuming he had failed to observe this eclipse) or as indicative of Caramuel's own self-reproach.[154] The last letter we possess from Caramuel was written in 1672 and is devoid of any scientific interest. Instead the whole lengthy communication describes Caramuel's joy at having received from 'eruditissime et ingeniosissime Kirchere' a copy of the Jesuit's *Latium*. In this work, 'so precious a gift', Caramuel sees a new jewel added to Kircher's literary reputation.[155] Compared to Caramuel's more soberly factual letters, this

[151] IX. 215 (Prague, January 1661).
[152] I. 168 (Naples, 27 October 1662).
[153] I. 167 (Naples, 24 March 1665).
[154] IX. 47 (Naples, 16 July 1666).
[155] VI. 59 (Sant'Angelo le Fratte, 29 April 1672).

one is positively lyrical. Caramuel even goes to the extent of inventing laudatory epigrams.[156]

A less flamboyant but equally learned polyhistor who corresponded slightly with Kircher was the North German Johann Friedrich Gronovius (1611–1671) a friend of Vossius, Salmasius and Heinsius. Initially Gronovius studied law and then the humanities.[157] In 1641 he travelled to Rome, met Kircher and was granted, through the intervention of his former fellow citizen Lucas Holstenius, an audience with the Pope. Eventually, in 1653, Gronovius was appointed professor of theology in Leyden, a chair he occupied until his death eighteen years later. Gronovius' letter to Kircher is, unfortunately, not of special interest. He was prompted to write after receiving some of Kircher's Egyptological works forwarded by Barthold Nihus. In fact Gronovius' letter to Nihus, where he thanks him for sending some of the books of 'magnus Kircherus', is virtually a summary of his letter to Kircher.[158] Both letters were written on the same date and the point made in the first—'I have, however, learnt from letters sent to Rome in the library of the Society that there are some parchment codices there of considerable interest'—is amplified and made more pressing in the second.[159] In the letter to Nihus, Kircher's works are acknowledged with 'my huge thanks to you', but in the second they have a more immediate effect: 'it whetted my appetite for so many abstruse phenomena.' Bearing in mind Gronovius' own strong Protestant inclinations, it is interesting to note the formula he uses in addressing the letter: 'ad Athanasium Kircherum theologum…'

Despite Gronovius' deep learning and extended European reputation, he seems to have found little occasion to correspond with Kircher. Possibly the difference in religion was allowed in this case to supersede

---

[156] One of these is as follows: 'Saturnus Latio nomen dedit (Inclyte Kirckere)/Hac latuit tutus nam regione Jovem./Hinc tamen hoc regnum Patium dicetur: in illo/Nam te Authore, Orbem quae latuere patent' ('Its name to Latium did Saturn give,/renownèd Kircher, for 'twas here he lay/in safety hid from Jupiter's fierce wrath./Henceforth this kingdom's name is Patium,for what lay hid from all the world the while/'tis you have now made patent to all eyes').

[157] Most of the 56 letters by Gronovius listed in the British Museum General Catalogue deal with the Classics in translation and commentary, or with theological disputes, in which highly polemical and frequently acrimonious sphere Gronovius was celebrated for his modesty.

[158] Epist. III. 233 (Deventer, 19 September 1652): Joannes Fridericis Gronovius ad Nihusium.

[159] XIV. 97 (Deventer, 19 September 1652).

the universality of knowledge. There was, however, no such obstacle between Kircher and a third polyhistor, one Joannes Marcus Marci à Cronland (1595–1667), who was famous in his day as an orientalist and mathematician. Marci was trained in medicine and became professor of medicine[160] in Prague and physician to the King of Bohemia. He travelled widely, meeting Kircher in Rome in 1640, and is said to have been encouraged by this encounter to learn Arabic and other oriental languages.[161] He was renowned for his studies in natural sciences and Greek, and for his perception and clarity in expounding philosophy. Zedler records[162] that during his last illness Marci became a Jesuit, that he swore by the healing powers of Lemniam earth ('terra sigillata'), and that he claimed to have been cured from illness by the touch of a coin blessed by a Jesuit. Whether these assertions are true or false, they certainly indicate Marci's friendly attitude towards the Order.

In fact Marci seems to have been extremely gregarious, even for those days of distant friendship when people could introduce themselves to each other by written lines. In his first letter,[163] apart from an almost coincidental reference to an unnamed person 'highly skilled in chemistry' (it seems probable, incidentally, that Marci believed in alchemy) he chatters on about mutual friends such as Bernard Graf von Martinitz, the Imperial Confessor Johann Gans, and a third correspondent, Georg Baresch. Much of this interchange was inevitable since Marci lived at the time in Prague, which was bursting with Kircherian correspondents, and since he forwarded his letters to the Graf von Martinitz, who in turn sent them on to Rome.

Four months later, Marci reports the temporary absence in Silesia on Imperial business of the Graf von Martinitz, and, after referring to a mysterious journey—whether to be undertaken by him or by Kircher is not clear—expresses his eager anticipation of Kircher's 'Librum magneticum'.[164] In the next letter, this rather vague reference to a journey is cleared up: apparently it was Kircher who had been preparing to travel to Prague. Marci exclaims rhetorically, 'O how often

[160] We find in Pelcel the statement that, of Marci's *De ides idearum operationibus*, 'her sagt in einem seiner Briefe, dass er dieses Werk…stets mit sich trage': *Böhmische, mährische und schlesische Gelehrte und Schriftsteller*, p. 83.
[161] See *Allgemeine deutsche Biographie*, vol. 20, p. 301.
[162] See Zedler, *Universal Lexicon*, vol. 19, col. 1228.
[163] Epist. III. 127 (Prague, 12 September 1640).
[164] III. 64 (Prague, 12 January 1641).

we have bewailed Fr Athanasius' excessive secrecy.'[165] Marci's Arabic interests are revealed in a later letter of the same year,[166] when he writes asking for Kircher's enlightening advice ('gaps into this darkness') in his investigations into the writings of Avicenna. In the May of 1642,[167] on learning of Kircher's ill health ('it is not without sorrow that I have noticed Your Reverence's ill health'), Marci returns to his attempts to persuade Kircher to visit Prague. He points out that this visit would both improve Kircher's health, since 'Roman air is less healthy than the healthy air of our Germany',[168] and at the same time please the Emperor. In the same letter he mentions his successful observations of the eclipse with sextant and azimuth based on those used by Tycho Brahe.

In a further letter Marci, in the seventeenth century's favourite role of volunteer book-reviewer, describes to Kircher the publication of a work by Olaus Worm[169] containing runic letters, and, further, an illustrated version of the celebrated 'golden horn with various hieroglyphic figures found two years previously'.[170] Marci seems to have been well aware of Kircher's interests, even at this early stage of their friendship. From runes to the Amazon is, in the eyes of such scholars, a small step. In his next letter, Marci writes at length on the discoveries and manuscripts of Fr de Arrieza and his various reports from China, Japan, Malaya, Chile and Mexico.[171] He mentions also the missionary's report on the boundaries of the Amazon River and muses on his map of Canada and reports of New France.[172]

Marci seems to have shared to a large extent Kircher's own childlike faith and piety. In a letter of the same year he describes his visit to the springs at Hornhausen, whose fame as holy wells was growing daily: 'the reputation of the springs there and the wonderful cures continued to grow.' This pilgrimage leads him to describe various other healing waters, especially those of St Bartholomew ('some blind, some deaf

---

[165] III. 82 (Prague, 2 March 1641).

[166] III. 65 (Prague, 5 October 1641).

[167] III. 69 (Prague, 10 May 1642).

[168] Despite an earlier work (M. Cagnatus, *De Romani aeris salubritate commentarius*), the 'bad air' of Rome was mentioned both by Kircher (*Latium*, II. VIII, pp. 87–88) and by Alexander Donatus in 1725 (*Roma vetus et recens*, III, Chap. IV, p. 436).

[169] This must have been Worm's *Regum Daniae*.

[170] Epist. III. 102 (Prague, 28 November 1643).

[171] Seven years later, Marci was to write enquiringly with respect to Fr de Arrieza's travels, and especially on 'de flumine Amazonum': III. 126 (Prague, 8 March 1653).

[172] III. 120 (Prague, 10 March 1646).

and some lame people are said to be healed by its water') and those called 'Fons Mariae', 'which women especially use for their illnesses'. In a shocked tone, Marci finally discusses the heretical views of Jacob Tappe,[173] professor of medicine at Helmstedt, known to have declared, apropos of medicinal springs, that 'all the cures inevitably sprang from Nature'.[174]

After various nondescript letters exchanging books and idle gossip, we find a letter asking Kircher if he has received the 'curiositates exoticas' sent earlier. The same letter contains another puzzling reference, this time to Kircher's secretary: 'for I know Your Reverence's only difficulty to be in your scribes'.[175] Obviously Kircher employed secretaries, or rather scribes, to copy out his manuscripts, but letters written in any hand other than his were seldom, if ever, sent. In fact Kircher also invariably wrote, in his own hand, copies of any letter he might send. Similar exotic curios are mentioned in a letter written five years later, with an enigmatic reference to an odd pair of zoological specimens that appeared in Prague: a ghostly white eagle and a particular sort of snake. This reference is all the more intriguing in that Marci describes their captor as one Johann Georg Weis, an apothecary, recently returned from Rome, where he had seen Kircher.[176]

Another visitor to Rome was Marci's son, Joannes Georgius, whom the father entrusted completely to Kircher's watchful care. In the same letter, Marci reports the latest news he has heard about the Queen of Sweden: 'I understand that her Serene Highness the Queen of Sweden is hastening to Rome.'[177] Two months later he describes two letters he has received from Caramuel de Lobkowitz, and under their influence is led to exclaim, feelingly: 'Oh if only that Athanasius Kircher of yours would favour more select philosophers and theologians with his own Latin industry.'[178] Three years later, Marci writes to Kircher and mentions his presence at the election and coronation, on 27 July and 1 August respectively, of the Holy Roman Emperor Leopold. Despite his journey from Prague to Frankfurt, he had found time to read, 'avidissime', Kircher's *Scrutinium*, of which he notes, 'your letter to

[173] Expressed in his *Controversiarum medicarum*.
[174] Epist. III. 100 (Hornhausen, 8 September 1646).
[175] III. 130 (Prague, 5 August 1650).
[176] III. 94 (Prague, 7 August 1655).
[177] III. 95 (Prague, October 1655): Marci's consoling news on the welfare of Christina was a trifle premature: Christina arrived in Rome on 22 December 1655.
[178] III. 97 (Prague, 11 December 1655).

Hauptmann gave me a foretaste of it'. Apparently, in the same letter, which somehow Marci had read, Kircher had scolded Hauptmann for believing too readily in the frequent rumours of his death.[179]

There can be little doubt that Kircher was, very often, a bad correspondent. His slowness in replying is understandable but often unforgiveable. In the last letter[180] we have from Marci, who throughout the long correspondence had been reduced to sending mildly admonitory letters beginning 'post diuturnum silentium'[181] or 'ex tanto intervallo',[182] we find him at last making a wonderfully decisive gesture: 'To the Reverend Father I have in fact sent 50 florins' as payment for the works on the source of the Amazon and the history of Mexico, which he had first hintingly mentioned to Kircher nineteen years previously.

Two French polyhistors with whom Kircher corresponded, with one in detail, with the other fleetingly, were Claude Fabri de Peiresc and Marin Mersenne (1588–1648) of the order of the Minimes. Mersenne, who sent Kircher two perfunctory and inconsequential letters,[183] unfortunately died before serious correspondence between the two men could germinate. He was a mediocre speaker but he knew Hebrew, was versed in theology and philosophy, became renowned for his mathematical studies, and produced one of the most famous works on harmonics of the seventeenth century.[184] Rather like Peiresc, Mersenne enjoyed a glittering galaxy of correspondents including such stars as Cartesius, Gassendi, Naudaeus, Scheiner, Allacci and Selden.[185] As we may judge from these names, he was of the generation immediately preceding Kircher's.

This overlapping of different generations inevitably took place towards the end as well as the beginning of Kircher's life. In the last five years of his life, Kircher engaged in correspondence with the German polyhistor Christian Franz Paullini (1643–1712), who studied medicine in Hamburg, Königsberg and Copenhagen, and philosophy in Wittenberg. The Grand Duke of Tuscany offered him the chair of

---

[179] III. 99 (19 August 1658).
[180] VIII. 114 (Prague, 10 September 1665).
[181] III. 123 (Prague, 10 December 1650).
[182] III. 84 (Prague, 11 July 1648).
[183] III. 427 (Paris, 22 September 1646).
XIV. 34 (Paris, 20 January 1646).
[184] *Harmonie universelle*, dedicated to Peiresc.
[185] Mersenne's own voluminous correspondence has been edited: C. de Waard and R. Pintard, *Correspondence du P. Marin Mersenne*.

medicine in Pisa and is said[186] to have done so on the strength of a recommendation made by Kircher. Paullini refused this suggestion and journeyed to Rome to meet Kircher. As a student in Copenhagen, Paullini had acted as interpreter for a member of the Milanese Medicis, Francesco Giuseppe Burrhus, who was later found guilty of heresy and imprisoned in Rome for life.[187] The German student, as a successful doctor, later became friendly with the learned Socinian Lubenicius, and because of these doctrinally dangerous connections was later compelled to protest his faith before a panel of theologians, headed by Archbishop Suaningius. He was exonerated from all suspicion and spent the rest of his life writing curious tracts and voluminous treatises on every type of subject.[188]

His letters to Kircher are concise and, for their cultural context, embarrassingly terse. Paullini was finding it extremely difficult to have his *Cynographia curiosa* printed and in 1675 wrote to Kircher begging him to intercede with Jansson in Amsterdam. Paullini talks rather wildly of the caprices of cruel fate which he had failed to evaluate correctly before starting his labours, and refers diplomatically to Jansson's honour and humanity. He promises Kircher a public eulogy if he succeeds in persuading Jansson to accept the work.[189]

In a second letter, Paullini appears more placid. He talks soothingly of Kircher's state of health, politely inquires after the *Arca Noë*, spells Kircher's name in capital letters and strolls suave and self-collected through the niceties of the seventeenth-century letter. He mentions, almost incidentally, that because of the 'tumult of war…in Germany', his *Cynographia* is being printed by Jansson and, with the utmost nonchalance, bends himself to describe for 'great Kircher' the antiquities of Etruria. His final, pious declaration is perhaps too studiedly casual to be genuine: 'Jesus is all to me'.[190] Without necessarily casting aspersions on Paullini's religious integrity—this was done enough in his

[186] See *Allgemeine deutsche Biographie*, s.v. Paullini.

[187] The sad case of Burrhus seems to have interested Kircher, for he reports the mystic's career and imprisonment in a letter to Kaspar Schott, dated from Rome, 9 April 1660 (University of Hamburg Library) and, again, in a letter to Johann Georg von Ankehlen, Rome, 17 October 1661 (University of Basel Library), where he emphasises: 'er ist zwar unsers Ordens nit gewesen'.

[188] Cf. *Flagellum salutis oder Heilung durch Schläge*; *Rerum et antiquitatium Germanicarum syntagma*; *De candore liber singularis; Geographia curiosa*.

[189] Epist. XI. 363 (Hildesheim, 26 April 1675).

[190] XII. 159 (Corvey, 19 February 1676).

own lifetime—one can safely say that the contrast between the wild desperation of the first letter and the studied tranquillity of the second is little less than comic.

In a third and final letter, Paullini cheerfully begins by talking of the news of Kircher's death, 'your death recently reported to us in a false rumour', and is led by this to muse on the imminent death (actually some eight years later) of Nicolaus Steno, 'my close friend'. Paullini seems to have picked up somewhere an imperfect impression of suitable things to write about in letters. For the rest, he talks in general terms of the promotion of Kircher's name and only in his concluding sentence does he mention, with approval, Kircher's teaching about 'microscopic animals'.[191] This lack of specific references is all the more surprising in that Kircher is frequently cited.[192]

[191] XII. 144 (Corvey, 14 April 1678).

[192] Paullini makes, for example, extensive references to Kircher's *Mundus subterraneus* and *Scrutinium* in his own *Observationes medico-physicae, etc.*, pp. 37, 42, 83, 95, 107, 241, 338, 478, 519. The work is without an index.

CHAPTER ELEVEN

# LETTERS FROM HUMANISTS AND ANTIQUARIANS

It is not to be supposed that the entirety of Kircher's correspondents consisted of scientists, Jesuits or the higher echelons of society. Many of Kircher's non-scientific works aroused a keen and lively interest in their seventeenth-century setting and these, coupled with Kircher's personal reputation and ready availability, proved to be firm bases for an exchange of letters. We could group many of the correspondents as yet undiscussed under the heading of 'humanists' and 'antiquarians', terms that are conveniently vague and could include almost anyone whose letter failed to include a comet observation or light chatter on the longitude of a certain city. The relative importance of such letters is difficult to determine and for this reason, to avoid possibly undeserved emphasis, it is proposed to deal with these correspondents alphabetically.

A Neapolitan admirer of Kircher's antiquarian works was Francesco Agricoletti (d. 1673), secretary to the Marquis of Vastro, who wrote several times to the German Jesuit, commenting on one occasion on his 'eloquence and erudition' as displayed in the work *Latium*,[1] and appending learned notes on the various villas described in the same work.[2] Such advice came perhaps all the more easily from Agricoletti, the author of several historical works, in that he himself was engaged in a similar description of the Kingdom of Naples.[3]

A second scholar of similar interests was Francesco Angeloni (1559–1652), who died in Rome in 1652. Angeloni, who wrote several learned histories[4] and some rather more frivolous comedies and books of verse, collaborated in 1650 with Giovanni Petro Bellori (1615–1696), archaeologist and later librarian to Christina of Sweden, and then antiquarian to Pope Clement IX. Together they produced a testimonial on Kircher's *Pamphilius obeliscus*. In this manuscript both authorities testify to Kircher's work on extracts of hieroglyphic

---

[1] Epist. VI. 147 (Vasto, 31 May 1672).

[2] IV. 95 (Naples, December 1672).

[3] In 1648 Agricoletti published the historical works *Il Rodrigo* and *Istoria Iberica*. His description of Naples remained at his death in manuscript form.

[4] Esp. *Historia Augusta di Giulio Cesare* and his *Historia di Terni*.

content 'ex meo Museo', to the completeness of their transcription and to Kircher's industry in collating the fragments of obelisks found in the Hippodrome—'nos infrascripti summa fide et sinceritate'.[5]

In 1647 a similar testimonial was presented by the learned Leonardo Augustini (1593–1669), who described the restoration of the obelisk 'under the direction of the Reverend Fr Atanasio Chircher', and the great care Kircher took with the ancient fragments.[6] Due to Kircher's activities in this sphere, as opposed to his written works, his fame as an antiquarian slowly began to spread throughout Italy and Europe. If we are to believe the historian Vincenzo Auria (1625–1710), word of Kircher's investigations reached Palermo in 1652.[7]

As opposed to this tardy realization—despite the presence in Palermo of Kaspar Schott, Kircher's erudite pupil and collaborator in several works—Georg Baresch (*c.* 1590–*c.* 1662) was already writing in 1639 in praise of Kircher's learning and his 'opera ingeniosissima', especially the *Prodromus Copticus*.[8] Baresch, who was a friend of Marci, had already made the acquaintance of Kircher in Rome. Another northern visitor to Rome and consequent friend of Kircher was the Dane Gaspar Bartel Bartholin (1614–1698). Two years after leaving Rome, he became professor of eloquence in Copenhagen, and later held the position of antiquarian to the court of King Frederick III. He seems to have been much impressed by Kircher's friendship and helpfulness: 'it would not be easy to explain how much I owe to your goodness' and flatteringly describes his feelings in Rome: 'so great was your kindness even though occupied with a thousand matters'. He expresses his dismay at being unable to procure, because of the 'confusion of war' in Venice, a copy of Kircher's *Lingua aegyptiaca restituta*.[9]

One of Bartholin's own compatriots in Rome, Vitus Bering, needed neither a visit to Rome nor the publication of one of his works to prompt him to write glowingly and warmly of Kircher's fame. His lavish letter is devoted entirely to adulatory homage.[10] If Bering's letter is deprecatingly described as warm, then the letters of the Polish poetess Sophianna Bernhardi (née Corbiniana) could be classed only

[5] Epist. VII. 114 (Rome, 14 August 1650).
[6] VII. 104 (Rome, 14 October 1647).
[7] XIV. 259 (Palermo, 4 October 1652).
[8] III. 353 (Prague, 27 April 1639).
[9] III. 19 (Milan, 19 August 1643).
[10] III. 314 (Pavia, 22 August 1647). Bering, 1617–75 (not the explorer).

as a conflagration, a veritable paean of eulogy. Bernhardi's first letter to Kircher—she sees herself as an uneducated woman and wonders at her temerity in addressing such a learned celebrity whom she describes as 'aureae Societatis praetiosissimum gemmam'—fills two folio sides with fulsome flattery and only incidentally mentions that she had heard of Kircher from the lips of her husband, newly returned from Italy.[11]

In a second letter, her motives become suddenly and alarmingly clear. After a general and highly laudatory opening paragraph she mentions, almost incidentally, her two sons, at present studying in Paris. This is interesting and perfectly reasonable. But then we hear of their proposed arrival in Rome: 'quos, cum post unius Anni intervallum Romam sperem venturus'. What follows is masterly. Bernhardi wonders, idly it seems, if she might find some moral tutor in Rome for her two sons; she toys with the daring idea of approaching Kircher, but 'quid ago!' away with such impertinence, she cries. Then more compliments, a sudden coy but skilful *volte-face* and the whole thing is settled. Rhapsodically, she declares: 'Oh how fortunate you are, my sons, to have such a Patron! And oh how happy I am, thanks to this solace and the kindness of so great a man'. One can imagine Kircher's helpless alarm at this point: it is too late, the tender, guileful trap is sprung and the future of her two sons assured.[12]

In a third and final letter, Bernhardi, who can now write to 'virorum Eruditissime ac Religiosissime Amice, ac Patrone Colendissime' expresses her alarm and consternation to hear of Kircher's ill health. To aid his speedy convalescence, she launches into a sea of praise, describing her pride at the attention lavished by Kircher on her two sons, and hoping that he will 'live for centuries, Phoenix of the erudite'. The praise ends as abruptly as it began with the wish 'that you may be well and live as long as possible, the Glory and Wonder of the city and the world'.[13]

Compared to such uninhibited flattery, the comments of more everyday correspondents such as Ludwig Bildstein, canon in Augsburg, on something as ordinary as Kircher's *Musurgia* appear banal and wearisome. Bildstein found special pleasure in Kircher's 'totam Musicae compositionis Methodum' and appreciatively thanked him for giving

[11] IX. 140 (Warsaw, 22 December 1664); Bernhardi, 1641–1664.
[12] VIII. 153 (Warsaw, 9 November 1666).
[13] X. 51 (Warsaw, 11 January 1668).

such a boost to German scholarship.[14] Glowing tributes were paid to Kircher by the Italian antiquarian Giovanni Francesco Bonamici in a letter ostensibly seeking Kircher's advice on certain ancient coins. In his preparatory paragraph Bonamici discourses on Kircher's wisdom and inexhaustible learning, nominates him arbiter and leader in all the sciences and, more absolutely, 'as wise as can be, in fine the all-knowing Democritus of our times'. After such a prologue, Bonamici can only feel the utmost confidence in presenting his coins for identification.[15] A second letter is less effusive and devoted mainly to Bonamici's rather distraught explanation of how coins struck by Greek heretics should happen to be in his possession.[16]

It is interesting to note that only the less scholarly of Kircher's correspondents indulged in such obvious flattery, often to the extent of being obsequious. Men of higher intellectual calibre wrote alarmingly curt letters, free of all effusion and interested only in acquiring or imparting information. Thus, in a letter written by Johann Buxtorf (1599–1664), a scholar gifted in the tongues of the Orient and in expounding Holy Writ,[17] we find only a terse request for certain Hebraic translations, and must satisfy any search for adulation in his formal and stereotyped address to Kircher, 'clarissime vir'.[18] Equally abrupt was the letter written in 1666 by Pietro Maria Canina, requesting Kircher's views on the 'la questione…della Convertione del Calendario Gregoriano'.[19]

More usually, such letters soliciting information were more politely expressed. The Viennese linguist Andreas Carmroth, for example, though writing expressly to gain information on the 'lingua Aethipica sive Abyssinica', tactfully wrapped his request in two sheets of learned allusions, remembering to address the Jesuit as 'philologe celeberrime', and skilfully contrasting his own position 'I deal, stumbling, with the languages of the icy north' with the 'fiery Romans'.[20] In a more personal vein, we find a letter from a certain romantically named Agapito Centurio whose son Cristoforo had apparently been converted

[14] III. 287 (Augsburg, 21 October 1650).
[15] IV. 149 (Malta, 13 January 1667).
[16] X. 42 (Valletta, 15 July 1667).
[17] Buxtorf, who was a prolific writer, had travelled in the Holy Land and was professor of theology and Hebrew at the University of Basel.
[18] III. 364 (Basel, 1 August 1637).
[19] IX. 73 (Florence, 4 April 1666).
[20] III. 358 (Vienna, 23 September 1642).

by Kircher. Centurio humbly asks for Kircher's help in regaining the affection of his son, for at the moment, he declares, 'as the father I begrudge you my son, while I owe him to you'.[21] Unfortunately, this reference is the only one we possess, and it throws light on the considerable influence Kircher must have exercised on many religiously-minded young scholars.

Very often, as we have already seen above, Kircher's correspondents seem to lose all sense of proportion. This is in part due to the temper of the age, but there exists only a thin line between high-flown praise and tedium. In a letter acknowledging the receipt of the *Musurgia*—'ce précieux trésor'—one Dom de Charserath comes very close to the latter. Charserath's letter preserves for us its interest, however, in his description of political events: 'cette faveur est venue en un temps ou il semble qu'il ait voulu mettre le Calme en son pays'. Charserath wryly complains that the troubled days 'les tempêtes dont la France est agitée et le Bourbonnois particulièrement ne me laisse d'austres pensées que d'Architecture militaire' and thus deprive him of a chance to pursue 'cette divine Harmonie . . . cette charmante estude'.[22]

A more sober letter on Hermetic philosophy, 'philosophiam, quam vulgo vocant Hermeticam' was written some three years later by the Protestant professor of law in Deventer, and later in Hardwicke, Johann Christenius,[23] who was interested mainly in the 'arcana . . . rarissima' to be found in Chaldaic and Persian manuscripts. He discusses, discreetly and with peculiar emphasis, the secrets he had learned from Michael Potier and goes on to express his faith in the revelatory powers of Kircher's future works: 'assuredly it is not trivial things I expect from the work of Kircher but the rarest'. It is probable that Kircher was not attracted by this writer, who in a final paragraph refers rather condescendingly to 'the Catholic faith and the cult of the Blessed Virgin'.[24]

In pleasant contrast to the rather arrogant tone of Christenius' letter, we find a pleasing tribute from Pandolfo Gasparo Clengel to Kircher's kindness and 'dolcissimo favore' shown during a stay in Rome. Most of Clengel's letter is taken up with the anticipation of Kircher's new works, all the more so since his stay in Rome had, so to speak, whetted

[21] III. 411 (Genoa, 14 March 1648).
[22] XIV. 251 (Chateau du Moulins en Bourbonnois, 7 November 1651).
[23] Author of *Tabulae institutiorum imperialium* and *Exercitationes juridicae*.
[24] Epist. XIV. 129 (Amsterdam, 12 August 1654).

his appetite.[25] A certain Benjamin Crause was another visitor to Rome who found pleasure in meeting Kircher despite the 'multitude of your negotiations' and who was suitably edified by the 'singular kindness and benevolence of your Reverence'. Crause left Rome determined to help in the noble design of 'your goodness amplified by the celebrity of your name'. Possibly he saw in his letter the first tiny step towards that goal.[26]

Dom de Charserath was not the only one to appreciate the full value of the *Musurgia*. Kircher also received a letter of praise from Georg Crisanius, friend of Caramuel de Lobkowitz (1606–82), who began his letter by exclaiming that 'I cannot express in words the kind of solace and refreshment of spirit I have received from reading your *Musurgia*'. Crisanius tries to define the feelings aroused in him in his perusal of this work but fails, and generously declares: 'whatever that may be, I rejoice that I can at least admire in other matters what I regret is far beyond me'. In this same letter Crisanius, who seems to have been a genuine admirer of Kircher's works, rather prematurely expresses his desire to see the *Turris Babel* and expresses the hope that 'it does not omit harmonic universal languages'.[27]

One of Kircher's more picturesque correspondents, and one from whom he received much help in the compilation of his earlier oriental works, was the hot-blooded Pietro 'Peregrino' Valle (1586–1652) who journeyed to the Near East after an unsuccessful courtship, married two wives, both from Georgia and both of whom died. He returned to Rome with the body of his second wife, insulted the Papal presence of Urban VIII by stabbing before the pontifical eyes one of the Swiss guards, and spent the rest of his nomadic life in restless touch with various learned men and societies. His descriptions of Persia and Georgia were widely discussed and frequently translated.[28]

In Kircher, Valle saw a possible key to the solution of the mysteries of the East. After learning from Francesco Rogeni of his arrival in Rome, Valle wrote to Kircher in his direct way and asked to be allowed to become his friend: 'ardenti flagrabat desiderio se in amicitiam gratiamque Rae Vae quodquomodo insinuandi'. Although Valle is duly honoured and gratified by having such a learned friend, he looks for-

[25] XIV. 258 (Breda, 10 Oct. 1653).
[26] XIV. 104 (Perugia, 7 July 1648).
[27] XIV. 25 (Vienna, 7 March 1653).
[28] Valle also published an important *Discorso sulla musica dell'età nostra*.

ward more to the day when the *Thesaurus aegyptiacus* should be published.[29] Consequently, Valle was immensely pleased at the appearance of the *Prodromus coptus*, even though its arrival was a surprise. His letter of thanks, despite his belief that Kircher had already returned to Rome, is addressed to Malta and in it he talks again darkly and mysteriously of the unknown East and the solution of the hieroglyphs.[30]

The eventual publication of the *Lingua aegyptiaca restituta* did little to ease Valle's obsession with the enigma of the East. He was disappointed with the work and complained bitterly to Kircher that his own notes had scarcely been used: 'I have made a note of a few things which particularly concern me of which I thought I should remind your Reverence'. He quibbles too with the layout of the work, notices omissions, and querulously appends a list of the more glaring errors.[31] In another undated letter, probably written before 1643, we find Valle again in a plaintive mood. On this occasion he grumbles at the Jesuits' restrictions on the publications of the Accademia di Umoristi, of which he was a member of long standing. In particular, he singles out Fr Christoph Scheiner (d. 1650), with whom he seems to have waged a lengthy feud. Kircher himself does not escape unharmed from this petulant outburst: Valle prods him about the promised 'hieroglyphicorum explicationem'.[32]

Inevitably, in this sphere of hieroglyphic studies, Kircher was regarded as little short of an oracle, however tarnished this reputation might become. Consequently, we find a French scholar, Claude Dufour SJ, appealing to Kircher for the last word on the significance of his very own mummy, 'which was found under a pyramid in the year 1672', after having tried in vain the counsels of 'many other illustrious scholars'. Dufour, after mentioning by way of introduction that Kircher had been recommended by François de la Chaize, then Moderator of the College at Lyons, describes in detail the shape of his mummy and the markings on it, and then writes imploring the whole enigma to be brought into the light of day.[33] Dufour's hopes and expectations were amply fulfilled, but he had to wait twenty-three years. Kircher incorporated the depiction and interpretation of the mummy into the

[29] III. 409 (*Ex aedibus*, 6 October 1634).
[30] III. 291 (Caieta, 26 June 1637).
[31] III. 440 (Undated, but after 1643).
[32] XIV. 107. ([pre-1643], Rome).
[33] XI. 337 (Lyons, 15 June 1673).

*Sphinx mystagoga* of 1676, an action of such generosity that it sent Dufour into a frenzy of adulation and gratitude. His shy but proud letter of thanks dates from that year[34] and in it refers to Kircher as a 'vir omni laude superior'.[35]

Much of Kircher's correspondence is, as we have seen, taken up with the distribution and collection of his works. As a Jesuit, he enjoyed the luxury of an assured means of distribution and transport afforded by his itinerant confrères in their traffic to and from worldwide centres of learning. Side by side with this smoothly run organization, Kircher sent copies of his works to scholars and patrons who had already evinced interest. Often the paths of communication were broken by war or plague, and there might arise, in various districts, an acute shortage of Kircher's newly printed works. It must be remembered as well that the actual physical size of his folio works hampered ready distribution.[36]

It was possibly such a shortage that prompted one of the most famous printers in the Netherlands, Lodewijk Elsevier (1604–70), to write direct to Kircher in an attempt to secure copies of his works. Elsevier's professional interest had been aroused by a presentation copy of the *Musurgia* intended for the Queen of Sweden, which he had chanced to see. He had heard, too, from a certain Fr Cnobbart that Kircher himself was in charge of their distribution and from the same source had heard that a bookseller in London had already ordered 30 copies at three-and-a-half crowns each. Elzevier was willing to take the same number at the same price 'trois ecus et demi (tre scudi e mezo)' with the possibility that 'peut-etre que j'auray par avril besoin de plus des exemplaires'.[37] He had also heard, again from Cnobbart of the proposed 'explanation des aiguilles de Rome', and tentatively orders four or six copies 'si le prix n'en est trop grand et s'il est achevé il vous plaira y joindre 4 ou 6 exemplaires'. As witness of his sound commercial standing, Elsevier adds the names of various Roman business houses ready to vouch for his financial and personal integrity and,

[34] XI. 346 (Lyons, 8 August 1676).

[35] XI. 371 (Paris, 22 January 1677). Another of Kircher's correspondents to admire his work was François Joseph de Nay, a friend of Dufour and Fr de la Chaize who found the work awaiting him in Paris after a two-month journey from Rome.

[36] Kircher's largest work was his *Oedipus aegyptiacus*, three folio volumes of 2000 pages.

[37] Epist. XIV. 238 (Amsterdam, 4 November 1650).

sound businessman that he evidently was, promises to send Kircher specimens of his present titles as soon as they are ready.[38]

It is possible that with this gesture Elsevier was attempting to break into the strict monopoly of Kircher's printed works held by Jansson van Waesberghe of Amsterdam.[39] However, when Kircher himself broke this monopoly he turned instead to the printers patronized by Kaspar Schott[40] and entrusted to this firm, that of 'Johann Andreae et Wolfgang Endteri Junioris Haeredes Noribergae' the printing of his *Phonurgia nova*. Possibly this move was dictated by the war between Holland and England, and the accompanying added precariousness of existing trade routes between Holland and Italy. That Elsevier should show such interest in the *Musurgia* is merely one example of the wide influence of this work. From its publication in 1650, this book stimulated a large proportion of the thinking scholars of Europe and provoked a considerable part of Kircher's correspondence.

Twelve years after its appearance, Christian Augustin Flader was encouraged to report to Kircher the existence of a wondrous echo in the vicinity of Prague 'est in arce Pragensi Echo, rarissime observatae alibi repercussiones', which was capable of producing 'ad tormentorum explosiones, stupendus et horribilis'.[41] We next hear from Flader some six years later when, encouraged this time by the publication of Kircher's *Magneticum naturae regnum*, he records the phenomena observable with his gold ring, which had a magnet for its jewel.[42] It is a picture evocative both of the questioning mood of the seventeenth century, and of Flader and Kircher. The following year Flader, who seems to have been highly appreciative of Kircher and his delight in minute things, forwarded to Rome from the Rector of Brno a grant of three aureas to which he himself added an extra two gold aureas. In the same letter he mentions his eager anticipation of the *Arca Noë*, a

[38] Elsevier's list of 'quelques auteurs anciens grecs traitant de la Musique', which was well calculated to arouse Kircher's interest, also included, by a twist of fate, 'la version de Marcus Meibomius et ses notes'.

[39] Most of Jansson' five letters to Kircher are undistinguished. The only animation in them is to be seen when Jansson reports a Dutch naval victory over the English: see VIII. 169 (Amsterdam, 1 October 1666).

[40] XI. 182 (Nürnburg, 5 December 1672): 'Rev. Dom. P. Schotti p.m. opera non minori cura atque diligentia a nobis fuerant impressa'.

[41] VIII. 27 (Brno, 14 October 1662).

[42] X. 83 (Brno, 14 October 1668).

reference that distorts to some extent the letter's prevalent mood of disinterested admiration.[43]

One of Kircher's more scholarly German correspondents was Martino Fogel (1613–1675), eventually Professor of Logic and Metaphysics at Hamburg, who seems to have met Kircher during his visit to Rome in 1662–63.[44] After leaving Rome, Fogel became doctor of medicine in Venice in 1663 and then spent some time in France. In a letter written to Kircher from Lyons in 1664, he gives numerous references to learned and contemporary works of the Near East, mentioning among others the works of Fr Grueber.[45] He discusses tertiary fever in Sardinia and concludes with a warm tribute to Manfredo Settala's museum in Milan.[46] Two months later he writes again, this time to congratulate Kircher on his exposition of the 'Isis tablet…which was formerly in the possession of Cardinal Bembo'. He expounds once more on Sardinian hygiene and, yet again, concludes with a reference to a museum, this time to the one in Lyons, of which he promises 'if you have not seen it, I shall tell you about the most important things I observe there'.[47] Possibly Fogel kept his promise, or possibly he ran out of museums. Whatever the case, his preserved correspondence is restricted to these two letters.

Kircher's interest in the decipherment of the hieroglyphs inspired another scholar, this time professor of theology and Hebrew in Rome, to dedicate to the Jesuit one of those undated testimonials that Kircher seems to have enjoyed amassing.[48] Humbly and admiringly, Marco Antonio Gaio, who also published a work on Hippocrites, begs Kircher for enlightenment in 'tot sacramenta' of Holy Writ. His apostrophe to Kircher begins, fittingly, 'Oro te, Fuldensium Ocelle, gemma urbis Romanae, Secretorum (quod caput est) Aegyptiacorum lumen!'[49] Kircher's Egyptological works were certainly very highly regarded. But while a Gaio might lyrically exclaim on their scholarly contents, one has the feeling that others, perhaps less intellectually inclined, perhaps

[43] IV. 99 (Brno, 8 February 1669).
[44] In IX. 127 Fogel refers to himself, in a postscript, as 'comes itineris Rae. Vae'.
[45] Principally his *Geographia Asiae*.
[46] IX. 196 (Lyons, 24 July 1664).
[47] IX. 127 (Montpellier, 22 September 1664).
[48] A very similar testimonial is preserved from Giovanni Battista Rinaldini, 'a Sacra Congregatione de Prop. Fide praefectus deputatus', and seems to have been inspired by the *Obeliscus Pamphilius*; see Epist. VII. 110 (Rome, 13 Kal. September 1650).
[49] III. 19 (undated).

more worldly, were more impressed by the lavishness of the work and binding. Certainly this is the impression given in a letter sent by Nicolaus Geisler and Chilianus Hötting from the Carthusian monastery near Würzburg. They rather vaguely compliment Kircher on his *Obeliscus Pamphilius*, talk generally of local news, throw in Kaspar Schott's name for good measure, complain of the difficulty of acquiring good books in troubled times, and conclude with the obvious request for 'aliquam ex tuis Operibus pro nostrae Bibliothecae accuratiori Splendore donationem'.[50] Possibly this letter was ignored by Kircher, since their names appear only once in a list of his correspondents.

A rather more genuine inquiry is the letter written by the antiquarian Aegidius Gelenius, historian of Cologne. Gelenius (1595–1656), in a friendly but suitably humble letter, respectfully asks Kircher's advice on the suitability of illustrations in works on literary and antiquarian matters.[51] When one considers Kircher's lavishly illustrated folios, it is not difficult to imagine his reply, though we must bear in mind that Kircher's works were invariably heavily subsidized and were therefore not exceptionally practicable examples to follow. If Kircher was surprised by such an inquiry, he must have been astounded to have received from the prominent humanist Jacobus Golius (1596–1667)[52] congratulations on his *China illustrata* before its date of publication. However, Golius, who admired 'the careful accuracy of your work on China', admits having seen the work at the printers, a view that had given him a worthy foretaste.[53]

Another correspondent with a rather similar reputation to that of Golius was the French linguist and humanist Bartholomaeus d'Herbelot (1625–1695). He spent time in Rome in 1650, and enjoyed several lucrative pensions from Fouquet, minister to Louis XIV, eventually becoming royal professor of Syriac in Paris. For several years around 1660 he enjoyed the patronage of Ferdinand II, Grand Duke of Tuscany. He seems to have corresponded reasonably frequently with Kircher, but unfortunately only one letter is preserved.[54] In this, Herbelot talks of their mutual task in undoing 'the fetters of language'

[50] XIV. 6 (near Würzburg, 25 February 1659).
[51] XIV. 16 (Cologne, 28 September 1653).
[52] Golius, professor of mathematics at Leyden, had travelled widely in the East and was a noted Arabic scholar; cf. his *Vita Tamerlani* in Arabic and his monumental *Lexicon Arabicum*.
[53] Epist. VIII. 139 (Amsterdam, 11 July 1665).
[54] XIV. 24 (Aix-en-Provence, 5 December 1657).

and thanks Kircher for sending him 'two little books in Persian' about the story of Christ. He expresses great interest in any future works produced by Kircher—'if your Minerva gives birth to anything new'—and assures him, perhaps unnecessarily, that any work received will be promptly paid for. He refers to the great advantages he found in Kircher's Tamil script[55] and concludes with a dissertation on various gold coins bearing this same script.

It is rather startling to realize how great a proportion of letters written to Kircher by various learned and famous men say nothing at all. Obviously, one finds compliments and odd references to points of mutual interest, but the kernel of the letter frequently seems to be missing. Possibly it is our modern minds that are at fault, in that we seek in every letter for a reason, or enquiry, or piece of news. The letters written, for example, by Joachim Pastorius-Hirtenberg (1610–1681), a Silesian Protestant who became a Roman Catholic canon and subsequent historian to the Polish Court, are not quite pointless, but they come close to being so. Joachim had a son named Alexander, who as fate would have it was studying in Rome. Consequently, as was almost *de rigueur* in such cases, Kircher had kindly offered to keep his eye on the boy. Apart from one exception when he sends a lengthy eight-line epigram dedicated to Pope Clement X ('Clemens X. Papa romanus/per anagramma/Is mens pura, pacem, coelum dans'),[56] Hirtenberg's letters are lengthy meanderings on youthful folly,[57] combined with vague admiration of Kircher's 'mysteries of the sciences'.[58]

Possibly the most famous of Kircher's compatriots living in Rome at the same time as the Jesuit was the Classical scholar and librarian Lucas Holstenius (1596–1661). In his youth, Holstenius had travelled widely, meeting scholars such as Grotius, Meursius, Vossius, Heinsius and Cluver, before returning to his native city Hamburg to take up an appointment as sub-rector of the Joannis school. When this position was refused to him, Holstenius left angrily for Paris, where he became Catholic, met Peiresc and accepted the offer of Cardinal Francesco Barberini to become his librarian. On his arrival in Rome, Urban VIII made him a canon in the Vatican, and under Innocent X he became deputy custodian of the Vatican Library. In 1630 he was sent on a

[55] See *Prodromus coptus*.
[56] Epist. VI. 172 (Gdansk, 28 February 1672).
[57] VI. 170. (Gdansk, 26 February 1672).
[58] XI. 266 (Gdansk, 12 September 1673).

papal mission to Warsaw, and spent some time in the Imperial Library in Vienna cataloguing manuscripts. In 1640 he was similarly engaged in Florence, and fifteen years later was chosen as the Pope's representative in the conversion of Christina, Queen of Sweden, in Innsbruck.[59]

Holstenius was widely regarded as a man of profound erudition and human discernment, and it is strange that he and Kircher appear to have had little in common. Of the three cursory letters from Holstenius preserved in the Gregoriana, one is a duplicate,[60] and of the two remaining, neither is remarkable in any way whatsoever. In the one, Holstenius sends to Kircher a book-list provided by the English bookseller Thomas Owen and asks curtly for 'copies of your latest work on light and shade',[61] while the second wonders if Kircher will forward 'certain papers' with his letters to Fr Johann Gans SJ, Imperial Confessor in Vienna.[62] These letters seem unnecessarily brisk and business-like. Certainly the two scholars had little in common in the way of erudite research, but possibly this difference was accentuated by personal disapproval on one side or on both.

Kircher's relationship with someone like Domenico Magri (1604–1672) was far less strained. Magri, who twice travelled on pontifical business to Antioch, became professor of theology and oriental languages in Rome, worked on the same Council as Kircher for the translation of the Gospel into Arabic,[63] and spent the latter part of his life as anon of the church in Viterbo, renowned for its mineral springs. His letters to Kircher betray his wide learning and inquiring mind. Often the ecclesiastical background looms large and threatens to engulf any other purpose in the letter: writing on Christmas Eve, 1659, for example, Magri spends most of the letter in joyful anticipation of the birth of 'il santo Bambino Gesù' and only reluctantly, it seems, imparts to Kircher news of the discovery near the city of Ferento of various 'medallions and other curiosities'.[64] In a second letter, he describes to Kircher various Greek, Latin and Hebrew manuscripts he is working on, and promises to send him copies of the various inscriptions to be found in Viterbo.[65] Further transcriptions are promised in a later

[59] See Wilkens, *Leben des gelehrten Lucae Holstenii*.
[60] Epist. III. 35 is identical to III. 290.
[61] III. 35 (Rome, 9 October 1646).
[62] III. 289 (Rome, 17 March 1650).
[63] See *Analecta Juris Pontifica*, col. 888.
[64] Epist. IV. 153 (Viterbo, 24 December 1659).
[65] IX. 103 (Viterbo, 26 February 1660).

letter, this time of those inscriptions on marble tombs in Viterbo in 'foro prope fores ecclesiae sancti Angeli'.[66]

Not all Magri's letters were devoted to antiquarian remains. In July 1660 he sent a long and detailed letter admiring Kircher's learned ponderings and added, for possible use in the *Mundus subterraneus*, his own observations on the famous 'Sabbatical River', a more precise account of which, he adds skilfully, is to be found in his itinerary[67] printed by the bookseller Cavon.[68] Magri's next letter is again of different content and presents: with a dreadfully familiar nonchalance, it presents 'some observations about the rise of a new comet'.[69] His final letter, which involves questions on Syriac grammar and Old Testament chronology, triumphantly establishes his reputation as a learned but versatile scholar.[70]

Magri seems to have been unusually fertile in his exchange with Kircher. More typical is the letter written by one Iacobus Molinaeus, who for some reason known only to him and, one hopes, Kircher, saw fit to report to Rome that he had started a correspondence with John Wilkins, Bishop of Chester. Possibly, Molinaeus saw in Wilkins' authorship of a certain 'book in English…recently edited in London entitled *The Universal Character*', a potentially fruitful exchange of ideas to interest the author of the *Polygraphia universalis*.[71] However praiseworthy and disinterested such motives are, Molinaeus' embryonic correspondence seems to have been stillborn.

There is little to be learned from a letter sent to Kircher by the historian Daniel Wilhelm Moller (1642–1712), who visited Rome and met Kircher shortly after the death of Alexander VII. Moller's reputation as a scholar was such that he was granted an audience with the newly elected Clement IX before returning home to Pressburg.[72] Moller's letter, in which he thanks Kircher for the friendliness shown to him in Rome, is notable only for its address: 'Celebratissimo hujus Orbis Nomini Athanasio Kirchero e S. Jesu Favitori aestimatissimo'.[73]

---

[66] VI. 152 (Viterbo, 25 April 1660).
[67] Magri, *Breve racconte del viaggio al Monte Libano*.
[68] Epist. IX. 100 (Viterbo, 14 July 1660).
[69] IV. 30 (Viterbo, 23 December 1664).
[70] X. 154 (Viterbo, Parasceve Paschae [30 March] 1668).
[71] VI. 181 (Livorno, 14 May 1671).
[72] Ironically, the Catholic clergy is said to have driven Moller from Pressburg to Nürnburg, where he became, in Altdorf, professor of metaphysics and history.
[73] V. 96 (Bratislava, 1 March 1670).

Not all of Kircher's letters were from such obliging admirers. Our next correspondent, for example, is Andreas Müller (1630–1694), who, precociously gifted as a child, grew up to be Governor of Berlin (a position he voluntarily relinquished in February 1685) and a fanatical student of oriental languages. Among other curious works, he published the Lord's Prayer in a hundred different languages. In his later years, he attached great hope to his proposed 'Clavis Sinica' whereby even a woman might learn to read Chinese and Japanese within a year. Unfortunately, no patron could be found to provide the necessary 2000 thalers for the printing costs, and Müller, after falling into a chronically painful illness, burned his manuscripts in an excess of rage and frustration.[74]

Despite his published refutations of the Jesuit's tentative translations, the tone of Müller's letters is respectful and cordial. He made the first overture in their exchange of letters by forwarding details of his proposed work on Chinese.[75] It is of interest to note that both scholars shared the same printer, Jansson van Waesberghe. A second letter, more detailed, is prefaced with the Chinese character for 'please' and starts by complimenting Kircher on his astonishing erudition. Most of the letter is occupied with observations on Müller's *Sinicum* and Kircher's *China illustrata.* In his conclusion Müller gives an imposing list of future works, imitating, whether consciously or not, Kircher's own practice; in his letter he had already thanked Kircher for his list of works.[76]

Some seven months later, a little doubtful whether his letter had reached Kircher, Müller sent a very similar note 'about matters Chinese', talking of his 'Monumentum' and the problems of Chinese script and language. He makes a fleeting, hopeless reference to his language key and mournfully concludes with the inevitable 'vale, clarissime vir'.[77] In his last, undated letter, Müller talks again despairingly of his 'key to Chinese' and then, as though the subject were too painful, launches with feeling into a diatribe against those 'pseudochimici' so intent on

[74] Of this, Zedler (*Universal Lexicon*, vol. 22, p. 195) writes: 'Allein entweder weil es nur eine Grosssprecherei gewesen, oder weil niemand ihm seine angewendete Mühe mit 2000 Th. bezahlen wollte, so blieb das Werck liegen, ohnerachtet er von vielen, und insonderheit von Athanasio Kirchero zur Herausgebung dessen vermahnet worden'.

[75] Epist. XI. 341 (Berlin, 13 September 1674).

[76] XI. 271 (Berlin, 27 January 1675).

[77] XII. 162 (Teplice, Prid. Kal. February 1676).

producing alchemical gold.[78] All in all, the Müller to be seen in these letters is disappointingly mild and rather tragic. We had expected a fire-breathing polemicist, violently crusading against Kircher's mendacious fallacies, but instead we find a dejected retired civil servant, in whom even righteous anger is missing.

Müller's real interest was in Chinese,[79] but most of Kircher's linguistically minded correspondents preferred to question him on his essays in the field of hieroglyphs. Such a one was Giovanni Nardi (b. *c.* 1600), a doctor living in Florence and author of several scientific works, who was also keenly interested in the study of antiquity. In his letter to Kircher, Nardi draws attention to various 'fragmenti Egyptii' to be found in the 'Museo Berberino' and in the same breath points to various 'reliqua Cimmelia' located in museums in Florence and Pisa. After this kindly act, Nardi discourses on the superstitions prevalent in Greece on the wearing of the amulet.[80] Although one comes to accept such letters as a natural part of Kircher's correspondence, it is amazing to think of the countless unknown suggestions and obscure facts gathered in this way, and ultimately providing material for Kircher's works. In this field of scholastic co-operation, it would be hard to rival the seventeenth century.

Sometimes Kircher's letters were personal, devoid of scholarly interest. In 1650, Kircher received a letter from one Valentin Pistor, a priest in charge of the church of St Bartholomew in Frankfurt, who reminded him of their mutual studies in Mainz in 1631. Pistor is shy and diffident in his approaches to Kircher, the middle-aged Jesuit who had outstripped his colleagues of younger days, but eventually plucks up courage to recommend to Kircher's notice a certain Johann Cuntzensteiner, 'according to the testimonial which I have given him, a good German-Austrian young man'.[81] Kircher seems to have seized on this letter in a most businesslike way, for in a second letter from Pistor—he now addresses Kircher as 'Athanasium meum patrem ac patronum'—we find details of Schönwetter, a Frankfurt bookseller and fellow countryman. Pistor, who is apparently now honorary agent in Frankfurt

[78] XII. 160 ([unplaced as well as undated].

[79] Despite his mastery of oriental languages such as Hebrew, Arabic and Coptic, Kircher could never steel himself, he tells us, to learn Chinese: *China illustrata*, p. 163.

[80] Epist. XIV. 132 (Florence, 9 February 1653).

[81] XIV. 42 (Frankfurt a. M., 28 February 1650).

for the distribution of Kircher's works, confidently advises the dispatch of twenty or thirty copies of each book published and goes on to discuss ways and means of payment.[82] In a postscript (to XIV. 42.), Pistor sends greetings to another of Kircher's correspondents, the Jesuit Nithard Biber, 'he was still occupying himself in the city'.

Another example of the ready diffusion of information among such correspondents is seen in a letter written by Ferdinando del Plano in acknowledgement of the first volume of the *Oedipus*. Del Plano comments appreciatively on the 'learned teaching' to be found in this work and adds, for Kircher's information, 'de distractis exemplis Musurgiae et Obelisci accurate scripsit P. Köler'.[83] This same spirit often promoted the copying of a letter, which was then circulated among friends and scholars. No doubt in this way Kircher acquired new correspondents and subscribers to his literary works.[84]

Soon after his departure from Rome, the Dane Ludwig Pouch wrote from Padua to Kircher, brooding on the uneasy truce with the Turks and detailing with a weary delight the movements of troops being sent from Northern Italy to the German Empire. Pouch, who despite the festive season seems to have been in a thoroughly miserable mood, complains of the weariness of his eyes and becomes more cheerful only when talking of Kircher's proposed *Ars magna*, details of which he has seen in the catalogue of Hermann Scheus, the Frankfurt bookseller.[85]

One of the last letters received by Kircher before his death was written on behalf of a recent visitor to Rome, Heinrich Liber (*flor*. 1650s), Chancellor to the Elector of Saxony. The letter thanking Kircher for showing 'so outstanding a proof of deferential attention' was written by the German statesman Johann Friedrich Reinhardt (1648–1721).[86] Reinhardt describes the enthusiasm felt by Chancellor Liber on his visit to Kircher's Museum.[87] Exactly how Reinhardt came to write

[82] XIV. 5 (Frankfurt a. M., 26 December 1650).

[83] XIII. 81 (Lierre, 19 April 1652).

[84] In this connection it is of interest to note that among Kircher's correspondence in Rome is a letter from Joannes Kreihing SJ to the Laurentius Köler SJ mentioned above, and obviously forwarded by him to Kircher: it deals with magnetic problems; see XIII. 256 (Frankfurt a. M., 20 October 1647).

[85] XIV. 61 (Padua, 24 December 1645).

[86] Reinhardt, who had studied under Gronovius, served as councillor in Saxony and Brandenburg before eventually becoming director of the Secret Privy Archives in Dresden.

[87] XII. 101 (Dresden, 10 February 1680).

this letter is not made clear, but possibly the influence of the Elector, whose admiration for Kircher is made abundantly clear, played no small role.[88]

A rather more direct demand for elucidation was made by the ecclesiast Monsignor Salvetti, writing at the wish of the Pope. This was in 1657, and the author of the letter was directed to send to Kircher a certain scarab and ask for his views on 'questa Pietra, la forma dell'animale et il significato nelli tre versi intagliativi'. The instructions were explicit. The Jesuit was also asked for the interpretation 'in Italiano della parole greche fatti in esso scarabeo'. So that as perfect a picture as possible might be obtained, Kircher in his role as oracle was asked to furnish a discourse on 'gl'Antichi Simboli di Dio Fabricatore dell' Universo'.[89]

After examining letters from a Saxon statesman and a papal adviser, it should come as no surprise to learn that the next letter is from a Knight of Malta. Benedetto Salvago, a public figure in Messina around the middle of the seventeenth century, wrote to Kircher soon after the Jesuit's departure from Sicily, wishing him good luck on his 'periculoso itinere' through those regions of Southern Italy wracked by earthquakes. Salvagus, whose letter is mildly laudatory, talks approvingly of Kircher's erudition and humanity, and, in discussing Kircher's *Specula Melitensis* specially commissioned by the Grand Master of the Knights of Malta, admits 'I have been reading this book every day'.[90]

An itinerant correspondent who seemed to have had urges identical to those of Kircher, though with more time to indulge them, was the Frenchman Henri Sauvalle, who in 1664 sent from Florence a lengthy report of his peregrinations in Tuscany. He talks tantalizingly of 'des choses rarissimes…rispandues dans plusieurs autheurs ou ensevelies dans les bibliotheques et des manoscrits'. Sauvalle did not restrict his searching zeal to mouldering archives. He also discovered, near Ferintum, 'les délis d'une ville antique et d'un théatre sur une montagne longue'.[91] This earnest pilgrim in search of antiquities, whose activi-

[88] A similar letter of gratitude and praise, thanking Kircher for his 'humanissima conversationes', was sent to Kircher by Daniel Steiss; see III. 352 (Florence, 30 April 1650).

[89] II. 191 (Castel Gandolfo, 5 October 1657).

[90] XIV. 87 (Messina, 28 June 1638).

[91] IX. 137 (Florence, 1 April 1664).

ties so closely mirrored Kircher's, at that time busy searching in and around Rome in the preparation of his *Latium*, did not forget to note the living descendants of a more colourful past: of the inhabitants of one derelict settlement, he notes, 'tous les habitans en sont pauvres mais contens'.

Alessandro Segni, Kircher's next correspondent, was also endowed with an interest in antiquarian matters, but this inclination realised itself more particularly in his genealogical studies. His letters[92] to Kircher are, however, undistinguished. At one point[93] he complains of an 'obstinata flussione catarrale', but in general he loses himself in verbose epithets and empty platitudes and only distantly succeeds in imparting his general good wishes to Kircher. In one letter[94] he talks of the political wranglings of 'la nostra Nazione Fiorentina', while in a second[95] he includes the genealogies of several Florentine families.[96]

Just as Kircher was, for visitors to the Eternal City, one of the recommended sights, a similar position was enjoyed by Marco Aurelio Severino (1580–1656) in Naples. This scholar, who delighted in the production of curious works, studied law and philosophy before turning to the pursuit of medicine. He eventually became professor of anatomy in Naples. His unbounded admiration for Kircher was not restricted to letters written to the Jesuit alone: in a letter to Rinaldus Dehnius, in 1649, Severino writes at length on the virtues of 'that incomparable and singular man Athanasius Kircher'[97] and puns, learnedly and tiresomely, on 'amico Athanato' who is, of course, none other than the familiar Hellenized form of 'irremunerabili Chircherio'.

In the sprawling letters he addressed to Kircher,[98] Severino is vague and wildly laudatory. He links Kircher's name almost invariably with 'incomparabilis'[99] and hesitates between 'Chircher' and 'Circher' in

[92] See XII. 73–XII. 81, nine letters in all (written between 26 January 1676 and 17 December 1677).

[93] XII. 77 (Florence, 26 January 1676).

[94] XII. 78 (Florence, 23 February 1676).

[95] XII. 79 (Florence, 20 July, no year given).

[96] Seventeen letters, written by Kircher to Segni between 20 January 1677 and 17 April 1678, are preserved in the British Library: Mss. fol 22804. They are discussed below.

[97] III. 407 (Naples, 13 November 1649).

[98] III. 405 (Naples, 20 November 1652).

[99] III. 403 (Naples, 7 October 1649).

his orthography.[100] Only one letter seems to make sense: his spirited defence of 'il magno Chirchero' against the calumnies of the mendacious Meibom. As is perhaps to be expected, Severinus adduces no learned arguments; he fails to present a logical exposition as to why Kircher is to be defended at all. He simply speaks from his heart and dashes off paragraph after eloquent paragraph in praise 'del più glorioso et valente huomo nel secolo nostro' while the sinister and, it would seem, irreverent pamphleteer is dismissed as 'il Meibomio'.[101] In his last letter, Severino, now settled on 'Kirker' as his mode of address, flings caution to the winds and talks of 'uno Pithagora rivivo'; he likens Kircher to 'una nuova luna' or 'unica phoenice' and completes his chaotic Christmas greeting with a salutation to 'un immortale encyclopediasta'.[102]

Through his friend Lucas Schröck in Augsburg, Kircher was put in touch with the learned Lutheran theologian and author Theophil Spizel (1639–1691). His letter to Kircher is a model of quiet restraint and ordered logic and is to any one of Severino's letters as a placid pond is to the Atlantic.[103] Spizel's interest in Kircher, apart from polite conversation on the problems of atheism and 'a certain new universal library', rested on their mutual fascination with 'rem sinensiam literariam'. Spizel's letter is, in reality, little more than a humble request for a sound and accessible reading list in things sinological. The letter is addressed to 'Athanasio Kirchero, Philosopho ac Philologo incomparabili'.

Kircher received at least one letter from a student. This was from his fellow countryman Valentino Steber, a candidate in the Collegium Romanum for the doctorate of medicine, who described the generous help he had been given in the past by the Jesuit fathers, 'more than words can express'. Despite all this, Steber had been afflicted with ill fortune.[104] He congratulated Kircher on the kind treatment he had received from the Queen of Sweden and asked to be remembered in his prayers. This is a curious letter. Ethically it might be viewed as reprehensible, but possibly the young German, who was successful in his

[100] Both examples are in the 20 December 1652 letter.
[101] VI. 75 (Naples, 24 March 1651).
[102] XIV. 274 (Naples, 7 December 1655).
[103] VI. 164 (Augsburg, 13 August 1671).
[104] III. 338 (Ascoli, S. Thomae Fest. 1658).

examination and later practised medicine in Toscanella and Vetralla, felt that in writing to Kircher he was merely appealing to a friend.

Among Kircher's correspondents was the famous violinist Johann Jakob Walther (1650–1717), said to have learned the violin while servant to a Polish virtuoso, and later First Violinist at the electoral courts of Saxony and Mainz. Walther, as might be expected, spent some time in Rome, where he became the firm friend of Kircher. On his return to Dresden a year before Kircher's death, he wrote of the 'la veneratione incomparabile' and the 'una infinita osservanza' which he felt towards the Jesuit.[105] His letter, significantly written in Italian, refers with simple nostalgia to 'la Cara Roma' and, as a small token of appreciation of Kircher, he encloses 'un essemplare d'alcune bagatelle date da ma in stampa'.

The final correspondent to be noted in this arbitrary selection of humanists and antiquarians is Johann Michael Wansleben (1635–1679), an ambitious and unscrupulous philologist, son of a Lutheran pastor and eventual convert to the Church of Rome. Wansleben travelled widely in Abyssinia and Egypt, sponsored in turn by Ernst, Duke of Gotha, and Colbert, Minister to Louis XIV. Despite his membership of the Dominican Order, Wansleben steeped himself in iniquity in the lower reaches of Constantinople and Cairo, embezzled various entrusted monies and died, discredited, dishonoured and unsung, as the priest of a tiny village near Fontainebleu. His communication to Kircher, soon after his conversion, is little more than a *curriculum vitae* listing his various philological activities. It is in fact entitled 'Memoriale Johannis M. Wansleben'.[106] Possibly Kircher had been asked to examine his credentials: more likely, Wansleben used this as a means of introduction, for he had just returned from Ethiopia and Egypt.

As a curious postscript to this miscellany, there is a letter[107] written by the worthy widow Renée Gaigerart and addressed 'au reverend/le reverend père Athanase de l'Église religieux de la Companie de Jesus'. Madam Gaigerat, left penniless by the death of her husband, as a last desperate recourse threw herself on the good graces of 'nostre reverend cousin Athanase', knowing that her husband had thought so well of this Jesuit—'scachant tres bien vous estes un des plus proches et la

[105] XII. 148 (Dresden, 7–27 June 1679).
[106] XI. 72 (Rome, 30 November 1661).
[107] XIV. 236 (Sablé, 15 January 1650).

personne quil estimoit le plus au monde'. Madam Gaigerat has not seen Fr Athanasius since their meeting in Malta, but, for the sake of her children—'mes deux filles qui sont vos tres humbles servantes, je ne parle d'une troisieme qui est religieuse de l'ordre de St Francois estant morte au monde'—she is compelled to plead for assistance. One can imagine Kircher's perplexity upon receiving this letter. The issue is made clear only when Madam Gaigerat signs herself as 'veuve de Henri de l'Église'. Less clear is the fate that befell this impecunious widow and why Père Athenase de l'Église never received his letter.

CHAPTER TWELVE

# LETTERS FROM CORRESPONDENTS OF LONG STANDING

Among the ranks of Kircher's correspondents are some five or six more regularly prolific writers who seem to have been on a reasonably close and friendly footing with the Jesuit. Their letters illustrate the full range of the style and content of letters written in the seventeenth century. It is of interest to note that each of these writers is from that political oddity the Holy German Empire. The following order of mention is neither chronological nor derived from relative significance either to Kircher or the world of learning, but is simply alphabetical.

## Godfried Aloysius Kinner

Godfried Aloysius Kinner, friend of Marcus Marci and Caramuel de Lobkowitz, was a member of the Silesian noble family of Reichenbach and Löwenthurm. Apart from the bare facts, we know little of him. He was born in Schweidnitz in Silesia, studied theology and law and became steward to Archduke Karl Joseph, son of Ferdinand III. At the same time he held the position of dean or provost in the church of All Saints (Kirche der Allerheiligen) in the Hrndszyn in Prague. Kinner writes frankly and modestly. His letters are devoid of pedantry and bear the ring of truthfulness. He has a deep and sincere admiration for Kircher, shows keen and sympathetic interest in his works, and manages to convey his high regard for both the man and his writings without stooping to the idle flattery of the age. Twenty-three of his letters are preserved, dating from November 1652 to December 1668.

His first few letters are more formal and confine themselves to an admiring note ('What more?' he asks in wonder) on Kircher's *Obeliscus Pamphilius*[1] and an enquiry, supported by Marci, on a book recently published on geometry.[2] This second letter is slightly warmer than the

[1] Epist. III. 299 (Prague, 9 November 1652).
[2] Gregorius a St Vincentio's *Opus geometricum.*

first. Possibly Kinner had already written several letters which have since been lost; no doubt he had already received replies from Kircher. Whatever the reason, he talks now of his happiness at Kircher's 'fama per Orbem et Urbem' and thanks him warmly for the 'customary kindness and…goodwill' so readily shown 'among us Germans'.[3] Once the initial breakthrough had been achieved, Kinner was soon to reveal his more personal feelings. Writing some six months later, he attacks certain 'Fallacissimas Astrologorum imposturas'. In the same letter he informs 'amicissime Kirchere' that he has discovered the secret of Georg Harsdörffer's *Delitiae physico-mathematicae, etc.*,[4] about which he will be writing to Kircher in due course 'in the German vernacular'. In a postscript he appends the greetings 'amantissimum salutem' of Melchior Hanel.[5] Harsdörffer is mentioned again by Kinner in his next letter which accompanies his *Eclipsem pragensem descriptionem*. Kinner refers to the German translation of Harsdörffer's *Secretum chymicum*, in which the palingenesis of plants is discussed, as a 'violation of 'community silence', since anyone can now read it ('violata silentii fide publici').[6]

Kinner's next letter, apart from a gastronomical reference to Kircher's *Mundus subterraneus* and *Oedipus* as a form of literary dessert ('bellaria'),[7] is uneventful, and we pass on to a longer letter written in 1656, reporting the arrival of a letter from Christian Huygens. Kinner does not mention this letter for interest's sake alone: Huygens had forwarded a scientific anagram 'to me and several others' and Kinner, in sending this riddle[8] on to Rome, hoped for an easy solution: 'Oh most ingenious Oedipus, you who possess the Sphinx, you will easily produce an explanation'.[9]

Some four years later, Kinner wrote apologizing for his silence, and in a brisk businesslike way reported the various literary activities of Kaspar Schott, Marcus Marci and himself. This somehow wooden

---

[3] Epist. III. 240 (Prague, 15 February 1654).

[4] See also under D. Schwenter's *Delitiae* in the bibliography.

[5] Epist. III. 239 (Prague, 16 September 1654). Melchior Hanel SJ studied under Kircher in Rome where he learned Hebrew and Mathematics; see F.M. Pelcel, *Böhmische, mährische und schlesische Gelehrte*, p. 67.

[6] Epist. III. 244 (Prague, 5 December 1654).

[7] III. 243 (Prague, 13 March 1655).

[8] 'Admovere oculis distantia sidera nostris vvvvvvvcccrrhhbqx'.

[9] III. 248 (Reichenbach, 4 January 1656).

letter concludes with a reference to Kircher's long-awaited *Mundus subterraneus* and *Ars magna*: 'ego certe incredibili cum desiderio utrumque exspecto'.[10] This sudden resumption of correspondence, on Kinner's part, seems to have been effective, for the following year he again wrote to Kircher, informing him of the Archduke's pleasure at the Jesuit's 'ingeniosis tuis inventionibus' and describing his own amazement over the *Scrutinium*, 'illud ingeniosissimum libellum'. Kinner seems to be unable to contain his astonishment at the fact that this book embodies the results of microscopical observations. He recalls, however, that others, notably Schott, Divini and Settala,[11] have reported such 'microscopic phenomena needing to be viewed with one's own eyes', and lapses into almost incoherent musings. He returns from his brief excursion into the wonderland of 'minutiae microscopicae' only to add, automatically, with reference to the two works mentioned in his last letter, 'which I certainly desire to see with the greatest eagerness'.[12]

Two months later, Kinner was aroused to fresh admiration 'in cogitionem arcanorum naturae' by the perusal of Kircher's *Diatribe de prodigiosis crucibus*. He finds the account all the more credible and significant because of an experience he himself had undergone as a boy: 'I remember once, when I was a boy, not far from my native town, that similar marvels appeared on the breast of a certain woman'.[13] The following March, Kinner wrote again, admiring Kircher's proposed plans, 'not without the greatest enjoyment of mind', in the spheres of arithmetic, fortifications and steganography. After a brief glimpse at the recent 'rabdologia Nepperiana adhibita',[14] he discourses on alchemy and philosophy and concludes by asking for a clearer statement from Kircher on the 'Alchimia Aegyptiaca' section of his *Oedipus*.[15]

Kinner had not yet forgotten his initial shock at the discovery of the world of microscopic creatures. Some four months after his last

---

[10] VIII. 131 (Vienna, 18 December 1660).

[11] Manfredo Settala was a contemporary Milanese scientist who also possessed a considerable private museum. Two letters written by him to Kircher deal, however, with literary topics: XII. 35 (Milan, 8 February 1674) and X. 99m (Milan, 11 July 1668). See also XIV. 171 (Milan, 27 November 1647) and XI. 55 (Milan, 21 February 1674).

[12] VIII. 127 (Vienna, 22 October 1661).

[13] VIII. 8 (Vienna, 31 December 1661).

[14] I.e. J. Napier's *Rabdologiae, seu numerationis per virgulas*.

[15] Epist. VIII. 128 (Vienna, 4 March 1662).

letter he forwarded, via the offices of Fr Thomas Grasser, 'the procurator of our province', the sum of five crowns for the Roman microscope made by Eustachio Divini. He mentions the general estimation of Settala's microscopes, made in Milan, but remains true to his first preference. In a thoughtful concluding paragraph, he briefly mentions the approaching Turkish armies and states, calmly, that 'a serious war threatens our emperor'.[16] However imminent war might be, this does not prevent Kinner, in his next letter, from rejoicing over the news forwarded to him by Fr Puerbardus Pithai, who in turn had been told in a letter from Kircher that 'a microscope of the best quality' had been built at Rome. Kinner anxiously repeats the arrangements made for payment and mentions that the Court is retiring 'pro Autumnali recreatione' to Ebersdorf.

Reminded possibly by this reference to the Imperial household, Kinner reports the 'great applause and wonder' caused in Vienna by the demonstration, in the hands of an agent of the King of Poland, of a sort of 'instrument showing degrees of humidity and dryness'.[17] The following month, Kinner records in a brief note the arrival of the expected microscope and he confirms happily that it is 'just as you described', of superior quality.[18]

Kinner seems constantly to have kept in mind Kircher's literary and academic reputation, for in 1663 he somewhat uneasily brought to Kircher's attention the similarity between Johann Becher's *Character pro notitia linguarum universali*, already published, and Kircher's intended work on 'the ancient mystery of universal language which he puts forward in his first [study of] the elements of syntax'.[19] Kircher obviously replied soothingly to Kinner's vague fears and, further, sent a manuscript version of the *Polygraphia*. Kinner records the general satisfaction aroused by the work and adds an honest criticism: '[I] have a difficulty with the dictionary, which is too concise and doesn't contain [some] words even in common use'. He reports, too, the move of the Court, for the winter, to the town of Ebersberg near Linz in Upper Austria.[20]

---

[16] VIII. 134 (Vienna, 17 June 1662).
[17] VIII. 9 (Ebersdorf, 14 October 1662).
[18] VIII. 12 (Vienna, 29 November 1662).
[19] VIII. 129 (Vienna, 18 July 1663).
[20] VIII. 10. Linz (14 September 1663).

Possibly Kircher was some time in answering this last letter, for Kinner's next communication begins with an ironical but friendly salutation to 'the most affectionate Kircher! Even now you are mindful of your Kinner'. It seems probable, too, that around this time Kinner was having trouble at Court, which would also explain his exaggerated relief at Kircher's reply, for he darkly warns the Jesuit, 'Put not your trust in princes: in the children of men, in whom there is no salvation'.[21] In form and context the letter is typical of its day: Kinner expresses his growing anticipation of the *Mundus subterraneus*, quotes a passage condemning Kircher from George Horn's *De originibus Americanis*, rails obligingly against 'the principal teaching of a most gross heterodox writer' and finally comments favourably on Kaspar Schott's newly published *Organum mathematicum*. In his postscript he includes the good wishes of 'optimus senex noster D. Joannes Marce'.[22]

A similarly lengthy letter written four months later records the safe arrival of Kircher's letter, which carries 'the first description of the comet's journey' and explains why Kinner himself was unable to record the observation—'an absence of good health and the requisite equipment'. Kinner adds that he has also received a letter from Huygens—this time devoid of mysterious anagrams—who is busy working on 'mercury suspended in an elevated Torricellian tube'.[23] The long-expected appearance in Prague, in January 1666, of the *Mundus subterraneus* provoked a lengthy and enthusiastic letter from Kinner. 'I read the work from the start almost to the end', he proudly declares, and at once begins to worry over the possible implications of Kircher's attack on alchemy. The implications are political: Kinner uneasily speculates on the reactions of those princes and emperors known to be frantically furthering alchemical researches to renew depleted treasuries. With perhaps unnecessary detail, Kinner recalls the attempts of Ferdinand III to extract gold from mercury and implies, but not in so many words—and no pun is intended—that Kircher is perhaps killing the goose that lays the golden eggs. Kinner himself hurriedly recoils from such lèse-majesté. However, he cannot refrain from adding his own conviction that in 'so many ages, so many

[21] Psalm 145:2–3, Douai translation.

[22] VIII. 3 (Prague, 20 December 1664).

[23] VIII. 85 (Prague, 4 March 1665). Evangelista Torricelli, who made several important contributions to the seventeenth-century scientists' knowledge of the vacuum, wrote a nondescript letter to Kircher: XIV. 169 (Florence, 14 October 1645).

people were deluded in a worthless and impossible matter'. Stirred by his old hatred of astrology,[24] he elaborates and condemns things 'in which…there is notorious deception'.

For the rest of this lengthy dissertation, Kinner describes his admiration 'de Anglica Societate' and its new scientific methods derived, he maintains, 'ex methodibus Francisci Bacon de Verulamio'. With this society in mind, he imparts a snippet of scientific news to Kircher: 'other people in Germany, calling themselves 'inquirers into Nature', are publishing similar material, some of which is already taking wing into the public arena'.[25] A mournful note, some eighteen months later, reports the death of both Kaspar Schott and Marcus Marci—'non sine dolore et gemitu meo'.[26] This combined blow seems to have crushed Kinner's epistolary activities. In the last letter we possess from him, written at the end of 1668, he is dismal and preoccupied and brightens up only when recording the publication of a short piece 'contra Mundum Subterraneum'.[27] He gives the author as 'ficto nomine…de Blauentstein' and describes his vain attempts to vindicate the fading lustre of the Philosophers' Stone.[28] As a concluding consolation to Kircher, he quotes, faithful to the last, 'The mountains are in labour; a laughable mouse will be born'. We may exonerate him of any attempt at facetious irony.

## Hieronymus Ambrosius Langenmantel

Hieronymus Ambrosius Langenmantel (1641–1718) was not, at least according to the letters preserved in Rome, one of Kircher's more prolific correspondents. He does, however, enjoy a peculiar position among Kircher's circle of writers in that, he was regarded as one of Kircher's more intimate friends—if this word is not too strong to be used in the context of seventeenth-century correspondence—and in fact within four years of the Jesuit's death published *Fasciculus epistolarum*, a collection of Kircher's letters. We will discuss this rare work

[24] III. 239 (Prague, 16 September 1654).
[25] VIII. 138 (Prague, 4 January 1666).
[26] VIII. 150 (Prague, 5 January 1667).
[27] XI. (Prague, 22 December 1668).
[28] This fifteen-page quarto, by a Solomon von Blauenstein (pseud.) is: *Interpellatio brevis ad philosophos veritatis tam amatores : quam scrutatores pro lapide philosophorum etc.*

below. It is coincidental but nonetheless interesting that the last letter ever written by Kircher was addressed to Langenmantel.[29] Langenmantel, who rose to an ecclesiastical post of some dignity in Augsburg,[30] was a member of a well known and respected family of this name, enjoyed a wide circle of friends, among whom we may recognise Lucas Schröck, father and son, and Theophil Spizel—and published a number of scientific works. He also edited the *Nova imaginum* by the famous Jesuit scientist Grienberger, and published translations from the French.

Langenmantel seems to have enjoyed a large number of Jesuit correspondents. His otherwise inconsequential first letter to Kircher, apart from digressing on the proposed *Grienberger opusculum*, includes personal references to Frs Köler, Daniel Bartoli and Prosper Intorcetta. From this, and in light of his familiarity with Kircher himself, it would seem highly probable that as a young man—or, at least, before the Jubilee year 1670—Langenmantel had visited Rome.[31] Perhaps out of politeness, but more probably out of genuine scientific interest, Langenmantel includes in this letter a reference to the customary eclipse, which seemed to anticipate every letter ever written to Kircher. Comets and eclipses were like admonitory portents to Kircher's far-flung correspondents, gently chiding their idle and forgetful pens.

Langenmantel's second letter is more typical. It is lengthy and contains more gossip than serious scientific enquiry. He praises Kircher's *Phonurgia nova* and talks vaguely of the 'literarius orbis applausus'; he asks for details of 'aliquis tubis opticis' and then digresses garrulously on mutual friends. He tactfully draws Kircher's attention to the lack of copies of the *Mundus subterraneus* and adds, dutifully one may think, 'Caeterum Arcam Noe avidissime exspecto'. This directly precedes his request for a copy of the *Tabulae Grienbergeri astericae*. This task over, Langenmantel returns to his flowing stream of news and skilfully feeds into its current some news of Spizel, Fr Schorer and Cardinal Everhardus Neidhart.

There is, however, a much clearer motive for a third letter, written five weeks later. To begin with, Langenmantel thanks Kircher for

[29] Written 20 January 1680.

[30] He eventually became senior canon in the parish church of St Moritz in Augsburg. See article on Langenmantel by W. Hess, 'Langenmantel, Hieronymous Ambrosius', in *Allgemeine deutsche Biographie*, vol. 17, p. 671.

[31] Epist. XI. 73 (Augsburg, 28 June 1671).

his valuable answers, 'in iis curiositatis meae abunde satisfecisti'. He goes on to praise Kircher for his decision to transfer the printing of his works from Amsterdam ('ob bellicos tumultos Amstelodamensis') to a press in Germany. For this, the whole of Germany is grateful. Langenmantel wonders, however, why this signal honour should be conferred on non-Catholic Nürnberg, and, to illustrate his point, indicated with simple patriotism where Kircher ought to have turned: 'for here at Augsburg the type is as good and as elegant as at Nürnberg'. To support his claim, Langenmantel enumerates the advantages—more up-to-date, a greater variety of type—and finally mentions some of the works printed there. Interestingly, Langenmantel seems to have attended to some tasks in Germany similarly connected with the printing of Kircher's works, for in the same letter he adds: 'I shall look after the title of your book so that it will be correctly included in the Frankfurt booklist'.[32]

After a gap of four years, Langenmantel writes again. His note is short, almost curt. He talks unfeelingly of Kircher's 'ruined health', assures him that an amended booklist is now in the hands of the Frankfurt booksellers and comments briefly on the present papal elections.[33] Possibly he was piqued by Kircher's continued ignorance of the printing press of Augsburg; more probably he wrote the letter in a hurry. Langenmantel's last letter, though, written in 1678, is more sympathetic in tone, even if one cannot help feeling that he might have been a little more tactful. Possibly he was trying to cheer the Jesuit up: 'Rumor in terris sparsus est de morte tua: sed eheu!' Langenmantel, brightly assuring himself of Kircher's extended longevity, goes on to talk of further works and gleefully anticipates a shoal of new letters inspired by the publication, 'in omni Orbis parte', of Kestler's *Physiologia*. His concluding paragraph deals, strangely, with the contemporary unrest in Spain.[34] The tripping optimism of this letter must have sounded incongruous to Kircher's ears, for the Jesuit had given up serious writing during the last years of his life, and was withdrawing more and more from his earlier mode of living, increasingly devoting himself to prayer, meditation and rest.

---

[32] XI. 276 (Augsburg, 2 September 1672).
[33] XI. 348 (Augsburg, 2 October 1676).
[34] XI. 364 (Augsburg, 27 June 1678).

## Barthold Nihus

Forty-one letters, for the most part terse and deliberate, are preserved from the learned theologian Barthold Nihus. This polemicist was born in Brunswick in 1589, studied at Helmstedt under Cornelius Martinius, was called to the Court at Weimar in 1616 and then, in 1622, disgusted by the quibbling attacks of his fellow Lutherans, became Roman Catholic. Much of his subsequent life was spent in bitter controversies with the eminent theologian Calixtus. After supervising a Cistercian convent in Brunswick, he became abbot of the monastery (1629) at Ilfeld, and later suffragan bishop of Mainz, where he possibly first met Kircher, after the Jesuit's flight from Würzburg. He in turn was compelled to flee from this city by the advancing Swedes and took refuge in the Netherlands, where he became friendly with Gerhard Vossius (1577–1648). He died in March 1657.

Nihus seems to have read widely in the controversial field of oriental and sinological studies and his letters to Kircher relate mostly to this aspect of the Jesuit's scholarship, which he evidently held in high esteem. Upon coming across a newly published work from Holland, entitled *Praeadamitae*, Nihus' first reaction ('since your Egyptological writings, and the sinological writings of Fr Martinius and others are not to hand') was to write asking for Kircher's assessment and judgement.[35] Kircher in turn seems to have been impressed by Nihus' interest and in 1647 forwarded to him the 'attestatione Sacerdotum Abassinorum Rituali Ecclesiae Aegyptiacae', which Nihus gratefully acknowledged.[36] Nihus also received, in due course, Kircher's *Musurgia* and in his letter of thanks[37] drew Kircher's attention to the 'respectful mention' of the Jesuit's work made by Vossius in one of his recent writings.[38] In a similar spirit of helpfulness,[39] Nihus described Kircher's growing circle of readers in the British Isles, at the same time pointing out and to some extent questioning the views on eastern patriarchs and Arabian chronology held by the English scholar John Selden.[40]

---

[35] III. 167 (Erfurt, 28 February 1646) [the *Praeadamitae* was a well known controversial work about pre-Adamic human life by Isaac de la Peyrère.—Ed.]

[36] Epist. III. 185 (Amsterdam, 9 December 1647).

[37] III. 199 (Amsterdam, 10 March 1648).

[38] G. Vossius, *Rudimenta linguae Persicae*.

[39] Epist. III. 186 (Amsterdam, 31 March 1648).

[40] Described in Selden's *De anno civili et calendario…Judaico*.

In a later letter, Nihus briefly discusses Kircher's views on the 'templum Salomonicum',[41] but in a subsequent writing he returns to the potential appeal of the *Musurgia*.[42] In the same letter he talks of the 'scripta contra catholicos' of Claudius Salmasius, quotes from Leone Allacci a passage defending Kircher against Salmasius[43] and concludes by again referring to this new opponent's 'pamphlet against regicidal Englishmen', the main thesis of which, 'that they are worse even than the Jesuits themselves', he dutifully, reports in full.[44] Apart from his admiration for the works of Allacci, Nihus seems to have shared with the Amsterdam Catholics a genuine liking for the Classical scholar Lucas Holstenius, who was, after all, a fellow north German convert.[45] In the same month that he expressed his feelings for Holstenius,[46] Nihus wrote again to Kircher thanking him for his 'Lexico Aegyptiaco' while promising to find out, 'through others friendly to them and to me', exactly what Salmasius and Golius thought of the work. He promises, too, that 'as soon as I get a report, I shall immediately write at length to [you in] Rome'.[47] In the same year, Nihus received Kircher's *Obeliscus Pamphilius*, the reading of which Nihus shared with Fr Jodocus Kedd. By the same courier he also received a copy of the much heralded *Musurgia,* and could boast to Kircher that 'absolutely no one else in Holland has seen a copy of it'.[48]

Nihus, for all his eager thirst to absorb new books and support young and struggling authors, was not above giving his attention to more worldly things. Accordingly, in October 1651, he reported the proposed arrival in Rome of Kircher's patron and friend Fabio Chigi, Bishop of Nardò, who became, of course, the future Pope Alexander VII. Inevitably, however, Nihus includes in the letter more scholarly demands for Kircher that had been sent to Rome, at Nihus' instiga-

[41] Epist. III. 229 (Amsterdam, 7 December 1649).

[42] In a later letter, Nihusius describes the *Musurgia* as 'excitavit, hic regissimuss in eruditorum et curiosarum animis, desiderium': III 181 (Amsterdam, 15 August 1650).

[43] See L. Allacci, *Opusculorum, Graecorum et Latinorum, etc.*, vol. 1, p. 239.

[44] Epist. III. 184 (Amsterdam, 15 March 1650).

[45] III. 195 (Mainz, 19 March 1650).

[46] Some three years later, Nihus again expresses his warm regards for Holstenius and his 'meliorem Valetudinem' and evinces a deep interest in his *Diatribe Abyssinorum de Purgatorio*: Epist. III 217 (Regensburg, 7 August 1653).

[47] III. 203 (Amsterdam, 1 March 1650).

[48] III. 182 (Amsterdam, 28 November 1650).

tion, from Hardewick.[49] Apart from his apparent friendship with Chigi, Nihus seems also to have been acquainted with the prelate Ferdinand von Fürstenberg, later Bishop of Paderborn, for in one of his letters he makes the intriguing reference: 'If anyone at all celebrates your inspired volumes with lofty praise, that person is my von Fürstenberg'.[50]

By his constant literary activity with and on behalf of Kircher, Nihus had evidently gained the reputation of being one of Kircher's main sources of information. In witness to this we find letters written to Nihus and enclosing requests or information for Kircher. One example of such a letter was written by Wilhelm Goes,[51] brother-in-law to Daniel Heinsius. It encloses a drawing of a hen's egg shaped like a dumb-bell with the yolk in one end and the white in the other, with a modest request that Nihus should ask Fr Kircher's opinion.[52] Similarly, two letters are preserved, from the polyhistor Johann Friedrich Gronovius, requesting information from Kircher, via Nihus,[53] on ruins and hieroglyphs. Possibly it was thought (wrongly as we know) that Kircher would answer a friend's request far more explicitly. Certainly, Nihus was in constant touch with his fellow scholars in the Netherlands. In a later letter he informs Kircher that he has passed on to Vondel, Gronovius and Golius certain works expressly forwarded from Rome (they are unspecified but probably were of Egyptological content and interest). He mentions, too, Joorst van der Vondel's latest work, *Poema de maiestate ecclesiae catholicae*, and this brings him to congratulate Kircher on the first volume of his *Oedipus*, on which he piously adds, 'Dignetur Deus invare porro, ut felix editio sit sequentium'.[54]

At about this time Nihus seems to have left the Netherlands and returned to Germany. We next hear of him writing from Regensburg, when he describes the Elector's interest in Kircher's sinological studies, possibly referring to some item of correspondence from a missionary in China which had passed through Kircher's hands.[55] Nihus retains this interest in things Chinese when he describes in his next letter, written some two months later, the possession of 'idola vero

[49] III. 198 (Amsterdam, 13 October 1651).
[50] III. 205 (Amsterdam, 12 January 1652).
[51] 'Bewinthebber van die Oost-Indische Compagnie'.
[52] III. 194 (Amsterdam, 14 May 1653).
[53] III. 233 (Paventia, 19 September 1652); III 234 (Amsterdam, 23 September 1652).
[54] III. 175 (Amsterdam, 6 January 1653).
[55] III. 178 (Regensburg, 13 October 1653).

Chinensiae duo illa' by Goes. He remains, however, true to his role of literary liaison officer, when he poses the question: 'But what of the volume which, I hear, recently appeared in Rome, dealing with the agreement between the Armenians and our Latin Church?'[56]

It is highly probably that Nihus' concentration at this point on the Far East as opposed to Egyptological subjects was due to the interest and intercession of the Elector of Bavaria. Some four months later, Nihus thanks Kircher for forwarding, for their study and delectation, several 'pages written in the Malay language'.[57] He succeeds in maintaining this focus in his next letter, when he forwards some drawings of coins, postulated by Blumius to be Egyptian: 'I am providing a sketched copy of ancient silver money'.[58] Two days after receiving Kircher's last letter, Nihus wrote again to Rome with information, this time on the latest activities of Cromwell.[59] 'Cromwell is said to have intercepted a noteworthy number of French ships near the straits of the North Sea'. There was, however, good news as well: 'Peace seems to have been established between [Cromwell] and the Dutch'. Nihus concludes with a rather mysterious reference to his 'performance in Thuringia'.

Nihus' interest in books seems to have wandered slightly, for in his next letter he talks of various items of news, such as the coronation of Alexander VII and the conversion of Christina of Sweden. He also talks with suitable awe of the activities of Ferdinand von Fürstenberg and the Landgrave of Hesse, both of whom were at that time in Rome (1655).[60] At the conclusion of this letter from Mainz, Nihus is moved to cry out, 'benedictus o benedictus est Deus aeternum'. It was in Mainz, according to a succeeding letter, that Nihus met Kaspar Schott—'we began to converse'—and discussed the *Oedipus* with him, especially the problem of distribution, on which Nihus waxed especially eloquent: 'I immediately disclosed to [Schott] my opinion on the sale of copies of the *Oedipus*'. In this respect, Fr Vitus Erbermann seems to have proved himself of some help as an intermediary, 'so

[56] III. 208 (Regensburg, 22 December 1653).
[57] III. 223 (Regensburg, 19 March 1654).
[58] III. 226 (Regensburg, 13 April 1654).
[59] III. 197 (Regensburg, 16 May 1654).
[60] III. 171 (Mainz, 24 May 1655).

that [the copies] may be entrusted to the good faith of the Frankfurt booksellers'.[61]

In a final letter, Nihus is engaged in his favourite activity of steering various literary figures around him towards respect for Kircher's works. He enquires again after Holstenius' work on Ethiopian ideas about Purgatory and asks Kircher for the latest development of his sinological work: 'quod vero attinet syntagma de monumento Sinensi'. He reveals that he has been discussing this work with Boineburg, Frs Kedd, Greibinger ('Electoris nostri Confessarius eiusdemque Sarellanus') and Colchon, and that they had agreed that they would pay any price requested: 'as many scudi as Your Reverence wishes, if not more'. He forwards Boineburg's best wishes, and in conclusion sends his regards to Allacci, Abraham, Ecchellensis and Ernest, Landgrave of Hesse.[62]

## Johann Rhode

Some twenty-eight letters of a very similar nature are preserved from the Danish scholar Johann Rhode (1587–1659), a man renowned for his medical, philological and antiquarian studies.[63] Although born in Copenhagen, Rhode studied in Marburg and spent his later years teaching at the University of Padua. Here he compiled his bulky and numerous works on botany (he was offered the Paduan Chair of Botany in 1631 but refused it) and medicine, and here he died on St Valentine's Day, 1659. Like Nihus, Rhode enjoyed a wide correspondence with the various learned men of his day and willingly shared his latest news of books and people with Kircher. One of Rhode's closer friends was the German professor of anatomy and surgery at Padua, Johann Vesling (1598–1649), who was himself keenly interested in botany and who was in 1639 placed in charge of the Botanic Gardens in Padua. As we have seen above, Vesling was another of Kircher's correspondents.

[61] III. 179 (Mainz, 14 June 1655).

[62] III. 169 (Erfurt, no date). [GR gives two Erfurt letters, of 27 January and 28 February 1656.—Ed.]

[63] Two of his most famous works were *Observationum medicinatium* and *Frac. frigimelice*.

The first indication we have of any correspondence between Rhode and Kircher is given in a letter written by the Dane in 1642 to Girolamo Filippo Tomasini.[64] Rhode describes how he has asked Kircher's opinion on some 'monumenti antichi e Norwegia' and alludes in a postscript to previous and similar business with the Jesuit—'in these matters I attribute much to this distinguished man'.[65] In a letter to Kircher himself two years later, Rhode describes and praises the 'mathematicas disciplinas', as exercised by his compatriot Bartholin and by René Descartes.[66] Very few of Rhode's letters seem to say anything definite. He contents himself with a brief survey of recent literature and adds the odd compliment to Kircher's works, placing him and his works among current outstanding scholars. His usual mode of address to Kircher is the stylized and customary 'clarissime vir'. Perhaps Rhode's overriding interest in these letters is the keen interest he shows in Kircher's Egyptological works. In one letter he informs Kircher of the work published by Franciscus Cornelius for the Senate of Venice, *Interpretatio obelisci Romani*,[67] in another he describes the copying of hieroglyphs carried out by a fellow Paduan professor, Giovanni Galvani.[68] In the same letter, Rhode mentions his friend Vesling, who was actively producing a *Systema anatomicum*.

Rhode seems also to have been interested in astronomy. He was in correspondence with the astronomer and mathematician Christian Longomontanus and in one letter mentions receiving one of his works, *Rotundi in plano*, which included 'a noble judgement of your mental power'. In the same communication he describes his 'negotiones astronomicae' with Johann Fabro Mattilensi and refers to a letter full of similar observations that he had receieved from Ismael Bullialdus in Smyrna. He concludes by alluding to yet another of his correspondents, the Englishman Thomas Henshaw[69] who, in a letter from Paris,[70] says 'he very much directs [me] to greet you'.

---

[64] Rhode was held by some to be the real author of Tomasini's *Elogia virorum literis et sapiential.*

[65] Epist. III. 137 (Padua, 30 May 1642).

[66] III. 133 (Padua, 7 October 1644).

[67] III. 150 (Padua, 4 May 1646).

[68] III. 146 (Padua, 27 February 1646).

[69] Thomas Henshaw (1618–1700) lived in Rome before 1649. We have already met him in connection with Evelyn; see above p. 41.

[70] III. 154 (Padua, 24 May 1647).

After a 'trimestre silentium' on Kircher's part, Rhode obligingly repeated most of the above letter, adding the news of Vesling's *De pullitie Aegyptiorum*,[71] and remarking, pointedly: 'I strongly desire [to know] your opinion on the kinds of medicines dealt with by Scribonius'.[72] Rhode seems to have cherished exaggerated ideas of Kircher's productivity, for, in a letter sent two months later, he announces the arrival in Rome in the near future of Vesling and confidently adds that he expects him to bring back to Padua a copy of Kircher's *Oedipus*.[73] Four days later, Rhode wrote again, this time commenting on the sterling work being performed by Holstenius in the Vatican Library, and adding his favourable impression of the academic worth of Cardinal Videmann and the scholar Georg Velschius. Possibly the letter was prompted by the receipt of one of Holstenius' works, since Rhode describes his admiration of the north German's work on 'de usu linguarum exoticarum'.[74] The following month, Rhode again mentions Holstenius in a letter including a schedule of Vesling's works, sent that Rhode might 'ut judicium de iis tuum silentium'. He describes, too, in this letter his own ill health, but adds—being a true scholar—'sed in re tenui'.[75] In a later letter, possibly impelled by his own illness, Rhode returns to the field of medicine and courteously asks Kircher for his opinion on the value of Avicenna's diagnosis 'de Phlebotomia'. Similarly, he discusses views held by the Greek and other Arab authorities and adds charmingly, in conclusion, 'ego vero germanam integri contextus sententiam tuo stilo percipio'.[76]

Rhode was certainly in constant touch with Vesling. A letter written three months later seems to have been more a compilation than an original document, in that drawing on his own correspondence Rhode describes the varying activities of Golius, Holstenius, Allacci and Velschius, and then quickly concludes, his duty performed, 'priscas Romanorum literas tuo commodo exspecto'.[77] Rhode made further use of his other correspondence in a letter written six months later when he faithfully copied for Kircher part of a letter he had received from

[71] Published in 1664 by Thomas Bartholin, who, ten years earlier had edited Rhode's own *Mantissa anatomica* (Copenhagen 1654).
[72] Epist. III. 145 (Padua, 12 September 1647).
[73] III. 151 (Padua, 2 November 1647).
[74] III. 140 (Padua, 10 November 1647).
[75] III. 143 (Padua, 27 December 1647).
[76] III. 157 (Padua, 23 May 1649).
[77] III. 135 (Padua, 16 July 1649).

another Danish scholar, Olaus Worm. Rhode's declared intention was to reveal to Kircher 'quae vero eruditorum de te opinio'. His quotation from Worm, who expresses anxiety to see the *Oedipus*, is crystallized by the latter's words, with reference to Kircher: 'All are gripped by a great desire for that [work]'.[78] Worm was not alone in eagerly looking forward to the announced *Oedipus*. Rhode himself concludes a letter in which he transmits to Kircher a 'discussion by that excellent man Thomas Bangius' and comments on the Jesuit's learning, remarking 'that the hopes of many loyal friends were fixed on this work about the secrets of the Egyptians'. Several of Rhode's own correspondents would be grumbling, in a curiously transferred way, to the Danish scholar for the delay in the appearance of the *Oedipus*, hence his rather anxious reference to the hopes of friends.

Rhode was fascinated with philological exercises. As we have seen, he was friendly with Olaus Worm and in 1654 he excitedly announced to Kircher the publication of a new study by Petrus Scavenius: *Linguae islandicae rudimenta*. He adds for Kircher's deliberation and study several Gothic characters and mentions, perhaps without tact, that he would have forwarded them to Worm but for the 'communication interrupted by the disputes of the English and the Dutch'.

The last letter we possess from Rhode consists mostly of ecstatic praise for the completion of Kircher's *Oedipus*. Rhode sees the work as a fitting ornament for his museum (this tribute might have hurt Kircher if he realized its implications) and declares, finally: 'oh truly mysterious work, which will be of profit and will delight'. The rest of this final communication, written four years before Rhode's death, is concerned again with the Dane's careful inquiries on the teachings of Avicenna,[79] One wonders how disinterested Rhode's academic questions actually were.

## Johann Schega SJ

Apart from the fact that he was Confessor to Prince Leopold of Austria, very little is known about Kircher's next correspondent. This solitary fact is gleaned from the descriptive label attached to his name in

[78] III. 163 (Padua, 27 June 1650 [GR: 22 July—Ed.]). 'Magno enim ejus desiderio tenentur omnes'.

[79] III. 138 (Padua, 29 July 1655).

the list of correspondents present in the archives of the Gregoriana. His name is Johann Schega and twenty-five of his letters are still preserved in Rome. His letters to Kircher are distant rather than friendly, as befits the close confidant of a prince of imperial blood. He is occasionally sharp and peremptory—'I await a reply concerning this'[80]—and often curt in his acknowledgment of Kircher's works. One must bear in mind that his letters were written at the request of his master and the fact that they remain cool and formal bears witness to Schega's self-possession and concentration on the work at hand. Because of this necessary formality, Schega, who no doubt feels himself superior to Kircher, indulges in little flattery and tends to ignore the more academic points of Kircher's letters and books.

Two of Schega's early letters to Kircher are short and efficient notes concerning the despatch to Rome of an engraving by Antonius van den Hennele of Prince Leopold.[81] In the second, Schega hints that the Procurator of the Austrian Province, Fr Franciscus Antonelli, might be prepared to help subsidize the *Musurgia*. In another letter, after expressing pious relief at Kircher's recovery from illness ('I rejoice that your Reverence has regained health and has received the strength necessary for your former labours'), Schega returns to the engraving of Prince Leopold, which is intended 'ad frontispicium operis eidem dedicati'.[82] To accompany this fine portrait, Schega includes what he describes as 'an appropriate poem', but lest Kircher might think him too demanding, adds with magnanimous nonchalance that 'in this situation it is good [to have] poems by various people, to see what seems best to accomplished poets, [and] to print that'.[83]

The following month Schega wrote again to Kircher, this time with instructions on the distribution of the *Musurgia*, in which book Schega seems to have taken a proprietary interest. Schega requests Kircher to supply copies of the work to the cardinals and Jesuit officials of the Austrian and Flemish provinces, and to the colleges in each province, excepting the colleges at Brussels and Louvain and the 'house of professed [members of the Jesuit order] at Antwerp', each of which were

[80] VII. 165 (Valencia, 17 June 1650).

[81] VII. 150 (Brussels, 2 January 1649); VII. 152 (*Ex castris* in Crepy, 28 September 1649).

[82] This was Kircher's *Musurgia* of 1650. The relevant portrait was designed by Johann Paul Schor in Rome and engraved by Pontius in Antwerp.

[83] Epist. VII. 148 (Brussels, 30 October 1649).

to receive two copies. Schega's final words in this matter were 'Your Reverence will be able to dispose of the remaining copies at your own good pleasure'.[84] Concerning the vaunted 'arcana cistae Musurgicae', Schega is equally explicit. This apparatus is to be brought with all speed to Brussels in the care of Fr Ferdinando del Plano.

In mid-1650 Schega received his own copy of the *Musurgia* and wrote comfortingly, if brusquely, to Kircher that 'as far as concerns musicians in Rome', the work was 'beyond the envy of everyone'. Truly, the work of a writer is never completed. Even in this congratulatory letter, Schega gently reminded Kircher of Prince Leopold's next desire: 'I congratulate your Reverence on behalf of our ruler and Maecenas for [your] *Mundus subterraneus* to be brought into the light of day'.[85] Between this last letter and the following November, news of Kircher's meeting with the Pope percolated through to Brussels and helped to temper the next letter written by Schega, who appears somewhat tongue-tied at this extraordinary honour enjoyed by Kircher. The whole letter is mild and glowingly friendly. Schega comments politely on Kircher's 'private museum', acknowledges 'with total enjoyment' Kircher's *Obeliscus Pamphilius* and, inspired by Kircher's former letters, describes his 'desire to see at some time that device for writing letters in every kind of language which your Reverence promises'.[86] One wonders that Kircher never learned to be more reticent about his future plans, since almost invariably some twenty years lapsed between the first intimation and eventual publication of a work.

With thoughts of this new work in currency at Leopold's court, it comes as no surprise, some four months later, to learn from Schega that 'our Serene Ruler has devised a code which he normally uses in writing down more private communications'.[87] The invention and solution of codes and cryptograms were stock attributes of any educated man in the seventeenth century, usually of those with plenty of free time on their hands. The scholars of the Baroque Age never tired of mystifying themselves and others with the rich legacy bequeathed to them by Paracelsus and other late mediaeval and cabbalistic authorities. Despite the active interest of the Prince in Kircher's proposed steganographical works, Schega was mildly shocked to see his fellow

[84] VII. 147 (Brussels, 27 November 1649).
[85] VII. 165 (Valencia, 17 June 1650).
[86] VII. 156 (Brussels, 19 November 1650).
[87] VII. 167 (Brussels, 1 April 1651).

Jesuit happily engaged in work 'on the hieroglyphics of sphinxes' and felt obliged to issue a gentle reproof regarding Kircher's essentially selfish preoccupation. After a letter of vain expostulation, Schega concludes, ironically: 'But when does your Reverence hope to be able to bring your Oedipus into the light of day? I believe it will be a work extremely useful for the teachers of the humanities, hence to be got out before other things'.

Two months later, Schega deviously renewed his onslaught by forwarding a copy of Trithemius' *Steganographia* with a polite request for books of this kind 'which would be an extension of your natural talent for explanation'.[88] This obvious hint was followed, after another two months' interval, by Schega's forwarding of an 'Abacus Steganographicus' devised by the Jesuit Van Hollant. Rather surprisingly, Schega unbends from his position of trying to force Kircher's hand to give him some news of the suggested meeting in Cologne of the Knights of Malta and of the proposed conversion of the Prince of Lüneburg.[89]

Perhaps Kircher felt that Schega was becoming wearisome with his requests for a work on codes and ciphers: perhaps he was too occupied to write further. Whatever the reason, correspondence between the two men stopped until February 1653, when Schega made the first conciliatory step: 'I am not surprised at the long silence of your Reverence, but I do marvel at your strong and constant memory in the midst of so many tasks of yours'. Possibly there is a slight note of irony in Schega's humility. Be that as it may, the remainder of the letter is devoted to Schega's gratification at having received from Rome Kircher's account of the new comet's progress. Schega adds that the comet had been visible in Belgium and includes details.[90] Towards the end of that year, Schega wrote again after receiving letters from Kircher by the hand of one Dom le Roy, nephew of Fr van Hollant and newly returned from Rome. Schega admires his account of Kircher's prudence and modesty and of the popularity his gallery, the cynosure of all eyes. In a more sober concluding paragraph, Schega diffidently notes the formulation in London of 'some arrangements for the change of status and governance of that new Commonwealth'.[91]

---

[88] VII. 157 (Maubeude, 12 October 1651).
[89] VII. 158 (Brussels, 8 December 1651).
[90] VII. 149 (Brussels, 8 February 1653).
[91] VII. 166 (Brussels, 6 December 1653).

After these two letters comes a four-year break until the correspondence is resumed by a curious reference made by Schega. Writing to Kircher in September 1657, Schega begins his letter with the words: 'I very much congratulate your Reverence and colleagues on the easing of your long arrest, and on being restored to your previous freedom'.[92] There is little else in the letter apart from this statement: exactly what Schega is referring to one is at a loss to determine. In a brief note two months later, in which the influence of the festive season is imperceptible, Schega expresses the imperial desire (Ferdinand III) to see Kircher's proposed 'treatise in which he has proved to the Roman physicians that [the cause of] the plague is something living'. As if wishing to dissociate himself from the Emperor's whims, Schega points out, unwittingly echoing a thought that was to pervade medicine until the advent of Ludwig Koch, that 'I suspend my judgment to some extent'.[93] Upon the election of 'Ser. Regis nostri in Imperatorem Romanam', Schega wrote again to Rome. He comments generously on the public demand for and appreciation of Kircher's *Scrutinium* and, bearing in mind the views expressed above, we should not judge him too harshly in finding 'your distinctive medical art' most useful and valuable for its 'remedio contra catarrhum auricularem'.[94] Certainly this is one of the very few praises of Kircher's *Scrutinium* that fails to mention the disputed cause of plague.

However cold and distant Schega's letters may have been, he seems to some extent to have enjoyed the confidence of Kircher. Writing late in 1659, Schega comments on Kircher's trip to Florence, and since so little is known of this expedition made by Kircher, I quote Schega in full: 'I have received what your Reverence has generously written to me about your journey to Florence, about the honour and various signs of good will shown to you by the Grand Duke, and about the memorable things seen in that very place'. In his postscript to the letter, Schega kindly compares the warm affection lavished on Kircher by the Grand Duke of Tuscany and so humbly described by the Jesuit, to the very same honours bestowed by Kircher himself on visitors to his gallery.[95] This was indeed a handsome compliment and in the next letter Schega made this feeling of admiration and praise, through his

[92] VII. 163 (Prague, 1 September 1657).
[93] VIII. 87 (Prague, 26 December 1657).
[94] VII. 160 (Vienna, 12 October 1658).
[95] VIII. 91 (Bratislava, 28 November 1659).

own patron, even more tangible. Although he himself was troubled by arthritis, he takes pleasure in forwarding to Kircher 150 Rhine florins. This gift was to be used for a specific purpose: a subsidy for his amanuensis.[96] It is ironic that, while making this allowance, Schega's own right hand should be crippled by arthritis.

This is the last of Schega's letters preserved in the Gregoriana. This Jesuit priest, whose imperial position took him from Brussels to Vienna, and from Vienna to Prague, was no stranger to the battlefield,[97] and if his letters do on occasion seem brusque, this may be attributed to his heavily occupied time, between devotions and master, rather than to personal churlishness.

## Lucas Schröck

Lucas Schröck (1646–1730) of Augsburg, famous for his medical studies and a friend of Hieronymus Langenmantel and Theophil Spizel, met Kircher in 1670. Schröck studied medicine in Jena under Theodor Schenck and Guerner Rolfinck and came into contact with Kircher during his Grand Tour of Germany and Italy. Schröck's correspondence with Kircher is somewhat complicated by the activity at that time of his father, who was also a doctor in Augsburg and likewise a correspondent of Kircher. It seems fairly probable that of the eight letters given below, the first two are written by the father. Letters to both the father and the son from Kircher were later incorporated into Langenmantel's *Fasciculus* of 1684.

The father's tone to Kircher is humble and dignified. He wonders at his own temerity in addressing such a famous figure and expresses his admiration of the learned Jesuit's works 'most deserving of undying praise'. Schröck is apparently a friend of Schenck, another of Kircher's medical correspondents. The father's voice softens with pride when he talks of the activities of his son, at present preparing his doctoral thesis in Jena.[98] It is of interest to note that the *praeses* for this thesis was the great admirer of Kircher, Werner Rolfinck. As he invariably did, Kircher replied to this letter, a fact humbly recognized by the

[96] I. 300 (Vienna, 29 January 1661).
[97] Cf. his letters: VII 152 (*Ex castris* in Crepy, 28 September 1649); VII 154 (*Ex castris ad cameracum*, 7 July 1649).
[98] X. 85 (Augsburg, 18 February 1668).

father, who praised the Jesuit that 'you did not think it beneath [your] dignity to reply to my undistinguished letter'.[99] Schröck repeats his glowing opinion of Kircher and adds the kind wishes and respectful regards of his son 'for so great a patron', who is hoping himself to visit Rome. There is a short passage discussing 'aliis curiosioris doctrinae physiologicae argumentis' and then Schröck concludes, with quiet satisfaction: 'Gaudemus igitur in suavissimo hoc amore: in judicio triumphamus: in promissis exsultamus'.[100]

The first letter written by the more famous son, Lucas, was written from Rome itself. Though humbly mentioning 'your kindness to so many of our contemporaries', Schröck is less abashed than his father has been. With quiet confidence he explores the tenuous relationship between Kircher and himself, tracing the letters sent by his father, the admiration of Schenck and the reverence of Rolfinck, 'eadem Germania Academia famosissimus'.[101] The purpose of this letter is to find out if Schröck may visit Kircher before leaving, on the 25th of that month, for Padua. The young student states his reason for wanting to see the aged Jesuit, and the words might have applied to any visitor to Rome during Kircher's residence there: 'I would believe myself to have seen nothing in Rome if indeed I left it without having greeted your Reverence or seen you'.[102]

Schröck wrote again to Kircher from Padua the following month, after visiting Nicolaus Steno and the chemist Jacob Barner. In his letter he talks admiringly of Rolfinck and his proposed plans to dedicate a suitable work to Kircher: 'it might not have been acceptable that any small work be dedicated, so to speak, to your Reverence'. The young doctor was obviously a little hurt at Kircher's failure to write, but, realizing the Jesuit's 'plurima occupationes',[103] he added in this respect, 'caeterum etiam silentium Tuum excusavi'. Four weeks later, Schröck wrote from Padua describing his various chemical experiments and

---

[99] The letter is addressed: 'VIRO Maxime Reverendo Dn. ATHAN. KIRCHERO Ordinis et Societis JESU, Theologo peritissimo Prudentia, rerumque sublimioris scientiae Incomparabili Domino et Patrono meo colendissimo'.

[100] X. 52 (Augsburg, 27 July 1668).

[101] This reference is probably to the University of Jena. Schröck himself, as his fame increased, became a member of sundry learned societies: Academia Naturae Curiosarum, 1677; Academie de Ricovrati of Padua, 1678; Academia Physiocritica, of Jena 1701; Romana Colonia Physiocritica, 1701. He was also elected Dean of Medical Faculty in Augsburg seven times in succession.

[102] V. 140 (Rome, 17 October 1670).

[103] V. 11. (Padua, 14 November 1670).

thanking Kircher for promptly sending the book—Rolfinck's *De non ente Mercurio*[104]—he had asked for in his previous letter. He expresses full agreement with Kircher's sentiments on 'de impostorio lapide philosophico', but defended the alchemists as chemists of ability in the field of dispensing medicine and unguents. He describes how he burned for six hours a piece of 'Boulogne stone' and observed its steady glow throughout the process. In his conclusion he mentions having written to Rolfinck detailing his correspondence with Kircher.[105]

Schröck's next letter is written from his home town of Augsburg, where he became, upon his return, a member of the Faculty of Medicine. He describes the initial excitement felt in his home city by 'that production of Becher', which brainchild promised no less than a 'new chemical experiment involving the generation of a metal' and was being eagerly investigated by the Elector of Bavaria.[106] In his closing paragraph he mentions the safe arrival home of Fr Prosper Intorcetta 'from the kingdom of the Chinese'. His last words concern the activities of his uncle, Georg Velz, who had had an article published in the first part of the *Ephemerides Germanorum* on medicine 'qui eleganter de Aegagropilis scripsit'.[107]

Soon after sending this letter, Schröck received two notes from Kircher and consequently wrote again some five weeks later. He talks mostly of Spizel's activities 'de re literaria sinensium' and wonders why the two scholars do not indulge in 'commercium literarum', an exchange which would be all the more profitable considering their mutual interest in theology. Schröck includes in this letter a section of Becher's work ('in Physicam suam subterraneum, de generatione et transmutatione metallorum') which had been praised in the *Ephemerides*. Schröck, who expresses concern at the continued silence of Rolfinck, concludes with his father's best wishes—'my master and father, from whom I send a most courteous greeting'.[108]

In his last letter, Schröck apologizes for the delay in answering Kircher's letter written 'in Monte Eustachiano' (4 October 1671). With his reply he forwards a work by Becher 'together with a parcel from

---

[104] [Very probably Rolfinck's *Non ens chimicum, mercurius metallorum et mineralium*.—Ed.]

[105] Epist. V. 8 (Padua, 12 December 1670).

[106] This work of Becher's, *Actorum laboratorii chymici monacensis*, was closely based on the *Mundus subterraneus*; see the former work, pp. 246–297.

[107] Epist. VI. 106 (Augsburg, 10 July 1671).

[108] VI. 87 (Augsburg, 21 August 1671). See Becher's *Physica subterranea, etc.*

Dom Spizel'. Most of Schröck's comparatively short letter is taken up with a request for several of Kircher's printed works—two copies of each. To save carriage costs, Schröck suggests that the books might be sent to his brother Caspar, in Venice ('a St Giovanni nuovo, appresso il Signor Velschi'). Schröck's final words concern again his former tutor Rolfinck and his continued silence: 'the cause of this silence I can in no way discover'.[109] This is the last letter we possess from Schröck in Augsburg. Possibly Kircher did not send him the required works and the correspondence was broken off in this way. More likely, other letters were sent but have since been lost. Obviously, as an extended correspondent, Schröck can scarcely rank with Nihus or Rhode. His letters, like those of Langenmantel, have been included in this chapter mainly because Kircher's replies to these communications were printed by Langenmantel and therefore reached a comparatively wide audience among the Jesuit's posterity.

## Personal Letters

One must search hard and long among Kircher's correspondence to find letters of a more personal nature. As we have seen, even with correspondents of long standing, very little of the man is allowed to intrude. Letters were strictly for utilitarian purposes and any use of them for effete personal details and gossip—polite enquiries on health apart—was seen as wasteful and unprofitable. The only letters which can truly be classified as personal are those written to Kircher by his elder brother Andreas. Four of these letters are preserved, written between 1644 and 1652, from Münster. Andreas, like Kircher's other brothers Joachim and Johann, was a monk. In his first letter to his Jesuit brother he describes his Order, and writes about his service to the spiritual interests of the Order of St Clare.

Andreas' letters are disappointing and curiously devoid of intimacy. Admittedly he addresses Kircher as 'greatly loved brother' and begins his first letter with the tender but realistic sentiments—'let earth and the seas set us apart', but even this communication is marred by its ulterior motive. Andreas writes inquiringly about the chances of his Mother Abbess' nephew, Friedrich Schmising, entering the Order

[109] VI. 100 (Augsburg, 20 November 1671).

of the Knights of Malta.[110] Letters to Kircher can somehow never be disinterested. In replying to his brother's letter, Kircher had obviously inquired of family news, for in his second letter Andreas does pause amid his expressions of awe at his learned young brother to say, briefly, 'About the others I've heard nothing at all for five to ten years, whether, and where, they are living'. Much of this otherwise inconsequential letter is taken up with an avuncular interest in the peregrinations of 'that excellent young man Schmising, who, I hope, has arrived as [your] visitor in Rome'.[111]

After a break of six years, Andreas wrote again to his brother, this time with some gleanings of family news, sparse though it was, 'because I scarcely have anything certain that I may say about our brothers and sisters'. In his calm monkly way, Andreas announces the death of their sister Agnes: 'Our Agnes died most devoutly and steadfastly in the faith more than five years ago'. The use of the words 'in fide' no doubt relieved Kircher, since Agnes had disappointingly married a Calvinist tanner, Georg Hagan, from the nearby town of Vacha. Of brother Joachim, Andreas had little to say; of Johann he had heard that he was living quietly in Austria. His domestic duty over, Andreas returned to the more pressing problem of yet another of his Mother Superior's nephews, this time one Johann Adolph Schmising, who was thinking of journeying to Rome. In the same letter, Andreas appends the thanks and gratitude of the mysterious Mother Superior for Kircher's kindness towards her nephew Friedrich.[112] This Mother Superior seems to have loomed large in Andreas' life. In his last letter to Kircher, he talks this time of her sister's boy (the Schmising boys were the sons of her brother), Theodor von Splettenberg, who is desirous of entering the German College in Rome. Andreas seems to have been unable to gather more family news: he concludes his letter with fraternal encouragement: 'Be well and work for the glory of the Church of God'.[113]

Andreas seems to have been taken ill in 1647, a point he forgets to mention in his third letter. At this time, however, the brother looking after him, Leonard Hahn, reported the progress of his illness to Kircher and was able to say, 'I point out that my, and your, brother

[110] III. 60 (Münster, 5 July 1644).
[111] III. 59 (Münster, 3 January 1645).
[112] III. 58 (Münster, 28 July 1651).
[113] III. 57 (Münster, 12 February 1652).

Andreas is alive and well'.[114] A second letter from the same brother, who seems to have been an infirmary attendant, reports what could well have been (the letter is undated) Andreas' last illness. The letter describes Andreas' feelings, for Kircher, of admiration and fraternal love, mentions the monk's illness and is remarkable for its tone of piety and quiet resignation.[115] There is no formal announcement of Andreas' death, which presumably took place some time after the spring of 1652.

Another source of home news for Kircher were the letters from Fr Konrad Witzel, priest in charge at his home town Geisa. In his first letter to Kircher, Witzel describes himself as 'Canonicus Senior in Rastorff Decanus Capituli Geisensis ibidem Parochque Fuldensis'.[116] He lists 37 priests of the neighbourhood, of Geisa and of Fulda, as well as the more notable lay patrons of this district. He mentions, too, the presence of several Jesuits and Franciscans and concludes that Geisa, which was even more noted 'before the embellishments of the enemy', can still boast to be 'a more distinguished training ground of members of religious orders and priests'.

Having fully demonstrated this exceptionally tenable point, Witzel wonders if Kircher might intercede with 'Sanctissimo Patre nostro Alexandro VII', whom Witzel recollects as Papal Nuncio in Cologne, 'pro indulgentiis lucrandis'. In a final elucidation, Witzel observes that the last indulgence granted to the parish 'pro Ecclesia parochiali' was that bestowed by Pope Honorius IV in 1287. After receiving a suitably favourable reply from Kircher, Witzel wrote again to Rome, expressing his great satisfaction at the forthcoming 'indulgentias pro mote S. Gangolphi' and describing his own assiduous care of souls amid the material poverty of Geisa. After discussing this same poverty at length, Witzel recalls that part of Kircher's letter where he had asked to be remembered to old friends, and promptly appends a formidable list of cousins and local dignitaries all eager to send their best wishes to Rome. Among this throng of memories from Kircher's past are mentioned 'Hartmann, Eckhart, our Schultheiss, and Jörg Harting, senior people in the Senate, and formerly school-fellows in Geisa', and three cousins of the Jesuit: Adolarius, Simon and Hermann Hill. Kircher's

[114] III. 438 (Münster, 29 August 1647).
[115] III. 320 (Münster, undated).
[116] IX. 272 (Geisa, 5 October 1664).

sister Agnes is also mentioned again. Witzel confirms that she died true to the Church but adds that she was buried according to Calvinist rites. Of the religious faith of her son, Jörg Aludarius, Witzel is unable to be specific.

However, Witzel did have more news of Kircher's other brothers and sisters. He records the wedding, in June 1641, to one Alibrand Möll in Fulda of one of Kircher's sisters (the marriage ceremony was conducted by Fr Krantz of Fulda) and describes how, while journeying from Cologne to Fulda the preceding year, he had come across one of their daughters in the home of Fr Kalb, incumbent of the parish of Bingen. Witzel does not question the apparent homelessness of this girl, Kircher's niece. Witzel adds that at the same time he had heard from this girl's brother Johann in Rüdesheim that the other sister was a maid in Castal and that 'the parish priest in the Mainz region was a sescond brother, Bernard, who is said to be still alive'. Johann had since died: 'in Rudesheim meritissimus Decanus mortuus summa cum laude vinea Domini laboravit'.

The following June Witzel is able to record the safe arrival from Rome of the 'little box…in which the relics of fourteen holy martyrs [are] found'. His thanks are profuse and rhetorical. He describes the proposed triumphal translation of the relics from Fulda to Geisa via Rasdorf, which was to take place on the feast of St Laurence, 10 August. There is little room in this letter for a repetition of a spate of local news. Witzel's thoughts are too firmly set on the newly enhanced glory of his parish, and possibly for this reason his hurried but humble thanks are embarrassingly prolific.[117]

Kircher also received in 1649, a letter from a Fulda lawyer, one Ludwig Hopff. Unfortunately, this letter is both diffuse and scarcely legible. Hopff makes several references to mutual friends such as Andreas Wigand, but the gist of his rambling discourse is preoccupied with some unspecified 'instrumentum authenticatum'.[118] He mentions Kircher's sister Agnes and also a certain deceased Anna Catherina, who from the various references in the body of the letter could well be Kircher's mother. Another possibility is that this could

[117] VIII. 41 (Geisa, 25 January 1665).

[118] On the inside cover of the copy of the *Historia Eustachio-Mariana* (1665) preserved in the Fulda Landesbibliothek, we note a 24-line 'Acrostichis Tripartita' dedicated to Kircher, 'mathematicorum Principi et viro incomparabili', and composed by Johann Bartholomneus Hopff.

be one of Kircher's sisters, for in connection with this name Hopff mentions the Benedictines, and there was at the time a Benedictine convent in Fulda. Whatever the identity of this anonymous figure, at her death 'between the time of her illness and her companionship with the angels she bequeathed to the Reverend Fathers of the Society [of Jesus] provision for prayer'. In the conclusion of this informative but tantalising letter, Hopff wonders if Kircher might be in a church at the time these prayers are offered, and inquires 'vel per unam alteramque horam adesse posse'.[119]

This dull suspicion of the death of someone close to Kircher is heightened by a letter written shortly after by Eberhard Sigler, of Fulda by birth and at that time priest in Grünsfeld, diocese of Mainz. Sigler asks Kircher to forgive 'my rustic shyness' and points out their virtual kinship, which progresses from being 'mainly fellow countrymen and kinsmen' via Kircher's 'very distinguished family' and is sealed with some link on Kircher's maternal side of the family. To appease the Jesuit's feelings even further, Sigler calls Kircher 'Patriae nostrae dilectissimae Fidus ac ornamentum rarissimum'.

Shortly after discussing their mutual blood on the maternal side, Sigler mentions some unspecified funeral rites and his own active prayers upon this occasion. Because of this, Sigler takes the liberty of asking Kircher 'for anything of favour from his spiritual storehouse, whether it be a particularly blessed written work, whether crosses, medals, or anything relating to indulgences applicable to me'.[120] This letter is signed jointly by Eberhard Sigler, son of Sebastian and Margaretha Sigler, and, oddly enough, by Lucas Hopff, father of the previous correspondent.[121]

---

[119] Epist. XIV. 44 (Fulda, 12 April 1649).

[120] III. 317 (Grünsfeld, 13 Id. May 1650).

[121] According to his son's letter to Kircher, Lucas Hopff died in the autumn of 1624.

CHAPTER THIRTEEN

# LETTERS FROM GERMAN LITERARY FIGURES

Athanasius Kircher was never a literary figure. His role and leanings were those of a polyhistor, of a learned scholar whose judgement and oracular pronouncements were held in high esteem by his wide audience in the seventeenth century. However, as a German living in Rome and a figure of European stature, Kircher inevitably came into contact with several leading literary personages of his day. We find this attested in his correspondence and, to a much lesser extent, in the works written and published by those writers in Germany. This chapter proposes to deal with Kircher and his influence upon German writers from his own day until the age of Goethe.

## The Kircherian Influence on German writers

Kircher's most immediate impact was naturally on his contemporaries. The Jesuit's influence sprang from his writings, rather than personal meetings and acquaintance. Sometimes, as in the case of Philipp von Zesen and Caspar von Lohenstein, Kircher's writings were a source of interesting facts. On other occasions, as with Leibniz and Kuhlmann, the ideas and theories that lay behind certain works were of more interest. As a whole, Kircher's literary compatriots discovered much that was of interest and use in his writings.

### *Quirinus Kuhlmann*

Both Kircher's ideas and his position in Rome were responsible for the warm interest and admiration shown him by the bizarre and mystic figure of Quirinus Kuhlmann (1651–1689), whose furious peregrinations, intense mental activity and extravagant ideas were to lead him from Breslau to Leyden to Moscow, where he suffered a heretic's death at the stake.

Kuhlmann is remembered both for his personal fantasies and his mystical, direct poetry. He was intrigued by Kircher's ideas on the universality of knowledge and the possibility of compressing the varied

fields of learning into a scholastically rigid form which would facilitate the ready acquisition of this knowledge. Kircher's inspiration in this respect was derived largely from the works of the thirteenth-century Spaniard Raimund Lull[1] and were expressed in his *Ars magna* of 1669. We have already noticed this aspect of Kircher's scholarly activities, the desire to formulate, to compress and to represent in tangible, easily comprehended terms. We find the selfsame ambition behind Kircher's machine, his Cistula Musurgica, which aided musical composition, and his *Specula Melitensis*, which facilitated mathematical and medical inquiry. We notice identical attempts towards a compressed whole in the embracing nature of his titles: *Musurgia universalis, Oedipus aegyptiacus, Polygraphia universalis nova*. These same ideas about combining the sum total of knowledge, which lie at the root of almost every one of Kircher's printed works, were also to stimulate Liebniz. On Kuhlmann their effect was more immediate and less permanent. Kircher's fame and reputation were powerful incentives for the young, impractical Silesian. With the zeal of a true visionary, he turned with pleasure towards this scholar of European stature. That Kircher was a Jesuit and a possible bridge between himself and the Pope served merely to increase his ambitions.

Kuhlmann's own views on the continued currency of Lull's ideas prompted him, in the first week of 1674, to write to Kircher in Fulda.[2] In this initial letter he talked briefly of his own literary plans and achievements[3] but soon moved on to discuss his reverence for Lull—'a most holy man'—whose wisdom and erudition he finds chiefly in

[1] The story of Raimund Lull and his principal work, *Ars magna et ultima*, is that of mediaeval scholasticism. Lull, 'doctor illuminatus', died in 1316, leaving innumerable works which were to pervade, often in an apocryphal form, diverse fields of knowledge for the following 400 years. Lull's *Opera omnia* appeared incomplete in Mainz in 1721–1742; scholars who interpreted his works included Suarez, Izquierdo, Alsted, Gemma, Bruno, Knittel and Kaspar Schott (*Magia universalis naturae et artis*).

[2] This correspondence is anticipated by Joachim Heinrich Hagen, who, in a letter to Sigismund von Birken, dated 29 January 1672, writes of Kuhlmann: 'schickt Brieffe an die Vornehmsten leute, als nach Rom, an den P. Kircher': B.L. Spahr, 'Quirin Kuhlmann: the Jena Years', *Modern Language Notes* 72 (1957): 609. We find brief accounts of the letters between Kircher and Kuhlmann: G. Arnold, *Unpartheische Kirchen- und Ketzer-historien*, vol. 2, pp. 509ff.; Bayle, *Dictionnaire historique et critique*, vol. 2, pp. 257ff.; cf. V.E. Löscher, *Unschuldige Nachrichten von alten und neuen Theologischen*, pp. 290ff.; J. Adelung, *Geschichte der menschlichen Narrheit*, vol. 5, pp. 28ff.

[3] Kuhlmann forwards with this letter to Kircher several pages from his 'Geschicht-Herold' of 1673, adding: 'praesens occasio non permitti opus ipsum tib communicare, nec totum summorum Virorum, qualis Tue es, aspectum meretur'.

the 'universal book of Nature'. With the help of this book, Kuhlmann hopes to attain the very essence of truth and knowledge, 'mother of simplicity, womb of concord, lover of goodness'. Such ideas, however magniloquently phrased, were not new to Kircher,[4] and we may imagine his tolerant smile while perusing these youthful lines. Less pleasing were the words Kuhlmann employed in describing how such feelings came to him. He speaks of divine grace, of 'gratia divina' and 'Indulgentia divina', and in so doing treads near the borderline of heresy.[5] Any mistrust of Kuhlmann's spiritual integrity was, however, suppressed when Kircher composed his answer the following month. His letter is warm, friendly and encouraging: he sees Kuhlmann—'most excellent, famous and learned of men'—as a kindred spirit, praises his lynx-like perspicacity and expresses satisfaction at the poet's intention to revise the 'ars Lullinum combinatoria'.[6]

This mood of sunny equability on both sides was not to last. Having established their correspondence, Kuhlmann, in his second letter, moves on abruptly to more controversial and delicate matters. He repeats his Lullian views, criticizes in consequence Kircher's own 'ars combinatoria'[7] and declares the Jesuit's version to be over-rigid and too heavily scholastical. He attacks Kircher's system of interpretation as little more than a mechanical adaptation of Lull's own device, 'ad omnis scribis demonstrationem',[8] and finds the result more ingenious than truthful, an empty bauble which on scrutiny contains little of value. Continuing in this vein, Kuhlmann dismisses entirely Kircher's chest of question-and-answer rods[9] and suggests in its place, following Lull, a revolving wheel which could simultaneously embody a symbolic representation of the perpetuity of knowledge and the orbit of

---

[4] Kircher and his relationship to Lull is described in G. Knittel, 'Ars universalis sciendi ac disserendi Lulliano-Kiercheriana'. In *Via Regia ad Omnes Scientias*, pp. 167–243; A. Fagriccio, *Philosophische Oratorie*, pp. 43, 143; B. Jansen, *Die Pflege der Philosophie im Jesuitenorden*, pp. 46ff.; A. Batllori, 'Le Lullième de la renaissance et du baroque, a Padore et a Rome'. In *Actes du XI Congrès International de Philosophie*. Brussels 1953, pp. 2–12.

[5] Epist. XI. 65 (Leyden, 4 January 1674): printed subsequently in Kuhlmann, *Epistolae duae*, pp. 3ff.; Kuhlmann, *Kircheriana*, pp. 4ff.

[6] Epist. IX. 14 (Rome, 8 February 1674); printed in Kuhlmann's *Epistolae duae*, pp. 10ff.; *Kircheriana*, pp. 20ff. An extract from his letter is also printed in Kuhlmann's *Testimonia humana*, pp. 17ff.

[7] See Kircher's *Ars magna sciendi*, II. 7.

[8] Lull's own machine is described in C. Prantl, *Geschichte der Logik im Abendlande*, vol. 3, pp. 155ff.

[9] Described in the *Specula Melitensis*; see above ch. 5 on Kircher and science.

the earth. He ponders briefly on the problems confronting the development of a world language.

Similarly, in this letter, Kuhlmann progresses in his description of his own relationship with God. From the 'gratia divina' of his initial letter, he claims now that his own 'simple, universal wisdom' (Kuhlmann was, at this point, 23 years old) was derived directly from God, who had, through His kindness, become Kuhlmann's tutor and mentor: 'And God has heard my prayers, and He has given me in abundance such a great knowledge of things as [he has given] to very few of my elders, as the Centre of things still discloses itself more from day to day'. The letter concluded, with terrifying directness, with a request that Kircher might arrange an interview for the young Silesian with the Pope, then Clement X. Ingenuously, Kuhlmann points out that this visit would be for the ultimate benefit of all Christendom.[10] Kircher's reply came without the promptness that had accompanied and marked their initial exchange. Possibly he needed time to deliberate on the series of sins, social and otherwise, which were contained in his young correspondent's letter; possibly he was feeling the burden of his years, and, wearied by Kuhlmann's polemical assertions, preferred to resist for a while the calls of duty and politeness.

His letter to 'virum excellentissimum et summe eruditum, item pansophum' is a model of restrained irony and paternal chiding.[11] Kircher gently expresses his astonishment at Kuhlmann's literary plans and warns him, discreetly but firmly, against making extravagant claims in respect of divine inspiration. Of his own works, Kircher earnestly adds: 'What I have written thanks to God's grace, I have written as a human being, that is, with knowledge acquired by zeal and toil, [knowledge] not divinely inspired or infused; such a pure knowledge I consider is not to be found among mortals'. Mischievously, Kircher assures Kuhlmann that he cannot doubt the more fruitful results that will proceed from the young zealot's pen: 'I could not doubt but that with the incomparable extent of your genius you will produce works greater than mine, and more deserving of admiration'.[12]

---

[10] Epist. XI. 45 (Leyden, 19 April 1674); printed in Kuhlmann, *Kircheriana*, pp. 19ff.

[11] Epist. XI. 16. Rome, 15 June 1674; printed in Kuhlmann, *Epistolae duae*, pp. 38ff. and *Sapientia infusa* (in *Kircheriana*), pp. 3ff.

[12] Kircher's ironical tone was early noted by K. Kahlert in 'Der Schwärmer Quirinus Kuhlmann', *Deutsches Museum. Zeitschrift Fur Literatur, Kunst und offentliches Leben* 10 (1860): 318ff.

Although Kircher, in his irony, assumes that Kuhlmann's omniscience will soon illuminate 'knowledge inexplicable to others', he is careful to append two distinct warnings. On the one hand, he describes the suicide of a young idealist, one Giacomo Martini of Modena, whose attempts in the field of speculative knowledge had much impressed Kuhlmann.[13] On the other hand, Kircher warns Kuhlmann against rashly rushing into print with his new ideas, for fear of public ridicule. On this point, Kircher's note is realistic and, we can assume, prompted by the memory of the criticism directed against his own works: 'In the forty years in which I have played a role in this theatre of all peoples and nations, I have learnt from frequent experience how much trouble may result from an inconsidered piece of writing'.

In answer to Kuhlmann's final request, his plea to be allowed access to the Pope, Kircher firmly rejects the whole plan and points out warningly that 'the Holy Roman Inquisition is both very strict and incapable of such a response'. Moreover, he adds the recent example of several 'Enthusiastae Angli' who travelled to Rome 'in order to convert the Pope to the ridiculous religion of their people' and who had been firmly dealt with by the tribunal. We may note here that in reprinting these letters, Kuhlmann omits this dire warning and represents the Jesuit as uttering a far milder piece of advice: 'I write this so that you may know with what care and circumspection one must proceed in Rome'.[14] That Kuhlmann should reprint these letters at all is not surprising (see ns. 5, 10–11). Taken as a whole, the letters are gratifying tributes paid to the young dreamer by one of the foremost celebrities and scholars of the day. Needless to say, Kuhlmann overlooks the finer shades of Kircher's irony.

To say that Kuhlmann rushed into print with Kircher's first letter is no exaggeration. The Jesuit's letter was sent early in 1674, on 8 February; the dedication of Kuhlmann's *Epistola de arte magna sciendi sive combinatoria* is dated from Leyden, 13 April 1674. The complete correspondence, since this folio contained one letter only from Kircher and Kuhlmann's own initial communication, was published for the first time at the end of 1674 and again early in 1675, under the title

[13] Kuhlmann failed to heed Kircher's warnings and, in testimony of his admiration for Martini, inserted in subsequent reprints of his Kircherian correspondence an account of Martini's life and intellectual brilliance: 'Observatio…de Jacobo Martino Modonesio'; see *Kircheriana*, p. 43.

[14] See Kuhlmann, *Responsoria*, p. 7.

*Epistolae duae de arte magna sciendi sive combinatoria*. Both these letter publications were concluded by a list of Kircher's published works. In 1681, seven years later, Kuhlmann published once more the complete correspondence: this is to be found in two works printed in London, the *Kircheriana*[15] and the *Responsoria*.[16]

Kircher's early influence on Kuhlmann, via Harsdörffer, has been traced and illustrated by Walter Dietze,[17] who points out[18] that Kuhlmann's first known preoccupation with Lull came as early as 1666, when the Silesian dedicated to the long dead Spanish scholar his 64 'Grabschriften'.[19] In the same study[20] our attention is drawn to Kuhlmann's *Geschicht-Herold* of 1672, which, according to its title page was inspired 'theils nach der neuvermehrten Wunderart des weltberuffenen Athanasius Kirchers vorgetragen',[21] a point we find further developed in the seventh paragraph of the 'Vorgespräch'. Here Kuhlmann describes Kircher's attempts[22] to create 'eine Wissenschaft aller Wesen' and presents, in a similar vein, his own work: 'Wiwol uns allzubekand/dass die Meister den allgemeinen Weissheitweg verneinen…hat uns doch belibet/and unterschidenen Geschichten solche Lehrart anzubringen'.

Kuhlmann's curiosity and interest had been similarly stirred by Kircher's magnetic works, especially the popular and reprinted *Magnes, sive de arte magnetica*, first published in Rome in 1640. The Silesian was fascinated by the phenomenon of magnetic attraction and saw in it a symbolic representation of certain relationships in nature and in life. This same image of attraction and repulsion through an unknown but irresistible power is frequently employed in his early poetical works.[23] In the same field, Kuhlmann showed a definite interest in Kircher's

---

[15] *Kircheriana*, p. 48.

[16] *Responsoria*, p. 64.

[17] Much of the information in this summary—excluding comments on the letters—is derived from Dietze, 'Quirinus Kuhlmann'.

[18] Dietze, *Quirinus Kuhlmann*, pp. 82, 391.

[19] Kuhlmann, *Unsterbliche Sterblichkeit*, p. 30.

[20] Dietze, *Quirinus Kuhlmann*, p. 82.

[21] See Kircher's *Ars magna sciendi*, cf. Kuhlmann's *Lehrreicher Geschicht-Herold*.

[22] See, e.g., 'Liebe ist eine Magnet-Kette/an der diss ganzte Welt-wesen hanget: Sonder welche Himmel noch Erden bestehen wurden', in Kuhlmann, *Die prießwürdige Venus*, p. 8; 'Die Printzen sind Magneten dieser Erden/Durch welche Lander selbst nach Wunsch gezugen werden', in *Teutsche Psalmen*, 1. 383 F.

[23] This is described by Kircher in *Magnes*, III, ch. 4, pp. 640–648: 'de plantis heliotropiis earumque Facultate magnetica'. See similarly: 'Deuz horloges construites par le P. Athanase Kircher, et muues l'une par la vertu de l'aimant, l'autre par la proprieté

sunflower clocks, where the horological motivation is derived from the heliotropic convolutions of the sunflower.[24] In his *Geschicht-Sonnen-blumen*,[25] Kuhlmann printed directions for the 'Künstliche Bereitung der Kircherschen Sonnenblumenuhr', a three-page elucidation derived largely from the relevant instructions in Kircher's *Magnes*. Again following Harsdörffer, Kuhlmann saw in the sunflower a symbol of trust and obedience.

Although Kuhlmann was acquainted with several of Kircher's other works (in the 'Scribentregister' to the *Geschicht-Herold* of 1673 we find quoted Kircher's *Musurgia* of 1650, his *Iter ecstaticum* of 1660 and the voluminous *Ars magna lucis et umbrae* of 1646), it was, as we have seen from his correspondence and his earlier preoccupation with Lull, the *Ars magna sciendi* from which he drew his greatest inspiration. Upon first reading this work, Kuhlmann was encouraged to draw up, on the lines of the *Kircheriana*, a scheme of works embracing the whole sphere of human knowledge and consisting of nineteen volumes dealing with the provinces of history (XII), linguistics (VIII, XI), politics (XIX), theology (XIII–XV), science (XVI), archaeology and antiquities (IX, X, XVII, XVIII). The first four of these impossible projected encyclopaedias were to deal with language and literature. Kuhlmann envisaged 'this writing of the Lullian-Kircherian art': four schemes comprehensively covering a) 'Ars Apophthegmatica' (whereby Kircher's *Combinatoria* should be used to explore the secret wisdom inherent in the sayings of prince and dukes); b) and c) an 'Ars Tragica' and 'Ars Comica', which would each contain twelve examples of each respective genre in different languages so that the underlying common factors should be seen more easily; and d) an 'Ars Magna Poetica, Verificatoria, Rythmica', which would contain more than a hundred thousand poetic epithets and countless differing varieties of songs and poems to demonstrate the supremacy of the German language as a vehicle of literary expression.[26] Three of these proposed 'maxima opera', which would lean heavily on Kircher, were the 'Ars

---

de la graine de la fleur du solanum': Bibliotheca de Carpentras, Mss de Peiresc. II. F. 89.

[24] Kuhlmann, *Quirin Kuhlmanns…Lehrreiche Weißheits*, p. 754.

[25] Kuhlmann, *Hundert lehrreiche Geschicht-Sonnen-blumen*, p. 872.

[26] This schema is given in Kuhlmann, *Prodromus quinquennii mirabilis*, pp. 15–21.

Magna eloquentiae solutae et ligatae' (V), the 'Ars magna sciendi' (VI) and the universally designed 'Ars magna scribendi' (VII).

That this Goliath should remain a mere project, a skeletal vision of Kuhlmann's wide and embracing polymath tendencies—Gottfried Arnold reports that he was 'ein gelehrter und sonderlich in der polymathik fleissiger mensch'[27]—is no loss to posterity. In these projects, although initially stirred into action by Lull's *Ars magna et ultima*, Kuhlmann had long since lost the essentially Christian outlook behind the mediaeval scholar's work. Lull intended his machine to refute, permanently and decisively, all heresy. Kuhlmann, in the company of Kircher and Leibniz, sought more prosaically to reduce the chaos of knowledge into an appreciable and logical order, without regard for whether it produced heresy or not.

The Silesian was convinced that to write such works of wisdom and sublime perception, Lull must necessarily have been invested with divine knowledge. As we have seen from his correspondence, Kuhlmann did not hesitate to assume the same privilege for himself. When Kircher contested this gift of 'Sapientia infusa', Kuhlmann persisted in his belief, to such effect that he composed, in February 1676, a third letter to the Jesuit. In this document Kuhlmann reasserts his original premise and, in one hundred paragraphs, strives to persuade Kircher of the overriding correctness of his own intuitions. This letter was never sent, but was completed, after Kircher's death, and printed in the London edition of the *Responsoria*.[28]

We are familiar now with the paternal indulgence with which Kircher treated his eager young correspondent; we know that the Jesuit's gentle irony was lost on the less sensitive, ebullient poet. We find Kircher's real opinion of Kuhlmann and his visionary schemes in a letter written to his Augsburg confidant, Hieronymus Langenmantel.[29] Kircher's words, on this occasion, aptly summarize the more orthodox view of Kuhlmann's designs and dreams: 'Kuhlmann has printed three letters under my name. He is busy with a new prophecy of the future. He calls it Samonean, infused into himself by divine inspiration. I have urged him in a friendly manner not to babble rashly what are merely Satanic deceptions'.

---

[27] Arnold, *Unpartheische Kirchern- und Ketzer-historien*, vol. 2, p. 509.

[28] Kuhlmann had revised and perfected the letter by April 1681; see his *Responsoria*, pp. 47, 57.

[29] *Fasciculus epistolarum*, p. 66 (letter written from Rome, 29 March 1676).

*Gottfried Wilhelm Leibniz*

Kuhlmann was not the only young German inspired by Kircher's *Ars magna sciendi* and encouraged by this publication to write to the Jesuit. A figure of vastly different mould and stature to tread the same path was one of the greatest German scholars of the seventeenth century, Gottfried Wilhelm Leibniz. Leibniz, who was born in 1646, first wrote to Kircher in 1670, four years after the publication of his *De arte combinatoria*, where he had called Kircher 'a man of enormous talent…destined by happy fate to illustrate the sciences'.[30] In his actual letter[31] to the Jesuit (at about this time Leibniz opened up a correspondence with the Polish Jesuit Adamandus Kochanski), Leibniz is hardly less complimentary. The letter is addressed to 'viro incomparabili' begins with 'Vir magne', concludes with 'vir maxime' and, fashionably, refers to Kircher as 'vir immortalitate digne'.

The young philosopher's concise letter is in marked contrast to Kuhlmann's rambling effusions. Already in the second sentence, Leibniz broaches the subject of 'ars combinatoria'. He mentions, too, that he had been encouraged to write to Kircher partly by the Jesuit's own work on this topic and partly through the advice offered by the Duke of Boineburg, minister to the Electoral Prince of Mainz, and one of Kircher's own correspondents.[32] Leibniz describes how his thoughts on the subject have developed since the publication of his *De arte combinatoria* (he hopes that Kircher has managed to see a copy of this work, a hope which, however, Kircher must crush in his reply). He goes into an account of his present legal activity and his attempts, in the company of Andreas Lasser, a councillor of Mainz, to determine the basic constituents of Roman Law and thereby, with the aid of the *Combinatoria*, decide all conceivable precedents and examples.

Subsequently, Leibniz turns to Kircher's *Ars magna sciendi* of 1669 and expresses his admiration and enthusiasm for this example of 'the fundamentals of all the sciences'. He also mentions that he would like

[30] *De arte combinatoria*, p. 62: in Leibniz, *Sämtliche Schriften und Briefe*, vol. 6 [pt] 1, p. 194.

[31] Epist. V. 166 (Mainz, 16 May 1670). This exchange of letters is reprinted in an article by P. Friedlaender, 'Athanasius Kircher und Leibniz: Ein Beitrag zur Geschichte der Polyhistorie im XVII. Jahrhundert'. *Atti della Pontificia Accademia Romana di Archeologia*. Series 3. 13 (1937): 229–247.

[32] Yet we find no references to Leibniz in the three letters preserved in Rome from Boineburg.

to see an example of Kircher's 'cistula combinatoria'.[33] At this point, Leibniz points out in his letter how much this correspondence, as a link between the 'respublica literaria' and himself, will mean to him, and in return he promises to supply Kircher with news of German developments and to circulate diligently any news that Kircher might send him. In his closing paragraphs, Leibniz requests information both on Kircher's heliotrope seeds, bought from an Arab merchant in Marseilles, and on the latest compass constructions of the French Jesuit Jacques Grandamy, a correspondent of Kircher's.[34] Similarly, in his postscript, Leibniz describes a much-travelled scholar of his acquaintance who was intent on collecting roots of various languages, hoping through their combination to discover a universal language.[35] He asks Kircher what he thinks of the idea.

Kircher replied to this letter almost immediately.[36] His clearly written folio letter is in sharp contrast to Leibniz's crabbed style: similarly, as befits an aged Jesuit scholar writing to an admirer, the style of the letter, addressed with the more customary formula 'Praenobilissime et clarissime Vir' is more contained. Kircher describes the great pleasure with which he had read Leibniz's letter: he mentions, flatteringly, the magnetic affinity which he senses between the young student and himself, and with a mixture of judicious compliment and foresight finds in the young Leibniz 'the future of the arts and sciences'. Despite the generally eulogistic tone of his introduction, Kircher, who is entering the last decade of his life, does not omit to draw Leibniz's attention to the power of God, without whose aid 'labores puram pristam vanitatem esse'. His reply answers, in relevant order, the points put to him by Leibniz. In response to the young philosopher's request for a specimen of the 'cistula combinatoria', Kircher, who calls it here his

[33] Leibniz, like most of his contemporaries, was intensely interested in such machines. He himself, at about this time, was engaged in constructing a 'lebendige Reihenbank' together with 'ein ander Instrument, so ich eine Lebendige Geometriam nenne'; see Leibniz, *Sämtliche Schriften*, vol. 2, 1, p. 160. Several years later he developed a coding apparatus and an algebraic automaton which could solve equations: I. II, p. 125.

[34] Leibniz corresponded on the question of the compass with great frequency with Kochanski in Prague, Fabri and Lana in Italy, Oldenburg in London, Bertheolt in Paris and Hevelius in Gdansk.

[35] This was the Swedish scholar and traveller Benedict Skytte, whom Leibniz had met in 1669 in Frankfurt. See Friedlaender, 'Athanasius Kircher und Leibniz': 238.

[36] This letter is dated Rome, 23 June 1670; the original is in the Niedersächsiche Staats- und Universitätsbibliothek in Göttingen: [MS] Philos. 138 m. VI. 56.

'Rhabdologiae pantosophae', explains that he is far too busy to find the time. He expresses, however, the hope that one of his pupils might be able to produce the work.

Leibniz's postscript on the possibilities of a universal language leads Kircher to discuss his own attempts in the *Polygraphia nova*, and causes him to append a learned note on the difficulties encountered in his researches. Benedict Skytte's own suggestion, passed on by Leibniz, is brusquely discounted: 'whether a universal language really can be deduced from the roots of the primary languages'.[37] Kircher concludes his account of the complications to be dealt with by sympathetically citing to their mutual problems, and exclaiming 'how great are the secrets that lie hidden beneath the art of combination'. In the closing lines of the letter, Kircher refers to Leibniz, more cordially, as 'most learned sir, splendour and glory of my friendship'.

These two letters seem to be the only examples of the correspondence between the two scholars. In 1695, Leibniz wrote, in a letter to Boineburg the Younger, 'j'ai eu quelque commerce de lettres autrefois avec le feu P. Kircher',[38] and in an earlier memorandum made for an interview with the Prince Bishop of Paderborn, Ferdinand von Furstenberg, the German scholar noted: 'Obiter zu gedenken des Briefs von Herrn P. Kircher, so zu zeigen'.[39] Similarly, in the year following their exchange of letters, Leibniz, in a communication with the Jesuit Honore Fabri, asked him to pass the letter on to Kircher.[40] In his reply, Fabri assured Leibniz that he had complied with this request and intimated to Kircher that a reply would be appreciated. Nothing, however, seems to have developed as a result of this move, and no letter from Fabri is preserved in Kircher's Roman correspondence.

The initial delight felt by Leibniz at his new learned correspondent did eventually fade into disenchantment. But in several letters written during the first few years following their exchange we may still note Leibniz's pride and pleasure in reporting on his activities to the Jesuit. In 1671, Leibniz described the literary plans of 'celeberrimus Kircherus' in a letter to the Helmstedt lawyer Hermann Conring,[41]

---

[37] Skytte's theories are set forth in J.H. Schroeder, *Riks-Radet Benzt Skytte*, pp. 11–16.

[38] Quoted in K. Brodbeck, *Philipp Wilhelm*, p. 43 and Leibniz, *Die Werke von Leibniz*, ed. O. Klopp, vol. 6, III.

[39] See [Leibniz], *Werke von Leibniz*, vol. 2, p. 423.

[40] Leibniz, *Sämtliche Schriften*, vol. 2, 1, p. 188.

[41] Leibniz, *Sämtliche Schriften*, vol. 2, 1. No. 40, 8 February 1671.

and in the same year, describing his own epistolary activities, he was able to say 'I am in correspondence with outstanding men here and there, in Italy the Reverend Fathers Kircher and Lana',[42] and, almost in repetition, 'auch viele Curiosi…haben auf meine Briefe an sie mit einer extraordinairen Hoflig- und Willfahrigheit geanwortet, darunter ich…H.P. Kircher und Lana in Italien zehlen kann'.[43] In 1675, Leibniz grouped Kircher with Boyle as 'einige der vornehmsten ingeniorum unserer Zeit',[44] while two years later he classed the Jesuit with Christian Huygens 'au reste les plus habiles mathematiciens du siècle, comme le P. Kircher à Rome. Mons. Huguens Hollandois, inventeur des pendules'.[45] In this, the last note we can trace, Leibniz describes Kircher as one of 'des personnes qui sont sans contredit du nombre des plus habiles de l'Europe'.[46]

However much Leibniz praised Kircher as a correspondent, his estimation of the Jesuit's scholarly value soon degenerated after his initial cries of praise. In 1671, in fact, he deprecated Kircher's attempts towards a complete 'ars combinatoria' in a letter to Johann Friedrich, Duke of Hannover, where he writes of the Jesuit's plans and achievements 'welche Lullius und P. Kircher zwar excolirt bey weitem aber in solche deren intima nicht gesehen'.[47] An identical note of regret and disappointment is struck in a memorandum on the 'Nova Methodus': 'In *Arte magna sciendi*, as he calls it, Kircher comes a very long way from succeeding'.[48] By 1680 his estimation of the Jesuit was lower still. In a later letter to Johann Friedrich, he comments, more one feels in sorrow than in anger: 'La polygraphie du P. Kircher que V.A.S. a vue, est si peu de chose et si eloignée demon dessein, qu'il m'y a pas la moindre apparence que j'en puisse avoir profite. Aussi la pluspart des inventions de ce père ne sont que des petits jeux d'esprit plus tost jolis qu'utiles'.[49] It is possible, as Friedlaender remarks,[50] that Leibniz is here attempting to demonstrate his own independence, since in his sketch

[42] In a letter (August 1671), to Peter Lambeck: Leibniz, *Opera*, ed. J. Dutens, vol. 1, [pt] I, p. 62.
[43] To Duke Johann Friedrich October 1671: *Opera*, vol. 2, 1, pp. 164–165.
[44] To Duke Christian von Mecklenburg (March 1675): *Opera*, vol. 1, 1, p. 477.
[45] To Duke Johann Friedrich (January 1677): *Opera*, vol. 1, 2, p. 16.
[46] Ibid.
[47] Leibniz, *Sämtliche Schriften*, vol. 2, p. 160.
[48] *Sämtliche Schriften*, vol. 6, 1, p. 279.
[49] *Sämtliche Schriften*, vol. 1, 2, p. 167.
[50] Friedlaender, 'Athanasius Kircher und Leibniz', 243.

of the 'Scientia nova generalis' of 1681 he classes Kircher with Peiresc and Mersenne as being worthy of preserving for posterity.[51]

Throughout Leibniz's works, one finds random observations on Kircher and his theories, for the most part incidental and devoid of relative significance. This begins as early as 1664 when the 18-year-old Leibniz quoted Kircher in his *Specimen quaestionum philosophicarum ex iure collectarum*[52] and continued to do so for much of his life. On the one hand, Leibniz related Kircher's attempts to solve postulated Syrian lettering on a tablet sent from Vienna, which were subsequently explained by Holstenius to be Greek,[53] while elsewhere he defended Kircher's version of the inscription of Si-gnan-fou, 'dont quelques uns croyent d'avoir raison de douter: pour moi je le crois veritable'.[54]

There seems to be little doubt that, as he matured, Leibniz lost much of his first enthusiasm for Kircher's works. The difference in their lives and views was more than one of chronology. Leibniz was a modern thinker whose sympathies lay with the age of rationalism; Kircher, happy among his manuscripts and bulky mediaeval works of reference, was in Leibniz's eyes a reactionary, whose crumbling empire of moribund scholasticism Leibniz was to see utterly demolished. Just as Kircher recoiled from Kuhlmann upon closer acquaintance, Leibniz retreated from Kircher and his aura of mediaevalism. Kircher had disliked and feared Kuhlmann's heresy; Leibniz rejected Kircher's orthodoxy.

### *Abraham von Franckenberg*

A correspondent who preceded both Kuhlmann and Leibniz was Abraham von Franckenberg,[55] a Silesian nobleman who spent most

---

[51] H. Gerhardt, *Die philosophischen Schriften von G.W. Leibniz*, vol. 7, p. 72.

[52] Leibniz, *Sämtliche Schriften*, vol. 6, p. 174.

[53] In 'Leibnitiana, sive meditationes, observationes et crises variae Leibnitianae gallico et latino sermone expressae', Art. XIV. In the same section, Leibniz accuses Kircher of plagiarism in his description of Vesuvius (*Mundus subterraneus*, I, pp. 178ff.): 'usus est Galli cujusdam, itineris comitis, observationibus, qui quin eum nominare dignatus non est'. See Leibniz, *Opera*, vol. 6, p. 296.

[54] In 'Remarque de Mr. Leibniz sur les Chevraena', Art. 186; see Leibniz, *Opera*, pp. 61, 333. Leibniz repeated this view in a letter to Landgrave Ernst von Hessen-Rheinfels, of 14 August 1683; see C. von Rommel, *Leibniz and Landgraf Ernst*, p. 377.

[55] That Kircher and Franckenberg exchanged letters is barely noted in G. Koffmane, *Die religiösen Bewegungen in der Evangelischen Kirche Schlesiens*, p. 36.

of his life (1593–1652) as a recluse on his brother's estate at Ludwigsdorff. His only pastime seems to have been his correspondence (he also wrote to Salmasius and David von Schweidnitz) and his literary works, but he did spend some five years (1645–1650) in Gdansk with the scientist and astronomer Johann Heveliusz.[56] This enforced absence from his own home seems to have been brought about by some form of religious dissension. Franckenberg was a fervent disciple of Jacob Böhme[57] and he succeeded in integrating much of Böhme's mystic theosophy into his own life and works. He was a member of the *Fruchtbringende Gesellschaft* and upon entry assumed the name of Amadeus von Friedleben.

Franckenburg was probably encouraged to write to Kircher by Heveliusz, who was already one of Kircher's regular correspondents and who had received help and astronomical observations from the Jesuit. His letters to Kircher are, like his works, haphazard collections of alchemical, cabbalistic and Hebraic jottings, with side references to astronomy and philology, the whole occasionally made more significant by a reference to Franckenberg's basic themes of Christian unity and the acquisition of knowledge.

Frankenberg's first letter was written in 1647[58] and contains a request for certain 'Tabulas: Kabalistica, Runica, Kerubimica', which led the Silesian recluse to talk vaguely and impressively of the 'Katholicae Veritatis studium' and to describe his own ambitions, which seem to be of polymath stature: 'the need for universal wisdom in the present age'. In his closing paragraph, Franckenberg, in a return to normality, mentions the imminent publication of Heveliusz' *Selenographia* and points out, impressed, the number of accompanying plates: 'a work distinguished for its more than 150 copper engravings'.[59] Franckenberg returns to the *Selenographia* (he calls the astronomer 'Hovelius')

---

[56] The six letters written by Heveliusz to Kircher, which do not, however, include any reference to von Franckenberg, are noted below.

[57] Franckenberg edited several of Böhme's works and they gained for the Görlitz cobbler a much wider sphere of influence; see von Franckenberg, *Optime de pietal e sapientia meriti*.

[58] Epist. III. 432 (Gdansk, 1 March 1647).

[59] An extract from Kircher's reply to this letter has been published. It is dated Rome, 8 November 1648 and contains the Jesuit's description of the favourable reception accorded to the *Selenographia* in Rome: 'in hoc mundi Theatro expositum, viri de Mathesi bene meriti nomen promoveret'. Kircher thanks Franckenberg for forwarding a copy and promises in exchange a copy of his *Musurgia*; see J.E. Olhoff[ius], *Excerpta ex literis*, p. 14.

in his next letter,[60] describing the work as the result of 'inimitabili labore et Ingenio'. Later, in this same somewhat curt communication, he mentions his own *Gemma magica* and comments favourably on the *Ortus medicinae*, the edited works of the natural scientist and chemist Jan Baptista van Helmo[n]t (1579–1644).[61]

The third letter we possess from Franckenberg was written after his departure from Gdansk, from his paternal estate in Ludwigsdorf. In this jumbled letter we see traces of regret that Franckenberg is again surrounded by solitude and books. He muses, a trifle enviously, on the celebrations 'anno Jubileo' in Rome and wistfully adds his bookseller's address and name so that Kircher's letters should bear full directions. Neutrally, he describes the way of life he has once more resumed: 'In the world of men I live a solitary life with God, engrossed in the study of mystic philosophy and theology'. The whole letter seems to breathe loneliness.[62] In the final paragraph, Franckenberg describes the eager anticipation with which he is awaiting Kircher's *Oedipus aegyptiacus*,[63] a work he was never to see. Franckenberg's farewell is both flattering and mysterious: 'Vale' he cries, 'per 4 Philosophi Phoenix Germania' and signs himself abstrusely 'nel la g d. g r s la B', to which he prudently adds, but in parentheses, 'Abraham de Frankenberg'.

The two remaining letters from Franckenberg to Kircher are devoid of personal news and refer mostly to recently printed works. In the one[64] where Franckenberg (who this time signs himself as Abraham de Monte Franco) refers to 'most illustrious Kircher',[65] we find casual

---

[60] Epist. III 381 (Gdansk, 17 February 1649).

[61] See F. Stranz, *Johann Baptista van Helmot*, pp. 10–11.

[62] Epist. III. 284 (Ludwigsdorff, 16 April 1651).

[63] On 25 August 1646, Franckenberg wrote from Gdansk to his friend 'Pamphilosophe Hartlibi' [Samuel Hartlib], who was living in London, and included in his letter, which was little more than a list of books, 'Idea sive Ichnographia Oedipipi Aegyptiaci: quem promittit Athan. Kircherus Fuldens. Buchonius in Prodromo Suo Copto, sive Aegyptiaco' (p. 333). This schedule includes a list of Kircher's works and a report that the Jesuit is constantly anxious to acquire new information 'pro cura quo Boni communis promotione'; see British Library Ms Sloane 648, F. 91.

[64] Epist. XIV. 57 (Ludwigsdorff, 31 August 1651).

[65] This lack of precision in the orthography of proper names was not uncommon in the seventeenth century: in a letter from Ferdinand, Grand Duke of Tuscany, for example, we find the form Kyrker: I. 45 (Livorno, 29 March 1666). Other forms which come to mind are: Kirchere, Kirker, Kircherius, Kirchner, Kirtner, Kirter, Chircher, Chirker.

chatter on works by Heveliusz and Worm.[66] In the second and last letter we see little more than the titles and authors of new works in the fields of oriental and runic studies.[67]

Franckenberg seems to have used Kircher much as one would an enquiry desk, for his private study alone. Probably too it flattered his vanity, and certainly it eased his loneliness, to be in literary correspondence with a man who claimed to have discovered the secrets of the hieroglyphs. As we can see from his letters, Franckenberg himself delighted in the mysterious and the obscure and extracted equal delight from Nordic runes and the intricacies of the Cabbala. Unfortunately, there is no mention of Kircher in the Silesian's printed works, which, with the help of Bohme and Tauler, were to inspire a fellow countryman, Johann Scheffler, in the initiation of a new step forward in German poetry.

### *Georg Philipp Harsdörffer*

Another German poet who corresponded with Kircher was Georg Philipp Harsdörffer (1607–1658), the Nürnberg poet who co-founded, with Johann Klaj, the Pegnesischer Blumen- und Hirtenorden. Harsdörffer was born in 1607, travelled widely in Europe after completing his studies in Altdorf and Strassburg and became, in his respective professional and literary activities, a member of the Nürnberg City Council and of the *Fruchtbringende Gesellschaft*. Harsdörffer, who was also a member of the *Deutschgesinnte Genossenschaft*, held that poetry could be learned from rules, a doctrine he elaborated in his *Poetische Trichter* of 1643–1653. This essential desire to discover a way of reducing the vast field of human knowledge to simple formulae available to all, was a symptom of the rationalizing Baroque mentality. In every area of intellectual or artistic activity there was a philosophers' stone and, as in alchemy, there was no shortage of seekers. Kircher himself attempted to dissect and petrify language into a sterile code. He invented a machine for composing music and he attempted, in all he did, to classify, categorize and reduce to a common multiple.

---

[66] Heveliusz, *Selenographia*; Worm, *De aureo cornu*.
[67] Epist. III. 350 (Ludwigsdorff, 21 October 1651).

As might be gathered from his printed works, Harsdörffer himself was no stranger to attempts at rationalization. He was also deeply interested in mathematics and science, hence his contact with Kircher. It seems unlikely that the two men ever met: Harsdörffer refers nowhere in his letters to such an encounter, although he does on occasion send cordial greetings to Kaspar Schott.[68] Harsdörffer does not conceal his admiration for Kircher. His praise for the Jesuit is often, in the manner of the age, blatant and inflated. But despite such essentially Baroque props, his letters afford interesting glimpses of the dual role of poet and scientist, so often a feature of the seventeenth century man of letters.

In his first letter to Kircher, Harsdörffer includes a Latin eulogy of 22 lines. The first part of the letter, however, is reserved for praise of the *Musurgia* and the Jesuit's 'tireless industry'. In return for the *Musurgia*, Harsdörffer forwards to Kircher his own *Mathematische und physikalische Erquickstunden*, apologizing for its being in German. In referring to his eulogy ('versiculas'), Harsdörffer talks as though it had appeared in printed form; he condones his action: 'Love made [me] bold…I write about your ready kindliness towards pilgrims, your public reputation with the learned, most of all with Dn. Boeder'. In talking thus of Kircher's kindness to pilgrims to Rome, Harsdörffer may have been thinking of his own experiences with Kircher in Rome, but this is doubtful. The eulogy is quoted below in full. These lines, though dealing with scientific matters and the glorification of Kircher, show, in contradiction to what is said above, the poet briefly gaining ascendancy over the scientist.

Obstupio, venerande, Tuos Kirchere labores
per quos aeternet Nomen in Orbe Tuum
Kirchere, Musarum Templa serenas
Linguam, aures, oculos, attrabis artipotens.
Tibi Pegasida, excessam statuere columnam
que memoret columen laudis in occiduum.
Immota est Pyramis, quam cubica forma profundat:
Euther vis animi flammat ac aetherea.
Sive Chalamus Phoebi radiorum purpurat orbem.
Conscripta est variis Coptica lingua notis.
Ad medium solem spectatur Musica concors,

[68] There are ten of them, dating from 14 February 1653 to 17 May 1656. See III. 253 (Nürnberg, 9/19 May 1653).

ut novus haic Orpheus increpet arte Lyram.
Occasim versus, Viventia Lucis et Umbrae
illustrant tenebras inde corusca suas.
Ad Sacram tandem spectat Magnetica Lamina.
unde per Oceanum clarat uterque polus.
Daedalus ingenio monstras instabile coelum,
atque Archimedius machina quaeque tua est,
Hinc sibi gratatur de Te Germania grata:
dum genuisse jurat, quo decus orbis erat.
Respice, quaeso Tuae gratum virtutis alumnum
qui Tua scripta cupit, dum tua dicta capit.

According to Harsdörffer's subsequent words, the Frankfurt mathematician Boeder was also in correspondence with the Jesuit on the vexed problem of perpetual motion. This is not the only intriguing allusion made by Harsdörffer in this letter: he describes how avidly he is looking forward to the publication of Kircher's 'Thaumaturgum Tuum Mechanicum et in illo Dictum mysterium geneis humano egregie profuturum'.[69]

Harsdörffer's second letter, though equally flattering and laudatory,[70] is devoid of verse and concentrates on strictly scientific subjects. Harsdörffer mentions approvingly Daniel Schwenter's translation into German of Jean Leurechon's *Recreations mathematiques* [*sic*] and adds, for Kircher's delectation, 'a geometric schema recently sketched out by the mathematician Altdorf'. In a final paragraph the Nürnberg poet describes the anticipation with which he is awaiting the *Oedipus* and asks Kircher to arrange for it to be forwarded through Baba, the Venetian bookseller.[71]

Almost at once, Harsdörffer wrote again to Rome, forwarding several of his mathematical works for 'censura vestra'. In this letter, he poses the question to himself: why does he write in the vernacular? His answer is that the German language provides 'young people, with a very pleasant route to the depths of the most beautiful branches of knowledge'. In his enthusiasm (we must remember that he was a vigorous member of the *Deutschgesinnte Genossenschaft*), Harsdörffer defends German and its scientific use against other languages: 'Our

[69] III. 251 (Nürnberg, 14/24 February 1653).
[70] This letter is addressed to 'Reverendis atque Excellentiis Viro Domino Athanasio Kirchero S.J. Presbgt. et Mathematico per Europam celeberrimo Fautori suo colendo'.
[71] III. 249 (Nürnberg, 9 May 1653).

language, by the newfound felicity of its writers and the roundedness of its expressions, seems to snatch the palm from others'. In defence of the expression of technical ideas 'in fitting and genuine words', Harsdörffer points out the successful rendering in the vernacular by Simon Stevin in Belgium of material 'in re nautica Astronomica mechanica'.[72] Harsdörffer then returns to his poem about Kircher and recommends that it be accompanied by a picture of the pyramid it describes.

In his final paragraph the German poet attempts to console Kircher in the face of the public attacks he has been suffering. First he includes with his letter 'a page from my Apologia in which I sincerely think I have made honourable mention of a very famous man' and then he reaffirms his own trust and belief in the Jesuit: 'There are indeed some things in his Hebraic music, and there are other ideas about the Pamphilian column that people attack, but I read avidly the writings of this man, and I never approach [them] without departing the wiser'.[73] Harsdörffer, whom we admire all the more for his endeavours to comfort Kircher, ingeniously appends an anagram to distract his friend: 'adjungam Hororius ejus anagramma, exspirante aspiratione H…'

Athanasius Kircher = transp. ane Karus Charitis?

The following January Kircher received a short note from Nürnberg of Harsdörffer's eager expectation of the *Oedipus Aegyptiacus*, to which a 'chorus of men of letters' looked forward and in which the German poet's own eulogy to Kircher was being included. This note also contained the outline of some new but unspecified invention: 'de inventione quam adjunctum schema exhibet, miranda promittit'.[74]

Possibly in atonement for this brief communication, Harsdörffer sent a long and scientifically detailed letter the following month. The first paragraph is devoted to praising Kircher and his role of torchbearer in the present Stygian gloom of knowledge. After this expected opening, Harsdörffer passes on to discuss a certain Charenbergius' 'stupendi navigii illius Machinamentum', which had just been censured

[72] Possibly Harsdörffer is referring here to Stevin's manual on the compass, *De Beghinselen der Weeghcoast*.

[73] Epist. III. 253 (Nürnberg, 9/19 May 1653). Harsdörffer is here probably alluding to Meibom's *Antiquae musicae auctores septem*, where sections of Kircher's *Musurgia* is decried as fabricated; see *Proem*.

[74] Epist. III. 259 (Nürnberg, 31 December 1654).

by the Senate of Rotterdam.[75] Apparently Kircher had written enquiringly on the 'hostile critic' Marcus Meibom 'de Musurgia obtrectatore' and Harsdörffer hastened to reply, using information gathered from Christianus Cassius, legate at Lübeck. He describes Meibom's erudition, 'which suffers from his great ambition and lack of moderation', talks briefly of Meibom's 'hallucinationes' and wonders vaguely why no one has described the Spanish, Italian, French and Polish style of music.

The second half of Harsdörffer's letter is devoted to those 'writers on the laws of Nature' who attempt to classify everything 'per tua illo regno Animale, Vegetabile et Minerale'. The German poet appends a lengthy list of such authors of the sixteenth and seventeenth century, and in conclusion details several authors who had described the revival of plants that had previously been reduced to ashes.[76] Harsdörffer's postscript glances at the contemporary troubled political scene. He mentions having heard the rumour of the signing of peace between England and Holland in order to make joint war on Italy.

Two months later, in a short note, Harsdörffer congratulates Kircher on his recovered health and includes a strange comment on the apparent unwillingness of Roman scholars to correspond with him. 'What am I to do?' he exclaims, 'if no one can be found at Rome who is willing…' The reason for both the request and the resultant reluctance unfortunately remain hidden. The dedication of Kircher's *Magnes* to Emperor Ferdinand III recalls to Harsdörffer the publication and dedication some years previously of his *Sophista, sive logica et pseudopolitica sub chemate comoediae repraesentata*, which had materially aided his studies. In a final paragraph the German poet mentions the transmission to Kircher of a new *historia musicae*, which Harsdörffer describes as 'an elegant and unusual little work'.[77]

Harsdörffer seems to have regarded Kircher as the ultimate judge of his literary achievements. In September 1654, he forwarded to Rome for Kircher's judgement his writings on 'Speculum meum Historicum, cum adjectis Problematibus Catoptricis…addo Typium Musicae

[75] The censure would seem to have been effective: I can find no trace of this author.

[76] Epist. III. 257 (Nürnberg, 27/17 February 1654).

[77] III. 255 (Nürnberg, 19 April 1654). The work is not identified.

et meditationem meam lugubrem, in mortem nuper defunctu Regis Romanorum'.[78] The German poet talks rather vaguely of a projected 'Calendariographia Nova' in which are described the chronological activities of 'Imperatorum, Conciliorum, Patrum, clarorum virorum, rerum memorabilium, haereticorum'. Less vague is his reference to the inventions and discoveries of Otto Guericke, consul at Magdeburg, and his visible demonstration of a vacuum.[79]

Shortly afterwards, Harsdörffer again expressed his keen interest in Kircher's opinion of these same works, compared Kircher's erudition to the writings and scholarship of Valerius Maximus, and went on to describe the Jesuit's works as 'for the public benefit of the learned'.[80] The deep admiration always implicit in Harsdörffer's letters came openly to the surface in a dedicatory address that he composed in April 1656. This short and outrageously flattering notice is quoted in full:

> Reverendissimo atque Excellentissimo
> Athanasio Kirchero
> Pietatis Praesidio,
> Eruditionis miraculo,
> Virtutis Exemplo:
> Viro Incomparabili:
> Germanus Incredibilis
> Totius Germaniae
> Ornamento immortali
> Mecoenati suo aventissimo
> Hac ingenii amoenitates
> devote offert
> G. P. H.
> Autor.[81]
>
> (To the most reverend and excellent Athanasius Kircher, guardian of piety, miracle of erudition, example of virtue, incomparable man: incredible German, of all Germany immortal ornament; to his most beloved Maecenas, these words of appreciation G.P.H. devotedly offers.)

---

[78] 'My Mirror of History, with, in addition, problems of the mirror…I add the notes of music and my mournful lament on the death of the recently deceased King of the Romans'. The work referred to is Harsdörffer's *Der Geschichtspiegel*.

[79] Epist. III. 266 (Nürnberg, 20/10 September 1654).

[80] III. 270 (Nürnberg, 1 October 1654).

[81] III. 262. The date, incorporated in the concluding lines, is given as 7/17 April 1656.

The last letter we possess from Harsdörffer to Kircher was written two years before the German poet's death. He describes with admiration the dedication of the Nürnberg artist Joseph Philipp Lemcke and his manner of setting to work: 'in solitude, wholly committed to his studies'.[82] Surprisingly, the *Oedipus* had not yet appeared in Nürnberg, but Harsdörffer consoled his disappointment with the daily expectation of new wonders of erudition 'by all learned people as the latest prodigy of your stupendous erudition'. In his final words to Kircher, the German poet combined the inevitable pun with a moving and simple tribute: 'Vale omnium Germanorum immortale deus'.

Harsdörffer's open admiration for Kircher and his works was not restricted to expression in his personal letters alone. In a letter addressed to Kircher by another correspondent from Regensburg we find a nine-line eulogy composed by the Nürnberg poet in honour of the Jesuit. The writer of this letter was one Johann Hellwig,[83] who had met Kircher on the voyage from Marseilles to Italy in 1633. He had subsequently and successfully studied in Italy and then returned to Nürnberg. Here he remained for sixteen years, became friendly with Harsdörffer and with him admired Kircher's growing fame, 'throughout all the provinces of Europe most famous for his learning as a polymath'.

Harsdörffer's lines—Hellwig calls him 'nobilissimus et celebratissimus'—summarize much of Kircher's achievements in magnetic, musical and linguistic studies. Probably, the inspiration for this laudatory address came from the completed publication of Kircher's *Oedipus aegyptiacus* (1652–1654) and its anticipated arrival in Nürnberg:

ANTHANISO KIRCHERO
Qui arcano magnetismo pietatis
Acie ingenii perspicacissima
Omnium artium harmonia dulcissima
Linguarum exoticarum stupenda peritia
Eruditionis miracula edidit
Monumentum hoc
Mnemosyne cum filiis suis
L : M : Q : posuit

[82] III. 264 (Nürnberg, 17/27 May 1656).
[83] XIV. 109 (Regensburg, 10 January 1655): the letter is addressed in Greek letters: 'Athan. Kirchero, Mathematico et polyglosso celebratissimo'.

(TO ATHANASIUS KIRCHER, who with the magnetism of his piety, the penetrating insights of his genius, his sweet harmonising of all the arts and amazing knowledge of exotic tongues has published miracles of erudition, this memorial offering to Memory and her progeny L : M : Q : has set forth.)

In one of the letters above,[84] Harsdörffer refers to his 'poem . . . among eulogies of Kircher'. This is printed in the 'Triumphus Caesareus Polyglottus seu Elogia Ferdinando III', which precedes the first volume of Kircher's *Oedipus*[85] and consists of 27 tributes, in 27 languages, to the wisdom, power and glory of the Emperor Ferdinand. The Emperor, as we know, had subsidized the printing costs of the whole 2000 pages of the *Oedipus*, an act of generosity and patronage that entailed the expenditure of 3000 scudi.

The German contribution to this polyglot eulogy was composed by Harsdörffer; unfortunately, the six stanzas of his 'Ehrenlied' are devoted entirely to singing the praises of the Emperor and consequently Kircher remains unnamed, although his activity as an inspired interpreter is glanced at in the fifth strophe:

Die Steine mit schvveigenden zeihen begeistert,
Von vvunder-dolmetschender Feder bemeistert.
Sich selbsten bekrönen, erschallen, ertönen,
Und lassen sich hören:
Die Weiszheit und Rähtzel der Alten entdecket.
Von Todten ervvecket.
So klagliche lehren
Vergnügend das Ohr:
Weil FERDINANDS Weiszheit nun blicket hervor.

Despite their active correspondence (Kircher's letters are yet to be traced), Harsdörffer seldom mentions Kircher in his printed works. But there can be little doubt that the German poet knew and probably frequently used the Jesuit's publications, for Harsdörffer himself was moulded in the manner of the polymath. In 22 years, Harsdörffer published over 20,000 printed pages and it has been calculated that

[84] III. 253 (Nürnberg, 9/19 May 1653).

[85] *Oedipus aegyptiacus*, I, pp. 28ff. These tributes were published separately by the Vitalis Mascardi Press in Rome in 1653. A copy of this extract in the Biblioteca Casanatense in Rome is wrongly attributed to Kircher, who was responsible only for the Persian (Elogia XX), Samaritan (XXI), Coptic (XXII) and hieroglyphic (XXVII) contributions.

his sources were drawn from a working knowledge of over a thousand different works.[86]

That some of these works were those written by Kircher is acknowledged in a line written by Kuhlmann to Harsdörffer: 'Du augtest klares Gold auss Kircher'.[87] This is probably a reference to the inspiration Harsdörffer gained from the Jesuit in his attempt to regulate and systematise the whole of the German language so that composition might be made more readily feasible for any person.[88] For, in the second part of his *Delitiae*, the Nürnberg poet demonstrates a method of reducing the entire German language to manageable proportions 'Die ganze teutsche Sprache auf einem Blättlein zu weisen'. This was also named the 'Fünffachen Denkring der deutschen Sprache' and with its help one could form 97,209,600 German words—'nützliche und unnütze'—for use in poetic expression. This delightfully Baroque technique was derived from Kircher[89] and was subsequently noted, more in awe than admiration, by Leibniz.[90] The whole device, reminiscent of Pascal's 'machine à penser', is redolent of Lull's own mediaeval machinations and was to inspire Albert von Holten's cylindrical grammar apparatus[91] and lead Leibniz himself to ponder on the possibilities of a logic machine.[92]

With Harsdörffer, and this glimpse at his polyhistorical activities and interest, we conclude the short list of Kircher's literary correspondents.

## Other Literary References to Kircher

Despite the fact that Kircher was principally a humanist, an antiquarian and a scientist, and despite his voluntary exile and life as a Jesuit, such was his European reputation that we still find references to him and his works in the writings of subsequent literary figures. Inevitably, such references are rare and scanty, often little more than a pointer to one of his published works.

---

[86] See G.A. Narciss, *Studien zu den Frauenzimmergesprachen*.
[87] Kuhlmann, *Teutsche Palmen*, I, p. 429.
[88] See W. Kayser, *Die Klangmalalerei bei Harsdörffer*, pp. 185, 101.
[89] *Oedipus aegyptiacus*, II, p. 471.
[90] Leibniz, *Sämtliche Schriften*, vol. 6, 1, p. 203.
[91] *Sämtliche Schriften*, vol. 2, 1, p. 207.
[92] *Sämtliche Schriften*, vol. 2, 1, no. 96.

One of the earliest allusions we possess is a Pindaric ode addressed by the Dutch poet and dramatist Joost van Vondel (1587–1679) to the author of the *Oedipus aegyptiacus*. Vondel, who converted to Roman Catholicism in 1641,[93] was a noted admirer of the Society of Jesus.[94] He wrote several poems dedicated, among others, to Francis Xavier, Ignatius Loyola and Kircher's correspondent, Paolo di Oliva, General of the Society during Kircher's last years.[95] This ode seems to be the only reference to Kircher[96] in the whole of Vondel's works.[97] Vondel composed the ode of 134 lines in 1652, the year of the publication of Volume I of the *Oedipus aegyptiacus* and two years after Kircher's *Obeliscus Pamphilius*. He entitled it 'Toecken-tolck van den E. Heere Athanasius Kircher Verlichter van de gebloemde Wijsheid der Egyptenaren'.[98]

This ode consists of a dialogue between 'Pamfilius' (Pope Innocent X) and 'de geest van Hermes' on the strange remnants of ancient Egypt, strange and unknown, that is, until the advent of Athanasius Kircher, who, in the service of Christ 'ten dienst van Jezus' Heiligdom' expelled darkness and ushered in light and understanding:

> Nu Athanaas de duisternissen
> Van oud Aegypten voor sich jaagt.
> Al wat misvormd lag en verloren.
> Wordt door zijn wakkerheid herboren.
> Nu dwaelt geen mensch, die Kircher vraagt.[99]

Vondel's ode is in many ways an isolated exception and cannot have been expected by the Jesuit, who had had no previous contact with the Dutch poet. Nor do we come across references to the poet in Kircher's correspondence. A German poet whom Kircher did meet, however, was Andreas Gryphius,[100] who passed through Rome early in 1646

---

[93] See G. Brom, *Vondels Bekering*.

[94] See H.J. Allard, *Vondels Gedichten op de Societeit van Jezus*, which, however, fails to mention Kircher.

[95] A. Baumgartner, *Joost v.d. Vondel*, p. 204.

[96] See the comprehensively indexed *Al de Dichtwerken van J. van Vondel*, ed. J. van Vloten.

[97] See J. Noe, *De Religionze Bezieling van Vondels Werk*.

[98] See *Al de Dichtwerken*, vol. 2, pp. 63–64. The ode is preserved as a broadsheet in the Gregoriana, under Epist. VIII. 184, where it is referred to as 'Applausus in Oedipum Kircheri et Laudes Kircheri-Hollandise: Amsterdam, 1652'.

[99] *Al de Dichtwerken*, vol. 2, p. 64.

[100] S. von Stosch, 'Christlicher Lebenslauff A. Gryphii'. In C. Knorr, *Signaculum Dei*, p. 35.

acting as guide and tutor to the son of a wealthy Stettin merchant, Wilhelm Schlegel. He was similarly accompanied by two Pomeranian nobles.[101] We may note that Gryphius had met and become acquainted with Vondel in Leyden during the six years he spent there before travelling to Italy. Possibly it was he who drew the attention of the Dutch poet to Kircher's activities.[102]

In Rome, Gryphius visited the various galleries and gardens, inspected the catacombs, marvelled at the park-like Aldobrandini estate and, on the first day of March, visited Tusculanum and Tivoli. The Silesian poet and dramatist did not remain immune to the charm that Rome has exercised on so many of his compatriots. Already in France and Florence, Gryphius had begun to appreciate the aesthetic value of beauty alone, and here in Rome, the skilful combination of Classical proportion and Renaissance architecture showed to perfection the synthesis of the Baroque cosmos.[103] It is possible that Kircher introduced Gryphius to Jesuit dramatic performances in the Collegium Romanum or in the German College.[104] If this is so, one of the pieces they might have seen together could well have been the recent 'Leo Armenus sive Impietae Punita', written the previous year by the English Jesuit Fr Joseph Simon (1595–1671) in Rome.[105]

At this time too Kircher was friendly with the hot-blooded traveller and self-elected courtier Pietro Valle, whose letters to Kircher are discussed in Chapter 10. Both the Jesuit and the Italian shared the same patron, Cardinal Francisco Barberini, and an interest in oriental languages, a preoccupation which became a debt when Kircher used Valle's papers and manuscript documents in the compilation of his *Lingua aegyptiaca restituta*. Although Valle was displeased at the way Kircher handled his oriental materials, it has been suggested that Kircher introduced the Italian traveller to Gryphius.[106] More certain is the fact that Gryphius based much of his *Katharina von Georgien* on

---

[101] See article on Gryphius by H. Palm, in *Allgemeine Deutsche Biographie*, vol. 10, p. 75.

[102] Their relationship is discussed in W. Flemming, 'Vondels Einfluss auf A. Gryphius', *Neophilologus* 13 (1928): 266ff.

[103] W. Jockisch, 'Andreas Gryphius und der literarische Barock', *Germanische Studien* 89 (1930): 30.

[104] This view is held by Flemming in *Andreas Gryphius und die Bühne*, p. 69.

[105] Gryphius' keen interest in the Jesuits and their literary excursions is described in V. Manheimer, *Die Lyrik des A. Gryph*, pp. 139–140.

[106] L. Pariser, 'Quellen zu Gryphius' "Katharina von Georgien"', *Zeitschrift für vergleichende Literaturgeschichte* 5 (1892): 212.

Valle's account of his wanderings in this country.[107] Curiously, there is no mention of either Valle or Kircher in Gryphius' notes to this tragedy.[108]

We must, however, be careful not to over-emphasize Kircher's influence on Gryphius. At that time, early 1646, the Jesuit was busy in completing his compendium on light and colour, the *Ars magna lucis et umbrae*.[109] He was also a recognized authority on the magnet (*Magnes, sive de arte magnetica*), had written two Egyptological works and was in the throes of preparing his massive *Oedipus Aegyptiacus*. Although Gryphius himself had a lively interest in magnetism, anatomy and kindred natural sciences, his attention was most gripped by Kircher's oriental exercises. We find this best illustrated by the only reference Gryphius makes to the Jesuit in his own dramas. Both of these notes ('Erklärung etlicher duncklen Oerter') occur in the Silesian dramatist's *Leo Armenius*, and both refer the reader to Kircher's *Oedipus Aegyptiacus* for further details,[110] a device which Gryphius justifies by reporting 'von diesem . . . handelt weitläufig Kircherus'.

The only other reference to the Jesuit in the whole of Gryphius' works is, as might be expected, in the *Mumiae Wratislavienses*, Gryphius' account of the unwrapping of two Egyptian mummies in Breslau five years previously. Kircher and his *Oedipus aegyptiacus* are mentioned frequently in this small octavo treatise and usually are treated with deference and respect. At one point,[111] however, Gryphius accuses the Jesuit of plagiarism from Giovanni Nardi's Lucretian *Commentationes*.

After leaving Rome, Gryphius seems to have had no further contact with the Jesuit: there are no letters preserved from him among Kircher's Roman correspondence. Neither do we find references to Gryphius or his activities among Kircher's Silesian correspondents. The exchange of letters between Kircher and Gryphius, so readily assumed and postulated by Gryphius' biographers, seems to have no

---

[107] *Delle conditioni di Abbas Re di Persia*.

[108] See Gryphius, *Catharina von Georgien*.

[109] Possibly this fact influenced R. Newald's statement in H. de Boor and Newald *Geschichte der deutschen Literatur*, vol. 5, s.v., that Gryphius visited Kircher in Rome to 'etwas lernen über die Symbolik der Farben und Töne. Solche Eindrücke führten aus der Regelenge von Opitz in freiere Gefilde'.

[110] See *Leo Armenius*, Act IV. II, 81, 109; cf. H. Palm, *Andreas Gryphius: Trauerspiele*, p. 131.

[111] Gryphius, A., *Mumiae*, pp. 14–15.

foundation in fact.[112] We may assume, without deprecating the interest of the meeting between poet and scholar, that for both concerned, the encounter was little more than an everyday incident.

Gryphius was not the only German literary figure to visit Rome during Kircher's residence there. Other poets who gained inspiration in the Eternal City were Hofmann von Hofmannswaldau in 1641 and Assmann von Abschatz in 1668.[113] Neither poet seems to have met Kircher, although Hofmannswaldau came into close contact with Lucas Holstenius, later Vatican Librarian and correspondent of Kircher, and the French polyhistor Gabriel Naudé, both of whom enjoyed the patronage of Cardinal Francisco Barbarini.[114]

Another German lyricist who visited Rome was the friend of Harsdörffer and Klaj, Sigmund von Birken (1626–1681), who came in the retinue of Christian Ernst, Margrave of Brandenburg, and later published his 'Reis-Diariis' under the impressive title of *Hochfürstlicher Brandenburgischer Ulysses*. Birken describes meeting Kircher 'auch ass Teutschland von Fulda buertig' and inspecting in the Collegium Romanum 'H.P. Kircheri Kunstkammer'. This was on 12 February 1661.[115] The attitude of several of their Roman hosts, especially of the more eager Jesuits, led Birken to discourse: 'wiewol man/der Religion halber/in Rom keine Gefahr oder Anfechtung zu fürchten hatte'[116] on the ready attempts at conversion frequently made. The tone of those remarks was to displease Kircher, who in a letter written in 1672 to Vitus Erbermann, noted frostily 'a story by a writer of trivialities, or a widely read nobody, or a Brandenburg Ulysses'.[117] This is, moreover, the only reference made to Birken by the German Jesuit.

Another class of German literary figures whom Kircher was to meet but upon whom he exerted little influence was his fellow Jesuits, whom we remember today chiefly for their poetic and dramatic legacies. In some cases, however much we may presume a personal meeting, definite evidence is missing.

---

[112] See Manheimer, *Die Lyrik des A. Gryphius*, p. 139; H. Powell, *Carolus Stuardus*, p. LXII; K. Viëtor, 'Vom Stil und Geist der deutschen Barockdichtung'. In R. Alewyn, *Deutsche Barockforschung*, pp. 38ff.

[113] F. Noack, *Das Deutschtum in Rom*, vol. 1, p. 113.

[114] J. Ettlinger, *Christian Hofmann von Hofmannswaldau*, p. 31.

[115] Von Birken, *Hochfürstlicher Brandenburgischer Ulysses*, p. 124.

[116] *Hochfürstlicher Brandenburgischer Ulysses*, p. 126.

[117] (Rome, 7 February 1672), this letter being included in Langenmantel's *Fasciculus epistolarum*, p. 97.

Friedrich von Spee, for example, visited the same colleges in Germany as the young Kircher. In 1622 he was in Mainz (Kircher 1624–1628), in 1623 in Paderborn (Kircher 1618–1622), in 1626 in Speyer (Kircher 1623), in 1627 in Würzburg (Kircher 1629–1631) and in 1628 he was in Cologne (Kircher 1622–1623).[118] The only occasion they were definitely together, in Fulda in 1611, was when Kircher was still a schoolboy. As Jesuits, they were both to experience similar trials: in 1629 Spee was tortured and almost killed by a bunch of hostile Protestant mercenaries,[119] while in 1627 he was compelled to witness the savage witch-hunts in Würzburg[120] under the promptings of the Bishop, Philipp Adolf von Ehrenberg, which were still being pursued unabated when Kircher arrived there in 1629. There is no mention of Kircher in Spee's works but we must bear in mind that even at the poet's death in 1635, Kircher's European fame was still embryonic.

Simon Rettenbacher (1636–1706) was another priestly poet who probably met Kircher: the Austrian was sent to Rome in 1664 to continue his studies in oriental philology. Here he became acquainted with Leo Allacci and immersed himself in the study of Hebrew and Arabic. He eventually became the librarian of his convent and referred to this activity as his 'Verkehr mit den Toten'.[121] His interaction in Rome with various scholars is said to have further perfected his poetry.[122] Despite his familiarity with Roman archives and his growing command of languages such as Arabic and Persian, Rettenbacher remained a proud supporter of the German tongue.[123]

A poet of far greater significance whose name has been linked with Kircher was Johann Scheffler (1624–1677), better known as Angelus Silesius, a mature poet of great mystic beauty and theosophic clarity who became a convert to the Roman Church in 1653 and eight years later took his vows as a priest. Kircher remains unnoted in his poetry,[124] but the eminent and usually reliable authority R. Fülop-Miller reports

---

[118] A. Baldi, *Die Hexenprozesse in Deutschland*, pp. 13–15.

[119] I. Ruettenhauer, *Fr. v. Spee*, pp. 7–8.

[120] T. Ebner, 'Fr. v. Spee und die Hexenprozesse seiner Zeit', *Sammlung gemeinverstandlicher wissenschaflicher Vorträge* 13 (1898): 77–126.

[121] R. Newald, *Die deutschen Gedichte Simon Rettenbachers*, p. 14.

[122] Newald, *Die deutschen Gedichte Simon Rettenbachers*, p. 18.

[123] T. Lehner, *Simon Rettenbacher*, p. 30.

[124] Scheffler did, however, know of Kircher through his friendship with Franckenberg, whose death and career he described in a letter to Georg Betkinn (28 November 1652) where he mentions Franckenberg's 'fleissige Correspondenz mit vielen gelehrten Leuten absonderlich Athan. Kircher'; see H.L. Held, *Angelus Silesius*, vol. 1, p. 123.

that Scheffler was first attracted to the Roman faith through his friendship with Kircher.[125] Unfortunately there seems to be little authority for this statement.[126] Certainly the two men, scholar and mystic, never met; there are no letters from Scheffler to Kircher preserved in Rome, nor do we find any reference to the Silesian in any of the Jesuit's other correspondence. Possibly Fülop-Miller confused Scheffler with the young Silesian Protestant Andreas Schaffer, whom Kircher did help to convert and with whom he later corresponded. Possibly, too, the same Jesuit authority was thinking of another of Kircher's correspondents, Judocus Kedd, a powerful preacher who in turn helped in Scheffler's conversion. There would, however, appear to be no ready solution to this mysterious and intriguing reference.[127]

Two other Jesuit dramatists and poets of this period, whom Kircher almost certainly knew of and whom he possibly met, were Jacob Balde (1604–1668) and Nicolaus von Avancini (1612–1686). Balde lectured in Ingolstadt and later preached in Munich (in both cities Kircher had a number of correspondents), while Avancini spent his last few years in Rome itself. Unfortunately a search through their works proves fruitless, despite such outwardly promising works as Avancini's *Poesis Lyrica*, which consists for the most part of poems dedicated to leading personalities (mostly Austrian) of the day. Avancini's patron in Vienna had been Leopold I, another of Kircher's more august correspondents and recipient of various musical and antiquarian gifts.[128] According to one assessment, Leopold and Kircher shared a relationship which stood 'man darf wohl sagen auf freundschaftlichem Fusse'.[129] Despite such cordial bases, Kircher failed to make contact with any of the outstanding literary figures at that time in Vienna, a group which included both Avancini and the satirical figure of Abraham à Sancta Clara (1644–1709).

Before we return to discuss Kircher and the novelists of the Baroque, we may note that the German poet Johann Rist (1607–1667) makes a

---

[125] R. Fülöp-Miller, *The Power and Secret of the Jesuits*, p. 420.

[126] P. Wittmann, *Angelus Silesius als Convertite*; R.V. Kralik, *Johannes Scheffler als katholischer Apologet und Polemiker*.

[127] See A. Kahlert, *Angelus Silesius*; A. Treblin, *Angelus Silesius*; C. Seltmann, *Angelus Silesius und seine Mystik*.

[128] In describing Leopold's operas, masques and their musical presentation, J. Nadler adds that 'der grosse Mathematiker Athanasius Kircher war Maschinenmeister', in his *Literaturgeschichte der deutschen Stämme und Landschaften*, vol. 3, p. 22.

[129] J.W. Nagl and J. Zeidler, *Deutsch-österreichische Literaturgeschichte*, vol. 1, p. 668.

reference to Kircher, 'dem welt-berümten Jesuiten', in one of his prose works.[130] Rist discusses Kircher's *Musurgia* 'seinem unvergleichlichen Buche' and remarks on Kircher's musical reproduction of the cuckoo's call: 'worinn er auch beweiset/dass der dumme Kuckuck/auch seiner Art einen zimlichen Musicum gebe'.

It is, of course, hardly surprisingly that Kircher's influence on the German poets of his generation should have been so meagre. Even when the Jesuit corresponded with poets of other nations, such as Francesco Redi of Italy,[131] Vitus Bering of Denmark and Sophianna Bernhardi of Poland, their letters dealt with anatomy, classical texts and the supervision of travelling sons rather than with iambs and poetic similes. Kircher, the polyhistor, was utilised more by the novelists of this period, a group themselves with strong polymath tendencies, whom Eichendorff was later to characterize as 'tollgewordene Enzyklopädisten'[132] and who could only admire a man similar to that described by Hagedorn:[133]

> Was ihn bemüht, verherrlicht und ergötzt,
> Sind weder Pracht, noch Kriegs- und Staatsgeschäfte:
> Es ist ein Buch, das Er Selbst aufgesetzt.
> Es ist ein Schatz von Ihm beschriebener Hefte.
> Ein Kupferstich, der Ihn mit Recht entzückt,
> In dem Er sich, mit Ruhm verbrämt[134] erblickt.

We find an incidental reference to Kircher in one of the peculiar supplements added by Hans Jakob von Grimmelshausen to his *Abentheurliche Simplicissimus* (1669), possibly the only true German novel of the seventeenth century. This additional work is his *Rathstübel Plutonis oder Kunst Reich zu werden*, published in 1672.[135] The Kircherian reference occurs in his instructions on how best to enjoy every aspect of life, especially through the senses: after informing the

---

[130] J. Rist, *Die aller edelste Belustigung Kunst*, p. 187.

[131] This friendship earns for Kircher a reference in Baumgartner, *Geschichte der Weltliteratur*, vol. 6, p. 470.

[132] Quoted in H. Koernchen, *Zesens Romane*, p. 164.

[133] F. von Hagedorn (1708–1754), 'Der Gelehrte'. In *Bibliothek der deutschen Klassiker*, p. 537.

[134] This picture is appropriate: Kircher's own portrait, which stood as frontispiece to his later works, bore the device, composed by James Gibbs, an English doctor resident in Rome: 'Frustra vel Pictor, vel Vates dixerit, HIC EST: Et vultum, et nomen terra scit Antipodum'.

[135] See F. Bobertag (ed.), *Deutsche Nationalliteratur*, vol. 35, s.v., 'Simplicianische Schriften', pp. 30ff.

reader of the benefits to be gained by the proper use of one's ears (this includes the advice 'so vergesse nicht, neben dem Trompeten, die Lermen blauen, auch das grob Geschütz darunter donnern zu lassen'), Grimmelshausen proceeds: 'Willst du aber den Augen auch neben den Ohren ein extraordinäre verwunderliche Ergetzung machen, wie bei den Comödien zu geschehen pflegt, so lasse dir Athanasii Kircheri seltzame Erfindungen in Natura zurichten, welches dir den Beutel mehr räumen als Schmaltz auf die Suppe schaffen wird'.[136]

A second novelist who read[137] Kircher was Philipp von Zesen (1619–1689), founder of the *Deutschgesinnte Genossenschaft*, a literary association whose members included Harsdörffer, von Birken and Vondel.[138] It was soon succeeded both by Johann Rist's *Elbschwanenorden* (Hamburg) and Harsdörffer's more famous *Der gekrönte Blumenorden* or *Regnitzer Hirtengesellschaft* (Nürnberg). Zesen, who was to call Kircher elsewhere 'maximus Kircherius' and 'the Phoenix of the learned men of this century',[139] was less interested in his inventions than in his Egyptological writings. The author of the *Adriatische Rosemund*, he usually completed his novels by a judicious selection of 'kurtzbuendige' observations and notes in the learned fashion of his day. In one of these novels, *Assenat* (1670), the text covers 344 pages, the concise notes another 188. Moreover, Zesen, in the Preface, recommends the reader to peruse the notes first.[140]

In both *Assenat*, which is the story of Joseph in Egypt, and the later *Simson*, we find extensive references to Kircher's writings. These are mostly derived from the *Oedipus aegyptiacus* and the *Obeliscus Pamphilius*. Usually the allusions themselves are annotated and developed in turn by Zesen. Often two passages from Kircher are translated and

---

[136] Bobertag (ed.), *Deutsche Nationalliteratur*, vol. 35, p. 334.

[137] According to W. Beyersdorff, Kircher was personally acquainted with Zesen, a view that is difficult to substantiate: *Studien zu Philipp von Zesens biblischen Romanen 'Assenat' und 'Simson'*, p. 21.

[138] K. Dissel, *Philipp von Zesen*, p. 58.

[139] In Zesen's *Coelum astronomico*, pp. 253, 377.

[140] *Assenat*, Foreword, p. vii: 'Ja darum ist mein raht / dass man solche Anmerkungen zu allererst lese. Dan wan man diese wohl gefasset / wird man die Geschichtsverfassung selbsten mit grösserem nutzen so wohl / als verstande / lessen'. Elsewhere, Zesen adduces a second reason: 'Nicht zwar der Scharfsichtigen wegen: denen ein kleiner Schein genung ist: sondern der schwachen und blöden Gesichter wegen: denen die Macht und Kühnheit / samt der Kunst und Wissenschaft alles zu sehen gebricht': *Simson*, Foreword, p. ii.

inserted in the actual text.[141] It would be wearisome, not to say pointless, to collect and attempt to explain those liberally sprinkled notes: we would learn nothing further than Kircher's views on Egyptian architecture, dress, social customs and geography, information which is readily available in Zesen's source, the *Oedipus aegyptiacus*.[142]

Other seventeenth-century novels on oriental subjects, such as Heinrich von Zigler's *Die asiatische Banise*, Anton Ulrich of Brunswick's *Die durchleuchtige Syrerin Aramena*,[143] are, curiously, devoid of Kircher references. A more fruitful novelist, from this somewhat restricted point of view, was Eberhard Werner Happel (1647–1690), a reference from whom is recorded below. Moreover, although the novelist Caspar von Lohenstein failed to record any obligation to Kircher in his footnotes to his novel *Großmüthiger Feldherr Arminius oder Hermann*, he did turn to the Jesuit in the search for material to use in several of his dramas. Once again we note that the works used were the *Oedipus aegyptiacus* and the *Obeliscus Pamphilius*; on one occasion, however, in referring to the Rivers Niger and Tigris, Lohenstein cites the *Mundus subterraneus*.[144]

We may note those observations in Lohenstein's *Ibrahim Sultan*, a terrifying volume on the outrages perpetrated in the court of the Sublime Porte, in his Roman tragedies *Agrippina* and *Epicharis*, and finally in the Silesian dramatist's *Sophonisbe*. Lohenstein's notes are less cumulative and more concise than those so thoughtfully provided by Zesen and are, in consequence, true notes in the present sense of the term. Lohenstein, who also notes the relation of Pietro Valle's travels,[145] draws on Kircher for information concerning among other things, the Turkish goddess of Love, Assik,[146] and the metamorphosis of the Babylonian Semiramis into a dove,[147] for a summary of topical research into the source of the Nile,[148] and for the Phoenician word for the moon.[149] Unlike Zesen, he restricts himself merely to the Jesuit's

---

[141] Koernchen, *Zesens Romane*, p. 128.
[142] Similar passages are compared and contrasted by Beyersdorff.
[143] *Aramena* had 3882 pages; *Die römische Octavia*, similarly empty of Kircher quotations, ran to 6927 pages.
[144] See Lohenstein's *Ibrahim Sultan*, I. 1, p. 9 note.
[145] *Ibrahim Sultan*, Nothige Erklar- und Anmerckungen zum Vorredner, I. 4. p. 9.
[146] *Ibrahim Sultan*, II 1, p. 455.
[147] *Agrippina*, III 1. 314. This tragedy has fourteen notes referring to Kircher.
[148] *Epicharis*, II. 1. 70. Two notes.
[149] *Sophonisbe*: I. 381. Sixteen notes.

name and refrains from expressing any opinion on the value and eminence of Kircher's works.

With this dramatist we conclude our summary of Kircher and his restricted influence on Baroque literature in Germany. Lohenstein's academic use of Kircher and the Jesuit's subsequent relegation to footnotes is an illustrative pointer towards an extension of the same process that occurred throughout the eighteenth century. Inevitably, after Kircher's death in 1680 and with the gradual disappearance of most of his works from the academic scene, his influence on German literature, which had never been great, waned into virtual anonymity. The Age of Reason and Enlightenment found little of interest in the Jesuit's cumbersome folios, and yet his memory was not entirely obliterated. There were notable exceptions in several of the great literary figures of the eighteenth century who were to read and comment on Kircher's works.

There are two references to Kircher in the work of Heinrich Lindenborn, a devout Protestant and staunch enemy of the Jesuits,[150] a fact that accounts for Kircher's dishonourable presence in the poet's printed works. Lindenborn's hatred of the Order was nurtured in his schooldays under Jesuit supervision in Cologne from 1719 to 1722. Curiously, Lindenborn, who was later to produce in his *Tochter Sion* a collection of religious songs which was to supersede the Jesuits' own Rhenish *Geistliches Psalterlein*, hesitated for a while in deciding not to become a Jesuit.

Lindenborn's feelings against the Society led him to condemn Friedrich von Spee's *Trutznachtigall*, in ironic tone as, 'den rechten Wetzstein eines poetischen Geistes', although his own poems and songs are frequently composed in a strikingly similar way.[151] He used the effective weapon of ridicule to attack Kircher's reputation. In his principal prose work he travesties the Classical notion of the Muses at play on Mount Parnassus and introduces,[152] in vicious buffooning roles, figures such as Pythagoras ('Wärter eines Vogelkäfigs'),[153] Father Martin von Cochem ('Ober-Seufzer-Vorscheider')[154] and Molière

[150] See K. Beckmann, *Heinrich Lindenborn*.
[151] R. Gieseler, *Die geistliche Lieddichtung der Katholiken*, p. 121.
[152] *Der die Welt beleuchtende cöllnische Diogenes*, vol. 2: Beleuchtungen, pp. 1–22.
[153] *Welt beleuchtende*, p. 360.
[154] *Welt beleuchtende*, p. 135.

('Pastetenzerleger').[155] Kircher is found presiding over this incongruous assembly as the 'Narrenpromotor'.[156] Here too, Lindenborn is reminded of the *Mundus subterraneus*, and ironically declaims, on Kircher's informal friendships, that he 'als ein ehrlicher Jesuit die natürliche Hauszauberei ziemlich verstehe, und der sich in der unterirdischen Welt und folglich im Reiche der Teuffeln eine besondere Bekanntschaft erworben habe'.[157] Fortunately for posterity's view of Kircher's spiritual and personal integrity, Lindenborn's personal opinion of the Jesuit's character seems to have enjoyed a very limited currency.

Of more importance than Lindenborn is the poet and encyclopaedist Albrecht von Haller (1708–1777), author of the nature-seeking *Die Alpen* (1734) and a leading contemporary anatomist, pharmacologist, linguist, and polyhistor. Haller, who briefly referred to Kircher's medical works in 1774 without comment,[158] gave his considered opinion of the Jesuit just before his death: 'a German, who lived in Rome, a curious collector of natural objects and machines and other curiosities, [who was] too readily inclined to form uncritical opinions'.[159] In the same passage, he describes two of Kircher's most famous works. His tone—no one can doubt his authority—is mild and encouraging, although a gentle irony permeates his verdicts. Of the *Scrutinium* he records that it contains 'experiments which the good fellow thinks he has done', while the *Magnes* he classes as 'a good little book if it were not spoilt by credulity'.[160]

Before we describe references made to Kircher by Lessing and Herder, we must note briefly the opinion of Kircher held by J.J. Winckelmann (1716–1768), the single-minded and obdurate scholar whose Hellenism became one of the foundation stones of the aesthetic structure of the century. Unfortunately Winckelmann found little of value in the Jesuit's Egyptological and historical works. Already in 1755,[161] the Prussian critic declared that 'Die Erklärung der Hieroglyphen ist zu unsern Zeiten ein vergebener Versuch' and that Kircher,

---

[155] *Welt beleuchtende*, p. 105.
[156] *Welt beleuchtende*, p. 278.
[157] *Welt beleuchtende*, pp. 277–278.
[158] Von Haller, *Bibliotheca anatomica*, vol. 1, p. 424.
[159] Haller, *Bibliotheca medicinae practicae*, vol. 2, p. 672.
[160] *Bibliotheca medicinae practicae*, p. 673.
[161] C.L. Fernow (ed.), *Winckelmanns Werke*, vol. 2, p. 447.

in his *Oedipus*, though 'voll von tiefer Gelehrsamkeit', had contributed very little to the science. The following year he mentioned disapprovingly various 'Kirchersche Muthmassungen' on the admixture of Greek and Coptic[162] and derided Kircher's attempts to decipher the hieroglyphs:[163] 'und sucht auf dieselbe ein neues Gebäude aufzuführen, welches er durch ein paar Ueberbleibsel von eben der Art zu unterstützen vermeinet'.[164]

We must note, however, that Winckelmann, in his role of art historian, did not reject Kircher's *Oedipus* completely.[165] Among the Winckelmann manuscripts in Paris are to be found several sheets containing extracts from the Jesuit's work, notes made by Winckelmann during his stay in Rome and entitled 'Miscellanea Romana Inchoata mense Nov. 1757'.[166] Yet although he had himself noted Kircher's work and those by other antiquarians such as Fabretti, Cuper and Spanheim,[167] the German critic did not hesitate, in his great *Geschichte der Kunst des Alterthums*, to censure the reproductions of Egyptian monuments in such works, for, he declaims, 'an den Figuren beym Boissard, Kircher und Montfaucon findet sich kein einziges von den angegebenen Kennzeichen des ägyptischen Styls'.[168] In the same passage he notes an erroneously ascribed Egyptian statue in Kircher's *Oedipus*[169] and, warned by this example, stresses the value of first-hand examination.[170]

Kircher's appearance in the footnotes of random eighteenth-century texts was not restricted to the works of von Haller and Winckelmann. He is also mentioned, briefly and rarely, by the most formidable trio of the eighteenth-century literary scene, Lessing, Herder and Goethe. In

---

[162] 'Nachricht von einer Mumie', in *Winckelmanns Werke*, vol. 1, p. 124.

[163] 'Nachricht von einer Mumie', p. 122.

[164] Winckelmann returns to this unfortunate aspect of Kircher's work in his 'Vorläufige Abhandlung von der Kunst der Zeichnung alter Völker'; see *Winckelmanns Werke*, vol. 7, p. 113.

[165] Winckelmann also visited the Kircher Museum several times during 1758; see C. Justi, *Winckelmann und seine Zeitgenossen*, vol. 2, p. 148.

[166] See A. Tibal, *Inventaire des manuscrits de Winckelmann*, p. 122.

[167] Winckelmann patently distrusted other writers: in July 1758, we find him warily stressing, in a letter to Bianconi, that details of 'l'Apotheosi d'Omero' are taken 'sulla fede di Kirchero…e Cupero': W. Rehm (ed.), *Briefe von Winckelmann*, vol. 1, p. 386.

[168] In Book 2: 'Von der Kunst unter den Aegyptern': see Fernow (ed.), *Winckelmann's Werke*, vol. 3, p. 85.

[169] Winckelmann had already described this discrepancy in a letter written to his friend Stosch from Rome, 10 April 1761: W. Rehm (ed.) *Briefe von Winckelmann*, vol. 2, p. 137.

[170] See Fernow (ed.), *Winckelmann's Werke*, vol. 3, p. 86.

the case of the first two writers, their interest, as with Winckelmann, was focused chiefly on the Jesuit's Egyptological writings; for Goethe, Kircher appeared more as a writer on the natural sciences.

Lessing's references to Kircher are limited to the miscellaneous jottings he made on subjects as varied as Torquato Tasso and macaronic poetry and entitled *Kollektaneen zur Literatur*.[171] Curiously, though, in a similar compilation devoted to an alphabetic consideration of various early scholars and their works, all reference to Kircher is omitted. This is his *Zur Gelehrtengeschichte und Literatur*.[172] The treatment accorded to Kircher by Lessing is, on the whole, sympathetic: in Lessing's fragmentary description of the Bembinian Tablet, *Fragment über die Isische Tafel*,[173] the German dramatist quotes extensively from Kircher's *Oedipus aegyptiacus*[174] and, in a passage on the present whereabouts[175] of this 'tabula Isiaca', appears to prefer the Jesuit's explanation to that of Winckelmann.[176] The first two sections of Lessing's essay are drawn exclusively from Kircher; these are on the history and the age of the monument, while in the third, 'Von ihren Auslegern', Lessing distinguishes the Jesuit's treatment of the tablet as 'weit kuhner' than any other authority's version.[177]

In the *Kollektaneen*, Lessing briefly mentions Kircher's *Magnes* and its treatment of disease by magnetism: apparently the German critic and dramatist failed on this occasion to be impressed by Kircher's medical perspicacity, since he notes, on Kircher's remedies,[178] 'worunter er aber doch mehr die magnetischen Kräfte der Arzneyen, als die Arzneykräfte des Magnets versteht'.[179] Elsewhere, in the same work, Lessing describes Kircher's 'Sigillum Saturni' by means of which the horizontal, vertical and diagonal lines of a square, formed out of

---

[171] These mainly scientific notes were edited and published by J.J. Eschenburg in 1790, in two volumes. They are also to be found in K. Lachmann (ed.), *Lessings sämmtliche Schriften*, vol. 11, pp. 291–558.

[172] *Sämmtliche Schriften*, pp. 367ff.

[173] *Sämmtliche Schriften*, pp. 266–273.

[174] *Oedipus aegyptiacus*, III, p. 80.

[175] See in Winckelmann, *Geschichte der Kunst des Alterthums*, 1764, pp. 45, 58.

[176] Lessing later described coming across this tablet, in the university library at Sassari in Sardinia, on 26 August 1675: *Tagebuch der Italienischen Reise*, in *Sämmtliche Schriften*, vol. 11, 6, p. 31.

[177] *Sämmtliche Schriften*, p. 271.

[178] Lessing quotes Kircher's remarks on the magnet's soothing influence on nervous disorders, on the 'nervorum dolores' which he found in the *Magnes*, III. III, ch. 1, p. 534.

[179] Lachmann (ed.), *Lessings sämmtliche Schriften*, vol. 11, p. 451.

nine smaller squares containing the numbers one to nine, inevitably and invariably add up to nine. That Lessing should note this example of cabbalistic numerical juggling is of interest: Kircher himself quotes this device in his *Oedipus*, and later in the *Arithmologia*. Such an order of numbers was first noted by Paracelsus, a fact acknowledged by Kircher on the fly-page of the *Polygraphia nova* presented by him to August, Duke of Brunswick-Lüneburg, where we also find a reproduction of the same numbers, surrounded by a circular legend reading 'Theophrastus von Paracelsus'.

The friendly tolerance displayed by Lessing towards Kircher's dreams of deciphering the hieroglyphs was not shared by Goethe's early friend and mentor, Johann Gottfried Herder, who came across the *Oedipus aegyptiacus* while in Strassburg.[180] Herder rejected wholeheartedly Kircher's visions of salvaging the lost wisdom of the East from the hitherto inscrutable hieroglyphs. In his *Auch eine Philosophie* he ironically remarked on this and similar attempts: 'bald die Aegypter zu alt gemacht, und aus ihren Hieroglyphen, Kunstanfängen. Policeiverfassungen, welche Weisheit geklaubt?'[181]

In the same year, Herder published his *Aelteste Urkunde des Menschengeschlechts* and here his sneers at the Jesuit's unsuccessful but honest attempts became more open. In one place he expresses his longing to see 'eine würkliche, ächte, alte Hieroglyphe',[182] a piece of unnecessary irony, since Kircher's works did indeed contain accurate representations of Egyptian hieroglyphs. In the same sentence, Herder talks of 'Kircherische Träume und Warburtonische Hypothesen'. Twice in this same work, in the section entitled 'Aegyptische Götterlehre', Herder couples Kircher's name with that of Huet, and both times stresses the unreliability of the Jesuit's work. Herder made merry at this point at the expense of earlier pioneers in the field of Egyptian studies and lumped indiscriminately together the varied honest efforts that had helped to spread in Europe a first-hand knowledge of the hieroglyphs: 'und die gelehrten Männer, Kircher und Huet auch fast so etwas in einer Symbole sahen, worum wieder andre gelehrte Männer Dom Martin, Clayton, Herwart, Pflug, Wanne und Kompass entdeckten'. Of their endeavours, Herder aphoristically concludes: 'Ein

[180] See B. Suphan, *Herders sämmtliche Werke*, vol. 6, p. 523 note 289.

[181] *Sämmtliche Werke* p. 26. A laconic footnote refers at this point to Kircher, D'origini. Blackwell usw.

[182] *Aelteste Urkunde des Menschengeschlechts*, p. 106.

Punkt woran sie spannen, war immer Wahrheit: und alles, was sie spannen, war Traum'.[183] In the same section, in attempting to summarise the Egyptian pantheon, Herder remarks—and again one wonders at the unnecessarily jibing style—'Ich bin weder Kircher noch Huet, und leite nichts her. Ich zeige nur, und was sich nicht von selbst durchs blosse Zeigen ergibt, lasse ich ruhig stehen'.[184] It seems that Herder felt that Kircher had made wilful fabrications.

The last reference to Kircher in this work is more justified. Herder expresses the idea that perhaps, after all, the Egyptian obelisks and other inscribed monuments were not the repositories of divine wisdom Kircher thought they were. In this, Herder follows Leibniz (*Accessiones historicae*) and precedes Zoega (*De origine et usu obeliscorum*). His remark has a certain judiciously ironic flavour: 'mit eben so vielem Recht hatte Kircher die Geheimnisse des Jesuiterordens an den Pyramiden lesen können, als die Geheimnisse Aegyptens. Geheimnisse schreibt man nicht an Thurm und Wände'.[185] Herder returned to his derogatory 'Kirchersche Träume' for a brief moment some fifteen years later when giving a reference for the work most suitable on the early origin of speech:[186] 'Die beste Schrift für dise noch zum Theil unausgearbeitete Materie ist Wachteri naturae et scripturae concordia[187] die sich von der Kircherschen und so viel andern Träumen, wie Alterthumsgeschichte von Märchen unterscheidet'. Herder refers here to Kircher's views, admittedly a little ingenuous, on the production of sound, contained in his *Musurgia* of 1650. More alarming than Herder's academic disagreement is the fact that he seems perfectly ready to use his expression 'Kirchersche Träume' in a manner that is more generic than specific. It is perhaps fortunate, at least as far as the Jesuit's ragged reputation was concerned, that Herder made no more academic references to his works.

Herder's prejudice is more than balanced by the active and friendly interest taken in Kircher's works by Goethe, whose sphere of universality embraced Kircher more as a scientist and antiquarian than as an Egyptologist.[188] Goethe seems, moreover, to have taken an early

---

[183] *Aelteste Urkunde*, p. 185.
[184] *Aelteste Urkunde*, p. 198.
[185] *Aelteste Urkunde*, p. 267, in a section entitled 'Aegyptische Denkmale'.
[186] Lessing, *Abhandlung über der Ursprung der Sprache*.
[187] *Ursprung der Sprache*. p. 19.
[188] In a letter to Carl Casar von Leonhard, on 21 October 1821, however, Goethe remarks: 'Die terminologie, genirt mich gar nicht. Worte muss man ohnehin zugeben,

interest in Kircher. In a letter, written at the age of twenty to Ernst Langer (who was to succeed Lessing in 1781 as the librarian at Wolfenbüttel), the young Goethe describes his current attempts at making useful contacts for his projected trip to Rome, 'pour me procurer des connaissances qui ne sont pas superficielles'. In this letter Goethe mentions also his precautions against writing too many pages with too little content, a fate which he declares to have befallen Kircher: 'et que je ne me garde de rien autant que de l'inconsiderata scriptio que le P. Kircher se reprocha trop tard après avoir écrit quarante ans'.[189] Goethe's source for this information remains unknown.

During the remainder of his long life, Goethe was chiefly influenced by Kircher's reference to the statue known as the Apotheosis of Homer, by the Jesuit's theories on subterranean water reservoirs and, most important of all, by Kircher's views on the theory of colours. Possibly Goethe's attention had been drawn by Winckelmann to the classical bust found during the early seventeenth century in Marino, which was commonly held to depict Homer himself. In his essay[190] on the statue, Goethe contests the Homerian attribution, and refers the reader to Kircher's depiction of the same find.[191] Similarly, in a letter to Peter Beuth in 1827, the ageing poet and scholar points to the writings of Kircher as being partly responsible for the inspiration of his essay.[192]

Although we know that Goethe was familiar with Kircher's vast *Mundus subterraneus*[193] and that in fact for a winter's day in 1825 the laconic entry in Goethe's businesslike diary reads 'nach Tische mundus subterraneus',[194] our main knowledge of Goethe's reaction to the work comes from a passage in his *Zahme Xenien*. Goethe's irony and amused understanding of the Jesuit's ingenious solution to the mediaeval hydrologist's nightmare are devoid of the carping criticisms

---

und da Sie vom Scheiden ausgehen, kann ich Ihr ent gar wohl vertragen. Alle die daraus entspringenden Zusammensetzungen erscheinen mir nicht halb so wunderlich als die Hieroglyphen von Kircher bis auf Belzoni': Goethe, *Werke*, Weimar edn., vol. 35, p. 165.

[189] H. Kindermann, *Der Rokoko-Goethe*, p. 351.

[190] Goethe, *Werke*, vol. 49, pp. 25ff.

[191] Kircher, *Latium*, p. 80.

[192] Goethe, *Werke*, vol. 43, p. 145, written from Weimar, 3 November 1827.

[193] *Werke*, vol. 13, p. 413; in the 'Paralipomenn' we find the note 'Kircheri synopsis mundi subterranei'.

[194] *Werke*, vol. 10, p. 16, entry for 9 February 1825. The work is not identified.

found in Herder and Winckelmann. These lines were written during the period of Goethe's renewed interest in the natural sciences:[195]

> Je mehr man kennt, je mehr man weiss,
> Erkennt man, alles dreht im Kreis:
> Erst lehrt man jenes, lehrt man dies,
> Nun aber waltet ganz gewiss
> Im innern Erdenspatium
> Pyro-Hydrophlacium,
> Damits der Erden Oberfläche
> An Feuer und Wasser nicht gebreche.
> Wo käme denn ein Ding sonst her.
> Wenn es nicht längst schon fertig war?
> So ist denn, eh man sichs versah,
> Der Pater Kircher wieder da.
> Will mich jedoch des Worts nicht schämen:
> Wir tasten ewig an Problemen.[196]

From February 1809, Goethe, who was now preparing Part II of his treatise on colour, *Zur Farbenlehre*, makes a series of references in his diaries to his study of and preoccupation with Kircher. Goethe's attention was principally held by the Jesuit's compendious *Ars magna lucis et umbrae* and the theories it contained.

Surprisingly, Goethe devoted five sessions to his study of Kircher before writing, in May 1809, to Eichstadt with a list of wanted books, headed by the *Ars magna*.[197] It seems that Goethe was for some reason anxious to see a second copy of the Jesuit's work (possibly a different edition) since already in March he had spent some time working on the Proemium to *Ars magna*.[198] Goethe found his own theories of the interdependence of colour and light and varying degrees of shade supported and extended by Kircher. He praised the Jesuit's 'lumen opacatum', which he interprets as 'Die Farbe selbst ist ein Schattiges'[199] and

---

[195] This resulted in, among other works, *Zur Naturwissenschaft überhaupt* (1817–1824) and *Zur Morphologie* (1817–1824).

[196] Goethe, *Werke*, vol. 3, p. 360. VI. II. 1722–1735. Several entries in Goethe's *Tagebücher* denote his serious consideration of Kircher. See, for example, the entry for 4 March 1809: 'Athanasius Kircher. Votum in der jenaischen Museumssache. Spatzieren bey Frau von Stein, wo ich die Prinzessin traf' (in Goethe, *Werke,* vol. 4 (*Tagebücher*), 1. 11).

[197] *Werke*, vol. 20, 3 May 1809.

[198] *Werke*, vol. 4, p. 14: entry for 3 March 1809.

[199] *Zur Farbenlehre. Didaktischer Theil.* VI. 69, p. 31; see Goethe, *Werke*, 2, vol. 2.

in the second, historical part of his treatise, goes on to quote extensively from Kircher's work.[200]

We are, however, less interested in Goethe's scientific view of Kircher's work (it may be summed up in Goethe's own words: 'zum erstenmal wird deutlich und umstandlich ausgeführt, dass Licht, Schatten und Farbe als die Elemente des Sehens zu betrachten')[201] than in his views of Kircher as a whole. Inevitably, Goethe comments on Kircher's 'zweideutiger Ruf'[202] and naïveté, of which he says, with an understanding rare in the eighteenth century, 'man könnte sie komisch nennen, wenn man nicht dabei ein treues Bestreben wahrnähme'.[203] Goethe appreciated Kircher's individual style and methods of presentation, an opinion he was well qualified to hold after examining over 40 treatises, from classical times to the end of the seventeenth century, in the second part of his *Zur Farbenlehre*. In this connection, Goethe writes of Kircher: 'soviel ist gewiss: die Naturwissenschaft kommt uns durch ihn fröhlicher und heiterer entgegen, als bei keinem seiner Vorgänger'.[204] Goethe's final words on Kircher's achievements are inevitably centred on the Jesuit's optical work. They possibly have a wider application, though to insist overmuch on their validity for all Kircher's works would be wrong: 'Wenn Kircher auch wenige Problems auflöst, so bringt er sie doch zur Sprache und betastet sie auf seine Weise'.[205]

After Goethe's sincere testimony to Kircher's worth and integrity, we come to Kircher's connections with the ballads of Friedrich Schiller.[206] There are reasonable grounds for supporting the statement that Schiller found valuable inspirational material in Kircher's works for two of his most famous ballads. These are, in fact, his 'Der Taucher' of 1797 and the longer, less celebrated, 'Der Kampf mit dem Drachen' of the following year. Schiller himself never referred to these sources as such, nor does he anywhere mention Kircher by name. Certain similarities, however, between an account in the *Mundus subterraneus*[207] and the

---

[200] See Goethe, *Werke*, 2, vol. 3, pp. 280–287.
[201] *Werke*, p. 280.
[202] *Werke*, p. 286.
[203] *Werke*, pp. 284–285.
[204] *Werke*, p. 286.
[205] *Werke*, p. 287.
[206] These were probably first noted by M.W. Gotzinger in *Deutsche Dichter*, pp. 163, 270.
[207] *Mundus subterraneus*, II, ch. 15, entitled: 'de inaequalitate fundi maris cui jungitur historia memorabilis supradicta confirmans', I, pp. 98–99. Subsequent versions, based on this, were: E. Francisci, *Ost- und West-Indischer*; E.W. Happel, *Relationes curiosae*.

story told in 'Der Taucher' seem to make Schiller's debt to Kircher—no doubt via some indirect intermediary—probable and obvious.

In the extract referred to, Kircher attempts to support his theory on the underground connections of various seas and lakes, by describing the life and death, in the time of King Frederic of Sicily of the wonderful diver Nicolas. This young Sicilian, commonly called Pesce, spent so much time in the seas around Sicily that weblike skin grew between his fingers and toes. He became renowned for his aquatic feats, and according to Kircher adopted the role of a marine courier between Sicily and the surrounding islands, carrying his letters in a leather purse. This fame caused him to be led into the presence of King Frederic during a royal visit to Messina. Frederic was delighted by the young swimmer's feats, and throwing a golden goblet into the boiling depths of the whirlpool Charybdis, challenged the diver to retrieve the costly object and, in so doing, explore the inner vortex of the seething waters. Nicolas plunged into the whirlpool to recover the goblet and, after three-quarters of an hour was 'expelled by force from the lowest depths of the vortex', 'brandishing with the hand of one triumphing over the sea the goblet that had been thrown into it'.

Upon his successful return from the deep, Nicolas was guided, weary and exhausted, into the king's palace. After rest and refreshment, he related to the king his awesome experience in the whirlpool.[208] Shuddering, he told of the roaring and buffeting, of the sharp rocks which he fortunately succeeded in avoiding, of the swirling, eddying water, of the sharks and octopuses. This last danger is described in rather more detail: Nicolas tells of giant tentacles and teeth sharper and more pointed than any sword or needle. When asked then how he had managed to find the goblet so quickly, Nicolas described how it had been tossed by the surging water currents into a cavity on the sheer side of the bottomless vortex: 'if it had descended to the bottom I could not have done so'. He remarks too on the difficulties caused by the poor light. When asked to dive for a second time, Nicolas at first refuses,

---

Authorities prior to Kircher are: A.de Alexandro, *Dies geniales*, [pt] II, ch. 21; T. Fazelli, *De rebus Siculis decades duae*, [pt] II, ch. 2. Both these accounts, are similar to, if less explicit than, Kircher's: Alexandro omits the king's name and lets his diver perish at the first attempt; Fazelli is more generous and drowns his hero at the third descent.

[208] Harford talks of 'the Ciceronian beauty of the whole speech in the original'; elsewhere he calls the whole extract 'the story, for which we must feel ever grateful to good Father Kircher': K.F. Harford (ed.), *Ballads of Schiller: No. 1. The Diver*, pp. 41, 68.

but then the diver's greed eventually overcame his fear. He vanished into the spray after a golden dish and a purse of gold coins. This time he failed to reappear.

In conclusion, Kircher reports that this story was related to him by the archivist of the royal records, presumably during the Jesuit's visit to Messina early in 1638, on his return from Malta to Rome. The similarities with Schiller's treatment of the legend are striking.[209] Admittedly the German poet increases the dramatic tension by including the offer—well established in literary tradition—of the hand of the king's beautiful daughter in reward. For similar reasons Schiller might well have omitted Nicolas' duck-like extremities. Both versions correspond textually to some extent:

| Kircher 1665 | Schiller 1797 |
|---|---|
| Rex auream pateram eo in loco projici jussit | Einen goldnen Becher werf' ich hinab |
| …suam fore pollicitam, si projectam referret… | Er mag ihn behalten, er ist sein eigen… |
| Jussus itaque Nicolaus in fundum se dimittere:<br>et quoniam aliquantulum regis imperio…<br>refragari videbatur… | Und die Ritter, die Knappen um ihn her<br>Vernehmen's und schweigen still… |
| ….adstantibusque magno cum desiderio<br>expectantibus… | Und es harrt noch mit bangem, mit schrecklichem<br>Weilen… |
| …magno ex imo vorticis fundo regurgitatus<br>impetu… | Entstürzt es brüllend dem finstern Schoosse… |
| Pateram projectam, manu triumphantis in<br>morem jactitans | Und hoch in seiner Linken<br>Schwingt er dem Becher mit freudigen Winken |
| Cum labore debilitatus… | Zu des Königs Füssen er sinkt… |

[209] J. Meyer chooses to regard Happel as Schiller's source: 'Zu Schiller's Kampf mit dem Drachen', *Archiv für das Studium der neueren Sprachen und Literaturen* 3 (1847): 232–237. H. Ullrich prefers Francisci's version: see his 'Zu Schillers Balladen', *Archiv für Literaturgeschichte* 9 (1879): 220ff.

(*cont.*)

| | |
|---|---|
| …lautoque prandio refocillatus somno<br>aliquantulum indulsisset… | Mit funkeledem Wein bis zum Rande… |
| Clementissime Rex! | Lang lebe der König! |
| Fluminis ex imis pelagi voraginibus ebullientis impetus | Du stürzt' mir aus Felisgtem Schacht<br>Wildfluthend entgegen ein reissender Quell… |
| …cui vix homo resistat… | Ich konnte nich widerstehen… |
| Scopulorum passim obviorum multitudo… | An spitzen Korallen.… |
| Pateram…intra quandam scopuli cavitatem<br>Reperisse, quae si in fundum descendisset,<br>Fieri non potuisse… | Und da hing auch der Becher an spitzen Korallen<br>Sonst war er ins Bodenlose gefallen… |
| …mare in eodum loco adeo profundem esse, ut<br>Cimmeriis pene tenebris ocules offundat… | In purpurner Finsterniss da |
| Ingentium polyporum greges…<br>summum mihi<br>Horrorem incutiebant.… | Das Auge mit Schaudern hinunter sah<br>Wie's von Salamandern und Molchen und Drachen<br>Sich regt'… |
| Et in vicinis scopulorum latibulis pisces<br>Atrocitate immanes, quos canes vocant, vulgo<br>Pesce cane, et triplici dentium ordine<br>Fauces instructus habent… | Schwarz wimmelten da, in grausem Gemisch<br>Zu scheusslichen klumpen geballt<br>Und drausend wies mir die grimmigen Zähne<br>Der entsetzliche Hai, des Meeres Hyäne… |
| Haec maris monstra | …Ungeheuern der traurigen Cede… |

Despite these similarities in both theme and content, Schiller failed to recognise 'Pesce's' name and origin when challenged by Herder: we learn this from a letter written by the poet to Goethe: 'Aus Herder's Briefen erfahre ich, dass ich in dem Taucher bloss einen gewissen Nicolaus Pesce, der dieselbe Geschichte entweder erzählt oder besungen haben muss, veredelnd umgearbeitet habe'. He goes on to ask if Goethe should happen to know anything of this new rival: 'Kennen

Sie etwa über den Nicolaus Pesce, mit dem ich da so unerwartet in Concurrenz gesetzt werde?'[210]

The solution would seem to be that Goethe described the story of the diver orally to Schiller. We have already seen that Goethe was acquainted with Kircher's *Mundus subterraneus* and we know that Goethe was in Jena during the composition of Schiller's ballad, in May and June of 1797. Probably he omitted to tell Schiller of the source of the account and the name of its hero, which would explain Schiller's subsequent inquiry.

The second ballad to bear some connection with Kircher is Schiller's 'Der Kampf mit dem Drachen', a long account written in 1798, telling of the conflict in Rhodes between Deodat of Gozo and a dragon. The fight, which bears all the epic proportions that might be expected, took place in 1345. Schiller's sources for this traditional occurrence are varied[211] but he seems to have drawn principally on a work by Erasmus Francisci,[212] published in 1670, which was in turn based on the version of the battle printed by Kircher in his *Mundus subterraneus*.[213] Kuhlmann, with whom this chapter began, drew similarly on Kircher's account in an attempt to depict the psychology of the knight, his fears and feelings. His version, unmanageably overloaded with obscure mystic language and exotic similes, is the first story in his *Geschicht-Herold*[214] of 1673, and is entitled 'Die Grossmuettige Tapferkeit'.[215]

---

[210] Goethe (ed.), *Briefwechsel zwischen Schiller und Goethe*, vol. 3, p. 184.

[211] They include: V. d'Auboeuf, *Histoire des Chevaliers de Rhodes*; Happel, *Relationes curiosae*, vol. 1, p. 39.

[212] Francisci, *Neu-polirter geschicht-, kunst- und sitten-spiegel ausländischer Völker*, vol. 1, pp. 1–5.

[213] *Mundus Subterraneus*, VIII. IV, ch. 2, pp. 91ff. Kircher's version is based on that told in G. Bosio, *Dell' istoria della sacra religione*.

[214] *Lehrreicher Geschicht-Herold*, pp. 1–39. This work was written after Kuhlmann had read Kircher's *Ars magna* of 1669: 'theils nach der neuvermehrten Wunderart des weltberuffenen Athan. Kirchers vorgetragen'. Similarly, in the text (p. 28) Kuhlmann recollects this same work written by the 'offt angezogene Grosse Wunder-Gelahrte Athanas. Kircherus'.

[215] This work is partly reproduced in J. Trostler, 'Zur Stoffgeschichte von Schillers Balladen', *Euphorion* 20 (1913): 573–580.

# PART III

# KIRCHER'S LIFE AND LETTERS

CHAPTER FOURTEEN

# LETTERS WRITTEN BY KIRCHER

## Correspondence with Persons of Quality

There is inevitably only a small fraction of Kircher's letters to the notable political and ecclesiastical figures of his day still preserved in Rome. Most of these are fair copies of the letters actually sent, but others are Kircher's drafts, frequently lacking the name of the recipient. Again, his correspondence is dealt with in alphabetical order.

Kircher wrote on several occasions to Pope Alexander VII. These letters are humble and modest and are often in answer to a specific pontifical request.[1] On one occasion the Jesuit addressed a bulky letter on the origin of numbers to the man he is pleased to call 'the singular favourite on earth of the human race'.[2] A second letter of the same year, thanking the Holy Father for a gift of ancient coins which had promptly vanished into the Jesuit's gallery, is more laudatory. It sees in the Pope the 'the unique Judge on earth of things divine and human', urges new, edifying work 'daily for the glory of the divine Name and the honour of the Church' and concludes in an attitude of humble supplication: 'prostrate at your blessed feet in a holy kiss'.[3] Kircher saw in Alexander not only a kind and generous patron, but also an erudite scholar. He responded to his command for enlightenment when confronted by a dubiously orthodox codex in manuscript[4] and announced to him, on behalf of his publisher, Jansson van Waesberghe, the publication and dedication of the new *Biblia septem linguarum*. This work bore the subtitle *Bibliorum Alexandrinorum* and was appropriately dedicated to the Pontiff. In the same letter, Kircher skilfully drew attention to his own project in rebuilding the church of

[1] He also wrote glowingly of this Pope to others: cp. his letter 'ad Moniales Angelopolitane', Epist. IV. 85 (Rome, 23 March 1667).

[2] I. 7 (Rome, 27 April 1662). This document is preserved in the Vatican Library (BAV), Ms Chigi J. VI. 225; the version mentioned here is Kircher's own rough copy.

[3] Epist. I. 195 (Rome, 20 September 1662).

[4] IX. 303 (Rome, 1665).

Mentorella: 'meanwhile, with God's permission, I shall commit myself to getting started with building the church'.[5] This noble and disinterested work was duly recognised and rewarded by the Pope.

A rather different letter is that in which Kircher seeks permission for Elisabeth, wife of the Duke of Lüneburg, to see the museum and the library of the Jesuits. Kircher points out the piety and virtue of the Duchess, the influence and power of her husband, 'potissimum Germaniae Principem', and indicates the virtues of generosity and helpfulness: 'good will is the foundation of good works and devout resolutions'.[6]

The homage shown by Kircher towards the Pope is not reserved to letters alone. Preserved among the papers in Rome there is, in Kircher's handwriting with corrections, an epigram, devised by him and entitled 'In/Horologium Vaticanum/cuius index Obeli/scus est: Alexandri VII Pont. Max./cura et studio/constructum/Epigramma', of which the two concluding couplets are as follows:

> Summus Alexander caput orbis et Urbis, et Auctor
> Sic immensa levi contrahit astra solo
> Arte Promethea subduxit ab orbibus ignes
> Intulit in Terra, hinc stupet orbis opus.[7]
>
> (The supreme Alexander, head and teacher of the world and the City, has brought the immense stars together on a gentle foundation. With the skill of Prometheus, he has taken fire from the heavens and placed it on earth—hence the whole world gazes in wonder at his achievement.)

Although Kircher's letters to his high-born patrons were invariably respectful, he was not above quietly forwarding his own interests. In a letter to the Elector of Bavaria, Ferdinand, he announces his forthcoming *Obeliscus Pamphilius*, promising 'more, and more remarkable, things' later on. He enquires whether the German prince would like a copy 'ad mentis relaxationem'. Kircher concisely describes the inception of this work: 'There was discovered in the city not so long ago

---

[5] IX. 305 (Rome, 1666). The original of this letter is BAV, Ms. Chig. C. III. 62 f. 458. From this version, we learn that the date of transmission was, more specifically, 5 September 1666. In the same codex, we find a slightly earlier letter from Kircher in Italian, giving the proposed date of publication as 7 April 1666: the letter is dated: Coll. Rom., 6 March, f. 452. Both these letters are contained in: G. Cugnoni, *Della supposta falsificazione della Biblia Alexandrina Heptaglotta*, pp. 20–21.

[6] I. 112. Rome, no date.

[7] With IV. 87.

an Egyptian obelisk remarkable for its hieroglyphic characters, and which the Supreme Pontiff has commissioned me to interpret'.[8] A letter very similar in tone and context is addressed to another German Elector, this time of Brandenburg, and concerns the *Oedipus aegyptiacus*, which Kircher describes as 'already sought after for a period of twenty years by the best-known learned people'.[9]

The Jesuit did not forward books alone to gain the favour of his patrons. To the Archduke of Austria, Carolus Ferdinandus, Kircher sent, in the hands of one Fr Ferdinand Herberstein, a curious stone 'called by the Spaniards the "foot of the cobra"'. This in turn had been transmitted by diverse persons to Rome from the Jesuit fathers 'in the kingdom of the Chinese'. The stone's unique powers lay in its absolute antidotal effect on snake poison. Kircher describes how, if a dog or man is bitten by a snake, the stone must be laid on the wound, whereupon it will draw out the venom in its entirety. This done, the power of the stone is restored when immersed in milk 'in quo deposito omni veneno pristino suo vigori restituitur'. Kircher himself had refrained from this experiment, trusting in the more penetrating scrutiny of the Archduke's own doctors[10] ('eius non feci sperans futurum, ut id per medicos serius viae maiori studiorum fiat').[11]

Possibly Kircher's most flattering letters were those he sent to Christina, Queen of Sweden. The Queen's wide erudition, combined with the possibility of her conversion to the Church of Rome, were enough to fan the conventional flattery of the day into a roaring blaze of adulation.[12] Three of Kircher's letters to her are preserved, all written before her abdication. The first of these was rather absently addressed

---

[8] I. 120 (Rome, 12 July 1666).

[9] VII. 60 (Rome, 16 April 1655). Kircher addressed an almost identical note, on the same occasion, to Ferdinand IV, King of the Romans, where he talks of 'opus sane difficile, laboriosum et continue 20 annorum labore, atque incredibilis memtis aestu partim': VII. 49 (Rome, 9 June 1655).

[10] Experiments were made to establish the truth of these remarkable assertions: they were reported by F. Mazzari in *Il Giornali de Letteranti*, p. 75. A French translation of this account, 'Epreuves de la pierre de serpent, faites a Vienne, par ordre de sa Majesté imperiale, et communiquées par le P. Kircher', is in J. Berryat, *Collection académique*, vol. 7, p. 138.

[11] I. 200. Rome, 9 June 1662.

[12] Christina exercised a unique appeal in the seventeenth century. When Kircher received a letter of praise from the King of Poland his response was politely moderate and he replied in terms no more flattering than 'un Re potentissimo, e feliccissimo': I. 196. Rome, 2 January 1664. Another of Kircher's royal correspondents was Carolus II of Spain, to whom, in 1673, the Jesuit dedicated his *Arca Noë*. Kircher's letter to

by Kircher to 'Serenissima Princeps', a *faux pas* which is heavily scored out and replaced by the title 'Serenissima ac potentissima Regina'. This is not the only cancellation. Elsewhere in the letter, the dangerous phrase 'sine religionis discretione' is cancelled and omitted. One wonders if Kircher's letters to such a potentially influential figure were officially censored. Another expression that failed to pass was the less biased 'divinioris etiam atque sincerioris sapientiae lucis'. The rest of the letter, flattery apart, is of little note, although he does stress the difficulties inherent in his struggle to shed light through the *Oedipus*.[13]

A second letter to 'regina sapientissima' is given to even greater flights of praise and adulation. Kircher thanks the Queen for the letter which he had received from Fr Macedo[14] which discusses at length Christina's fame in Rome, and indeed in the whole world, and sees in her 'those delights of Saba [i.e., the queen of Sheba] brought to life in our own time'. The worldwide implications of Christina's fame recall to Kircher the total of 35 languages spoken by the Jesuit fathers in Rome, 'from all the nations of the world', and he gently indicates how these tongues are busy in discussing the Queen's virtues: 'everyone here is greatly moved by the fame and wisdom of Your Majesty'. In conclusion, Kircher briefly mentions his own works and delicately points out their need of generous patrons, of 'midwifely hands' ('obstetricantes manus'), a phrase which Kircher may have thought peculiarly apt. The Jesuit's valedictory words are addressed to 'the oracle of wisdom . . . the model of all the virtues, the delight of the human race'.[15]

The third letter follows the same pattern: on the one side, high-flown praise for Christina, on the other, humility and modesty from 'such a weak and unworthy person'. At this time, Kircher was deeply engaged in his work on the *Oedipus* and this preoccupation led him, no doubt, to envisage Christina—'in symbolicam veterum aegyptia Sapientiam'—as a beneficent and all-embracing sun. This letter is addressed to the Queen via one Mathias Paltitsch, 'gentilhomme de la Chambre de sa Citté de Suede'.[16]

---

Madrid, informing Carolus II of this 'humillissimae indicium reverentiae', is Epist. IX. 8 (Rome, 24 June 1673).

[13] VII. 543 (Rome, 3 June 1649).

[14] Fr Antonio Macedo SJ was the confessor of the Portuguese ambassador in Stockholm and was the first to hear of Christina's proposed conversion; see Ranke, *Die römischen Päpste*, vol. 4, p. 96.

[15] VII. 50 (Rome, 11 November 1651).

[16] VII. 52 (Rome, no date given).

Christina's conversion is generally held to be one of the crowning glories of the pontificate of Alexander VII. His successor was Pope Clement IX,[17] and it was to this gentle and courteous scholar that Kircher appealed for help in his own modest plans to further 'questa longa vita e felice giornale della Chiesa Cattolica'. He described in a letter to the Pope how he had come across 'il luogo della conversione di S. Eustachio' and how he had been inspired to think of the restoration of this church built during the reign of Constantine: 'subito a pensare della restoratione d'un così sacrosancto luogo'. He mentions, too, his activities in appealing for help, a stipend for the church's incumbent, and the desirability of an Apostolic Mission to be held at the church yearly on the Feast of St Michael. He talks persuasively of the 'innumerabile multitudini de populi' who would throng to the church for the sacraments, and hesitantly muses on the possibility of some Indulgence as an encouragement to the Mission's pilgrims.[18] Kircher's lifetime of practice in writing pleasingly to people more highly placed than himself did not fail. His humble requests were granted in full.[19]

Another high ecclesiastical figure who was keenly interested in Kircher's material reconstructions and spiritual good works at Mentorella was Cardinal Gian Nicolò Conti. In 1670 Kircher proudly announced to this cleric the appointment of a priest to the church and mission, one Fr Paolo, and excitedly discussed the increased stature of the church and 'la gloria della santa Madre'.[20] In a second letter, the Jesuit thanked the Cardinal for his lively interest and sympathy and announced the award of 600 *scudi* from the Holy Roman Emperor,[21] ostensibly for his *Phonurgia* but in fact being diverted into the coffers at Mentorella.[22] Through both letters shines the sheer joy felt by Kircher at these new offerings to the greater glory of the Virgin and the Church. Kircher's pure, childlike piety never seems stronger than when he is addressing himself to this labour of love.

---

[17] Cardinal Giulio Rospigliosi was crowned Pope on 26 June 1667 and died 9 December 1669.

[18] XI. 5 (Rome, undated but written between June 1667 and December 1669).

[19] In grateful recognition of Clement's support, Kircher dedicated his *Latium* to him. See Kircher's letter to the Pope: Epist. XII. 231 (Rome, 6 January 1668 [2]).

[20] V. 5 (Rome, 30 November 1670).

[21] V. 5 (Rome, 30 November 1670).

[22] Kircher's *Phonurgia nova* was dedicated to Emperor Leopold; to the same Emperor. Kircher had already dedicated his *Ars magna* and had received in consequence a yearly pension 'in ultimis vitae vestrae annis' and 100 *scudi*; see Leopold's letter: Epist. V. 64 (Vienna, 8 March 1669).

The *Phonurgia*, 'hoc opus grande et magnificum', is mentioned again in a letter Kircher sent at this time to Peter Philipp von Dernbach, Bishop of Bamberg. The Jesuit promises this work to Dernbach at the time he forwards his *Archetypon politicum*. The letter is short and formal: the Bishop is seen as 'a distinguished leader' and is treated courteously but distantly. The entire communication is little more than a covering note sent with the new work and is consequently typical of countless other short letters.[23]

Brief letters like this form a large part of Kircher's correspondence. He sent a similar letter announcing the publication of the *Ars magna lucis et umbrae*[24] to the Holy Roman Emperor, Ferdinand III. The letter varies only in its humility, stressed in Kircher's own definition of this work—'the special pledge and expression of a will most truly devoted to the Holy Roman Emperor'—and in his concluding salutation from 'a most humble servant prostrate at your feet'.[25] A second letter to Ferdinand describes Kircher's research into material for the *Mundus subterraneus* and mentions his special interest in various mineralogical processes in Hungary.[26] To some extent, this letter might be a veiled request for aid in gathering such information; in any event, the letter falls into that category of polite, informative letters that the Jesuit delighted in sending.

In his next letter, Kircher discusses that 'impenetrable script' as postulated by Trithemius and mentions with gratitude the help and interest shown in this cipher project by Leopold, Archduke of Austria. To illustrate his explanations, he appends a diagram. Only in his conclusion does he thank the Emperor for his aid in the publication of the *Oedipus*: 'I am most deeply and everlastingly grateful to Your Majesty, the Holy Emperor, for the fresh help granted towards advancing the Oedipus project',[27] a gratitude which he fulsomely echoes on the occasion of forwarding to Ferdinand the first volume of this work the following February.[28] It is possible that Ferdinand was also responsible for the third edition in 1654 of Kircher's *Ars magna*, since in an

[23] XI. 11 (Rome, 29 April 1673).
[24] This work, bearing the simple legend 'sicuti tenebrae ejus ita et lumen ejus' (from Psalm 138), was in fact dedicated to Ferdinand.
[25] VII. 46 (Rome, 24 February 1646).
[26] VII. 45 (Rome, 10 June 1651).
[27] VII. 24 (Rome, 4 March 1652).
[28] VII. 27 (Rome, 15 February 1653).

admiring letter to the Emperor, Kircher talks of his feelings: 'ex gratitudinis oppido me stimulantis necessitate'.[29]

A North African prince is Kircher's next correspondent. The Jesuit felt a deep sympathy and a lively interest in the future of Prince Carlo Filippo of Tunisia, who seems to have expressed a desire to convert to the Church of Rome. Kircher's letter to him is paternal and encouraging: it bears the ring of friendship and talks consolingly of the various efforts being made to ease and accelerate the young Muslim's conversion. Apparently Don Carlo had known Clement IX when he was Papal Nuncio in Spain, and this is possibly how it all began. Kircher informs the Prince of the imminent arrival in Tunis of Fr Marco di Pietra and one Signor Cavaliere Beauchamps in what, perhaps significantly, was 'un vascello ben armato'.[30] In conclusion, Kircher talks promisingly of this impending and fervently desired 'bramato emolumento della Chiesa Cattolica', and adds a seductive note on Don Carlo's arrival in Rome—'in questo teatro del mondo, glorioso triumfante et ammirato da tutti'. The scholar in Kircher, never far from the surface, emerges at the very last line of the letter, when he concludes his message with an Arabic salutation.

In reply to a request for help from the Bishop of Fulda,[31] Kircher assures the Bishop of his native diocese that he has interested both Cardinal Barberini and the Langrave of Hesse 'in the cause of Fulda' and expresses his own deeply felt horror at the devastation of his Fatherland: 'the anger grows in my soul as the hardships of my deeply afflicted native land grow greater, and its state the more disastrous'. Kircher talks shortly of his own immediate plans, of returning to Rome via Sicily, 'which I hope to do, after first completing several undertakings in Sicily', but in his concluding paragraph he reaffirms his loyalty to his home country: 'How I long [to serve] the needs of my most unhappy native land truly, sincerely, and with a loyalty only less than my loyalty to being a Jesuit'.[32]

It is often difficult to decide how much is flattery in Kircher's letters and how much is unvarnished truth. The seventeenth century, as a whole, delighted in written flattery: it was the age of laudatory epistles and adulatory epigrams and although in so many ways revolutionary,

---

[29] VII. 2 ( Rome, 3 January 1654).
[30] VI. 33 (no date given).
[31] VII. 201 (Hamburg, 26 February 1637).
[32] VII. 68 (Malta, 15 September 1637).

interested in the strange and new, it was also a thoroughly conventional age. A letter written to Archduke Joseph Karl of Austria is perhaps too warmly phrased to be inspired by convention alone. The purpose of the letter is to introduce and explain Kircher's 'instrumentorum quod Organum Mathematicum', which had been transported to Vienna by Fr Pizzoni. Kircher explains in the letter how he has initiated Aloysius Kinner[33] into the mysteries of the apparatus, and mentions how well it had been received at the Imperial court, 'where up to the present time the august Emperor Leopold and his father of glorious memory, Ferdinand III, have not scorned receiving similar unusual objects from my restricted means'.[34] Although the fact of this last statement may be questioned, it leads us quite naturally to the next correspondent, the Emperor Leopold, son of Ferdinand III.

Kircher himself mentions his relationship with Leopold in his first letter, where he explains that 'this newly invented code' had been intended for Ferdinand. The advantages of the code are soon enumerated, the principal one being that 'one and the same language can be set up by means of only 54 representative characters for the peoples and nations of the whole world'. Kircher talks of its spiritual value and sees its material value in the organization of an empire. Lest the startling uses of this new system are not grasped immediately, Kircher takes the precaution of briefing the Imperial Confessor on all its workings: 'I have disclosed to Fr Müller the nature of the whole secret device…I am confident, too, that he will carry everything out with all possible diligence'.[35]

In a second letter, the Jesuit talks at length of his new Egyptological work which he describes, in a manner already familiar to us, as 'an Egyptian obelisk decorated with the ciphers of an ancient wisdom which the Supreme Pontiff has entrusted to me for interpretation'.[36] On this occasion he goes into rather more detail, describing his work as an exposition of 'heroic virtues, of wisdom, justice and devotion' that can be fittingly called a 'most brilliant example—one astonishing the whole world'. Later in the letter, having exhausted the attractions

[33] In Schott's work, Kinner included laudatory verses to and the obituary memorial of Joseph Karl ([*Cursus mathematicus*], pp. 11–52).

[34] Epist. I. 103 (Rome 7 August 1661).

[35] VII. 20 (Rome, 14 December 1659).

[36] For almost identical wording, see Kircher's letter to Ferdinand, Elector of Bavaria, quoted above: I. 120 (Rome, 12 July 1666).

of his new book, Kircher briefly, almost reluctantly, mentions his plans for the church at Mentorella.[37] Four years later, Kircher again wrote to Leopold and this time described in minute detail his reconstruction of the Mission in the mountains. He elaborates upon his original discovery of the ruin, lists the new constructional items and reports on the first Mass said in the restored church.[38] His plea for further financial aid is barely perceptible, but is implicit in the whole letter.

Leopold was another ruler to whom Kircher forwarded his *Principis Christiani archetypon politicum*.[39] In a long letter, the Jesuit makes it plain that he is not trying to instruct the Emperor on how to rule, but rather endeavouring to regale his mind 'pro magna mentis tuae amplitudine et capacitate'. In view of the relatively late date of this letter, it is of interest to note that Kircher was still busily engaged in his literary activities: 'meanwhile I don't cease to push on with the remaining compositions that are still pouring from the press'.[40]

The rest of Kircher's letters to the Emperor are, unfortunately, undated. In one, he sends to Vienna an image of St Athanasius forwarded to Rome by a priest in Mexico 'ex novo orbe', which he sees as a cheering sign of the Church's progress in foreign lands. At this time Kircher seems to have been rather preoccupied by the worldwide progress of Christianity, for in his closing lines to Leopold, he addresses him as 'the unique hope of the Christian world'.[41] A similarly pious note is traced in the long and often circumlocutory letter in which Kircher formally dedicates to the Emperor his *Ars magna sciendi*.[42]

A much shorter letter is accompanied by the 'Arcam dico Noemicam', of which Kircher adds, briefly, 'on the advice of Cardinal Nithardus, I have judged that this should be dedicated to the glorious name of the Catholic King'.[43] In Kircher's final letter to Leopold, he returns to the question of the Jesuit mission in Mexico and begs for

---

[37] IX. 30 (Rome, 2 July 1666).

[38] VI. 40 (Rome, 13 October 1670).

[39] On the engraved title-page this work has the heading 'Splendor Domus Joannine Descripta ab Athanasio Kirchero'.

[40] XII. 226 (Rome, 25 April 1673): This letter is duplicated at XI. 7.

[41] I. 133 (Rome: 'Ad Imperatorem').

[42] X. 134 (Rome is the letter printed in the *Ars magna*).

[43] Epist. XI. 6 (Rome): *Arca Noë* work was in fact dedicated to Carolus II, King of Spain. The dedication bears the date of 1673, while the 'Imprimatur' issued by Fr Oliva was granted in 1669 to this work.

the Emperor's intercession in the appointment of a new Bishop of Angelopolitanae (Puebla de los Ángeles). For this office Kircher nominates Alexander Fabian, 'presbyter Angelopolitanus', pointing out that 'indeed, with great enjoyment and success, he undertook the conversion of non-believers', and humbly requests that Leopold might use his influence in the appointment 'apud Hispaniae Reginam'.[44] By way of postscript, we note that, when Leopold was still only Archduke of Austria, he had asked Kircher to explain an inscription discovered on a monument excavated in Vienna, and in return the Jesuit obligingly forwarded, after two months' work, his 'interpretation of a particular inscription engraved on gilt plate'.[45]

We have already noted Kircher's appeal to Alexander VII for permission for Elizabeth, wife of the Duke of Lüneburg, to visit his Gallery.[46] This note to the Pontiff is unfortunately without a date, but if she was accompanied by her husband the date can be determined, for in October 1650 Kircher wrote to the Duke, at that time in Rome, expressing his willingness to receive him 'in mia Galleria'.[47] Some two years later, Friedrich, the son of this German prince, followed his father's footsteps to Rome and was enthusiastically received by Kircher. In a letter to Germany, the Jesuit describes his pleasure at finding the father's virtues represented in the son and mentions that Friedrich was in the company of one Claus Molthe Levin, 'Amicum iam a multis annis'.[48] Friedrich's departure from Rome the following April was noted by Kircher with a second letter extolling the son's 'modesty, blamelessly upright behaviour, and innocence of life'.[49]

Kircher had been equally impressed by the father's personal qualities, and in an undated letter,[50] written some time subsequent to the Duke's departure from the city, he comments on the favourable impression created in Rome by this German prince: 'The extraordinary magnificence of your virtues is hardly ever [seen] on this stage that is the world'. This letter is unusual in that it contains poetry, quoted impulsively by the Jesuit upon receiving Lüneburg's letter:

---

[44] Epist. XII. 225 (Rome).
[45] IX. 245 (Rome, no date given).
[46] I. 112 (Rome, no date given).
[47] VII. 44 (Rome, 21 October 1650).
[48] VII. 42 (Rome, 13 November 1652).
[49] VII. 41 (Rome, 26 April 1653).
[50] VII. 43 (Rome): 'Ad Serenissimum. Principem Luneburg et Ducem Meldenburgensem'.

Hic rosa cum violis iunguntur lilia Nardiis
Et cum lacte faucis faedere iuncta fluunt.

This delicate compliment is all the more delightful for its unexpectedness, and forms a refreshing change from more customary high-flown platitudes, elaborate similes and empty words.

Occasionally Kircher's noble friends and supporters did not content themselves with merely looking at the famous Gallery. The Italian Conte di Montecuculi, whom Kircher addresses as 'heros magnanime', made a more positive gesture of admiration. In 1675, Kircher wrote to him and thanked him for his gift of 'military trophies' to his Museum. This new addition to his collection caused the Jesuit to muse, a little boastfully perhaps, on the varied aspects of his Gallery's contents (it is interesting to note the gradual transformation of the 'galleria' into a 'Musaeum').[51] That Kircher should be rewarded with gifts is not surprising when one considers his lifetime of service to those in the quest for knowledge. The energy and time expended in this respect must have been enormous. As an example of this side of Kircher's activities, there are preserved among his papers two exhaustive reports for Cardinal Nini. With one of these Kircher includes 'il desiderato modello dell orologio Vaticano';[52] the other, which is undated, is entitled 'Explicatio Systematis Horoscopii Vaticani'.[53]

Early in 1660, Kircher apparently received a letter of praise from the Duke of Saxony. In his answer, the Jesuit expresses fulsomely the 'incredible delight' with which he had received the Duke's letter, the effect of which he lyrically compares to:

Florum sicut odor tua litera sparsa fragrabat
Non deerant violae lilia mixta rosis.

The letter continues in this vein for some time. In the concluding paragraph, Kircher innocently includes his catalogue and absently, it seems, draws the Duke's attention to the ready availability of the Jesuit's words from the Rector of the College in Bratislava, Fr Lodewijk Kras.[54] Some five years later, Kircher remembered the Duke, now Elector of Saxony, in his distribution of the *Mundus subterraneus*,[55] and in

[51] XII. 230 (Rome, 18 June 1675).
[52] IX. 11 (Collegium Romanum, 1 February 1667).
[53] IX. 51 (Collegium Romanum).
[54] I. 308 (Rome, 6 March 1660).
[55] I. 84 (Rome, 31 October 1665).

a letter drew his attention to the 'objects of Art and Nature' and his careful study of 'the secrets of Nature'.[56]

Not every letter written by Kircher was equally expressive. The Jesuit could at times be brash and businesslike. With one of his Italian patrons, the Grand Duke of Tuscany, Kircher was almost embarassingly curt, his letters reduced to a mere introduction of the work with which they were sent. In 1650, the Grand Duke received direct from the press, 'la mia interpretatione dell Obelisco Egittiaco',[57] while six years later another parcel arrived, containing this time the *Itinerarium exstaticum*, grudingly elaborated into 'la mia sententia e opinione intorno la natura, compositione, e fabrica de globi celesti'.[58] A third letter, unfortunately mutilated and without date, promises the 'opera della Etruria'. Blunt as this message is, it is unlikely that the complete letter would be any more enlightening.[59]

In 1666, Kircher wrote what might be called a testimonial for Johann Friedrich, Count of Waldstein, subsequent Archbishop of Prague. From this letter it appears that the two men became acquainted when Waldstein was chamberlain to Alexander VII. The letter mentions Waldstein's later, more eminent position in Bohemia 'since the church of German Bohemia rightly ought to congratulate itself and rejoice over so great a prelate' but is otherwise unremarkable.[60] In a quietly confident letter to Waldstein in 1675, Kircher describes the successful mission held at Mentorella and tells how, on his return to Rome, he found Waldstein's letter awaiting him—'than which nothing more precious or desirable or preferable could happen to me'. After two paragraphs of praise for Waldstein's humanity and compassion, Kircher modestly returns to himself and describes his peaceful, unruffled 'occupationes literarias'. He expresses some concern for the safety of his works in the Jansson printing press and mentions a new task he is working on, 'what I am calling the "Catrophylacium" of the mathematical sciences which, through Cardinal Nithard, the Catholic king assigned to me'.[61] The whole letter breathes peace and contentment. The active mind was

[56] In a letter of the day before, Kircher had pointed out to Ernst, Prince Bishop of Osnabrück, this same aspect of the *Mundus subterraneus*: 'opera per gli segreti ed arcani della natura': Epist. 1. 87 (Rome, 30 October 1665).

[57] I. 125 (Rome, no date given).

[58] VII. 58 (Rome, 15 June 1656).

[59] XII. 228 (Rome).

[60] IX. 259 (Rome, 30 January 1666).

[61] XII. 235 (Rome, 16 November 1675).

slowly running down, the pen was writing less and less. The Jesuit's final words were already being printed, his church at Mentorella was strong, and in his new leisure Kircher could turn, with an easy and relaxed conscience and the awareness of a life well spent, to prayer and meditation.

## Kircher Writes to Fellow Jesuits

According to the representative selection of Kircher's letters in the Gregoriana, his correspondence shows a sharp decrease in replies to his fellow Jesuits. The reason is not far to seek. Obviously Kircher replied to the shoals of letters that reached him from all parts of the world, but he did omit to have copies made of these replies. In such letters there was little need of studied elegance and delicate compliments. They could be written straight down without requiring a draft version, hence the paucity among Kircher's preserved letters of communication to other Jesuits.

Moreover, at least one of those letters preserved is in fact the original, complete with seal and address. This is a note addressed to Fr Antonio Caprini, at that time Rector of the Collegium Romanum. That the letter was posted at all is due to the fact that Kircher wrote it during his stay at Tivoli, and no doubt the letter was passed on to him on his return to Rome. The letter is in answer to one written on behalf of the Rector by Fr Evangelista Matutini.[62] In his reply, Kircher talks of the interpretation entrusted to him of 'una certa medaglia' belonging to the Queen of Naples. After this polite and introductory digression, he complains to the Rector of the shortage of books in the College library—in that he is unable to find 'in questo povero Collegio libri necessari ad operare bene intorno la materia'. Such words have a familiar ring: they place Kircher in the very human situation of a scholar who has difficulty finding books. In his concluding paragraph, Kircher expresses his devout trust in 'l'assistenza della Madonna' and explains, perhaps somewhat belatedly, his presence in Tivoli: 'come più vicino a Tivoli e ringratione la Madonna di Grotta'.[63]

Another note, this time written with a touch of righteous indignation, is one sent to Thomas Leon SJ, who had apparently complained

[62] IX. 132 (Rome, 2 October 1665).
[63] IX. 118. (Tivoli, 3 October 1665). This letter is duplicated at IX. 291.

of receiving no letters. Kircher affirms that he had indeed answered Leon's letter and protests in return that he himself had received no answer,[64] a fact that is, in the circumstances, entirely to be expected. Such grumblings at the contemporary postal service apart, Kircher also wrote two letters to Philipp Müller, Confessor to the Emperor Leopold. Possibly these letters, invariably perused by the imperial eye, were copied in much the same way that Kircher copied letters to his more august patrons. They are both fairly brief. In the one Kircher expresses his horror at the conflagation in the Emperor's palace, casually mentions his forthcoming work *Latium* and untypically concludes with a piece of information: 'after Easter the nephews of the Supreme Pontiff will be coming to the Collegium Romanum'.[65] His second letter is devoted to the approaching celebrations in Mentorella on St Michael's Day and he mentions the honour done to the church by a visit from Pope Clement IX, this being only the fifth church outside the Vatican visited by the Pope. The relative significance of the Mission is emphasized when Kircher mentions the presence there of 'twelve of our missionary Fathers'.[66]

Fr Müller was one of Kircher's more regular correspondents. In contrast to this, we find among the letters in the Gregoriana one addressed to the famous astronomer and missionary of Peking, Fr Adam Schall.[67] This in itself would not be unusual, apart from the fact that there are no letters from Schall himself among Kircher's voluminous correspondence. We see here then an attempt by Kircher to initiate an exchange of letters with one of the most famous Jesuit missionaries of his day. Kircher's letter is humble and modest. He describes his friendship with the Jesuit missionaries Frs Johann Grueber and Ferdinand Verbiest (with both of whom he exchanged letters) and talks admiringly of the constant dangers inevitably run by Fr Schall in his efforts to capture souls on the other side of the world. Inevitably and naturally, he mentions his own proposed *China illustrata* 'in which frequent note is made of the glorious things done by your Reverence'. Kircher explains his motives in producing this work. By showing the results and condi-

[64] VII. 85 (Rome, 14 April, 1646).
[65] IV. 79 (Rome, 17 March 1668).
[66] XII. 237 (Rome, 12 Sept 1675).
[67] Fr Johann Adam Schall von Bell (1591–1669) spent most of his life in China and wrote 27 books in Chinese: Kircher gives his portrait in *China illustrata*, p. 239.

tions of the Jesuit's work in China, he hopes to be able to persuade posterity to carry on the same noble task.[68]

Finally, there is a copy of the letter written to Jacques Viva, the Swiss Jesuit who helped Kircher in the compilation of his *Musurgia*. In this letter, Kircher talks of the success of his *Magnes* and instructs Viva in the correct method of observing and noting eclipses. Kircher implies that he himself is now far too busy, even though 'through his special letters, His Eminence Cardinal Barberini pressingly urges him' and must rely on his helpful fellow Jesuits.[69] In his concluding paragraph, Kircher expresses his sorrow that he had not had more copies of the *Magnes* printed, 'given the large number of people seeking them, and the rarity of the work'. Almost all the available copies had been swallowed up in Italy: apart from a few sent to various princes, and 50 sent to Viva in Holland, there were none at all north of the Alps. In the light of this paragrah, it is of interest to note that the *Magnes* was reprinted the following year in Cologne and again in 1654 in Rome.

## A Correspondence with Peiresc

Of the miscellaneous manuscript items written by Kircher and preserved in Paris, by far the most important and valuable is a series of letters written by the young Jesuit to his patron and friend, Claude Fabri de Peiresc.[70] Eight letters, written between August 1633 and January 1637, are to be found in the Bibliothèque Nationale in Paris, and they offer us a picture of Kircher's interests and, to a lesser extent, his activities during his last days in Avignon and early years in Rome. We must also bear Peiresc's own interests—those of an antiquarian, Egyptologist, dilettante scientist and astronomer—equally in mind, since Kircher's letters emphasize these mutual scholarly pursuits.

In Kircher's first letter to Peiresc, we find some indication of their academic interaction.[71] Kircher thanks his friend for the various signs of goodwill, which included the gift of an Arabic dictionary and a request

[68] Epist. IX. 292 (Rome, 16 April 1664).
[69] VII. 87 (Rome, 18 February 1642).
[70] Kircher's letters are invariably addressed to 'Monsieur de Peiresc. Conseilleur du Roy en Parlament de Provence d'Aix'.
[71] Bib. Nat., Fonds français No. 9538 f. 227–228 (Avignon, 9 August 1633).

for the 'Barachiae explanationem', a polite demand which Kircher had unfortunately—at this time—to refer to some future, unspecified date. While on oriental matters, Kircher is reminded of Fr Gilles, the Capuchin monk with whom Peiresc was in correspondence, and mentions the eager interest with which he is looking forward to the monk's return 'to hear what he has been doing in the Orient'. Similarly, Kircher goes on to inform Peiresc of a recent letter[72] sent by Fr Christoph Scheiner from Rome—'he has written above all about the modern languages of the oriental people'—who had also included his best wishes for Peiresc and Gassendi, whom Kircher himself at this point describes as 'musarum amatores'. Much of Scheiner's letter, apparently, was concerned with his recent proposed work written against the findings of Galilei,[73] endorsing 'a Sun that moves and an Earth that is stable', a work Kircher refers to as being in the hands of the censors preparatory to being dedicated to the Holy Roman Emperor. Kircher in turn supported Scheiner's modest polemic and sided with his fellow Jesuit on the reactionary appeal of absolute orthodoxy.[74] In the concluding paragraphs of this initial letter, Kircher promises to send Peiresc copies of any letters send to him by the rabbi Salomon and refers finally to his own translations of the Lateran obelisk in Rome. Unfortunately, Kircher omits to mention how and when he had acquired the relevant information to be able to make this translation, but it was probably from a certain Michael Baudier who had recently visited Kircher in Avignon.[75]

The Jesuit's second letter, written early in September from Marseilles, is less effusive and was probably composed hastily, without his normal epistolary care. It was prompted, no doubt, by letters written from Peiresc to Kircher in Marseilles, and is in many ways a pious resolution uttered by the Jesuit to bolster his confidence for the arduous work ahead. His confidence has already been strengthened to some extent by 'certain extremely remarkable signs of good will' shown to

---

[72] This letter, which is not preserved among Kircher's correspondence in the Gregoriana, was dated 10 July 1633.

[73] Scheiner, *Prodromus de sole mobili et stabili terra contra Galilaeum*.

[74] The three paragraphs of this letter in which Kircher, somewhat rhetorically, defends and quotes Scheiner, are heavily crossed out in red pencil [yet cf. above p. xxviii.—Ed.].

[75] Baudier, an eminent contemporary historian, wrote works on France, China and Turkey. There is little likelihood that Kircher may have found a representation of the Lateran obelisk in his works.

Kircher by his patron in Aix.[76] In an incidental observation, Kircher records the kindness shown to him by Peiresc's brother, but he soon forgoes such earthly ties in his appeal for strength and good fortune to 'divina bonitas'. Only rarely, however, can Kircher completely forget his more pressing academic commitments, and here we find no exception. In his concluding line 'vale, vale, milleque', Kircher apologetically mentions that the Barachia translation is not yet finished, and consequently finishes in a flurry of regret and apology. This hasty letter is, however, redeemed by its genuine sincerity and Kircher's real regret at being compelled to leave France.

Soon after his arrival in Rome, Kircher wrote again to Peiresc. This letter, written on 14 November 1633, is the first sent by Kircher from the city where he was to remain for the rest of his life.[77] Much of this long letter is devoted to a detailed account of the dangers and perils of Kircher's recent journey 'in which I endured great and quite extraordinary misfortunes'. To explain his series of miraculous escapes, the young Jesuit can propound only one reason, the mercy and clemency of God. 'In so many and such great dangers to life, the divine goodness and kindness thought it worth miraculously snatching me'. The concept of a special intervention of heavenly grace is a feature which, as we have seen, recurs in his autobiography. There is an intriguing reference to the possibility that Kircher might be sent to Turkey to carry out missionary work 'it might come about that I would publicly give myself over to Constantinople to spread the Christian faith', but this chance allusion remains unqualified. The subsequent paragraphs of this lengthy communication describe Kircher's reaction to the kindness of his fellow Jesuits in Rome upon his own bedraggled and exhausted arrival: 'at last I arrived in Rome where the overwhelming charity of our Fathers easily did away with the memory of past disasters'.[78] They mention the young Jesuit's awe at the pervading spirit of goodwill and kindness so noticeable in the Eternal City'.

Already, however, Kircher had started to make himself acquainted with several leading contemporary figures in Rome: he had visited Pietro Valle and D. de Pozzo, 'each man outstanding, and a promoter

[76] Bib. Nat., Fonds français No. 9538, f.228.b (Marseilles, 6 September 1633). A nineteenth-century manuscript note on this letter records: 'vendue le 27 juillet 1872 par l'exécuteur testamentaire de M. Gauthier-Lachapelle'.

[77] Bib. Nat., Fonds français No. 9538 f. 230–233 (Rome, 14 November 1633).

[78] Kircher landed, after his nightmare journey from Genoa, in November 1633.

of literature', and had spent much of his time in learned conversation with Christoph Scheiner. This again, as in the previous letter, leads the orthodox Kircher to fulminate against the findings and observations of the ageing Galilei and in particular his *Dialogo* on the orbital movements of the earth. This work contained his epoch-making theories and Kircher had noticed, in alarmed consternation, a copy on Peiresc's own bookshelves. At this point Kircher feels compelled to conclude the letter. In a hurried postscript he promises Peiresc 30 copies of his forthcoming *Primitiae gnomonicae catoptricae*, requests that this same letter should be forwarded to Frs Blane and Ferrand in Avignon, and looks forward to being able to send to Peiresc a specimen number of Scheiner's *Rosa ursina*.

The following month Kircher wrote again to Peiresc.[79] He recalls in his opening paragraph how he had already dwelt on the terrors of his journey to Rome and admits, apologetically, how his 'garrulitas' had prevented him from describing his immediate arrival in Rome and the reception he received from Cardinal Barberini. Kircher depicts his delight upon the realisation that he was to stay in Rome, a feeling of pride and pleasure tempered by the bulk of the work he found facing him: 'the translation of ancient hieroglyphs…and of each of the two cabbalistic traditions…and knowledge across a period of 2000 years'. His reaction upon learning of the new permanency of his residence in Rome was, perhaps, typical. In the company of one Dom Suaret, Kircher visited the Vatican Library, the archives of the Collegium Romanum, and the various Roman antiquities. As one might expect, their tour concentrated largely on oriental monuments and remains 'all the obelisks, pyramids and various statues, scattered on this side and that, in the city and in the Cardinals' gardens'. Kircher briefly outlines his plans to Peiresc. First will come his explanation of the Tabula Isiaca, and this, 'with gain to the community in mind', will be followed by his classification and translation of the various Roman obelisks. In a final note, sounding a little brusque and flustered, Kircher appeals to Peiresc for help in locating hieroglyphic inscriptions: 'if your most

[79] Bib. Nat., Fonds français No. 9538 f. 234–235 (Rome, 3 December 1633). Unfortunately this letter is stained and mutilated. As with all of Kircher's letters to Peiresc, the letter is headed with the Jesuit formula 'Pax Christi'.

illustrious Lordship finds in your library esoteric writings with similar markings, don't fail to get in touch with me'.[80]

The next letter we have from Kircher was written some fifteen months later.[81] From Peiresc's letter in Rome, however, it seems unlikely that Kircher would allow such a long interval of silence in his correspondence with Peiresc. It is probable that the relevant communications from Rome have since been lost or remain untraced. Compared to Kircher's previous notes to Peiresc, this letter is remarkable for the maturity and gravity of its sentences.[82]

In his opening paragraphs, Kircher thanks Peiresc for his valuable letters of advice and truly fatherly admonitions, letters which he wryly admits are not always full of glowing praise: 'real love is shown by honest correction'. At this point, Kircher disarmingly stresses his own youthfulness and utter lack of worldly experience, and explains how he seeks to compensate for this in his correspondence with Peiresc. From this same passage, we learn that Peiresc had advised Kircher to tread warily and avoid vague theorizing, words of warning that Kircher now acknowledges to have diminished his own ignorance 'a hundred times'. The young Jesuit tells his friend and adviser of the procedure he had decided on in dealing with the Classical authors and which he compresses into a rule of thumb: 'if [a text] corresponds to remaining traces [of the work] of ancient authors, it will be acceptable; if not, I greatly doubt whether I ought to explain [it]'. Kircher talks of the difficulties he has experienced in his Egyptological researches and handsomely describes his debt to his former patron in France: 'in this diversity of deliberations, I await the opinion of Your Lordship as something that will help to resolve the greatest difficulties'.

Much of the remainder of this long letter is taken up with the technical aspects of Kircher's imminent *Prodromus coptus*. Less pleasingly, we note Kircher's concern over various attacks both on his personal and intellectual integrity, and on his academic deliberations, prompted,

---

[80] Below Kircher's signature ('Athanasius quem novit') we read: 'Ego quoque Illustrissimae Vae. Dom. salutem humillima et officiosa servitia offero. Christophoribus Scheiner'.

[81] Bib. Nat., Fonds français n.a. No. 5173 f. 25–29 (Rome, 8 February 1635). A contemporary copy of this letter is preserved under Bib. Nat., Fonds français No. 9362 f. 13–16.

[82] This letter bears the formula: 'Praenobili atque amplissimo Domino Duo de Peiresc in suprema curia aquensi, Xmo Regi a serverioribus consiliis, Ono, plurimum observando'.

he tells us, by varied causes. Because of these carping critics, Kircher explains that he is hastening the eventual publication date of his *Oedipus*. Similarly, we learn that, however pressed and obscured by adverse criticism, he will always feel that he has fulfilled himself in the eyes of God. In ruminating on the more positive values of his work, Kircher is drawn to reflect on the importance of Coptic in any oriental studies and he regrets, however complete his *Prodromus* might appear, the gaps that must necessarily appear in the eyes of any specialist. Another obstacle that he has found difficult to overcome is the variety of dialect and language current in the Orient.

Much of the final section of his letter is devoted to praising the wisdom and humanity of Cardinal Barberini, in whose library much of the preparation for the *Prodromus* had been carried out. Almost incidentally, in the final paragraph, we learn of another more tangible aspect of Peiresc's interest in Kircher's work: a gift of ten *scudi*, a considerable amount of money. But for this timely and princely gift, Kircher exclaims with perhaps justifiable exaggeration, he would have no ink and scarcely any pens to write with. The letter closes somewhat abruptly, with the conventional excuse of being pressed for time: 'I am now compelled to break off writing due to limitations of time. I beg that [Your Lordship] may pardon an abruptly ended piece of writing'.

Kircher's next letter to Peiresc was written towards the end of the following year, possibly in a hurry, since much of it is ungainly and sprawling and there are frequent corrections and amendments scribbled in the margins.[83] The first section of the letter is devoted to the expression of Kircher's pleasure and gratification at Peiresc's 'sollicitudine et selum admirabilem'. He describes, moreover, too how he is in correspondence with a Jesuit assistant in Cologne, to whom he is promptly forwarding much of Peiresc's advice, and briefly, Kircher mentions his own occupation as a teacher in the Collegium Romanum.

The body of the letter deals with Kircher's opinion of various Arabic authors, whose works on the whole he finds rampant with astrological superstition and unbridled imagination. This in turn leads him to digress for a moment on theological errors then current in Rome about the generation of angels and demons as presented in the Bible. For similar examples presented by the printed work, Kircher refers

[83] Bib. Nat., Fonds français No. 9538 f. 236–238 (Rome, 3 December 1636).

Peiresc to Salamas ben Kandadi's *Liber seu hortus mirabilium orbis terrae*. A detailed summary of the various chapters follows, a seemingly unnecessary synopsis which is made clear only when Kircher tells us that the work was subsequently banned. He tells Peiresc that, on account of varied errors and superstitions, every copy of the book was confiscated and destroyed. In talking of similarly banned works, Kircher muses for a moment on the difficulty of culling fresh information from authors 'under the pretext of improving [an understanding] of Latin', and regretfully but obediently mentions the rich mine of information hidden in the prohibited Koran—'if only the Koran were not so sternly prohibited here in Rome'. In his concluding paragraph, Kircher refers for a moment to his proposed *Oedipus aegyptiacus* and his ambition to reveal to the world the ancient wisdom of which Man was once the rightful heir, before it was obscured and lost. Once again, we note, Kircher seems unable to end his letter graciously and naturally: possibly he never felt at ease with the master-pupil relationship he enjoyed with the French scholar.[84]

Some three weeks later Kircher wrote again to Peiresc, this time hardly more than a scribbled note, the haste of which Kircher blames on the imminent departure of the ship for Marseilles 'now, with the mariner about to hasten away, the pen must be halted'. In these few lines Kircher describes how he has sent ten copies of his *Prodromus* to D. Piot, a bookseller in Avignon, and a further four to Peiresc, to distribute as he wishes. As in the postscript to the preceding letter, Kircher mentions here that he has little real idea of the correct number of books to send and gives a brief indication of the numerous copies he is forwarding to sundry cardinals and 'domum Professorum'. Humanly, and realistically, he indicates his fear that the recipients of these gifts might misinterpret the gesture and repay with charity. In a barely legible postscript, Kircher informs Peiresc—possibly to avoid duplication—that he has already forwarded signed copies of the *Prodromus* to the Bishop of Lodève and to Fr Montispessolante, Rector of the College in Avignon.[85]

---

[84] In a postscript to this letter, Kircher reports that fifty copies of his *Prodromus coptus* have been transmitted to Lyons and Paris. Tactfully, he asks Peiresc's advice on how many copies he should send to Marseilles.

[85] Bib. Nat., Fonds français No. 9538, f. 239 (Rome, 22 December 1636).

The last letter we possess from Kircher to Peiresc was written during the early days of 1637.[86] Unfortunately this hasty note—it is scarcely more—has suffered from exposure, age and possibly damp. The first half describes the Jesuit's renewed studies in Arabic and Hebrew with the help of D. Abraham Ecchelensi, one of his subsequent correspondents. With the help of this scholar Kircher was hoping to confound his more acerbic critics in the field of oriental studies. From this same section we learn that Ecchelensi was in the habit of visiting Kircher daily in his Museum. This is the very first allusion we have to the embryonic nucleus of the subsequent Musaeum Kircherianum. The final section of this concluding letter refers briefly to the help provided by Cardinal Francisco Barberini. Kircher stresses this friendship and draws attention to the seasonal coldness. Possibly Kircher was once again working in his Eminence's warm and comfortable library. In a footnote, Kircher mentions a proposed second printing of the *Prodromus* and describes how Barberini himself had appropriated some 220 copies of the initial edition for his own use. We learn too that 500 copies had been circulated in Spain, Portugal, Germany and Poland.

Kircher's correspondence with Peiresc is on the whole disappointingly commonplace.[87] Admittedly, certain biographical details, for example on Kircher's early days in Rome, come to light, but for the most part we learn little that is new or valuable. We admire Kircher's deference towards the older scholar but cannot help feeling that this same deference often bordered on the rigid call of duty. One must, of course, beware of over-emphasising the relationship between the two men. To Peiresc, Kircher was little more than another figure in a series of eager young protégés: for Kircher, Peiresc, at first immensely influential, soon lost precedence in the stimulating environment of Rome. The gradual decrease of their mutual influence is readily perceptible in Kircher's letters. Between the very first 'Praenobilis atque Clarissime Domine'[88] and the final 'Amplissime Vir'[89] there is more of significance than four short years. To some extent, we might see

[86] Bib. Nat., Fonds français No. 9538, f. 240 (Rome, 7 January 1637).

[87] Preserved in the Gregoriana Archives in Rome we find eleven letters from Peiresc to Kircher: Epist. XIV. 194, 198, 200, 217, 219, 362, 364, 368, 370, 372, 374. It was hoped to collate these letters with those written by Kircher to Peiresc, but unfortunately the hand of Peiresc is virtually indecipherable. Peiresc's letters were written from Aix between 17 August 1633 (XIV. 198.) and 4 February 1637 (XIV. 200.).

[88] (Avignon, 9 August 1633).

[89] (Rome, 7 January 1637).

in the progressively cooler atmosphere of the later letters evidence of Kircher's own new-found intellectual maturity.

## Letters to Scientists, Humanists, Antiquarians and Publishers

Kircher's letters to others of his scientifically inclined correspondents are as sparse and as inconsequential as those to his fellow Jesuits. If Kircher had a system of copying letters it seems to have been purely arbitrary, or possibly Kircher's own judgement of his fellow scientists failed him when it came to selecting names that would go down in history.

Annoyingly, Kircher's letter to Juan Caramuel y Lobkowitz, the Cistercian polyhistor, is both undated and incomplete. In it, however, the Jesuit discusses the keen interest taken in his work by Cardinal Pamfili and includes for Caramuel a 'most favourable sign: he acknowledges your threefold name with words in three languages'—Hebrew, Arabic and German. Such cabbalistic juggling with words was of special interest to both men. Of the three languages, Kircher has more to say: 'the first designates the grace of God, the second the honouring of God in His vineyard, the third respect and wisdom'. This elusive classification is unfortunately not elaborated further. Before the letter breaks off, Kircher, pursuing his symbolical aims, inserts Caramuel's name in hieroglyphs.[90]

One of Kircher's more devoted scientific admirers was Ovidio Montalbani, whose numerous letters to the priest deal almost exclusively with purely scientific matters.[91] Before publication of his *Dendrologiae naturalis*, Montalbani took the precaution of submitting the manuscript to Kircher. In his favourable reply, Kircher thanked Montalbani for sending 'opus cuius specimen', especially praised his treatment 'in multiformiores Naturae arcanis', and referred admiringly to the work as 'rarus ille thesaurus literarius'. Kircher in turn passed this essentially botanical volume on to Count Marcianus and Fr Barilerius for judgement and then relayed their mutual opinion to the no doubt satisfied Montalbani: 'in the publishing of so outstanding a work they were able

[90] VII. 72 (Rome).

[91] There are 27 letters, written from Bologna between 28 August 1664 and 29 November 1670.

to invoke [the name of] Virgil on account of the outstanding achievement displayed'.[92]

Montalbani was not, obviously, the only scientist to think highly of Kircher. From Werner Rolfinck in Jena came similar cries of approbation, more tangibly expressed in his own medical and chemical treatises. Kircher twice acknowledged this flattering regard. On both occasions, the Jesuit was personally handed the work concerned by one of Rolfinck's own admirers. The first time, in 1664, Kircher noted that, in a work presented to him by one Martino Bernardi, 'you have made mention of my person in your learned book'.[93] On the second occasion, six years later, the book in question was brought to Rome by Lucas Schröck,[94] one of Rolfinck's more promising students and himself a devoted admirer of the ageing priest.

The fourth and last scientist to whom Kircher sent letters, copies of which have been preserved in Rome, was Nicolaus Steno, the Danish anatomist, who became Archbishop of Schwerin and whose body lies in Florence. Ironically, the letter is devoid of scientific interest and is concerned purely with Steno's spiritual welfare, no doubt inestimably improved in Kircher's mind by his conversion to the Church of Rome in 1667.[95] Kircher recalls Steno's presence 'in the year that has glided by' in Rome and comments on the renewed work of the *Congregatio de Propaganda Fide*. The letter seems to have been prompted by the unexpected conversion of Jacob van Rautenfels, the courier who bore their interchange of letters. This sudden conversion induces Kircher to muse somewhat complacently on the 'Evangilii Lucem'.[96] It is of interest to note that this letter is the only one from Kircher presented in Scherz's definitive edition of Steno's letters, as opposed to four written by the Dane to the Jesuit.

One of Kircher's rare women correspondents was Sophianna Bernhardi, 'foeminarum doctissima', whom we have already met in Chapter 11.[97] Kircher received one of her letters while he was 'in the

---

[92] IX. 297 (Rome, 3 June 1665).

[93] The work referred to is Rolfinck's *Chimia in artis formam redacta*: Epist. X. 143 (Rome, 2 February 1664).

[94] X. 25 (Rome, 25 November 1670).

[95] An Italian translation of this letter from Kircher ('homo dottissimo di vasta memoria, d'infaticabile pazienza') is given by R. Cioni, *Niccolò Stenone*, p. 147.

[96] Epist. XI. 21 (Rome, 7 November 1675).

[97] Elsewhere in this letter, Kircher addresses Sophianna as 'foeminarum decus et gloria'.

charming rustic life of the Tuscan countryside' where he spent two months, and in his reply compared it to the mixed scents of 'narcissos, violas, lilia mixta rosis'.[98] This gentle letter, in which the erudite Jesuit talks knowingly of Popes Alexander VII and Clement IX, was written as a report on Sophianna's two boys then studying in Rome. She had placed both under the elderly Kircher's supervision, 'your tender maternal heart seeing fit to entrust them to my protection'.[99]

Another parent whose son received Kircher's enthusiastic approbation was Agapito Centurione, father of the Jesuit Christoforo Centurio, with whom Kircher exchanged several letters.[100] It was possibly at the son's request that Kircher wrote to the father, enclosing on the first occasion a copy of his *Prodromus coptus*[101] and on the second a warm eulogy of his fellow Jesuit's character and deportment—'a brother most closely joined to me by the common bond of the religious order'. In his second letter, Kircher skilfully accepts the son's virtues as being mirrored in the father 'since you have abundantly poured your splendours and distinctions of soul into the son begotten of the life of your own virtue' and devotes most of the letter to the praise and acclamation of their mutual excellence.[102] One wonders at the father's reaction. Possibly he had been averse to his son's becoming a Jesuit, hence Kircher's attempts to heal the breach. There are no letters preserved from the father.

However much these letters might tell us about Kircher's inexhaustible good nature, they tell us nothing about his own works. More revealing in this respect are Kircher's letters to his publisher Jansson. Of these two letters written to Amsterdam, the first is a formal letter of appreciative thanks to the Dutchman for his work on the 'Splendidum et Nobile Alexandrinorum Septilinguum Bibliorum opus'. Kircher expresses in this letter the pleased reaction of Pope Alexander VII, in whose honour the work was named.[103]

---

[98] Seven years earlier, Kircher used a smiliar analogy upon receiving a letter from the Duke of Saxony: 'Florum sicut odor tua litera sparsa fragrabat Non deerant violae lilia mixta rosis': I. 308 (Rome, 6 March 1660).

[99] X. 13 (*Ex Tusculano agro*, 24 October 1667).

[100] There are seventeen letters preserved from Christoforo Centurione, between 15 July 1648 and 31 October 1658, written from Tivoli and Genoa, on points of antiquarian interest.

[101] VII. 75 (Rome, no date given).

[102] VII. 78 (Rome, 27 February 1648).

[103] IV. 86 (Rome, 30 March 1667).

In his second letter, Kircher writes explicitly on his present and future works.[104] He shows his relief at hearing from Jansson and reveals his apprehension in the case of new wars: 'fear…about the cessation of work on the books on account of the upheavals of an impending war'. Two of Kircher's works are apparently almost through the printing, the *Archetypon politicum* and the much longer *Arca Noë*, for which latter work the Jesuit includes two improved and corrected maps. In the next paragraph Kircher promises to send—if war on the Rhine does not impede transport—his *Turris Babel* and also describes the near completion of his 'Atlas Pantoglossus', which could well cause technical difficulties in being printed at all: 'it contains seventy-two languages that have arisen in the development of languages, with the distinctive characteristics of all and of each; and with the geographical maps of each people in which the said languages are in use'.

This work was, unfortunately, never printed. Neither were two other books promised in this letter by Kircher, the one being his 'Hetruria', the other being an 'opus de universali practici geometriae'. One wonders whether these manuscripts ever reached Amsterdam. The next work promised by Kircher did arrive safely and was duly published. This is Kestler's *Physiologia Kircheriana*, though here the Jesuit omits the name of its compiler, and describes the book as containing 'experiments made by the author over some thirty years, in every class of natural object'. He points out, too, the undeniable attraction of such a lengthy work 'with over three hundred experiments' in an age when such experiments were the order of the day, 'especially at this time when experimental philosophy is flourishing so greatly in almost all the academies of Europe'. A further work mentioned here which similarly managed to reach the printing press was Giorgio de Sepi's *Romani Collegii Soc. Jesu musaeum celeberrimum*. In his concluding paragraph, Kircher expresses a scholarly interest in the proposed publication of a work on China by Fr Prosper Intorcetta,[105] and in a book on Armenia written by Theodor Petreius.[106]

---

[104] XI. 15 (Rome, 7 May 1672, [2]).

[105] *Sinarum scientia politico-moralis*. Intorcetta's *Compendiosa narratione* was published in the same year.

[106] *Doctrina Christiana*. In 1668, Petreius forwarded to Kircher an erudite report, entitled 'Syllabus 14 vocabulorum in Onomasticoa copto-arabico correctorum': Epist. XI. 178 (Amsterdam, 16 November 1668).

Kircher also wrote, earlier, to Jansson's partner Elizaeus Weyerstraet. In this draft, unfortunately without date but probably sent about 1650, the Jesuit discusses the distribution of the *Musurgia*. Of some 1500 copies printed, we learn that 300 were distributed among those Jesuit fathers 'come to Rome from all corners of the globe for the election of a new General'.[107] 50 more copies were sent to the Emperor and Archduke in Vienna, 25 to England, fifteen to Spain (twelve to Tolosa and Ferrara)[108] and of the remainder, 250 were distributed in Italy, 'where the study of music flourishes'. The remaining 700 volumes Kircher places at the disposal of the publishing house.[109]

From this everyday letter we move to one that clearly demonstrates the efforts made by Kircher in his attempts at the acquisition of universal knowledge. Soon after his arrival in Rome, in 1635, he wrote to the Ethiopian scholar Mosen Muchi a letter praising Muchi's erudition and fame. The letter is in Ethiopian but the draft in Rome is accompanied by an interlinear translation into Latin. From this, we see that Kircher's main interest lies in seeking information on the 'ars vetusta et nova in terra Aethiopiae'. Logically, Kircher appends his signature duly transcribed into the same language as the body of the letter.[110] At this point, it may be of interest to note the presence in Kircher's correspondence[111] of some 40 letters written to him in a bewildering variety of languages—Japanese, Arabic, Coptic, Samaritan, Hebrew, Armenian, Syrian and Chaldaean. Several are written by rabbis, some by one Gabriel Hesson, a Maronite of Mount Lebanon,[112] though the Jesuit missionary Amato Chefaud is responsible for most of the Arabic letters.[113] While on this subject, we may note that at least one European scholar, Hieronymus Harder, Professor of Oriental Languages in Leyden, wrote to Kircher in Arabic.[114]

The letters of Gabriel Hesson, the Maronite, were not directed to Kircher by chance. In a letter to Giovanni Battista Podestà in

---

[107] This coincidence ensured an automatic worldwide disperson of the text: 'et in Africam, Asiam et Americam distracta fuerunt'.

[108] The Scottish Jesuit Hugo Semple, however, in a letter to Kircher remarks, '18 Musurgias mihi Vra. Ra. misit' and further declares, interestingly, 'pro decem tomis 480 Regales nummos Hispanienses accepi': III. 442 (Madrid, 27 February 1652).

[109] VII. 79 (Rome, no date given).

[110] XIV. 289 (Rome, 8 September 1632).

[111] XIV. 277–332.

[112] See XIV. 286, in Syrian.

[113] See XIV. 310, 306.

[114] IV. 187 (Leyden, 8 August 1671).

Constantinople,[115] Kircher describes Hensson's arrival in Rome from Vienna and marvels at his command of languages. It is, perhaps, here that we ought to remind ourselves that Kircher had held, at the University of Würzburg, the Chair of Oriental Languages. For Podestà's own delectation, Kircher includes a series of exotic inscriptions within the text of his letter and comments, somewhat irrelevantly but perhaps with the idea of stirring him to emulation, on the recent gift of various weapons to his Museum by the Count of Montecuculi.[116]

[115] XI. 12 (Rome, 18 May 1674).

[116] See Kircher's later letter of thanks to this Italian noble: XII. 236 (Rome, 18 June 1675).

CHAPTER FIFTEEN

# OTHER KIRCHERIAN LETTERS

## Letters Preserved in Rome

### *Biblioteca Apostolica Vaticana*

Well hidden among the haphazard mass of Kircherian manuscripts in the Vatican Library are several letters written by the Jesuit. Of these, the first eight treated below are appropriately catalogued: the remainder lurk among some of Kircher's more serious manuscript reports sent to Pope Alexander VII, at his own request.

Seven of these letters are written to one Paganino Gaudenzio of Pisa, with whom Kircher appears to have been on the most cordial footing, one of his letters being signed, simply, 'Athanasius', a familiarity rarely encountered in his correspondence.[1] For the most part, Kircher's letters here are unremarkable. Gaudenzio seems to have written regularly to the Jesuit[2] and on several occasions included epigrams, a fact duly observed and gratefully acknowledged by his Roman correspondent in various letters 'indeed you praise me; even more, there are epigrams'.[3] On another occasion, Kircher describes how he had shown one of Gaudenzio's more specific epigrams to his colleagues at the Collegium Romanum: 'I have read and examined that elegant epigram of yours about the situation at Genoa and I have offered it for reading to the very learned scholars of the Collegium Romanum'. In the same letter, we see an example of Kircher's willingness to help, a willingness all the more gratifying and spontaneous since this was only his second (known) letter to the Pisan scholar.[4] Apparently

---

[1] Biblioteca Vaticana [Ms]: Urb. Lat. 1629 416.

[2] Most of Kircher's letters acknowledge Gaudenzio's 'literas tuas'. Despite this there are, incongruously, two letters alone from Gaudenzio preserved elsewhere in Rome and written to Kircher: Epist. XIV. 22 (Pisa, 23 February 1657) and XIV. 102 (Pisa, 2 February 1648).

[3] Bib. Vat.: Urb. Lat. 1629 370 (Rome, 18 January 1647). Kircher signs this letter with his full name, but transliterates it into Greek.

[4] Urb. Lat. 1629 390 (Rome, 17 March 1647). Signed with Kircher's Christian name alone, again transliterated.

Gaudenzio had some doubt on an unspecified point 'in praefatione Justini Hylovici' and Kircher in his attempts to clear up this point consulted various authorities, including the Vatican Library, and finally wrote to an unnamed authority in Mainz. Kircher quotes more authorities on this point in his next letters where he also acknowledges a newly composed epigram: 'those most candid epigrams of yours sent on to us', which the Jesuit had perused 'not without great pleasure'.[5]

Two months later, Kircher wrote again to Gaudenzio and described in great detail the strange case of a seven-year-old boy, recently arrived in Rome,[6] whose academic achievements were beyond belief. He 'replies to all questions—theological, philosophical, juridical, medical, ethical, rhetorical—to the admiration of all'. Kircher himself had twice examined the child and, to his awe, had both times 'found him firm and constant in his replies'. This was to some extent the age of child prodigies, but even so Kircher admits that this is something out of the ordinary: 'this age is a wild beast with every kind of monster'. In his concluding paragraph, Kircher talks apprehensively of bad news from Germany: 'wise men prophesy grimly and fear a truly terrible catastrophe', and confides his own hopes in the power of prayer to avert disaster.[7]

There is a slight break in the correspondence, until four months later, when Kircher remarks on his friend's literary silence, in a letter where he expresses vague fears on the possibly unfavourable reception of his forthcoming *Musurgia*.[8] Apparently Gaudenzio had expressed interest in Kircher's Museum, for after another gap of two months, Kircher wrote thanking him for his 'rare mental genius' and adding, 'I had also made ready my museum with a great array of objects'. This letter was written from Tusculum by a countrified and fully rested Kircher longing to resume his former 'great vigour in scholarly activity'.[9] In the last letter we possess from Kircher to Gaudenzio, the Jesuit notes again his Pisan correspondent's long silence, and expresses once more

---

[5] Urb. Lat. 1629 416 (Rome, 18 March, 1647).

[6] Twenty years later Rome was visited by two ancient ment foretelling the imminent end of the world: they were confined and interrogated by several Jesuits in Greek and Chaldaean ('wherein they were exquisitely perfect'). We find, however, no mention of this bizarre incident by Kircher; see Anon., *A True Narration of the Two Wonderful Prophets at Rome, etc.*, London, 1666.

[7] Bib. Vat.: Urb. Lat. 1629 418 (Rome, 4 May 1647).

[8] Urb. Lat. 1629 480 (Rome, 24 August 1647).

[9] Urb. Lat. 1629 514 (Tusculia, 11 October 1647).

his fears of the *Musurgia*'s doubtful reception. These fears seem all the more acute since the work was almost finished.[10]

The eighth letter from Kircher recorded in the Vatican catalogues[11] was addressed to one Agostino Favoriti. It is a short note in Italian, discussing the best time for an unnamed 'Em. Cardinale mio Padrone' to visit Kircher.[12] If nothing else, these few scribbled lines give an unexpected view of a busy and highly respected Kircher, whose time would appear to be more valuably occupied than that of a cardinal. The fact that this short letter is preserved in the Vatican Library at all might indicate that the Cardinal in question was a highly respected dignitary of the Curia. The only letter now extant in the Gregoriana from Favoriti is, significantly, dated from Castel Gandolfo, the papal summer residence.[13]

Elsewhere among the Vatican archives are two letters written by Kircher to his exalted patron, Pope Alexander VII. Of these, the first, though written and dated in letter form,[14] is little more than a scholarly report to the Pontiff with 'an explanation of certain verses that St Pachomius is thought to have composed for use in church celebrations'. The manuscript is long and involved and largely devoted to describing the hierarchy of the Coptic Christian Church. Lest Kircher be accused of presumption, he deftly refers to the Pope as 'the judge of all divine and human'.[15] Similarly, the second letter was written as an introduction to an accompanying report on local antiquities. In it, however, Kircher does mention his work on the Roman obelisks,[16] and humbly begs the Holy Father's forgiveness for any faults in the work that might result from the weakness of his judgement.[17]

A letter from Kircher, in the same folio and dated two months later, is addressed to an unknown 'Eminente Signor Padre mio colendissimo', 'una persona di tanta dignità et eminenza come è un Nepote del Papa'.[18] The letter records the safe arrival in Rome from Genoa of

---

[10] Urb. Lat. 1629 573 (Rome, 22 February 1648).
[11] Bibl. Vat. Urb. Lat. 8202, f. 48 (no place or date given).
[12] (Collegium Romanum, 22 June 1665).
[13] Epist. IX. 295 (Castel Gandolfo, 11 May 1666).
[14] (Colleg. Rom., 29 August 1663).
[15] Bibl. Vat. Chigi J. VI 225 (1).
[16] Chigi J. VI 225 (8) (Tusculum, 27 October 1666).
[17] This letter is printed in C.D. Fea, *Miscellanea philologica critica*, vol. 1, pp. 322–327.
[18] (Colleg. Rom., 13 December 1666).

'certa robba da Nuova Spagna', forwarded by a Mexican correspondent of Kircher's, Alessandro Fabiani,[19] whose zeal and skill in the conversion of the heathens are admiringly brought to the prelate's attention, 'anche zelantissimo delle fede cattolica, e della conversione degli infedeli e Barbari'. To show his appreciation, Kircher presents him with 'una buona quantità delle cose più meravigliose'.

The final letter traced in the Vatican is one written to Kircher himself by Caramuel y Lobkowitz in praise of the *Polygraphia*.[20] Caramuel's own praise is reinforced by the polyglot contributions of five eminent European ecclesiastics,[21] whose flattering comments take the form of a eulogy addressed to Kircher as 'sapientiae speculo'. The German contribution is made by Franciscus Meyer ('Pragensis Campaniensis Canonicus Illustrissimi Domini Episcopo Secretarius'), who mentions that the *Polygraphia* was sent to him by Caramuel 'brunn der weisheit undt sonn der schuelen', and by the end of the same day, Meyer had fully mastered the intricacies of this new key: 'undter dem mittag hab ich empfangen deinen brieff: in einer stundt hab ich gelehrnt und begriffen die ganze Kunst. Und dess abendts hab ich geschrieben diesen Brieff: so wisse dann die welt dass diese Kunst sehr schoen, undt leicht undt wunderbarlich ist'.[22]

### *Biblioteca Nazionale di Roma*

The original manuscript drafts of Kircher's printed works are exceedingly rare. Obviously copies had to be dispatched to the appropriate printer, but equally obviously a fair copy can reasonably be expected to have been retained by Kircher. In the above library there exists a copy, in Kircher's hand, of the second volume of the *Oedipus aegyptiacus*.[23] At the end of this bulky, dusty manuscript are preserved what are either seven drafts or seven rough copies of letters sent by Kircher to various noble patrons or their representatives. None of these scribbled and often incomplete letters is dated. None is of particular inter-

---

[19] 'Nativo della puebla de los Angeles del regno di Messico'. Fabiani's gift to Kircher is recorded in Epist. X. 167 (Puebla de los Ángeles, 2 August 1666).

[20] (Campania, 4 August 1663).

[21] 'Italice a Joanne Chrysostomo de Acuntiis hispanice a Dominico Plato O.J.B. abbate Disembergensi latine a Gaspare Keller O.J.B. priore Monserratensi gallice a Carlo Hovio, bruxellensi, gubernator Castellarii in Satriensi episcopata boemrice a dicto Francisco Meyer'.

[22] Chigi J. VI 225 (7).

[23] Biblioteca Nazionale. Ms Gesuit 1235.

est but their contents and recipients are briefly noted for the sake of completeness.[24]

*Ad Ill.m. atque Excell. Dominum Bernardum, Comitem de Martinitz*
Kircher thanks the Count for his friendly and interested help. He talks of the 'vast and difficult [nature] of this Egyptian work' and briefly mentions 'my discourses about the Hebrew Cabbala',[25] at present so much a part of his scholarly studies.

*Ad Serenissimum Joannem Fridericem Ducem Brunsvicensi et Luneburgensi*
Kircher observes that without the Duke, his work on ancient music would never have seen the light of day: 'I have pointed out that the extremely refined harmony of the music of the ancient Egyptians, lifted out of darkness by my work, is to be brought into the daylight because of your generosity'.[26] He expresses his gratitude similarly for the Duke's interest in and patronage of his museum 'your favours towards me, and liberally towards my museum, as long as I have lived in Rome'.

*Ad D. Joannem Fridericum Cardinalem Langravium Hassiae*
Kircher discusses here, interestingly, the important role played by human wisdom in the fight against 'occultis spirituum' and 'in aperto daemonorum commercio'. At this juncture, the draft ends.[27]

*Ad Illustriss. D. Maximilianum S.R.I. Comiti de Lamberg S. Caes. Maiestatis apud Catholicum Regem Oratori dignissimo*[28]
Here we find mentioned the title of one of Kircher's later works, *Sphinx mystagoga*, which causes the Jesuit to reminisce on the work involved in his *Oedipus* with its necessary imperial subsidies for the printing.

---

[24] These seven letters are in Biblioteca Nazionale, under Ms Gesuit.
[25] Classis IV, 'Cabalica', of the *Oedipus*; (vol. II a) is dedicated to Martinitz.
[26] Classis VII (c), 'Musica Hieroglyphica', of the *Oedipus* (II b) is dedicated to Johann Friedrich.
[27] Classis XI, 'Magica, sive Magia hieroglyphica', of the *Oedipus* (II b) is dedicated to Cardinal Johann Friedrich.
[28] Classis III, 'Sphynx Mystagoga', of the *Oedipus* (II a) is dedicated to Maximilian, Count of Lamberg.

*Ad P. Joannem Gans S.I.*
With his fellow Jesuit Kircher discusses Plato and the divine gift of geometry. Since every mathematician tends at some time to seek the 'geometria arcana', this leads Kircher, inevitably to comment on 'de Geometria hieroglyphica'.[29] He discreetly indicates to Fr Gans the ways best calculated to use his influence and authority 'apud magnum Caesarem'.

*Ad Celsis S.R.I. Principem ac Dominum D. Ferdinandum Joannem Principem a Liechtenstein et Nicolspurg Ducem Teschinium*
Ferdinand Johann is humbly thanked for his help during the last fifteen years 'tria fere lustra' towards Kircher's greater understanding of the arts and sciences. Kircher progresses from the past to the present and describes his work 'de veterum Arithmetica hieroglyphica'.[30]

*Ad Serenissimum Principem Ferdinandum II Magnum Hetruriae Ducem*
Kircher talks flatteringly of the Duke's noble and exalted personal qualities 'and the almost divine virtues of your soul—wholly of a demi-god'. He thanks the Duke for indicating to him various proofs of difficult matters, and in turn draws the ducal attention to the section in his *Oedipus* on 'argumenta Veterum Aegyptiorum Alchimia'.[31] It is to be noted that, in mentioning his *Oedipus*, Kircher almost invariably draws attention to its imperial sponsor, 'cum itaque Magni Caesaris jussu'.

## *Pontificia Università Gregoriana*

For a postscript on Kircher's unprinted letters in Rome, we return to the Archives where we began. Among the stored correspondence in the Gregoriana of the Jesuit scientist Christoforo Clavio,[32] there is a letter written to Kircher from the otherwise unknown Lorenzo Arnolfini.[33]

---

[29] Classis VII (b), 'Geometria Hieroglyphica', of the *Oedipus* (II b) is dedicated to Johann Gans.
[30] Classis VII (a), 'Arithmetica Hieroglyphica', of the *Oedipus* (II b) is dedicated to Ferdinand Johann.
[31] Classis X, 'Chimica', of the *Oedipus* (II b) is dedicated to Ferdinand II, Duke of Tuscany.
[32] Pont. Univ. Gregoriana [Archiv.] Ms 529 II 125.
[33] (Lucca, 13 January 1652).

From its length and strictly scientific content—on the construction of 'un horologio verticale' as per Kircher's *Ars magna*—this letter could be seen as typical of the Jesuit's specialized correspondence.[34] For this reason it forms a fitting conclusion to discussion of the correspondence of Athanasius Kircher.

## Letters Preserved Outside Rome

Once one has left Rome,[35] the number of letters written by Kircher that are still preserved in archives and libraries falls sharply. There are, it is true, a small amount still accessible in haphazard collections, but for the most part a mere fraction remains of the vast number of letters written by the Jesuit. A short examination follows of those letters which have been successfully traced. For the sake of convenience and greater clarity, these remnants of Kircher's epistolary activities are treated under geographical headings. Kircher's letters to Peiresc, however, which are housed in the Bibliothèque Nationale in Paris and are of some substance, have already been discussed in Chapter thirteen.

### *Florence*

Within three of this city's libraries are preserved twenty letters sent by Kircher from Rome.[36] For some unknown reason, but possibly influenced by Kircher's visit to Tuscany and his short residence in Florence, this is the only Italian city outside Rome where his letters are preserved. Only four are addressed to specific recipients; the destination of the remaining sixteen is not indicated on the letters and remains unclear.

---

[34] The two volumes of Clavio's letters are unpublished. See, however, E.C. Phillips, 'The Correspondence of Fa. Christopher Clavius S.I. preserved in the Archives of the Pontifical Gregorian University'. *Archivium Historicum Soc. JESU* 8 (1939): 193–222.

[35] Over twenty of the older libraries and archives in Rome were examined in vain for further Kircherian letters. According to Gabrieli, letters from Kircher to Domenico Magri and Marco Aurelio Severino are to be found in Naples (Biblioteca Nazionale, MS Brancacciano VI. B. 13) and the Lancisiana in Rome itself. Upon further scrutiny, no traces of these manuscripts were to be found. See G. Gabrieli, 'Il Carteggio Kircheriano'. *Reale Academia d'Italia rendiconti della classe di scienze morali e storiche* (Fasc. 1–5, Series 7) 2 (1940): [1ff.].

[36] These three libraries are: Biblioteca Nazionale Centrale (BNC), Biblioteca Medicea Laurentiana (BML), Biblioteca Marucelliana (Bib. Maruc.).

Of the four named letters, the first is addressed to one of Kircher's less frequent correspondents,[37] Giovanni Battista Doni (*c.* 1593–1647), whom the Jesuit describes as 'Orpheus returned to life'. This flattering epithet is derived from Doni's authorship of *De praestantia musicae veteris*, which he took the liberty of forwarding to Kircher. In his letter, the Jesuit thanks Doni for this book—'that little book of yours entitled "On the excellence of ancient music" which you sent me not so long ago'—and praises his defence and erudite study of ancient music. Kircher promises to mention both Doni and Giacomo Bonvicino, men 'most skilled in mathematics and Greek' in his forthcoming work *Musurgia*, which he goes on to discuss.[38] He describes how he is nearing the end—'laus DEO'—of this huge work and mentions that in it he hopes to touch upon the values of modern music 'ita Antiquo-modernae musicae agitatam controversiam' and in this way reveal its varied faults.[39]

The second letter is of less interest. It is addressed to the Prince Cardinal Leopoldo de' Medici and is written to accompany the gift of Kircher's *Oedipus aegyptiacus*. True to tradition, Kircher describes this work as the result of long effort 'e doppo continui travagli di 20 anni finalmente uscita alla publica luce del mondo'. In its author's eyes, the completion of this treatise not only augments the sum of human learning, 'non solo per l'utilità et emolumento della Repubblica Letteraria', but redounds to the greater glory of its patron and faithful supporter, Emperor Ferdinand III.[40] The two remaining named letters in Florence, if one excepts a lengthy report on Roman cemeteries made to the ecclesiastic-scholar Ambrogio Landucci,[41] are addressed to the scientist-poet Francesco Redi. Unfortunately, it did not prove pos-

[37] Two of Doni's letters to Kircher are preserved in the Gregoriana Archives: [Epist.] III. 318 and III. 394.

[38] Bonvicino was one of Kircher's Jesuit correspondents; four of his letters to Kircher are noted above: II. 340, III. 24, XIII. 279 and XIII. 280.

[39] Bib. Maruc, cat. A 289–290 c.352 (Rome, 19 October 1647). Subsequent research has established that this letter in Florence is a copy. The original is preserved in the British Library: Egerton MS 22.f.40.

[40] BNC, Aut. Pal. II 70 (Rome, 31 May 1655). Curiously, an almost identical copy of this letter is preserved in the same library under Aut. Pal. IV. 40. This second letter, addressed similarly to 'Serenissimo Principe', is in Kircher's hand and differs in minor points; cf. the corresponding description of his *Oedipus*: 'et doppo continui travagli de 20 anni finalmente con la gratia di dio uscita alla publica luce del mondo'. The date is the same.

[41] BNC, Aut. Pal. IV 49–51: 'Breve ratiocinium de Cemeteriis Rome, nis Reliquiisque, quae in iis reperiri solent'.

sible in Florence to examine these letters[42] since the relevant archives were closed. Unfortunately, subsequent requests have not proved successful.

There remain therefore the sixteen unnamed letters[43] variously addressed 'Serenissimo Principe', 'Serenissimo Patrone', 'Serenissimo Cardinale' and, in one case, 'Serenissimo Gran. Duca'. This last letter could well have been written to either Ferdinando or Leopoldo, who in turn resided in Florence as Grand Dukes of Tuscany. The other letters were probably, but not certainly, addressed to Leopoldo de' Medici. For the most part these letters refer to works forwarded to Florence by Kircher; in one,[44] the Jesuit refers to 'the work I am undertaking dealing with the renewal of ancient wisdom' dedicated to the Emperor 'Caesare Domino ac Mecagnate meo clementissime', a work that is further unspecified. Later he asks his Serene Patron not to pay heed 'alla piccolezza dell'offerta',[45] and in a later letter he discusses the need for 'studio profondo' felt by 'anche le più famosi letterati di questi tempi'. In this same letter, which is largely devoted to describing the Jesuit's academic activities, Kircher complains, in a wryly serious vein, of being overworked: 'I have been prevented by various tasks, [and] I have not been able to put into execution this plan of mine'.[46] The letter concludes with the formal stereotyped salutation, the nature of which could well help to identify the hypothetical recipient as Leopoldo de' Medici: 'et con questo le fo profundissima riverentia, basciandole le mani, e pregandole da dio ogni prosperità'.

In his letter to the Grand Duke, Kircher forwarded his *Oedipus aegyptiacus*, again describing it as 'fatica di 20 anni, uscita nuovamente alla luce' and later elaborating on this same gift as 'un picciol tributo del mio grandissimo affetto'. He talks briefly, too, of his work on the genealogy of the Medici family.[47] This is a theme that runs through most of his letters to the Medici in Florence and that is even more fully

[42] BML, Laur. Redi 224. c. 215 (Rome, 27 October 1668); Laur. Redi 203. c. 289 (Rome, 29 June 1675).

[43] Under the catalogue heading of C1.VIII 1223 of the BNC are four letters attributed to Kircher. They are addressed to the Florentine antiquarian and librarian Antonio Magliabechi. Upon closer examination, they prove to have been written by the monk Carlo Giuseppe Ambonati and are devoid of any Kircher reference.

[44] BNC, Aut. Pal. IV 41 (Rome, 9 March 1641): ad Serenissimum Principem.

[45] Aut. Pal. IV 42 (Rome, 22 March 1646): al Serenissimo Sig. Pne.

[46] Aut. Pal. IV 43 (Rome, 21 October 1650): al Serenissimo Principe.

[47] Aut. Pal. IV 44 (Rome, 25 April 1655): al Serenissimo Gran Duca.

developed in Kircher's correspondence, to be discussed later, with Alessandro Segni. Four years later, Kircher wrote to his 'Serenissimo Principe', thanking him for the courtesy and kindness exhibited to the Jesuit during his stay in his 'glorious city', Florence. In the concluding paragraph of this same letter, Kircher describes the renewed zeal with which he is approaching his work and discoveries in 'delle più astruse cose della natura e dell'Arte'.[48]

In 1665, Kircher transmitted to the same dignitary his 'libretto intitolato Historia Eustachio-Mariana',[49] complete with a concise summary of how he had rediscovered this venerable ecclesiastical site.[50] Five months later, this gift was followed with intriguing news of a new discovery. During his research into the history of this same church, Kircher relates how he had unearthed 'un errore considerabile nella genealogia de conti Tuscolani', which was moreover, he darkly adds, 'non poco pregiudiziale alla Casa Conti'.[51] There is no elaboration of this tantalizing news.

A more formal note, recording 'la presente mia interpretatione dell'Obelisco Egittiaco',[52] precedes a longer, impassioned appeal to the Prince Cardinal for his intervention in the sad case of Carlo Filippo, Prince of Tunis. With indignation, Kircher relates how this young prince, one of his own correspondents,[53] entered into an agreement with an English merchant to be conveyed from Tunis 'alla fede Christiana in Palermo' and from there to Spain and then back to Rome. Lamentably, the 'mercante Inglese' was less interested in the prospect of a new convert to the Church of Rome than in the 6000 scudi offered for her son's safe return to Tunisia by the boy's anxious Muslim mother. Accordingly, the unfortunate eighteen-year-old prince was promptly shipped back home. Kircher, upon hearing of this fresh perfidy, and no doubt feeling his own attempts at conversion slighted, lost little time in appealing for aid and protection for his protégé. He describes how in turn he appealed to the ailing Alexander VII, and after the Pontiff's death, to the Grand Master of the Knights of Malta. Nor did he, in his frenetic attempts to secure the young

[48] Aut. Pal. IV 45 (Rome, 28 October 1659): al Serenissime Principe.
[49] *Historia Eustachio-Mariana*, p. 184.
[50] BNC, Aut. Pal. IV 46 (Rome, 16 May 1665): al Serenissime Principe.
[51] Aut. Pal. IV 47 (Rome, 4 September 1665): al Serenissime Principe.
[52] Aut. Pal. IV 48 (Rome, 3 July 1666): al Serenissime Principe.
[53] Nine of the letters written by this Prince to his Jesuit protector are preserved in the Gregoriana.

prince's salvation, refuse the humble help of one 'Cavagliere Beauchamps, Francese'[54] or that offered by 'Conte Francesco Millietti Cavagliere Piemontese'. This Italian nobleman had acted swiftly and had gratifyingly dispatched his own brother to Tunis to try to determine the Prince's intention.[55] Kircher's letter is an appeal to the Cardinal to extend his approval and protection to this latest development.[56]

In his final letter to this same Cardinal, we presume, Kircher reverts to his more customary role of a humble but learned authority. He talks mainly of his researches into 'la grandezza della casa Medicea' and mentions, in this context, the excellent work done by Jan Jansson, 'il celebre libraro d'Amsterdam'.[57] It would seem even at this late stage Kircher was still contemplating publishing the results of his genealogical researches. For more light on this aspect of Kircher's activities, we turn to the correspondence with Alessandro Segni, preserved in the British Library.

## British Library

Among the manuscript collections in the British Library are seventeen autograph letters written by Kircher to Segni between 20 January 1677 and 17 April 1678 and bound together.[58] From the address on one of them[59] we learn that Alessandro Segni was a gentleman in waiting to the Grand Duke of Tuscany. Segni, whose letters to Kircher are preserved in the Gregoriana[60] and discussed in Chapter eleven, was interested in antiquities and genealogy. Kircher's letters deal mostly with this latter interest, which had mutual significance for the two scholars, and in particular with the family history of the house of Medici.

Kircher's opening letter is typical of the entire seventeen. He evinces throughout a lively interest in and deep respect for the erudition of his

[54] For Beauchamps' reply, in which interest is evinced, cf. Epist. X. 65 (Avignon, 23 March 1668).

[55] This action is confirmed in a letter written to Kircher; cf. X. 32 (Livorno, 30 May 1668).

[56] BNC, Aut. Pal. IV 52 (Rome, 25 May 1668): al Serenissime Principe Card.

[57] Aut. Pal. IV 53 (Rome, 26 October 1675): al Serenissime Card.

[58] British Library Ms 22.804. This collection was purchased by the British Museum at Mr Libri's Sale, 31 June 1859.

[59] (Rome, 28 February 1677).

[60] Nine letters, written from Florence between 26 January 1676 and 17 December 1677: see Epist. XII. 73–81. (609–611).

correspondent and describes the 'giubile di cuore' with which he had received Segni's letter: 'la viva demonstratione della di Vostra Serena Maesta cordialissima affettione'. He talks admiringly of Segni's wisdom 'per la gratiosa et erudita penna' and in reference to his own planned work on Etruria, wryly mentions the inevitable criticism it must receive 'censurata da più letterato del mondo'. In a postscript, he calls Segni's attention to an offer of help recently received from Antonio Magliabechi.[61] In the ensuing correspondence, Kircher described variously his ill health,[62] his work on the antiquities of Etruria 'la più famosa, celebre et anticha d'Italia, d'Etruria'[63] and, chiefly, the progress of his studies in the genealogy of the Medici.[64]

The following March found the Jesuit at last untroubled by tiresome catarrh and working hard both on his Etruscan work and his *Turris Babel*. His time is also taken up with his revision of the *Mundus subterraneus* for the second edition, a task which, with 'la divina Bontà', he hopes to conclude in time to send his manuscript to Jansson for 'la fiera pasquale di Francoforte'.[65] In a later letter, he directs Segni's attention to the presence in Florence of Nicolaus Steno, 'amico mio intimo', and is inspired by this to talk more generally on other converts to the Church of Rome.[66] Six weeks later, the Jesuit records the safe arrival in draft form of the Medicean genealogy and describes its careful checking at the hands of one Elia Loreti, 'mio ajutante'.[67]

A longer letter the following month contains cheerful news on the progress of both 'l'opra d'Etruria' and 'la genealogia Medicea'. Kircher mentions here a newly printed list of his works, executed by Jansson in time for 'la fiera autonnale di Francofurto' and also describes the difficulty he is experiencing in the engraving of a certain 'tavole cartografiche della Toscana', presumably intended for insertion into the work on Etruria. In a later paragraph, Kircher briefly includes a reference to the forthcoming Apostolic mission in the church of the Blessed Virgin at Mentorella.[68] Several letters follow, written in an often weak and sprawling hand, with cheering news of Kircher's continued academic

[61] (Rome, 20 January 1677).
[62] (Rome, 30 January 1677).
[63] (Rome, 6 February 1677).
[64] (Rome, 13 February 1677).
[65] (Rome, 27 March 1677).
[66] (Rome, 8 May 1677).
[67] (Rome, 25 June 1677).
[68] (Rome, 21 July 1677).

progress, until in March 1678 he triumphantly announces, 'habbiamo con la gratia di Dio finalmente spedita l'Etruria'. In the same letter,[69] he returns to the theme of genealogy, neglected lately in his feverish activity to complete his *Hetruria.* He records the sterling work performed in this respect by Loreti, whom he describes as his assistant on the Medici genealogy.

In the final letter we possess in this series, of which Loreti is a co-signatory, Kircher talks of the promising progress made in this field and acknowledges both a helpful report from Florence and the kind interest of the Grand Duke.[70] Although Kircher refrains from a more explicit statement, we gather from the increasing prominence of Elia Loreti in his letters that the Jesuit is preparing to relinquish work on the genealogy. This is confirmed by a letter written by Loreti to Segni, and bound as a tail-piece to the letters discussed above. In it, Loreti, who was a Roman doctor of medicine and whose only letter to Kircher is discussed above,[71] informs Segni that Kircher, on account of his age ('carico di anni, di fatiche e di gloria per li suoi libri eruditissimi'), is unable to give to the 'Genealogia Medicea' the attention hitherto bestowed, and that therefore the eminent father had ordered him to continue the work.[72]

Although the Segni correspondence constitutes the only letters written by Kircher to be preserved in the British Library, there are three other items of an epistolary nature which are of interest in our study of Kircher and his reputation. The first of these is an abstrusely rambling letter sent by one of Kircher's correspondents, Abraham von Frankenberg,[73] to Samuel Hartlib, 'panphilosophus', then resident in London. Frankenberg spent most of his life as a scholarly recluse at the family estate of Ludwigsdorff in Silesia, but from 1645 to 1650, compelled to leave his paternal home by religious difficulties, he resided in Gdansk with Heveliusz. In his letter to Hartlib,[74] the exiled nobleman talks vaguely and uncertainly of several 'oracula Al-runica' forwarded to him by the Uppsala scholar Johann Thomas Burius. This Swedish philologist had sent to Frankenberg an autograph report on

[69] (Rome, 20 March 1678).
[70] (Rome, 17 April 1678).
[71] Cf. Epist. V. 128 (Rome, no date given).
[72] (Rome, 26 March 1678).
[73] Frankenberg wrote five letters to Kircher from Ludwigsdorff and Danzig between March 1647 and 21 October 1651. These are noted above.
[74] Brit. Lib. Sloane Ms 648.f.91; Hartlib, 1600–1662.

'adulrana Rediviva de mysteriis Alphebeti trium Coronarum' which Frankenberg promptly forwarded to Athanasius Kirchner in Rome (the spelling mistake is his). As an appendix to his mysterious letter, Frankenberg copies, from Kircher's *Prodromus coptus* (p. 333), the 'idea or symbolism of the Egyptian Oedipus…which A. Kircher promoted'.[75] Two years later, this same Samuel Hartlib, who lived in Duke's Place, London, received a letter from Cyprian Kinner.[76] This communication described Kinner's interest in Kircher's proposed *Mundus subterraneus* and 'Natura machinis animata' and included, for Hartlib, the copy of a letter sent the previous year from Kinner to Kircher: 'On that account I wrote to him, as you here see. I shall communicate with you at a suitable time about what he will say in reply'. This letter is preserved in the archives of the Gregoriana and is discussed in Chapter 10.

The third item, given here in full, is a single sheet of quarto bearing a eulogy dedicated to Kircher and composed by Joachim Pastorius-Hirtenberg, a former Lutheran pastor in Silesia who became a Roman Catholic after confessing his allegiance to the Socinian doctrine. His tribute follows:

In Honorem
Sumni et Scriptis longe celeberrimi
Polyhistoris
Athanasii Kircherii

Te genuisse Parens gaudet, polydaedala dignum
    Cui tota sese credat amica sum
Patria se tanto Germania factat Alumno
    Conscia, ante diu non peperisse decus
Te grandis dum Roma foret dum suspicit immus
    Par aliquid Regnis sentit habere suis
Et celebro Kirchere,[77] Tuo dum traditur orbis
    In te noscit, opes et stupet ipse suas
Sed pastoritia dum Te luctatur arena
    Paupereque ingenio dicere noster amor:

[75] In a haphazard footnote, Frankenberg gives a short list of Kircher's first three published works and remarks that the Jesuit 'rogat omnes, qui aliquid de simili (oedipi) argumento vel legerint unquam, vel observata dignum alibi, in quacunque lingua vel facultate id fuerit, notarint pro cura qua Boni communis promotione tanguntur, secum ea communicere non recusent'.

[76] Sloane Ms 649.f.17 (Elblag, 20 May 1648).

[77] In the manuscript, this form is substituted for 'Kirchnere'.

Cautior audacem Clio sufflaminat, orsum,
Et quid Tu Soli vis dare lumen, ait
Kircherum satis est mirari, Cuncta fatentur
Se meritis tanti plectra minora viro.

His laudatory sentiments are followed by a five-line apostrophe to the *Mundus subterraneus*, which was published in 1665:

Cum Mundum Subterranei ederet
In orbe quicquid artifex defoderat
Natura, coecis quicquid in necessitis
Miraculorum servat alte conditum
Kirchere promis, ipse ceu Sol omnium.

Pastorius-Hirtenberg's letters to Kircher commend the Jesuit's activities and scholarship in the highest terms. He also sent to Kircher an anagram on Pope Clement X, entitled 'Papa romanus per anagramma Is mens pura, pacem, coelum dans'.[78] Oddly enough, his eulogy to Kircher himself is missing from the Roman archives. How this single sheet arrived in the British Library remains unknown. It is, however, bound within a volume of miscellanea entitled 'Letters and Papers of J. Pragestus'.[79]

### *Random Libraries and Archives*

A limited number of solitary Kircher letters exists in various libraries and archives outside Florence, London and Paris. In spite of extensive correspondence,[80] it has not proved possible to locate more.[81] The

[78] Epist. VI. 272 (Gdansk, 26 February 1672).

[79] Brit. Lib. Sloane Ms 1381.f.31.b.

[80] In this search, major and old-established libraries and archives in France, Switzerland, Austria, West and East Germany, Poland, Czechoslovakia, Sweden, Denmark, Norway and Italy, including Sicily, Sardinia and Malta, were contacted. The meagre results of this extensive correspondence are given below.

[81] The Medical Library of the University of Montpellier possesses a collection of letters written to Cassiano del Pozzo. Among these manuscripts are preserved: fol. 291: letter from Kircher dated Rome, 18 September 1647; fol. 293: letter from Kircher dated Rome, 27 November 1654; fol. 295: letter from Pozzo to Kircher dated Rome, 28 November 1655; fol. 292: a printed page from Kircher's *Oedipus aegyptiacus*. A letter from Kircher dated Rome, 1 September 1671, is extant among the correspondence of Vegilin in the Archives in Leeuwarden. It is of nondescript content and the addressee is unknown. For this observation I am indebted to Prof. L.W. Forster. Unfortunately, it has not proved possible to obtain copies of these letters. We may note, however, that the third is preserved in the Gregoriana Archives under XIV 261 and is devoted largely, as might be expected, to hieroglyphical discussion.

more obvious centres, such as Prague, Vienna or Gdansk, do not possess such letters; their location would therefore seem to be purely arbitrary. One of the more surprising features of this search has been the [almost] complete absence of letters in Italy, outside Rome. This negative conclusion has been reached only after the fruitless dispatch of some twenty-five letters to the older libraries and archives in Italy, Sicily and Sardinia. Malta too is devoid of such material. Obviously, more letters must exist somewhere, but possibly have yet to be catalogued. The small number of letters located are indicated below in an approximately chronological order.

One of the earliest letters we possess from Kircher was written to his fellow Jesuit Jean Ferrand[82] during Kircher's residence in Avignon. In this letter, which has a certain biographical significance, Kircher describes the interest taken in him by Peiresc and the French scholar's attempts to secure for him a certain stipend, however unworthy the Jesuit might be.[83] Kircher mentions the imperial post offered to him as well, and, for the sake of any future 'literarum negotiationem', includes for Ferrand his future address.[84] In conclusion, Kircher promises not to omit his farewell journey to Aix. In a footnote, Kircher hints at the possibility of his being transferred to Rome, if Peiresc should successfully intercede with the General of the Order, but this remains little more than an exciting possibility. The reason for this possible change of plans is also given: it is so that the young Jesuit might examine 'with his own eyes the hieroglyphs and ancient features of the Roman obelisks'.[85]

Five years later Kircher wrote to the professor of theology and Hebrew in Basel, Johann Buxtorf, from his new and temporary residence in Malta 'sed in ultimo Europae angulo in Melitensi inquam Insula'.[86] Kircher wrote in reply to a letter of congratulation sent to him by Buxtorf upon the publication of the *Prodromus coptus*. In turn, the Jesuit comments favourably on the Swiss professor's *Lexicon*

---

[82] Ferrand's three letters to Kircher, of which the first was written from Aix-en-Provence on 14 March 1634 (see Epist. XIII. 18.) are discussed above.

[83] (Avignon, 4 June 1633).

[84] 'Est ad sinum Adriaticu 10 leucis Venetiis situm Collegium Tergestinum vulgo Trist, primum ex Austriacie provinciae Collegiis'.

[85] In Bibliotheca de Carpentras, MSS de Peiresc II.f.402. This letter is not in Kircher's hand and is possibly the copy forwarded to Peiresc by Fr Ferrand. Another copy is in Paris: Bibliothèque Nationale, Fonds français No. 9362.f.16.

[86] (Valetta, 6 January 1638).

*thalmudicum*[87] and notes that it will provide much valuable material for later incorporation into the *Oedipus*. At the same time, Kircher seizes his opportunity and politely inquires of any example of 'Aegyptiacae sapientiae' that Buxtorf might have unearthed in 'Bibliotheca tua Rabbinica'.

In conclusion, Kircher mentions his exploratory trips to Vesuvius, Etna and the Liparic Islands. In Buxtorf's humanistic interests, he describes his rich haul of varied oriental printed works: 'item de libris Arabicis, Coptis, Graecis quos in manu suorum greges hinc inde collegi'. In his formula of farewell,[88] Kircher, who transliterates his name into Greek characters, refers to himself as 'your most devoted servant', a pleasing epithet only rarely used by him in this context.[89] Almost exactly a year later, Kircher wrote again to Buxtorf, repeating his seasonal greetings 'novique anni felicissimum precat suspicium'.[90] In this hurried letter, the Jesuit reports a recent conversation he had with Cardinal Barberini during which he had shown his Eminence a list of Buxtorf's works. The Cardinal, suitably impressed, had praised the Swiss scholar's modesty and industry. The letter tells us no more than this single incident. No doubt Kircher dashed it off while the conversation was still fresh in his mind. The concluding signature of this letter reads, quite simply and unusually, 'Tuus quem nostri Athanasius'.[91]

Two letters from Kircher to the astronomer and scientist Johann Heveliusz are preserved in the Staatsbibliothek at Marburg. In the first, Kircher thanks Heveliusz for praising his *Musurgia*, mentions his present activity on the *Oedipus*, and draws the astronomer's attention to a recent list of Kircher's works compiled and published by 'Nihusius noster' in the Netherlands.[92] Inevitably, considering Heveliusz' preoccupation with the heavenly bodies, the conversation turns to the most recent comet and this leads the Jesuit to deliver his verdict on Riccioli's *Almagestum*: 'clearly an outstanding work, and an exceptional instance of genius in the field of astronomy'. The last paragraph of this

[87] This was Buxtorf's *Lexicon hebraicum et chaldaicum*, a bulky (the first edition was 954 pp.) and erudite work which was to enjoy fourteen further editions before 1735.

[88] In beginning the letter, Kircher refers to Buxtorf, in keeping with custom, as 'doctissimo viro' and includes more cordially: 'cum novi anni felicio auspicio precatur'.

[89] University of Basel Library, Archives.

[90] (Rome, 2 January 1639).

[91] University of Basel Library, Archives.

[92] (Rome, 22 February 1653).

letter deals with Eustachio Divini and his production of telescopes. Kircher is undecided about the respective merits of '45 palmorum tubum' and the smaller '36 palmorum tubum' and submits his doubts to Heveliusz for his considered judgement.[93]

Two letters of lesser significance are extant in the Municipal Library of Dijon. Both were written on the same day from Rome and neither is of much interest. The one is addressed to Philibert de la Mare, described as 'Illustrissime Vir Regii Synedrii Senator amplissime' and contains, besides several laudatory remarks and empty phrases, Kircher's explanation, running to four sides of quarto, of a golden, gem-encrusted ring with Arabic inscriptions.[94] It may be noted in passing that de la Mare's letter to Rome, which is acknowledged by Kircher, is missing from the Gregoriana archives. A manuscript note on this letter records that it reached Dijon on 5 April 1654.

Kircher's second Dijon correspondent of that March day in 1654 was the Jesuit father Bernard d'Angles, similarly unrecorded in Kircher's collected correspondence in Rome. In this communication, Kircher describes his letter to de la Mare and adds how he has seized this opportunity to write to his fellow Jesuit: 'I offer to your Reverence, together with these things, my most humble obedience'. His short letter is, however, remarkable only for a seemingly irrelevant political comment from Kircher: 'I am really astonished at the Dutch heretics'.[95]

Two more letters contain Kircher's answer to obvious appeals for information on the heretic Burry. The first is a contemporary copy of a letter written by Kircher to Kaspar Schott[96] and is possibly only an extract, since both salutation and farewell formulas are omitted. As it is presented in this copy, the letter begins with rhetorical question 'Do you want to know what sort of person that man Burry is?' and runs obsessively through Burry's career until he is finally incarcerated, when the letter abruptly stops.[97] The second letter, this time in the original, written in German and addressed to 'den wohl-edlen und gelehrten Herrn Ankehlen',[98] contains an almost literal translation of Schott's

[93] Darmstädter Dokumentensammlung der Preussischen Bibliothek F.2.c.1646 (1).
[94] Bibliothèque Municipale de Dijon Ms 844 (Rome, 2 March 1654).
[95] Bib. Munic. Dijon Ms 844 (Rome, 2 March 1654).
[96] (Rome, 9 April 1660).
[97] Copy in University Library of Hamburg.
[98] (Rome, 17 October 1660).

letter, encapsulated among more normal items. With this letter, the Jesuit sends for Anckel's master 'das von mir newlich erlangte "Secret" der Sprachen' and goes on to convey his own ever-ready adaptation and acceptance of new ideas: 'Wann Ihro Hochfürstl. Durchl. was anders/es seye in anderen Materien/was es wolle/von anderen Secreten und Experienten, solle mir dasselbe nur mit einem Wort zu wissen gethan werden/will ichs mit Gottes Gnad und Beystand bald zu wegen bringen/und dass auss innerlicher Affection'. Kircher's long report on the black career of Burry and his various brushes with the Inquisition is concluded with the pious words: 'Ich hab den Herren alles wollen specifieren/damit er Ihro Durchl. einen gründlichen Bericht von diesem subjecto Könne überschicken'.[99]

Some nine months later, Kircher wrote again to Anckel to thank him for his 'ingeniosos labores Syncharmaticos'.[100] In this letter, the Jesuit describes, almost poetically, his own constant preoccupations which leave him so little leisure and hardly grant him time to think of his next move: 'As one wave presses breaks relentlessly over the next, so does the flow of tasks one after the other so continuously press down upon me that I don't know where to turn'. Apparently, too, his services have been devoted for the past four months to 'the interpretation of the most abstruse matters' on behalf of the Pope. Although giving of his best to this task, he expresses to Anckel his longing to be 'freed from the work of thorny investigation'. He concludes his letter with a quick glance at his latest works, among which he mentions his 'Hetruria et Latium uno Tomo comprehensa'.[101]

Towards the end of 1664 there seems to have been a certain amount of popular feeling in Geisa, Kircher's birthplace, that their famous son should intercede with his friend, Pope Alexander VII, to procure some holy relics for their tiny town.[102] This sentiment resulted in Kircher receiving two letters, almost simultaneously and each asking the same thing. The first of these was from Kircher's cousin Melchior Wigand,

---

[99] University of Basel Library: Archives.

[100] (Rome, 22 July 1662).

[101] University of Basel Library, Archives.

[102] This feeling had already to some extent been indicated to Kircher in 1659 by the Jesuit father Andreas Wigand, who later became apostate, when he wrote: 'Then I went to Geisa where all the citizens are self-congratulatory in connection with Your Reverence, and I don't know what they are devising to assist the memory of their descendants about you when finally you are dead': Epist. XIII. 121 (Worms, 7 January 1659). See also above, pp. 252–53.

the town scribe in Geisa.[103] In his reply,[104] Kircher assured his cousin that he would be willing to do anything that might arouse his compatriots' piety: 'was sie von begehrt haben, wil ich fleissig verrichten, und sonderlich, was die andacht under meinen landsleuten zu erwecken [?], wird dinstlich sein'. He promises therefore, both for the *Gangolphikapelle* and the *Pfarrkirche*, in Geisa, 'etliche furnehme reliquias'.

For the rest of the letter, Kircher inquires after family relations and old friends. In particular, he expresses concern over the death and burial of his sister Agnes and on her continued loyalty, despite her Calvinist husband, to the Church of Rome. Of her son, Kircher's nephew, he wonders 'ob nicht moglichkeitt sei ihren verlassenen Sohn zu Vach zum wahren glauben zu bringen'. Kircher also requests information on Hans Starck, who married his sister Eva, and their present whereabouts with their two sons ('und wo sie sich heutiges Tages aufhalten').[105] The second inquiry on these lines sent to Rome was made, more officially, by the parish priest of Geisa, Fr Witzel.[106]

Kircher's answer, unfortunately without date, is in many ways a Latin version of the letter sent to his cousin; we find his assurances of the arrival of the relics, we note his sorrow at the desolation caused and left by the Swedes, we meet again his worried concern at the exact rites used for his sister's burial. In the very last paragraph, however, we find a new and interesting query: Kircher asks for the exact time and date of his birth as recorded by the parish registers. This letter was quickly answered by Fr Witzel and the family information contained in it has already been discussed (see chapter one).[107] The parish priest was, however, unable to answer Kircher's last query: 'I don't know about the baptismal register, [which was] destroyed during the war or taken away by a thief'.[108]

---

[103] Wigand's letter to Kircher has since been lost; at least, it is not in the Gregoriana Archives.

[104] (Rome, 7 December 1664). The letter, which begins 'Vielgeliebter Herr Vetter', is addressed to 'Emin. et clar. Viro Melchiori Wigandt scriba civitatis Geysae'.

[105] Landesbibliothek Fulda: [Ms] Ser. B. for. VIII nro 8.

[106] See Epist. IX. 272 (Geisa, 5 October 1664).

[107] See X. 23 (Geisa, 28 January 1665).

[108] The oldest parish register which has come down to us dates from 1637 and was started by Fr Witzel's predecessor in office, Fr Nikolaus Hofmann (1637–1647) and continued to be used by Witzel. His theories on the register presumed lost are invalid, since, in this area, such records were ordered to be kept only after the Diocesan Synod of Fulda, held during Whitsuntide, June 1629. See *Fuldaer Geschichtsblätter* 16 (1923): 97ff.

Kircher's next letter accompanied the actual relics, the transport of which had been entrusted to a certain Hermann Kauffmann, for whom Kircher demands a suitable reward. Kircher stresses the value of the relics, which were worthy of princes. He draws attention to the correct procedure to be followed in the deposition of the relics in both the *Gangolphikapelle* and the parish church, a point he particularly stresses: they are 'to be exposed for the public, not only in connection with the parish church but with the church of St Gangolphus on the mountain'. In a postscript, the Jesuit mentions the presence in the accompanying capsule of four rosaries intended for Konrad Witzel himself, Simon Hill, Melchior Wiegand, both cousins of Kircher, and finally for Hartmann Eckhardt, the local mayor. These holy objects were all the more precious for having relics inserted in each separate bead. There is no trace or recollection of these rosaries in present-day Geisa.[109]

Kircher's letter was accompanied by a papal Brief of Indulgence granted by Alexander VII and dated 17 April 1665.[110] It makes clear the Indulgences bestowed on the parishioners of both the above churches in Geisa. The relics themselves—the bones of fourteen canonized martyrs[111]—were taken from the Cemetery of Priscilla in Rome, and both this fact and the authenticity of the relics themselves are attested in a certificate issued by the Prefect of the Apostolic Palace, Fr Ambrosius Landucci,[112] Bishop of Porphyreon and an Augustinian monk.[113] This transaction was finally rounded off by an ecstatic letter written to Kircher by Fr Witzel, describing the safe arrival and solemn installation of the relics.[114]

After this complex of letters and documents, we come to a letter written by Kircher to Leibniz.[115] This document, which we note here for the sake of completeness, is discussed in Chapter 13 (p. 352),

---

[109] Letter in Parish Church Records in Geisa (Rome, 7 May 1665).

[110] This is in the Archives of the Episcopal General Vicariat in Fulda.

[111] These early Christians were: Agapitus, Severinus, Hermes, Honorius, Pontia, Aemilianus, Marcus, Aurelius, Marcellus, Victor, Vincentius, Livia, Animus and Urbanus.

[112] For this prelate, Kircher made a brief survey of relics extant in Roman cemeteries: this report, which we note above, is in the BNC (Florence): Aut. Pal. IV 49–51.

[113] Document in parish church records in Geisa.

[114] Epist. VIII. 41 ([no place given], 22 June 1665).

[115] In Niedersächsische Staats- und Universitätsbibliothek, Göttingen, [Ms] Philos 138 m VI 56 (Rome, 23 June 1670).

together with Leibniz' own letter to Kircher.[116] The letter to Leibniz is followed, in our chronological order, in a shakily written and spidery hand addressed, simply and insufficiently, to one 'Praenobilissime, clarissime, et Excellentissime Vir'.[117] This note, mutilated and partly obliterated, is little more than a list of Kircher's last works, prefaced by the Jesuit's acknowledgement of some previous letter, composed, he suspects, 'only with the assistance of the Graces'. Among his works, Kircher includes his 'Hetruria Universalis Descriptio' and the similarly unpublished 'Geometria Practica Kircheriana', which he records here as being already in Jansson's hands. He notes too the respective compilations of Petruccio, Kestler and de Sepi 'Musei curator et mechanicus meus'. At the conclusion of this list, Kircher refers fleetingly to an otherwise unknown *Cosmopathia Kircheriana* by one Angelo Donata Letterius. At the very end of the letter, Kircher remarks on the visit to his Museum on 15 May of the Duke of Würtenburg and his son.[118]

If we overlook the letter written to Johann Monrath the Dane, which is preserved in the library of the Karl Marx University in Leipzig,[119] the penultimate letter in this section is that written by Kircher to one 'Serenissime S.R.I. Princeps' and preserved in Göttingen. This letter is a formal request from Kircher for permission to dedicate his *Arca Noë* to the Prince: 'a small gift—unworthy and in writing—which shows clearly the richness of divine prophecies'.[120] In the second half of the letter, Kircher talks a little about himself, wryly confessing the advance of old age 'I am old now, and my strength wavers somewhat') but still intent on the greater glory of God, however arduous the path: I do as much as I can in cultivating fields that are hard and challenging, covered over with thorn bushes and rocks'.[121]

In conclusion, we note Kircher's last letter in this section, addressed to the Classical scholar Theodor Almichoven, who is 'naturally gifted—a young person exceptional in learning and knowledge'. This brief and

---

[116] Epist. V. 166 (Mainz, 16 May 1670).

[117] (Rome, 30 May 1672).

[118] University of Hamburg Library: Archives.

[119] In E.W.R. Naumann's catalogue of this library (*Catalogus librorum manuscriptorum qui in Bibliotheca Senatoris civitatis Lipsiensis asservatur*), he notes on the subject of this letter (p. 129): 'Ad quem data sit, non legitur'.

[120] (Rome, 15 June 1675).

[121] Niedersächsische Staats- und Universitätsbibliothek, Göttingen, Philos 138 m. II. 31.

hurriedly composed letter[122] congratulates Almichoven on his command of the Greek language. Although the Jesuit refers to the pleasure he found in reading Almichoven's letter ('such pleasure as can scarcely be expressed')—there is no trace of any correspondence from Almichoven in the archives of the Gregoriana.[123]

Other letters written by Kircher and preserved in Paris are addressed to his fellow Jesuit in Avignon, Fr Jean Ferrand, to the French scientist and polymath Marin Mersenne, and to the astronomer Heveliusz. On closer scrutiny, the letter written to Fr Ferrand in June 1633[124] proves to be a contemporary copy of the letter preserved in the Bibliothèque Municipale in Carpentras, which is discussed below together with other manuscripts from sundry European libraries and archives.

Kircher's letter to Mersenne—author of the musical compendium *Harmonie universelle*, friend of Peiresc and indefatigable scholar—was written in 1648.[125] It is a friendly, informal and communicative note and gives a brief resumé of the Jesuit's current activities. The letter, which again has suffered from the passing of some 300 years, is signed simply with the Jesuit's Christian name. From the opening paragraph we learn that Kircher has recently been visited in Rome by one D. de Carravi, a friend of Mersenne. The Jesuit, who found his visitor a man of wide erudition, had spent many an hour in his museum talking of varied scholarly topics 'tum de mathematicis tum aliis rebus ad reconditiorem doctrinam pertinentibus'. Much of their conversation had touched upon the recent works of Roberval, Descartes, Pascal, Gassendi and other mathematicians. In his postscript Kircher forwards his best wishes to these same contemporary men of learning.

Kircher expresses his regret that Mersenne had not yet received 'opus meum de luce et umbra' and goes on to describe one of the French scientist's experiments, performed two years earlier in front of Kircher by Cardinal Gian Carlo de' Medici. Further, Kircher mentions the imminent publication of his *Musurgia*[126] but can only blame the unsettled

---

[122] Rome, 2 September 1678.

[123] This letter is in Bayerische Staatsbibliothek, Munich, under Collectio Camerariana Cod. lat. 10383 Bf. Nr. 134.

[124] Bib. Nat., Fonds français No. 9362, f. 16 (Avignon, 4 June 1633).

[125] Fonds français. nouv. acq. No. 6204, f. 105 (Rome, 10 March 1648).

[126] Kircher's words on these occasions are invariably tinged with a proprietary pride: 'porro musurgia mea deo dante tandem ad coronidem perducta est'.

times for his failure to find a patron for his 'hieroglyphicum opus',[127] 'so great is the misfortune of these times that princes are scarcely able to apply their minds to the promotion of letters and books'. We note more evidence of Kircher's own pragmatic empiricism: he informs Mersenne of his recently constructed 'organum hydraulicum'[128] which he had had erected in the gardens of the Quirinal and which he had that very week demonstrated in the presence of the Pope. In his concluding paragraph, Kircher admiringly notes the recent work of Fr Antonius Peret, professor of theology in the Collegium Romanum, on certain 'new figures or forms of syllogisms' of his own devising.[129]

The third letter preserved in Paris, from Kircher to Heveliusz, is unfortunately a copy. It was written in 1665 and as we might expect, deals mostly with comets and similar celestial phenomena. Kircher apologises for 'mei ingenii imbecillitas', and describes a work apparently sent with the letter: 'I am sending you a pamphlet about the nature of comets, forced out of me by the entreaties of many princes'.[130] Briefly, Kircher refers to his own earlier *Itinerarium exstaticum*, casually dismisses sundry 'astrologorum deliramenta', and concludes his short letter by describing three unusual comets seen in Rome that same year. He ends his letter hurriedly and, one feels, somewhat abruptly: 'But, stretched [as I am] with the great number of letters to be written, I am halting my pen'.[131]

Two further curiosities in Kircher's hand remain. The one is an undated letter of about five lines, addressed to one 'Praenobilis et

---

[127] This is a reference to the massive *Oedipus aegyptiacus*, which was to be subsidized by the Holy Roman Emperor, Ferdinand III.

[128] This is treated in detail in Kircher's *Musurgia*, under the section 'Musica Mechanica'.

[129] Although Kircher writes 'Peret', Sommervogel (*Bibliothèque,* vol. 6, p. 514) notes this theologian as Perez; see Perez's *Conclusiones theologicae de Deo Trino et Uno*.

[130] This is an unusual and interesting reference. In the same letter, Kircher says of this work 'which Joseph Petruccius, my private student, brought to the attention of the public, translated from Latin into the Italian language and, at my wish and direction, with his own name assigned to it' ('quem ex Latino in Italicum idioma translatum, suo subscripto nomine, me sic volente et jubente, publicae luci dedit Josephus Petruccius meus privatus discipulus'). Preserved in the Herzögliche Bibliothek in Wolfenbüttel, we find, under Petruccio's name, *Fisiologia nuova… delle comete*. Of this, however, J.C. Harenberg notes: 'das vorliegende Werk ist nicht von diesem Autor, sondern vom Pater Kirchero her': *Pragmatische Geschichte des Ordens der Jesuiten* (1760 edn.), vol. 2, p. 197.

[131] 'Verum innumeris literis exarandis distentus, sisto calamum'. Bib. Nat., Fonds latin. nouv. acq. No. 1640 f. 59 (Rome, 8 May 1665).

clariss. Domine', possibly Peiresc. This slip of a letter explains itself: 'Scarcely had I closed this letter when behold, Dom. Pozzo[132] had sent to me a book about the philosophy of Fludd…I have undying gratitude to both of them'. Further, Kircher reiterates his constant willingness to advise 'if something deserving of our interest again presents itself'.[133] The second is a brief postscript in Kircher's hand to a letter written by Elia Loreti to, we presume from our knowledge of the Kircherian letters preserved in the British Library, the Tuscan courtier Alessandro Segni. Loreti was the Roman doctor of medicine who took over Kircher's work on the Medici family tree when the Jesuit's strength first started to flag. This letter, which is undated, does little except reiterate Loreti's new responsibilities and express his admiration for Kircher, 'da questo secolo nostro eruditissimo'. The Jesuit's own footnote, in shaky writing, states simply: 'Ratificio il tutto quello che si trova nel ristretto della lettera del Signor Loreto'.[134]

The final letter I propose to discuss after examining the Paris archives is a copy of one actually sent to Kircher. This was written by the French historian and stylist François Charpentier in 1648 in obvious acknowledgement of several gifts sent by Kircher. Unfortunately, as it seems, the Jesuit omitted to inform his French correspondent (there are no letters from Charpentier preserved in Rome) of the exact value or significance of these gifts, and this fact prompted Charpentier's letter.[135] It expresses a somewhat condescending irony: there is little protestation of gratitude. Charpentier's reaction to these gifts, possibly intended to be amusing, merely succeeds in being unnecessarily facetious ('je veux croire que les petites coulettes enfilées dans une épingle sont aussi pretieuses que les sept branches du chandelier d'or qui étoit dans le temple'). Charpentier, with the single-mindedness of the scholar, must needs know the exact purpose of his treasures before being able to enjoy them: 'j'auray le regret de posséder ces trésors sacrés sans en pouvoir tirer d'avantages'.

---

[132] Kircher uses the identical address formula for Peiresc, mentions to him the same Dom Pozzo and similarly signs himself as 'Athanas'.

[133] Fonds Latin. n.a. No. 1520 f. 47

[134] Fonds français, n.a. No. 20952, f. 167

[135] Fonds français, n.a. No. 6262. f. 30 (Paris, 15 October 1648).

The fact that this letter is preserved in draft form—a perfect draft, moreover, complete with date and signature—does not necessarily signify that it was ever forwarded.

In concluding his letter, Charpentier refers to Kircher's hieroglyphical activities and admires the Jesuit's attempts to 'dissiper les Ténèbres qui restent pour moy dans cette manière d'écrire'. His last sentence looks forward in happy anticipation to Kircher's eventual interpretation of the hieroglyphs: 'Oh writing entirely golden which will allow me, when the mind's darkness has been dispersed, to be initiated into profound and sacred mysteries! Farewell, most venerable and holy priest'.

CHAPTER SIXTEEN

# PRINTED LETTERS FROM AND TO KIRCHER

Four years after Kircher's death, the Utzschneider Press in Augsburg published the *Fasciculus epistolarum*, a collection of Kircher's letters, written at various times to certain prominent citizens of Augsburg. This unique collection of forty letters was edited by Kircher's friend and correspondent Hieronymus Langenmantel, and contained letters written to Lucas Schröck, [Gottlieb] Theophil Spizel, Johann Georg von Anckel, Georg Velz and the lion's share of twenty-five letters to Langenmantel himself.[1] It is generally assumed that Kircher's own autobiography appeared for the first time bound with the collection. On the whole, the letters give an interesting and valid view of Kircher's thoughts and activities during the last ten years of his life. Many of his letters are repetitive, some are formal acknowledgements, others reiterate the familiar book-lists sent to other correspondents during the same period.[2] These letters are briefly examined here in an approximately chronological order, although the letters to Langenmantel have already been discussed in the biographical sketch of Kircher in Chapter 1.

While one hardly wishes to impugn Langenmantel's integrity in this compilation, there is little doubt that he made at least two serious mistakes in his attribution of the various letters. No doubt this was due to the haste with which the letters were assembled and to the generally unsatisfactory and slow procedure of contemporary correspondence. According to Langenmantel's chronology, the last letter in the collection is one written in 1660 to Georg Velz,[3] a famous Classical scholar of the day but from whom we find no correspondence at all preserved in Rome. By virtue of this one letter, Velz's name is quoted on the title-page of the *Fasciculus*. Unfortunately, earlier in the

[1] On the title-page, Langenmantel describes himself as: 'Patr. Aug. et Can. Insig. respective Eccles. S. Mauritii et S. Petri'.

[2] I have been unable to trace the present whereabouts of most of the letters printed by Langenmantel.

[3] 'Pantoglotte celeberrime': in *Fasciculus epistolarum*, pp. 91–92 (Rome, 17 February 1660): on the title-page, Velz is included as 'Trigam illustrem medicum'.

book[4] Langenmantel attributes this selfsame letter to Theophil Spizel (1639–91), the Lutheran theologian of Augsburg—Kircher refers to him as 'philologum famosum'—whose first (and only) letter to Kircher is preserved in Rome.[5] Again, this solitary letter prompted Langenmantel to include Spizel's name on his title-page. On this occasion the letter is undated.

From internal evidence, where the Jesuit congratulates his correspondent on his 'very important book against the atheism of these times', the true recipient of the letter would appear to be Spizel. If we turn to the actual letter, we find in it a violent denunciation by Kircher of the new wave of heresy sweeping through Europe. The Jesuit talks feelingly of the 'infernalis furiae impietatis' and describes eloquently the corrosive power of this 'abominabilem Doctrinam' on the mind of Man: '[Heresy] ruins with its lethal poison the imprudent minds of members of governments and of princely courts; it overturns states and stirs up catastrophes'. Possibly Kircher was here mounting an attack against one specific sect, since he refers to 'Sathanicae hujus Sectae Asseclis'.[6]

Langenmantel's next correspondent is Johann Georg von Anckel, from whom one solitary letter is preserved in Rome.[7] Both of the letters quoted by Langenmantel[8] are preserved in their original form in the University of Basel Library. Of these letters, the one written in 1662 is wrongly attributed by Langenmantel to Lucas Schröck senior. Apart from any evidence present in the Basel archives, Langenmantel's assertion could still be proved false by reference to the letters preserved in Rome. For here we find the first letter written by Schröck to Kircher, a humble note which was to initiate their subsequent correspondence. This was not written until 1668,[9] when Schröck's son Lucas was already studying at Jena under Rolfinck and Schenck, under whose supervision he had published his thesis, *De Muscho*. In the only genuine letter from Kircher to Schröck senior, the Jesuit refers to the

---

[4] *Fasciculus epistolarum*, pp. 6–7.

[5] Epist. VI. 164 (Augsburg, 13 August 1671).

[6] If the letter is to be attributed to Spizel, its date of composition must be after August 1671, when Spizel, on Lucas Schröck junior's prompting, initiated his correspondence with Kircher. [The sect and its followers taken by Kircher to be Satanic cannot be identified as a specific group, but as an 'Epicurean' current of thought.—Ed.]

[7] Epist. IX. 176 (Augsburg, 19 December 1664).

[8] Langenmantel, *Fasciculus epistolarum*, pp. 26–30 (Rome, 17 October 1661). *Fasciculus epistolarum*, pp. 1–3 (Rome, 22 July 1662).

[9] Epist. X. 85 (Augsburg, 12 March 1668).

younger Schröck's medical publication, again the above thesis, and describes his own reaction upon perusing it: 'quod summa animi mei voluptate evolvi.'[10]

We come now to a series of letters written by Kircher to the famous and widely honoured doctor, Lucas Schröck junior, whose career and letters to Kircher were discussed in Chapter 12 (pp. 336–8).[11] Kircher's first five letters were written during the November of 1670, shortly after Schröck's personal visit to Rome, and are chiefly concerned with the young doctor's academic work and his relationship with Werner Rolfinck. In one of his letters Kircher reports that he has mislaid his copy of Rolfinck's treatise on mercury, which was 'inscribed with my name',[12] and asks Schröck to send him another copy, a polite request which he hastily withdraws almost a fortnight later upon finding once more the missing work.[13]

In his letters to Schröck, Kircher did not conceal his admiration for the works of Rolfinck. He was especially pleased by the Jena doctor's attack on the so-called 'Chimicastros',[14] in which aggressive denunciations the Jesuit found his own views echoed, 'as will appear in due time in the second edition of *Mundus subterraneus*, which Jansson is involved with'. Schröck's own more realistic approach to chemistry found Kircher's praise: 'it was something most pleasing to me to know that you are now given over to the study of genuine and real chemical science'.[15] When Kircher received a letter from Albert Günther in Padua containing praise from Rolfinck and his works,[16] his first reaction, despite finding himself 'ex negotiorum labyrintho', was to write to Schröck,[17] passing on this good news. Similarly, when the Jesuit at last found time to write to Rolfinck thanking him for dedicating to Kircher his *De non ente physico Mercurio*, he again very soon reported his actions to Schröck.[18]

---

[10] Langenmantel, *Fasciculus epistolarum*, pp. 4–6 (Rome, June 1668).

[11] Among Schröck's prolific medical publications we may note one with particular reference to the present study: *Memoriana Welschiana*.

[12] *Fasciculus epistolarum*, p. 7 (Rome, 8 November 1670).

[13] *Fasciculus epistolarum* (Rome, 22 November 1670).

[14] Rolfinck, *Non ens chimicum, mercurius metallorum et mineralium.*

[15] Langenmantel, *Fasciculus epistolarum*, pp. 9–10 (Rome, 20 November 1670).

[16] There are no letters from Gunther in Rome.

[17] *Fasciculus epistolarum*, pp. 12–13 (Rome, 25 November 1670).

[18] *Fasciculus epistolarum*, pp. 14–15 (Rome, 30 November 1670). [The title given here does not appear in GVK; Rolfinck's *Non ens chimicum* may have been intended.—Ed.]

After this first burst of correspondence was over, there came an interval of some eight months, while Schröck was returning home from Padua and Venice. After this period of respite, Kircher wrote again and enquired of the young doctor, 'sed quid novi de nostro Rolfincio?' Dutifully Kircher reported in turn on affairs in Rome: 'Here, there is no news, except what Fr Prosper Intorcetta may have brought to us from China', an occasion which is skilfully seized on by Kircher as valid reason for concluding his letter with a lengthy and business-like report 'de variis Sinensium Veterum studiis et disciplinis'.[19]

Kircher wrote again to Schröck the following day. It seems that even in the seventeenth century, letters had a habit of crossing each other in their respective courier's saddlebags. Kircher thanked Schröck for forwarding Spizel's book on China (*De rebus Chinensibus*) and delivered an oracular judgement which, like most such pronouncements, is brief and adequate: 'he has written well about China, and with candour.' He repeats the news about Fr Intorcetta and adds that the works brought back by this Jesuit from Cathay deal with things unknown in Europe: 'opera sunt rarissima et res continent Europae prorsus incognitas.' He waxes more enthusiastic on an Indian 'Philosophia Apophtegmatum Syntagma…which by [its] subtlety of opinions, gives way neither to Seneca nor to Epictetus'.[20]

Within a fortnight Kircher wrote again, reassuring Schröck concerning Johann Becher's recent attack on Rolfinck's *De non ente physico Mercurio*.[21] Kircher promised that Schröck's old tutor and friend would be fully vindicated in the forthcoming second edition of the *Mundus subterraneus*. He also delivered judgement on the newly published periodical *Ephemerides vratislavienses*: 'I have seen it, and with enough satisfaction to praise and endorse it'. He expresses his complete satisfaction with the idea, and looks for more publications of a similar nature in the future—'clearly a very worthy undertaking, and [one] which I hope in the future will be of great use for the reputation of the German people'.[22]

In Kircher's next letter to Schröck, written almost two years later, we learn of a recent illness. Apart from this, it is a rather unsubstantial

[19] Langenmantel, *Fasciculus epistolarum*, pp. 16–18 (Rome, 10 July 1671).
[20] *Fasciculus epistolarum*, pp. 18–19 (Rome, 11 July 1671).
[21] Becher, *Experimentum chymicum novum*, p. 172.
[22] Langenmantel, *Fasciculus epistolarum*, pp. 19–20 (Rome, 24 July 1671).

communication, little more than an elaborated list of recently published works. Kircher expresses, in this rather cool letter, his doubts on the final revision of his *Arca Noë*: 'sperando però che tra pochi mesi sarà finita', and an uneasy feeling about his imminent *Phonurgia nova,* on account of 'questa perturbatione de tempi'.[23] The last letter we possess from Kircher to his Augsburg admirer was written 'in vasta solitudine montis Eustachiani seu Vulturelli'; for closer details of this retreat, Schröck is politely advised to refer to a letter sent to Spizel.[24] Kircher includes here praise of Spizel's theological works and Rolfinck's chemical treatises and describes, half humorously, the throngs of admirers he has had to avoid in Rome: 'my views hold the attention of very many followers from the French, the Italians, the Spanish, [who are] indeed literary supporters most deserving of praise'. Thinking to avoid this crush of polyglot enthusiasts, Kircher had moved to his mountain retreat, only to find himself in turn under an avalanche of letters, 'and therefore it can rightly be said of me: "He who wishes to avoid Charybdis comes upon Scylla"'.[25] Humour in Kircher is rare; for this reason, this shy smile is all the more appreciated.

All the remaining letters in the *Fasciculus*, apart from the very last, are addressed to Langenmantel himself. This exception is addressed, simply, to 'Adm. Reverende Pater'; Langenmantel himself offers no explanation, but from internal evidence it would seem that this particular priest is Andreas Wigand, the former Jesuit who entered the Protestant Church on Ascension Day, 1671. Wigand had been born in Fulda, had studied under Kircher in Würzburg and fled with him into France before the oncoming Swedes.[26] There can be no doubt that his defection caused Kircher great pain.

This letter, expressing Kircher's mixed grief, surprise and regret, reveals to us the schooled Jesuit. It has two main themes: the discounting of various 'turpissimae Fabulae' current in Germany, reflecting on the integrity and honour of Fr Oliva, then General of the Society;[27] and the expression of Kircher's feelings on hearing of Wigand's step: that

[23] *Fasciculus epistolarum*, pp. 24–25 (Rome, 8 April 1673).
[24] This is not the letter Spizel included in the *Fasciculus*, pp. 6–7.
[25] *Fasciculus epistolarum*, pp. 21–22 (Rome, 4 November 1674).
[26] Langenmantel, *Fasciculus epistolarum*, pp. 94–100. (Rome, 7 February 1672).
[27] Sommervogel, *Bibliothèque*, vol. 5, includes this letter in his bibliography on Giovanni Paolo di Oliva, 'une lettre du père Athanase Kircher…roule sur les calumnies répandus contre le P. Oliva par les protestants d'Allemagne'.

he has 'hastened from Jena to the assembly of the wicked, and is an apostate'. Kircher eloquently defends Oliva and attributes the calumnies and rumours to members of that 'Lutheran sect'. His accusations become more specific when he alludes contemptuously to the slanders as being 'the derangement of wicked idlers, a tale by the most frivolous Nemes, or Ulysses, from Brandenburg'.[28] The Jesuit's appeal to his former friend and pupil is a compound of incredulity and despair; he professes himself unable to believe the news: 'But what do I hear? An old man of sixty-six years will take a young woman into a sacrilegious bed. Oh most disgraceful disgrace!' He refers here too to Wigand's *Sermo revocatorius* of 1671 and notes that his own name is included. Kircher retorts to this offering of praise scornfully, quoting the old maxim' "Praise from the mouth of sinners is not desirable"'.

Throughout the letter, Kircher's references to Wigand conform to his former status as a Jesuit and a priest. Thus we have the opening formula of 'Admodum reverende Pater', there are several references to 'Reverentiae Tuae' and, in concluding, Kircher describes himself as Wigand's 'indignus servus'. The letter is well written. In defending Fr Oliva, Kircher rivets Wigand's attention upon the well-being of the Order and the excellence of its adherents, and in his mingled incredulity lightly touched with asperity we find the faint echo of a loving parent chiding an unruly son.[29] Kircher's disguised plea was of little avail. Wigand went on to become Assessor to the ducal Consistorium in Jena. He died unrepentant two years later.

Kircher's letters to Langenmantel form the largest collection known to us from Kircher to any single person. In contrast to this we find in Rome—and this tends to confirm our suspicions on the shortcomings of these archives—only five letters from Langenmantel. The content of this series of letters, written between February 1668 and January 1680, is in the main devoted to comments by Kircher on his own works and those published by other contemporary figures. Occasionally a topical reference will intrude, at other times he discusses various scientific instruments such as the telescope and often, in contrast to letters

[28] Sigmund von Birken, in his *Hochfürstlicher Brendenburgischer Ulysses*, makes several jibes at the power of the Jesuits. The book is an account of the travels in Italy of Christian Ernst, Margrave of Brandenburg.

[29] This letter is printed in Fr Vitus Erbermann's *Trophaea Romana*, pp. 195 ff. The copy consulted, in the Benediktinerinnenkloster at Fulda, bore the inscription '1714 ex seminarii pontif. Soc. JESU Fulda'.

directed at other people, brief glimpses of Kircher's personal feelings appear.

## Sundry Letters Reproduced in Various Works

Apart from those letters which were included in Langenmantel's *Fasciculus epistolarum*, comparatively few of the letters written to or by Kircher have appeared in print. Those that were preserved in learned works or epistolary collections are usually printed for their contribution to scientific or antiquarian knowledge. The emphasis lies, of course, on letters written by rather than to the Jesuit; of such examples traced none is present, in draft form or otherwise, in the Gregoriana. These letters were in fact the only indications of Kircher's epistolary activities available to succeeding generations. Their printed sources are indicated in the footnotes. The following selection is in alphabetical order of treatment, apart from the initial four letters directed to august patrons.

In July 1666,[30] Kircher wrote to his eminent patron Pope Alexander VII describing his observations, at the pontiff's request, of the obelisk discovered beneath the Campo Marzo.[31] The Jesuit reports 'con ogni diligenza' his findings made by clambering into two cellars and includes an approximate survey of the length of the obelisk and of the inscriptions on the pedestal. Kircher was able to make out the initial words of the dedication, 'CAESAR DIVI', but was prevented by the subterranean position of the monument from more exact identification: 'il rimanente, per essere sotto della terra, non fu possibile poterlo leggere'. He was able to determine that the rest of the obelisk passed beneath the roadway in the direction of the palace of the Cardinal d'Acquaviva. Observing the fragmentary state of preservation of this Egyptian remnant, Kircher philosophically noted his new task: 'nel resto io mi rimetto al parere di Architetti.' He concludes his report with the formal salutation 'baccio la Sagra Porpora'.[32]

Kircher was similarly occupied by the Archduke Leopold Wilhelm of Austria. In an undated letter, the Jesuit acknowledges an engraved piece of sculpture forwarded to him from Vienna for elucidation and

[30] (Collegium Romanum, 28 July 1666).
[31] Kircher's findings were embodied in his *Obelisci aegyptiaci*, pp. 146 ff.
[32] Printed in A.M. Bandino, *De obeliscis Caesaris*, p. 102.

confidently sets down his interpretation. He describes the difficulties he encountered in deciphering this inscription: he had examined the possibility of this legend being an admixture of various Asian dialects before realizing that it was common in late Roman times, 'this was the language of ordinary people throughout the Roman dominion before and after Caesar until the arrival of the Goths', in a bastard form of Greek. After this initial postulation, Kircher appends the subsequent translation and finally summarizes his conclusion: 'Accordingly, I think this person was a prince or chieftain, in some region in the eastern zone of the Black Sea, near Trebizond, from which Colchis or Iberia, together with the Caucasus, are not far distant'.[33]

Another German noble to receive letters from Kircher was Friedrich, Duke of Schleswig, who seems to have been more scientifically minded than the Archduke. Kircher thanks Friedrich for his letters, carried to Rome by his chamberlain, Johann Friedrich von Holstein, and replies to a request for more details on the Jesuit's 'de globe sine magnetis ope in aere pendulo'. The second half of the letter is devoted to Kircher's explanation of his *Musurgia*, which had appeared 'roughly four months ago' and in the secrets of which he had fully instructed the ducal courier Holsteinus. In his conclusion the Jesuit refers to two unknown correspondents, Dom Mokke and Theodore Berck SJ, before his final valediction to Friedrich as the 'pillar of the Empire'.[34] With a second letter to this same noble,[35] Kircher sends his *Oedipus aegyptiacus*, a work he describes, in his way, as 'the labour of twenty years, anxiously desired by all educated people'. Kircher apologizes in advance for his stupidity but points out that this treatise has been compiled in honour of the princes of Christendom. The letter concludes with a lengthy apostrophe to Friedrich's wisdom and magnanimity.[36]

An Italian aristocrat who received one of the 250 copies of the *Musurgia* distributed in Italy was the Count of Mantua. In the covering letter[37] which accompanied 'questo piccolo dono', Kircher complains, perhaps a trifle too energetically, of his own poverty, but soon recovers from such gloomy musings to point out the more desirable

[33] Printed in J.F. Reimmann, *Bibliotheca acroamatica theologica*, vol. 1, pp. 90–91.
[34] (Rome, 10 June 1650).
[35] Printed in J.P. Ludewig, *Reliquiae manuscriptorum*, vol. 5, pp. 385–392.
[36] (Rome, 16 April 1655).
[37] (Rome, 10 February 1650).

aspects of the *Ars magna consoni*,[38] 'che contiene l'artifizio novo di comporre qualsivoglia sorte di compositioni da ognuno'.[39]

The remaining letters from Kircher, which were later printed and incorporated into other works, are addressed mainly to his fellow scientists.

In 1648, Kircher received a copy of Johann Heveliusz' *Selenographia*, forwarded by an Amsterdam bookseller. He reported this thoughtful gift in a letter to Abraham de Frankenberg[40] and declared that it had been well received in Rome. In a fair exchange, Kircher assures Frankenberg of his intentions to send a copy of his *Musurgia* to Heveliusz.[41] In his actual letter of thanks to Heveliusz, however, written nine months earlier,[42] Kircher omits to mention this intended gift. Instead, he expresses his pleasure at finding the book so excellently and thoughtfully laid out, drawing attention to what he saw as its most pleasing aspect, the 'exquisite carving of the engravings in Heveliusz' book'. He reports too the glowing opinion of the book held by one of his fellow Jesuits, 'one of our Fathers, a keen observer of celestial phenomena'.[43]

Possibly Kircher suspected that this first letter never reached Gdansk, for seventeen months later,[44] he wrote again on his receipt of the *Selenographia*, and this time his tone of admiration was cooler and tempered with more objective criticism: 'I have seen your Selenographia… [something] most worthy of your genius'. In this letter,[45] Kircher seems mindful of his own standing as an astronomer: 'for the most part I am in agreement with what you have written regarding the nature of the heavenly bodies'. Lest Heveliusz should doubt this handsome gesture of support, Kircher deferentially adds, 'as you can see from Book I of my *Ars magna lucis et umbrae*'. Since Kircher's work predated Heveliusz' by some years, one wonders if the Jesuit was gently establishing his own precedence. Heveliusz failed to take umbrage at this courteous reminder, for, six years later, we find Kircher again

[38] I.e., *Musurgia universalis*.
[39] Printed in C. Lozzi, *Il Bibliofilo*, pp. 56–57.
[40] Printed in J.E. Olhoff, *Excerpta ex literis*, pp. 8–9.
[41] (Rome, 8 November 1648).
[42] (Rome, 14 February 1648).
[43] See Olhoff, *Excerpta ex literis*, p. 14.
[44] (Rome, 20 June 1649).
[45] See Olhoff, *Excerpta ex literis*, p. 17.

acknowledging a gift from him.[46] The work is unnamed but described fully and admiringly by Kircher as 'carefully, exactly, finely dealt with; everything has pleased [me], those things especially that concern the moon's oscillation, which you have detected and explained'.[47]

This is the last of Kircher's letters to Heveliusz known to us. But even as late as 1665,[48] we find the Jesuit still expressing his admiration for the astronomer's works, this time in a letter to Stanislaw Lubieniecki.[49] Kircher's praise for Heveliusz rests here on his *Prodromus cometicus*, a work that compels Kircher's well qualified respect for the author's 'hard work, the exceptional power of the author's genius and [his] perfect diligence in [dealing with] a profound theme'. Kircher's admiration is not so fulsome as to be blind; he questions Heveliusz' assertion that a nebula of stars might falsely resemble a comet. Such academic doubts do not, however, influence his whole-hearted praise for the lifelong astronomer, whom he refers to as 'a man who has been engaged in skilled astronomical activities, highly trained, important, and unwearying labour'. He proudly recalls to Lubieniecki his first meeting with Heveliusz, 'whom I had as a most obliging friend more than thirty-two years ago in Avignon'.

In 1675 Kircher received a letter[50] from Johann Monrath, a Dane resident in Paris. This letter was carried to Rome by another Dane, who merely helped to swell the influx of foreign visitors. It apparently bore some inquiry as to Kircher's nationality, possibly mooted by members of the Royal Academy, since in his reply the Jesuit is led to exclaim, in astonishment: 'I have wondered not a little that members of your academy [Danish Royal Academy] can have doubts about the land of my birth'.[51] Kircher drily notes that most of his works bear his country of origin in the title-page,[52] and comments that anyone addressing him in Rome might well do so 'from within the German idiom'. Speaking more distinctly, he adds proudly: 'Clearly I am not an

[46] Olhoff, *Excerpta ex literis*, p. 19.
[47] (Rome, 30 January 1655).
[48] (Rome, 25 July 1665).
[49] See Olhoff, *Excerpta ex literis*, p. 107. In the same source we find a letter written by Lubieniecki to Kircher from Hamburg on 24 June 1665. This is preserved in Rome, under Epist. IX. 40 and has been discussed above.
[50] (Rome, 12 February 1675).
[51] There are no letters in the correspondence to Kircher from Johann Monrath.
[52] The *Prodromus Coptus* bears, for example, on its title page, 'Athanasii Kircheri Fuldensis Buchonii'.

Italian, nor a Frenchman, much less a Spaniard: rather, [I am] a German by nation, a citizen of Fulda by region, and of a certain family; and I take pride in the candour and sincerity inborn in me.' Possibly Kircher regretted this outburst of national pride, for he gently compares Monrath's doubts to those of scholars 'de Homeri patria' and goes on to point out that whatever his nationality ('sive Germanus sive Scytha, aut Barbarus'), his only interest is that 'I am in sole service to God, to the glory and honour of whom everything that is mine has for a long time been consecrated through the bond of religious profession'. This last statement is as close to any made by Kircher about his own personal philosophy.

In this letter to Monrath, Kircher appears human and vital. The scholar re-emerges in a fragmentary letter written to his more frequent correspondent Barthold Nihus. This is in fact little more than a report,[53] requested by this theological polemicist, on the rites observed during Holy Communion within the Christian Church in Ethiopia.[54] Five years earlier,[55] Kircher had been asked by another of his more active correspondents, Johann Rhode, to comment on Olaus Worm's work on runes, *Regum Daniae*. In his considered judgement, Kircher delivered a favourable opinion, describing it as 'quite sought after for itself as well as arousing interest by its novelty'. He praises the Danish scholar for his attempts in such a new and unexplored field. Kircher himself had derived much new knowledge from this book, especially on the Nordic races and the Goths—'Certainly, I believe many things about the ancient histories of the Goths, and of northern peoples, until now unknown, can be brought out by the [renewal of study] of this language'—and he reserved his fullest praise for Worm's immense learning.[56]

In 1657, Kaspar Schott reprinted in one of his works[57] a letter sent to him by Kircher on the properties of the vacuum.[58] Kircher, Schott's former teacher at Würzburg and his colleague in Rome, approves of his disciple's experiments and ponders on the force created by a vacuum from which the air has been expelled: 'Certainly not air, because that

[53] (Rome, 9 November 1647).
[54] Printed in Allacci, *De ecclesiae occidentalis*, vol. 1, p. 107.
[55] (Tusculum, 16 June 1642).
[56] Printed in Bartholinus, *De armillis veterum schedion*, II, pp. 29–31.
[57] *Mechanica hydraulico-pneumatica*, p. 312.
[58] (Rome, 26 February 1656).

has been extracted from there: therefore what has been left after the extraction of air is nothing. But who may conceive nothing to bring about resistance?' Kircher confirms that he has experienced similar results.

Another of Kircher's fellow Jesuits, the Pole Wojciech Tylkowski, extended a similar compliment to Kircher by reprinting as a preface to one of his works, *Philosophia curiosa*, a letter sent to him from Rome praising the book and urging it to be printed. In this short note Kircher expresses his delight at the work, presumably submitted to him in manuscript, and informs the Polish Jesuit that, for the sake of science the book must be printed: 'He will have done an injury to the republic of letters if a work of this sort remains concealed or too long held back. I deliberately urge that, at whatever cost, he commit it to print, lest the republic of letters be deprived of so great a gain'.[59]

One of Kircher's last letters[60] subsequently printed was written in July 1675 to the Jesuit scholar Gottfried Henschenius.[61] A collaborator with Bolland and Daniel Papebroch, Henschenius devoted most of his long life to the composition of the *Acta Sanctorum*, and in his letter Kircher emphasizes this aspect of the Dutchman's work by praising Papebroch and his academic achievements. Included in the letter for elucidation by Henschenius are several Merovingian characters in minuscule. The German Jesuit compliments Henschenius on his own labours in the compilation of 'recondite records of this kind of antiquity'.[62] Although in the main body of the letter Kircher refers to his own advancing years and weariness, 'old age made worse by so many labours', he returns willingly in his postscript to the inevitable subject of new books and thanks Henschenius for forwarding to him a Jesuit work on China, 'a tome dealing with things Chinese composed by our Fathers'. Kircher reports that he had received advance information of this friendly act from Fr Pierre Poussines.[63]

---

[59] (Rome, 23 November 1672).

[60] (Rome, 2 July 1675).

[61] The two letters written by Henschenius to Kircher and preserved in Rome both date from the preceding decade: see Epist. VIII. 18 (Antwerp, 13 July 1663); IX. 330 (Antwerp, 18 June 1666).

[62] Printed in Pitra, *Études sur la Collection des Actes des Saints*, pp. 202–203.

[63] For the only letter from this ecclesiastical historian to Kircher preserved in Rome see Epist. XIII. 215 (Tolouse, 5 August 1651).

## Letters Written to Kircher

An even smaller number of letters written to Kircher by nobles and scientists have found their way into print. These were written by Friedrich, Duke of Schleswig, and Kaspar Schott.

The letters sent by Friedrich,[64] though short, are pleasing and well calculated to flatter the Jesuit. In the one, Friedrich thanks Kircher warmly for his *Musurgia* and admires, among other things, the Jesuit's 'indefatigable activity, to be admired by the whole world'.[65] In a second letter,[66] Friedrich comments again on this aspect of the Jesuit's activity and, as a more tangible token of his appreciation, forwards with his chamberlain, von Holstein, the sum of 200 imperials. In his postscript, the Duke wonders, politely but firmly, at the delayed arrival of the 'ball able to be artificially suspended in the air, which you promised to us'.[67]

Some three years later, the Duke draws Kircher's attention to the presence in Rome of Friedrich, 'charissimus noster filius', reminding the Jesuit of his promise to introduce the young heir 'to those more remarkable things about mathematics and other disciplines of that kind'.[68] The last printed letter we possess from Friedrich acknowledges the receipt of a letter from Kircher, but points out a certain omission: 'your *Oedipus Aegyptiacus* which you had promised in that [letter].' The Duke explains the great and understandable impatience with which they were awaiting any such works from Kircher's pen: '[works] which the present age wonders at, [and] a future [age] will praise.'[69]

The letter written by Schott to Kircher is, again, in the form of a preface to one of his works, this time an essay by the Würzburg Jesuit on Otto Guericke's *Experimenta nova Magdeburgica*.[70] The dedication, for such it is, remains undistinguished. Schott draws attention to their mutual delight in erudition, to their interest in the origins of all things and, in deference to the context, to their exploration of

---

[64] Friedrich's full title was 'Fridericus haeres Norwagiae. Dux Sleswigae et Holsatiae. Stormaviae et Dithmarsiae, Comes in Oldenburg et Delmenhorst'.

[65] (Gottorp, 24 September 1650).

[66] These letters are printed in Ludewig, *Reliquiae Manuscriptorum*, vol. 5. pp. 385–392.

[67] (Gottorp, 5 November 1650).

[68] (Gottorp, 8 January 1653).

[69] (Gottorp, 2 August 1655).

[70] Appended to Schott's *Mechanica hydraulico-pneumatica*, pp. 356–360.

vacuums and kindred scientific phenomena.[71] Although written in letter form and consequently complete with initial and concluding salutations, it is extremely doubtful whether this was ever forwarded by itself to Rome. Certainly, this letter is not preserved among the archives of the Gregoriana.

[71] (Würzburg, 2 May 1657).

# PART IV

# KIRCHER'S *VITA* WITH TRANSLATION AND ANNOTATIONS BY JOHN FLETCHER

CHAPTER SEVENTEEN

# INTRODUCTION

The *Vita*, published posthumously, is with its 78 skimpy pages one of the shortest of Kircher's works. It was probably written in the late 1660s, possibly in the form of a spiritual and intellectual stocktaking, and could well have been precipitated by the deaths of Kircher's two most energetic patrons, Duke August of Brunswick-Lüneburg (1579–1666) and Pope Alexander VII (1599–1667). The references to Pope Clement X (elected 26 April 1670) and to the *Latium* (1671) may indicate the completion of the *Vita* some time in 1670. There are no references to its (manuscript) existence, in either Kircher's correspondence or his printed works.

It is a work of edification, and occasionally of strident self-defence. J. Godwin sees in it 'a charmingly anecdotal account', but its tenor and its bloated spiritual ballast remind us rather of P. Marestaing's terse: 'Kircher mérite de vivre dans la mémoire des psychologues, si ce n'est dans celle des érudits'. D. Lucas strikes perhaps the right note when he refers, intriguingly, to Kircher's involvement in 'einem begonnenen Heiligsprechungsprozess'. The *Vita* reads well nonetheless. Although contemporaries of Kircher such as Leopold I praised his 'polished' style and the Ciceronian quality of his writings (see the letter from Carlo Calà, Duke of Diano at PUG 563 f. 279: Naples, 14 May 1666), it is the relaxed blend of 'Boy's Own' excitement at his various escapes from death together with the compact elegance of episodes such as his moving discovery of the ruined church of St Eustachius which catch our attention.

This same unacerbic fusion of relaxation and naive innocence was later commented on by Harenberg and Goethe. An extreme if lively example is found in the *Mundus subterraneus* (II. 58–9) where Kircher is discussing with Carlo di Vintimiglia the local discovery of fossil mastodon teeth in Palermo: When I was talking to my dear friend and showing him some teeth that certain antiquaries had given me, he smiled quietly saying: 'Do you think, Father mine, that these are giant's teeth?' Taking him up…, I replied: 'It really is a bottom tooth'. 'Join me again tomorrow', he said, 'and I'll show you whose teeth they may be.'

According to Seng, the *Vita*'s translator, the manuscript of the work was found in the Collegium Romanum after Kircher's death. Copies were made in Rome in 1682 and the following year in the Jesuit College at Neuhausen. The Pontificalis Università Gregoriana possesses at Ms. 830 what could well be the original manuscript version in Kircher's hand. It has, following the Psalmist (88:1), the pious heading: 'Misericordias Domini in aeternum cantabo', and there are some minor stylistic amendments, also in Kircher's hand, which are taken up in the Langenmantel imprint.

Other manuscript copies are at:

- Bayerische Staatsbibliothek, Munich. Cod. lat. 8295. A seventeenth-century copy, previously in the Jesuit college of Mindelheim.
- Bibliothèque Nationale, Paris. Fonds latins, nouv. acq. 216. A seventeenth-century copy (see the comment on G.J. Rosenkranz below).
- Bibliothèque Nationale, Paris. Cod. lat. 24776. An eighteenth-century copy.
- Univerzita Karlova, Prague. XIV. C.12. A seventeenth-century copy.
- Osterreichische Nationalbibliothek, Vienna. Cod. 13.752. A seventeenth-century copy, recorded as being in 1735 in the Ignatius-Collegium in Prague. It was acquired in the nineteenth century by what was then the Viennese Hofbibliothek.
- Sommervogel (*Bibliothèque de la Compagnie de Jésus*, vol. 4, p. 1074) reports sighting among the papers of F.E. de Guilhermy SJ in Paris a French translation of the *Vita* by one 'T.M'.
- Similarly a modern manuscript note in Gregoriana Archive 830 records the existence of a further seventeenth-century manuscript copy in the possession of C. de Waard of Flushing (Oude Markt 41). The present whereabouts of this version remains unknown both to the town archivist of Flushing and the director of the State Archives in Zeeland.

Exactly how a copy of the original manuscript reached Langenmantel remains similarly unknown, but it was his printed version of 1684 that became the basis for all subsequent biographies. It was used by J.H. Zedler (in *Universal-Lexicon aller Wissenschaften und Künste*, vol. 15, pp. 755–758) and by J. Burckhard, though the latter complained querulously (*Historia bibliothecae Augustae quae Wolffenbutteli est*, vol. 1, p. 233) of a long and fruitless search for the book, a quest eventually redeemed by a loan from J.C. Feuerlein. Langenmantel's text remains rare. Apart from a copy in my own collection, I have sighted holdings only in the British Library in London, the Bibliothèque Nationale in Paris, the Hessische Landesbibliothek in Fulda, the Ludwig-Wilhelm-Gymnasiumsbibliothek in Rastatt and the Sächsische Landesbibliothek

in Dresden. There is no copy recorded in the National Union Catalogue of Australia.

Subsequent biographies based on the Langenmantel edition are by:

- Dr K. Wurzer (1829) in Marburg. Seng reports that Wurzer also used a German translation of Kircher's *Vita* prepared by F.A. Arndt, priest in Geisa. Fr Arndt's version was sent to Marburg in 1829 by Dr Schneider of Fulda.
- J.L. Pfaff (1831), canon and 'studiorum commissarius' in Fulda. Pfaff, who was to become bishop of Fulda, leans heavily on Langenmantel but also includes a brief survey of Kircher's correspondence in Rome.
- G.J. Rosenkranz (1858), who published his account in Münster. Of his version Rosenkranz comments (p. 12): 'Die Langenmantelsche wird übrigens an manchen Stellen durch eine uns vorliegende getreue Abschrift des Kircherschen Ms. berichtigt und ergänzt, welche ein Paderborn'scher Jesuit mit Namen Konrad Holtgreven im J.1682 während seines damaligen Aufenthalts in Rom unter Aufsicht des vorgesetzten Provinzials anfertigte und dem Jesuiten-Collegio in Paderborn mittheilte'.

Konrad Holtgreve SJ (1620–88) was successively rector of the Jesuit colleges of Münster, Hildesheim and Paderborn. He eventually became Provincial and died at Hildesheim. He presented his copy of Kircher's manuscript in 1684 to Christian Franz von Plettenberg, canon in Hildesheim. It subsequently passed into the library of Ferdinand von Plettenberg, prior in Münster and brother to Christian Franz. (On the Plettenbergs, who had family connections with Kircher's friend Ferdinand von Fürstenberg, see F.M. Driver, *Bibliotheca Monasteriensis*, pp. 116–18, J.G. Geibertz, *Westfälische Beiträge zur deutschen Geschichte*, vol. 2, pp. 67–9, and Zedler, *Universal-Lexicon*, vol. 28, pp. 827–829.)

Two successive eighteenth century owners of the Holtgreve manuscript were H. zur Mühlen (bookplate) and Ignaz Forstkühl (signature, 1765). As noted above, it is now in the Bibliothèque Nationale in Paris.

- A. Behlau (*Athanasius Kircher*, 1874) of Heiligenstadt takes most of his material from Pfaff.
- K. Brischar, a Jesuit in Würzburg, in his article 'Athanasius Kircher, ein Lebensbild', for *Katholische Studien* 3, 5 (1877): 94ff., closely follows Langenmantel, and has been widely used by modern commentators. Brischar places special emphasis on the providential escapes from death enjoyed by Kircher, and his own effusive presentation generally reproduces the flavour of the original. He omits any detailed reference to Kircher's correspondence.

- H. Meurer, writing in Magdeburg with 'Augsatz über Athanasius Kircher', *Beiblatt der Magdeburgischen Zeitung*, Montagsblatt, 53, 1901, pp. 138–140, introduces a previously untapped source, Father van Meurs, a Jesuit of Limburg: '…und am 10. April (1901) erhielt ich einen ausführlichen actenmässigen Lebenslauf des Gelehrten ebenso auf einige Fragen lateinisch abgefasste Antwort' (p. 138).
- N. Seng a retired military chaplain, living in Fulda, produced a close translation of the Neuhausen copy of Konrad Holtgreve's transcript (as *Selbstbiographie des P. Athanasius Kircher*, in 1901),
- Modern biographers are to be found in Reilly (*Athanasius Kircher S.J.*, of 1974), Godwin (*Athanasius Kircher*, 1979) and Rivosecchi (*Esotismo in Roma barocca*, 1982). The Langenmantel/Brischer canon remains virtually intact although the looser narrative style of today has produced some minor infringements.

The *Vita* (without title page and with separate pagination) is invariably found bound following H.A. Langenmantel's octavo *Fasciculus epistolarum*, which was dedicated by Langenmantel (1641–1718) to Johann Christoph Adelmann von Adelmannsfelden, Prior (1674–1687) at nearby Ellwangen. The book was printed in 1684 by Simon Utzschneider (in business 1663–1689), whose workshop 'auf unser Frawen Thor' in Augsburg was managed after his death by his widow until 1702 (Benzing, *Die Buchdrucker*, p. 21 No. 45). Both this compilation and the *Vita* show all the signs of a hasty production. Inverted type and patent misprints proliferate. These have been corrected in the version given here.

More seriously, Langenmantel (for details on whose life see K. Goedeke *Grundriss zur Geschichte der deutschen Dichtung*, vol. 3, p. 260, and F.A. Veith, *Bibliotheca Augustana*, vol. 1, pp. 108–117) errs on occasion in the attribution of the recipients of some of these letters.

The first letter in Langenmantel's collection (pp. 1–3), ostensibly to Lukas Schröck Senior was in fact written by Kircher to J.G. von Anckel (Rome, 22 July 1662, the original being in University of Basle Library Archives). The letter (pp. 91–92: Rome, 17 February 1660), said to have been to H.G. Welsch, 'pantoglosse celeberrime' (whose name appears, on the strength of this one letter, on Langenmantel's title page), was in reality written to the Lutheran theologian T. Spizel (1639–1691) and is also printed, this time correctly ascribed but undated, at pp. 6–7. (The original is at Staats-und Stadtbibliothek, Augsburg. 2° Cod. Aug. 408 ff. 171–172). The final letter (pp. 92–100) in the collection, glossed by Langenmantel simply 'Adm. Reverende Pater', is that sent by Kircher

(Rome, 17 February 1672) to Vitus Erbermann SJ (1597–1675), lamenting the defection from the Jesuit brotherhood of Andreas Wiegand.

We find then in the *Fasciculus epistolarum* 39 letters written by Kircher from 17 October 1661 to 20 January 1680 (this, to Langenmantel, is Kircher's last known letter). They were sent to J.G. von Anckel (2 letters), V. Erbermann SJ (1), H.A. Langenmantel (25), L. Schröck Senior (1), L Schröck Junior (9) and T. Spizel (1). All but seven of these letters were written in the 1670s. Possibly Langenmantel intended them to complement the gap left in the *Vita* between its compilation in the late 1660s and Kircher's death in 1680.

The Notes and Bibliography refer solely to points occurring in or arising from the actual text. I am grateful to the Archivist of the Gregoriana, Father Vincenzo Monarchino SJ, for allowing me ready access to the Kircher holdings.

# VITA
# ADMODUM REVERENDI
# P. ATHANASII KIRCHERI
# SOCIET. JESU

VIRI toto orbe celebratissimi

# THE LIFE
# OF THE
# REVEREND FATHER
# ATHANASIUS KIRCHER
# OF THE
# SOCIETY OF JESUS

A man famed throughout
the entire world

## Chapter One
## From my Birth until my Twelfth Year

I was born into this world of sorrow in Geisa,[1] a town three hours' journey from Fulda, at 3 o'clock in the morning on the 2nd May, 1602.[2] It was the Feastday of St Athanasius. Both my father Johann Kircher and my mother Anne née Gansek were Catholics distinguished for their piety and good works.

My father was at that time steward at Haselstein,[3] in the service of the prince abbot of Fulda, Balthasar von Dernbach,[4] who was pre-eminent for his moral purity and for his great zeal for the honour of God. At the instigation of his opponents, however, who were against his innovations, Balthasar was deposed and lived in exile for 22 years at Bieberstein, a castle three miles from Fulda. Because my father remained loyal to the unjustly persecuted Balthasar and tried to defend him from his arrogant enemies with all the means at his disposal, the same fate overtook him, too.

He was removed from his office, and he retired to Geisa, where he lived from that day on dedicating himself to study. He refused all posts of honour subsequently offered to him by his prince, saying that an ounce of freedom used for the improvement of the mind was more valuable than a thousand pounds of princely offices.

Johann Kircher was a man who pursued his studies very zealously. After completing his doctorate of philosophy at Mainz under Father Franz Coster,[5] he similarly completed there the course in scholastic theology. Because of his thorough knowledge of theology and his skill in debating knotty issues he was, although a layman albeit still unmarried, appointed as professor of theology by the Benedictines in Seligenstadt.[6] Since however the fame of his learning and intellect soon reached the ears of the prince abbot, my father was called by him to Fulda, appointed to his council and subsequently created steward at Haselstein. The prince was guided in this case by his intention of having in a locality contiguous to a Protestant area, a man possessing the zeal and skill to refute in the spoken and written word people who were presumptuous and cunning. The office thus entrusted to him was irksome and his activities demanding.

At that period Johann Kircher entered into marriage with Anna Gansek, the virtuous daughter of an honest citizen of Fulda.[7] The marriage

had as issue nine children, six boys and three girls. Two of the sons died in infancy, the other four entered various religious orders. The three daughters all married.[8] I was the youngest child. Since I was born in exactly that period when my father was being most hard pressed by persecution from the Lutherans and since I had moreover first seen the light of day on the very Feastday of St. Athanasius, my father wanted me to bear as a good omen the name of Athanasius.[9] He did in fact revere in a most heartfelt way this very saint on account of the intrepidity and constancy demonstrated by St Athanasius on confronting the false doctrine of Arius. Indeed, my father had chosen St Athanasius as his special patron.

Deprived of his office through the enmity of the Lutherans, my father believed himself compelled to withdraw from any further molestations. He was, as I have said, very proficient in theology, interested however not so much in its controversial aspects but rather in church history, and also in mathematics. He felt himself drawn to these disciplines, as if by a magnet. He sold therefore all his fixed possessions and moved with his remaining goods to Geisa, where from that day on he dedicated, for what remained of his life, the leisure hours now allotted him to serious study and to pious exercises. And, as he thoroughly researched into and pondered over all things, he came to possess such a quantity of written treatises that he could set up his own library. Such is what I felt compelled to narrate in brief about my father Johann Kircher.

As for me, after my years of infancy, from about my tenth year, while I was still in the elementary school, I was instructed first in music, then in the first stages of Latin. Since my father discerned in me some unusual ability, he encouraged me most ardently not to relinquish my zeal for study. Indeed, he directed me to cultivate my imagination and he himself gave me, when I was scarcely ten, private lessons at home in the principles of geography, in the study of the world and how it was made up. He was astounded at the progress I made.

So that I could pursue all my studies at the same pace, he sent me to the Papal Seminary conducted by the Society of Jesus in Fulda,[10] so that I could with the same zeal apply myself there to the study of grammar, as well as both Latin and Greek. Indeed, he also arranged for a rabbi to instruct me in Hebrew. The success of this latter tuition stood me in good stead for the rest of my life.

## Chapter Two
## My School-days in Fulda

All one's zeal in study and any striving directed towards the appropriation of knowledge is in vain and cannot be pleasing to God if it is not united with true piety and the development of the mind. I have therefore to admire my father's circumspection, truly inspired by God, in providing for me such teachers and such an ambiance which enabled me to combine both these factors.

Father Johann Altink SJ[11] was my teacher in the lower school, a man of the highest experience in the difficult task of introducing young boys not so much to the zealous striving towards academic knowledge but rather towards piety and devotion. His single concern for me was that I should combine my zeal for study with that for religious exercises. For he did not let a single week go by in which he did not urge me to purify my conscience through Holy Confession and strengthen myself, as often as the rules permitted, by receiving the most Holy Sacraments at the altar.

In addition he prevented me in every way from being contaminated by the company of less wholesome boys in my class. Consequently he allowed me to take up closer relationships only with those boys who had the same talents and inclinations as I had, and who were distinguished by immense zeal in the fulfilment of their religious duties. Now and then he would individually summon these boys to see him and would exhort them most penetratingly to avoid all depravity, to honour the Mother of God, to devote themselves to the pursuit of virtue and to take the lives of the Saints as an example to follow. Through these private *têtes-à-têtes* he inflamed us at times to such an extent that we seemed to wish for nothing else but that pertaining to God. And truly, I cannot refrain from mentioning here, what great proof of His loving care God gave me by endowing me with the grace of being able to pursue constantly my studies or exercises in piety with such great fervour that I could despise everything that young boys normally esteem.[12]

God further offered me striking proof of His great goodness and mercy by snatching me three times from certain death when I stood in manifest danger of losing my life.

The first instance was as follows. On a hot summer's day I was swimming with my friends in the river upstream from a water-wheel. Here the water was held back by a weir, and therefore rushed at a dizzy

speed into and through a precipitous mill-race on to a very large mill-wheel. With the carelessness of a young boy I ventured near the weir, and got caught in the mill-race. Already quite near to the wheel and in immediate danger of being crushed by it, I called out in fear of death, as piously as I could, the names of Jesus and Mary.

Through the special protection of God and of the Holy Mother I was dragged along and through the watercourse beneath the scoops of the water-wheel, and surfaced unscathed on the other side. Nor was there the slightest trace of any injury on my body. My friends, believing me killed, since the mill-wheel turned with so little space above the bottom of the watercourse, that my body could scarce slip through without all my limbs being mangled, greeted me with cries of joy. They could discern in my rescue a manifest miracle through the mercy of God. As for me, conscious of the blessing thus received, I began from then on with still greater zeal to devote myself to exercises of piety, and I exalted God for having delivered me from such great peril.

The second instance took place on a Whit Sunday. On this feastday in fact all the citizens would meet in the traditional way and go in solemn procession on horseback around the borders of their farmlands.[13] A priest would ride along with them and bless the crops in the fields so that they might remain spared from hail and thunderstorms conjured up by devilish forces. It was moreover part of the tradition that those taking part in this horseback procession would, after it was over, meet in an enclosed field and, as happens on a racecourse, hold a horse-racing competition. The one among them who was the first to reach a set point received the displayed prize.

A tightly pressed crowd was standing around the track and I, because I was still small, took up a place in the front row of the throng. The race had already begun. The riders were storming along. The crowd, anxious to see, jostled forward. I couldn't hold back the impetuous pressure and was thrust on to the race track beneath the hooves of the dashing horses as they galloped past. Promptly recommending myself to God and the Holy Mother, my face pressed to the ground, my body curled up as far as it would go, I lay there until all the riders and horses had stormed over me. The crowd shouted that someone should stop the horses. But who could possibly have brought horses in full gallop to a sudden halt? I was enveloped in a cloud of kicked-up dust and people thought I had been trampled by the horses.

I picked myself up, however, after the horses had gone past. Even though they had all raced over me, I remained through God's special

protection completely unharmed. Everyone regarded it as a miracle and many sought me out afterwards asking me how I had fared in such a tight corner and how it had come about that I had escaped without injury from such great danger. I answered them saying the power of Him who had rescued Jonah from the belly of the whale, Tobias from being devoured by the fish, Daniel from the jaws of the lions, had not diminished, and had preserved me too from being trampled by the hooves of the horses. The danger to which I was exposed at that time was so immense that I cannot think of it even today without shivering. May God and the Blessed Mother of God be praised for all eternity!

The third instance was as follows. I had heard that a play was to be performed in a town which was two days' journey from Fulda. Since I was eager to see something of this sort, I set off with other friends to go there. When the play was over, I was unable to stay and I decided to return home alone, since my friends intended to remain there a few days longer.

I had a part of the forest to travel through, which is called the Spessart.[14] This forest was a wilderness notorious not only for its bands of robbers but also for its multitude of voracious wild animals. Soon after entering the forest, I became confused by the large number of criss-crossing tracks and soon realized that the further I walked, the more I was straying from the right path. Finally I ended up in a thicket of thorns and no longer knew where I was.

Night fell and darkness deprived me of almost all hope of finding the right path again. In my great mental agony and fear of the wild animals of prey which, as I had heard, lived in the forest, I had no idea at all what I was to do. I had no choice but to take refuge in the benevolence of God. I recommended myself with the greatest of fervour to God and to the Holy Mother and, to be safe from the ravening beasts, climbed into one of the very tall trees which abound in this forest.

There I remained, praying without break until dawn, whereupon I left my post and searched yet again in all directions through thick and thin for the path I had lost. Yet all was in vain. The more I struggled forward, the more I found I was on the wrong path. Exhausted by hunger, thirst and physical exertion, I could scarcely drag myself along. In the anguish of my soul I made solemn vows to God and despite my fatigue carried on.

And behold, after wandering around for nine hours, I came to a wide meadow on which the grass was just being scythed. With indescribable joy I asked the reapers where I was. They told me I was two

days' journey from the place I was making for. I asked them to guide me back to my home: they would be amply rewarded for their trouble. They acceded to my request, set me on a horse and in this way brought the prodigal son back to his parents, from whom they received the promised reward.

For my part, mindful not only of this most recent blessing but also of the previous ones extended to me by merciful God in His infinite goodness, my mind was from this very moment set on nothing other than how I might through the choice of a vocation turn my back on worldly life. While I was considering which spiritual order would best suit my disposition, I finally chose at the inner promptings of the Holy Spirit the Order of the Society of Jesus, and promptly received to my great joy acceptance into this order by the reverend Provincial of the Rhenish Province Father Johann Copper, who was moved by my pressing entreaties and fervent vows.[15]

## Chapter Three
## Acceptance by and Entry into the Society of Jesus

I had scarcely received from the Father Provincial his consent for my entry into the Society of Jesus when benevolent God set about testing His servant by means of fresh afflictions.

In the January of 1617 all the rivers were covered with ice. I too went with my friends to the games and sports on the ice customary at this time of year. Immensely ambitious as I was, I determined to give a demonstration of my skill in skating, endeavouring in youthful vanity to surpass all the others in skill and agility. After giving various samples of my dexterity at speeding on the ice, I entered into a race with the nimblest of my companions. I took an immense run-up, but quickly lost balance and crashed with outspread legs, on to the ice, sustaining a serious hernia.

In addition to this, a dangerous rash broke out on my shins. I had contracted it roughly at that same time from the excessive cold during my nocturnal studies.

Here were two major ailments, all the more serious in that either one alone would suffice to block for me the entry into the Society of Jesus which I so ardently desired. So that my superiors might not notice my infirmities, I realized I would have to keep them both secret. Since consequently I neither used any medications nor told a soul

what agony I was in, my hernia grew larger and larger and the rash on my legs increased. In this situation I was buttressed solely by the conviction, stirred in me by divine inspiration, that merciful God, to whom alone my infirmities were known, would heal me in His own good time. I believed in fact that He was to some extent duty bound to do so because of the justice of my cause and because I, rejecting any human aid, had set my hopes solely in His divine providence. I did after all intend to dedicate myself exclusively to His service.

While I was utterly suffused with this hope, the moment came when I was told I should hold myself in readiness for my journey to the novitiate in Paderborn.[16] What great agony I endured on the way there as a result of my infirmities, is known only to Him, who knows the hearts of all men.

On the 2nd October 1618, however, I did arrive, with the grace of God, and after overcoming all such hindrances, I was admitted into the novitiate of the Society of Jesus in Paderborn.[17] But I could not conceal there for a single day more the injuries from which I was suffering. Since I was actually tottering as I walked, because of the violent pain in my legs, this was spotted at once by my superiors and I was compelled to reveal the discharge on my shins. The surgeon conducting the examination was shocked at the sight before him and promptly declared the condition to be incurable. The rash had in fact, due to the too great exertions of the journey to Paderborn, degenerated into a form of cancer.

During all this I observed the deepest silence about the hernia. If both these incurable afflictions had been revealed, it would have been all over for me. Since the doctors could achieve nothing despite every effort, I was finally told officially that my dismissal from the Society of Jesus would ensue at the end of one month if no improvement was achieved with the medications being used. The prospect that this might happen was for me utterly shattering. What alternative remained then but for me to take refuge in the Holy Mother of God, the only salvation of the sick.

At the dead of night I prostrated myself in tears before a statue of the Mother of God placed in the churchchoir. I explained to her, my sublime mother, in what a desolate situation I, her child, now found myself. I implored her, the one helpmate of the human race, and adjured her with an ardour, with requests so impetuous that they defy description. And behold, all at once I clearly felt that my prayer had been heard. Filled with an indescribable inner solace, no longer

doubting that I had regained my health, I got to my feet, laid myself upon my bed and fell into a deep sleep.[18]

On awaking the next morning I realized that both my legs were completely healed. I found too that the rupture in my groin had vanished. Ecstatic with joy, I could scarcely await the arrival of the doctor. When he finally appeared and I uncovered for him my shins, he cried out, on finding only scurf left where the discharge had been, that it was a miracle. The superiors were sent for. They rushed up, examined my shins and found them cured, just as the surgeon had stated. They praised God and the Holy Mother of God, through whose gracious blessing and intercession such a miraculous healing had come about.

I am acknowledging all this and I wanted to set it down here to honour God and to inspire the minds of my fellow-men to the adoration of the Blessed Virgin.

## Chapter Four
## My Life after the Novitiate until the Third Year of Probation

After my novitiate had finished, I entered the course of philosophy and began with logic.[19] Because I had been given by God a surfeit of blessings, I did not dare to give demonstrations of my abilities. I was frightened of diminishing the stream of new divine favour by possible pleasure in vain fame. After the healing of my body I also realized quite clearly that my intellectual talents had also increased. And in reality my taciturnity and the concealing of my abilities led both my teachers and my fellow students to the view that I was weak-minded and utterly incapable of studying philosophy.

I was consequently never chosen in the customary disputations to make objections against or to defend the nominated propositions. I rejoiced, however, and was glad that because of my love for Christ I was regarded by all as being stupid and weak-minded. After I had finished the year set down for logic in this way, I began with physics. I had been occupied with this for scarcely two months when a new storm set in which offered me abundant opportunity to contain myself in patience and to bear more privations for Christ. The facts of the matter were these.

In 1622 the heretical bishop of Halberstadt,[20] a most bitter persecutor of the Catholic faith, rose in rebellion against the empire and, to

make war upon the emperor, invaded Westphalia with a large force of men. Here he laid waste by flame and sword all inhabited places far and wide and eventually attacked Paderborn, where he raged with a similar cruelty. In our college at Paderborn at that time was located the seminary for recruits to our Society. There were in this about eighty people.

Since the above-mentioned prince of Halberstadt, called the 'mad bishop', had publicly declared that he was the mortal enemy of the Jesuits, deliberations were made whether it might not be better to dissolve the seminary completely, to prevent all those in it from being butchered if the city should be taken. The enemy was beginning to gradually invest the town. In the sudden resultant chaos it proved impossible to equip each individual with provisions for the escape. Most fled without any food to wherever chance and divine providence might bring them.

In my flight I had three companions. It was, as it happened, very bitter winter weather and the snow lay very deep. Worst of all, however, was the fact that we were only lightly clad and utterly devoid of everything that is necessary for travelling in winter. But the fear of the soldiers behind us drove us ever onward and lent speed to our flight. We recommended ourselves to God and the Blessed Virgin and took the road through the thick snow to Münster. All the footpaths were covered by snow. As a result we strayed from the roads and roamed here and there day and night. It was impossible for us to find the right path again. We imagined ourselves transposed into one of the most desolate areas of India.

We surrendered ourselves, with unshakeable trust in God and the Blessed Virgin, to the hope that God would not leave us in the lurch. For we had undertaken such a difficult journey with the purpose of practising sacred obedience. Inspired by this confidence we travelled on through the most barren forests, often wading—which was all we could manage—through thick snow up to our knees. After toiling along like this for two days, we were seized by raging hunger. But we had no more provisions. On this occasion I realized what hunger is and what effects it can exert on a man. O, what tasty morsels the plants and roots would have been for us, had not the deep snow and the hard frozen earth robbed us of the bliss of reaching them.

Finally, after we had made solemn vows, we emerged from the forest. Our entire bodies were stiff, our knees were trembling with cold, our faces pale as death. But God the Almighty did not intend trying

us beyond our endurance. We came to an inhabited place. I went in to procure charitable means for prolonging the lives of my half-dead companions. After lengthy and difficult negotiations I finally obtained a loaf of bread. Baked with oats and bran, the bread was of the most miserable kind. But it tasted so sweet in our hungry mouths that I cannot recall ever in my life having eaten anything more tasty.

Strengthened by this loaf, we marched on for the rest of that day. Towards dusk we reached a village consisting not so much of houses but rather of huts. There being no food obtainable, we tried at least to regain our strength by means of a fire. But soon someone appeared, asking if any Jesuits had gone past. As if electrified by such words, we hastened up to him and cried that all four of us were Jesuits. The man replied that he had been sent here by his master to fetch us to share in the evening meal. Rejoicing in the prospect of food, offered to us by the special dispensation of divine providence, we entrusted ourselves to the care of our guide.

On our arrival we were treated with the warmest affection. When the meal was over, we expressed our deepest gratitude to God and to our benevolent host. The following morning we travelled on towards Münster. We arrived there in the evening of the same day. In the Jesuit college there we were received with all the warmth which the Society of Jesus is accustomed to bestow on strangers and on travellers exhausted by the exertions of their journey. After spending a week here in restoring our strength and energy, we were sent on to Cologne in order to continue our studies in philosophy.

Before continuing, however, I must relate a new and moreover very convincing proof of divine providence. Yet again God deigned in His infinite mercy, at the intercession of His Holy Mother, to save me in mortal danger from certain death. The reader may see from this how much power resides in the trust he places in God and in the Blessed Virgin. He may learn from this to take refuge in all cases of need in her, his only spiritual solace. The facts of the case are as follow.

Two days after beginning our journey from Münster to Cologne, we reached Düsseldorf. Here we found the Rhine frozen over. Those who lived on the banks of the Rhine had, however, the custom, once the Rhine appeared to be covered with ice, of finding someone who for a certain fee would cross the river on foot, testing the ice for its strength to bear people and beasts of burden. While people sent out by the authorities in Düsseldorf were looking for such a scout, an unlucky chance had it that we should meet up with them. When they noticed

that we were poorly dressed (we were all wearing secular clothing) and learned that we wanted to cross the Rhine that very day, they suspected we were tramps or deserting soldiers and were consequently of the opinion that it mattered little if we were to lose our lives.

So they persuaded us into being the first to attempt at our own risk the crossing of the river. They pointed out too the spot where we should cross, obviously lying to us when they told us that everyone went over that way. In our innocence we suspected nothing underhand and we set out. We were however sufficiently circumspect to walk in single file with a space of ten feet between each one of us.

I went the first, testing the ice. More than half-way across the river, I suddenly realized that there was open water in front of me. Seized by fear, my companions immediately hastened back to the shore they had left. I, however, walked further on, as far as the firmness of the ice allowed. Finally I turned round as well, to catch up with my companions. But behold, the ice around me broke away and floated off downstream.

I was left standing in the middle of the broken-off piece of ice, as if on an island, and moved with it downstream. On seeing this my companions gave me up for lost. They fell to their knees on the ice and pleaded with great fervour to God that He might save me, and to the Mother of God that she might come to my aid. It was, as it happens, the Feast of the Purification of the Blessed Virgin.[21] I still celebrate this feast because of my unique rescue on that day.

Meanwhile on my island of ice I was being carried sideways. On seeing that human rescue was impossible, I tearfully took my refuge in God, equally prepared for death or life. I was in fact on this occasion filled more than ever with confidence in God, remembering the previous perils from which God's providence had delivered me. I knew, too, that whenever human aid is no longer possible, God will never refuse His help. After drifting along sideways for some time I noticed that a little further on the river was again ice-bound. Monstrous blocks of ice had piled themselves up like a rampart. Similarly, the ice-floe I was on came here to a halt.

But new difficulties presented themselves. How was I to climb over the endless masses of ice-floes? And yet, if I did not want to perish, the attempt had to be made. Two unavoidable obstacles confronted whoever wanted to surmount this pile of ice. Above all, the smoothness of the ice offered no safe hold, neither for feet nor hands, to anyone climbing over it. In addition, substantial gaps down to the surface of

the ice yawned between the chunks. Were I to fall into one of these fissures because of the slipperiness of the ice, I would have to give up all hope of being able to get out again. God alone knows how I felt when confronted by these inescapable and perilous obstacles. But fear sharpened the resourcefulness of my mind.

I began to clamber over the smaller floes and finally reached the other side of the ice blocks where I discovered the Rhine covered with firmer ice. What I was to do now was a question I found hard to answer. To go back was impossible, to go forward immensely difficult. It would, however, have been suicide to have stayed where I now was—in the depths of winter, exposed to the cutting cold, drained by fear, mental agony and physical exertion, with fingers torn by grasping sharp-edged ice-floes. I had then no other choice but to swim (which I had learned as a schoolboy), in order to reach the shore, which was some 24 yards away. That is what I then did.

Because my clothes got in the way while I was swimming, I tried to see if my feet could touch the bottom. When this met with success, I easily covered the remaining distance, wading through the water, at first up to my neck, then up to my chest, finally only up to my knees. Once on dry land again, I fell on my knees, thanking God and the Mother of God for this manifest proof of divine protection. In the biting cold which then prevailed my body was quite stiff, and my fingers, like my other limbs, had become numbed through frostbite and were without any feeling at all.

I was terrified that if I stayed any longer my blood would congeal through the cold and I would fall into a deathly lethargy. I had in fact heard that this customarily happens to people who have been frozen by the cold. I thus shook any feelings of enervation powerfully off me and moved off, hastening my stride, towards the town of Neuss, which was three hours' walk away. Finally, with the help of God, I arrived there.

My companions had meanwhile crossed the river at a spot which was more firmly frozen over and had arrived before me at the Jesuit college, where they reported my death through drowning. I was consequently greeted by all with indescribable joy and carefully looked after for three days, whereupon I travelled on to Cologne. I had not suffered—the doctors thought it impossible—the slightest damage to my health.

In Cologne[22] I completed my studies in philosophy and was then sent by my superiors to Coblenz in order to apply myself, as is customary in

our Order, once again to the study of the humanities.[23] I devoted myself entirely to mathematics and the study of languages, building on the basic knowledge in those fields which I had acquired before entering the Society of Jesus. At this time too, following the orders of my superiors, I was obliged to fill a teaching position as professor of Greek. The moment had then come for me, forced by the command of my superiors, to reveal the intellectual gifts which I had previously concealed. This was not for my sake, but rather to preserve the good reputation acquired by the Society of Jesus in their sphere of public teaching.

But my talents, made publicly manifest, gave through God's decree new rise to persecutions against me. People were unable to understand how a man, previously so meagrely endowed with talent, in whom moreover not the slightest degree of ability had been detected, could achieve that which teachers perfectly versed in languages and mathematics were scarcely able to bring about. As a consequence I was transferred by my superiors to the most remote college in that Province. This was at Heiligenstadt, a place in Saxony, where I was to teach elementary grammar.[24] Several misadventures befell me during my journey there. I should, I think, describe here the most significant and noteworthy one of them.

*En route* from Fulda to Heiligenstadt I had to pass through many places occupied by non-Catholics. I was frequently advised to do this dressed in secular clothing. But I retorted, I would rather die dressed in my Order's habit than travel unmolested in secular clothing.

With one companion, who was to act as guide, I set out. When towards evening we entered a gloomy wild valley situated between Eisenach and Marksuhl and called because of its horrid appearance the Valley of Hell,[25] I was suddenly surrounded by Lutheran horsemen, who were camped in the nearby forest. Recognizing me by my clothing for a Jesuit, they promptly stripped me of everything except my underclothes. But that didn't satisfy their frenzy. After taking my clothes, provisions and papers, after slapping me on the face and beating me, they set about preparing to kill me by hanging me.

Two riders, the one seizing my right arm, the other the left, pulled me between them, spurred their horses and led, or rather dragged me to a tree, at the place picked out for the execution. When I saw that these brutal fellows, filled as they were with implacable hatred against Jesuits, were in deadly earnest and really intended to kill me, I collected my thoughts and falling to my knees, raised my eyes to heaven and in tears recommended myself with immense fervour to God and

the Mother of God. I thanked benevolent God for deeming me worthy to suffer death for the honour of His most holy name.

While streams of tears gushed from my eyes, I became aware in my mind of an abundance of consolation such as I had never felt before. All my terror had vanished and I felt the greatest readiness to surrender for God my life and body. One of the soldiers standing around was seized with compassion at the abundant tears I was now shedding and he tried every possible way to contrive my rescue. He spoke to this end as follows: 'Comrades, what exactly are we doing? Are we to stain our hands with the blood of an innocent man? Even if the Jesuits are wicked mischief-makers, should this innocent man suffer for all of them? I declare here and now that I want to keep my hands clean of his blood. You must realize too that if we kill this man, God's punishment will catch up with us. Let him go then, and give everything back to him that you took from him'.

The riders standing around (there were about twelve of them) were moved by these forceful words and desisted from their intention. As if seized by panic, they fled into the forest, leaving me alone with my clothes and the papers I had been carrying. My companion, who had been quite stunned by fear, promptly rushed up to me and congratulated me on my escape from death. Behold, the man through whose intervention my rescue had been brought about came hurrying back to us. He begged me not to blame him like the others. He also handed over to us, since all our provisions had been stolen, two imperial talers as proof of his goodwill towards me, at the same time advising us to leave the spot without delay. We did so at once. I gave thanks to God the Almighty for the great proof vouchsafed me of His divine protection, lamenting, however, as I did so that such an opportunity of dying for the honour of God had been taken from me.

We continued our journey with the help of the money returned to me through the grace of God and in two days reached Heiligenstadt, the goal of our travels. Here I fulfilled as well as I could, out of obedience, the demands of my calling, continuing at the same time however with the greatest zeal my studies in languages and mathematics.[26] It happened moreover at this time that the archbishop of Mainz and elector of the Holy Roman Empire Johann Schweikhard dispatched an official commission into the area.[27] The whole Eichsfeld district, the chief town of which was Hagiopolis or Heiligenstadt, fell in fact in every respect under his authority. Consequently, considerable preparations were made for the fitting reception of this commission.

I was entrusted with the production of stage tableaux. Since these incorporated some extraordinary items, they provoked great astonishment in the commissioners who were present in the audience. There were too some people who taxed me with the crime of witchcraft, and others who put into circulation other malicious calumnies about me. So, in order to dispel the suspicion of such a loathsome crime, I was compelled to demonstrate clearly to the commissioners the entire procedure that lay behind the performance.

I succeeded in this to their complete satisfaction and to such an extent that they conceived a great liking for me and constantly wanted me in their presence, all the more so in that I demonstrated to them several mathematical curiosities that I had recently invented. I also presented them with a eulogy in their honour rendered in various foreign languages,[28] and because of all this their good opinion of me was significantly heightened. Well satisfied in every respect, the commissioners departed and on their return home reported to the elector in such glowing terms about my interesting performances that the most ardent desire was aroused in him to make my acquaintance.

At this time, the Reverend Father Johann Reinhard Ziegler, famous throughout Germany for his mathematical skills and expertise, was the elector's father confessor.[29] This priest instigated through the Father Provincial my appointment to Aschaffenburg, where the prince had his palace. His request was acceded to without any difficulty. I was in consequence soon afterwards called to Aschaffenburg. On my arrival I was received by the prince in a most cordial and kind way. I now devoted myself to delighting him in his leisure hours with demonstrations of my cunning devices. He took an immense pleasure in them. Father Ziegler actively helped me in my demonstrations.

It was just at that time too that the 'Bergstrasse', formerly mortgaged by archbishop Dittmar of Mainz to the Rhineland Palatinate, had again reverted to the jurisdiction of the elector.[30] To obtain an exact knowledge of the area which had come back under his control, he entrusted me, as one known to be loyal to him, with drafting a map of the entire region. After three short months I was able to present him with what he wanted, drawn up as a result of immense industry. He was quite delighted with the exact depiction of the individual towns and villages and of the cultivated areas and gave me the task of cartographically delineating with the same care other disputed areas within the archbishopric of Mainz.

Yet just as any arrangement in mortal affairs is uncertain, in this instance too the subsequent death of the prince within a short time

brought the proposed scheme to nought. As for me, after spending a year in the service of the elector, I was ordered by my superiors to Mainz to begin there my studies in theology.[31] Here I occupied myself for four years with the study of this one subject, in such a way, however, that I spent my time not only in studying theology but also in working on oriental languages. My hours were shared equally between both fields of study. Much happened in this period but since I am loath to sing my own praises, I will remain silent on this point and say no more.

## Chapter Five
## My Third Year of Probation and my Remaining Time in Germany

Upon completing my theological studies I was in 1628 ordained priest, whereupon I was sent, as is customary in the Society of Jesus, to Speier, where the third year of probation was to be served. Here, abstaining from all study, I applied myself entirely to the contemplation of divine matters, making use of all means necessary for any member of a religious order to acquire a fitting perfection.

During this time the task was given me to locate a book—I forget the title—in the college library. Whilst examining the books one by one, I stumbled, be it by chance or through divine providence, upon a book which depicted, with illustrations, all the obelisks with hieroglyphic characters re-erected by Pope Sixtus V in Rome.[32] Promptly ensnared by curiosity, I then investigated what kind of characters they might be. At first I thought they were set down by a sculptor as excesses of his imagination. I observed, however, from the attached history of the obelisks that these characters were monuments of ancient Egypt, engraved in ancient times on the surfaces of those obelisks now preserved in Rome, but which later, because their significance had been lost with the passage of time, no one had been able to decipher.

When I realized this, an instinct within me prompted the powerful desire, if only it were possible, to gain knowledge of the meaning of these characters.[33] From that moment on I never lost the confident belief that I would one day succeed in unravelling these characters. I worked it out like this: the significance of these characters must be preserved somewhere, scattered in the works of the innumerable ancient writers. If the books in Latin and Greek contain perhaps nothing about them, then at least the works in oriental languages will. From then on I ransacked all the works of the ancient writers with the purpose of

locating the fragments on this subject available in such books, in order to combine them into one coherent whole. Divine providence brought about unusual opportunities of being able to realise this purpose. I discovered books furthering my research. My *Oedipus Aegyptiacus* will in due time demonstrate the proof of this. For the reader who is curious to know more about the stages in my life, this should be enough at this point on the initial attempt which I undertook so ardently towards deciphering a language which had fallen into complete oblivion.

When I had finished my third year of probation, I was called to Würzburg to teach mathematics and Syriac.[34] I devoted myself here entirely to the pursuit of those subjects in which I was to lecture. Here too I published for the first time my *Ars magnesia* in the form of a dissertation.[35] This little treatise was greeted with much applause by people who were anxious to learn.

After this year had passed by, the chaos of war suddenly broke out and everything became topsy-turvy. What had happened is that King Gustavus Adolphus of Sweden had defeated Tilly and was advancing at a forced march on Franconia.[36] Since this incursion had not been foreseen, it found everyone unprepared. The king consequently found no opposition anywhere and was able to subjugate the entire region within two weeks.

I cannot forbear from recounting here what had befallen me some six months before this catastrophe in respect of the dissolution of the college and the despoliation of our entire fatherland. In 1631, when the whole of Germany was subject to the emperor, and the Catholics were enjoying the most profound peace, when no one had the slightest idea that the enemy could so easily raise his head again, I was in the middle of one night disturbed in my sleep by an unusual noise, and I saw my window lit up by a sort of twilight glow. I promptly slipped out of bed to find out what the unusual glow meant. I could clearly observe that the entire spacious courtyard of the college was filled with horses and armed men drawn up in rank and file. Gripped by fear, I hurried to the adjoining cubicles.

On finding everyone sound asleep, I thought I had been deceived in the depths of my own sleep. I sought out yet again my window. But the same spectacle was still there. Again I hastened away to summon witnesses for what I had seen, but I soon discovered that the vision had vanished.[37] During the days which followed I was tortured by such intense mental agony that I could not bear to stay anywhere in one place and ran to and fro as if mad.

I pictured to myself the casualties which would ensue with such graphic certainty that I could see them depicted as if in a mirror. Many, noticing my distress, asked me what was bothering me so much, among others my superior. I told him. 'Father let us pray to God, for I can sense that great disaster is impending not only for our college but also for Franconia and the whole of Germany. Reverend Father, give orders for the valuables in our church to be put somewhere safe. The new building too, which Your Reverence has begun, will not be completed'.

These prophecies were met with laughter. That they were true was amply shown in the October in which they were fulfilled. Because the enemy invasion of Franconia had happened without warning, everyone panicked to such an extent that each and every person threw together what he owned and tried to save his life by fleeing. The city of Würzburg was left without garrison, without food, without any defence at all. Our priests finally realized that my prophecy had not remained unfulfilled. Many of them questioned me in confidence about how I had so decisively been able to foretell the taking of the city. Many had the view that the whole thing was due to astrology, but since I was not committed to the disclosure of my vision, I enveloped myself in profound silence, leaving it up to each and all to think what he pleased about my prophecy.

Within twenty-four hours the whole college was dissolved, which, since the enemy was already nearing the city, took place in unbelievable confusion.[38] Everyone was terror-stricken since the enemy, it was said, would spare no Jesuit. Like the others, I was caught up in the general turmoil and fled, leaving all my manuscripts behind,[39] first to Mainz and from there to Speier. I prefer to remain silent about the many opportunities—and much else—presented on that journey by benevolent God for my submission to privation in the cause of His name.

## Chapter Six
## My Stay in France and my Arrival in Rome

After all this had happened in the way I have described, I was on the instructions of my superiors sent to France, since everything in Germany was upside down and there was no hope at all of returning to live there. I taught both publicly and privately the same subjects

as I had done in Würzburg, at first in Lyons[40] and subsequently in Avignon.[41] The abundant leisure time which I was able to accumulate I spent partly on mathematics and languages, partly on deciphering hieroglyphs.

It was at this time, too, that I received from my superiors instructions to visit the province of Narbonne. I was to prepare a new map of this area and at the same time visit the shrines and holy places such as the cave of St Mary Magdalen, usually called Sainte Baume; St Maximin, where the body of the same saint is buried; Marseilles, where the body of St Lazarus is preserved; and Tarascon, where St Martha lies at rest.[42]

Whilst staying in Aix, I made by happy chance the acquaintance of Nicolas Claude Fabri de Peiresc.[43] This immensely famous man was senator in the parliament and the most zealous patron and *mycaenas* of every scholar in Europe. Being himself a very inquisitive researcher into things arcane, he took an extraordinary liking to me on learning that I was skilled in oriental languages and that I was in fact working on the deciphering of the Egyptian hieroglyphs, of which he possessed a great quantity in his richly endowed library. I similarly gave him an opportunity of confirming for himself the knowledge I had of oriental langauges, of Hebrew, Chaldaic, Arabic and Samaritan.[44] His library contained a great number of books written in all these languages.

It only remained for me to present him with a sample of my deciphering of the hieroglyphs. He had therefore very quickly such a inscription copied out from an Egyptian statue, and he gave me this to decipher. I spent the greater part of the night on it and on the following morning presented him with my results. When he perceived that the deciphered characters contained allusions to Egyptian oil-lamps (for he was very skilled in archaeology), he spoke to me about what I had done with words of such feelings that I, for the sake of modesty, do not like to repeat them here.[45] After I had taken a most cordial leave from him and returned to Avignon, Peiresc continued forwarding to me whole chests of relevant books.

Meanwhile I had been called to Vienna in Austria, appointed by our most Reverend Father General Muzio Vitelleschi[46] as mathematician to the imperial court.[47] When Peiresc heard this, he used all the means at his disposal to prevent my journey to Vienna. His fear was in fact that were I obliged to apply myself to mathematical studies at the court of the emperor, I would lose any desire to re-establish our knowledge of the hieroglyphs. On these grounds he wrote immediately

to Pope Urban VIII[48] and to Cardinal Francesco Barberini,[49] imploring them to call me to Rome while I was en route for Vienna. But before I continue here, I cannot help but relate in honour of God how His goodness rescued me from a very great danger.

Our college in Avignon owned a garden on the outskirts of the city. For irrigation purposes there was a great water-wheel, powered by a horse, set between two stone buttresses. On the ground between the two walls there was a great pool of gushing water. From this water was regularly lifted up by buckets on the wheel, poured into a huge basin and then distributed by channels throughout the entire garden. During a period of relaxation from my studies I once walked into this garden in the company of one of our lay brothers. I inspected the machine, which was being turned by a horse harnessed to a long pole. So deeply was I immersed in my thoughts that I didn't notice at all the horse at work.

All of a sudden I was caught tight by the scooping mechanism. Since I could neither stop the horse nor hold a position between the wall and the hoisting mechanism without the danger of my entire body being crushed, I was knocked down by the dipper on to the wheel. Similarly, once on the incessantly turning wheel, I was unable to find a firm foothold, nor could I slip over to one side because of the narrow gap between the two walls. In this situation of great distress and danger, I shouted to my companion for help. But he didn't hear my screams, because he was busy in a distant corner of the garden.

Dragged around by the wheel and seeing myself in obvious mortal danger, I took refuge, with my customary trust, in the Mother of God. And behold, the wheel suddenly came to a halt. I was standing up to my neck in the water, but discovered the steps which enabled people to come down to the surface of the water. I climbed up them safe and sounded, and uninjured. I then summoned my companion. He found me dripping and soaked, trembling in every limb, pale as death. He guided me into the house which the members of our Order used to stay in during their periods of relaxation. He lit a fire, beside which my clothes could dry, and its warmth brought about my complete recovery. The danger I had run was so horrible that I am unable to think of it without trembling. But my rescue from it with the help of God acted for me as a most effective spur to go on serving Him with the greatest of zeal.

Since, as I have said, I had been called to Germany, I began making preparations for my journey. When Peiresc heard about this, he

wanted me to leave via Aix. He put me up for several days in his house showing me extravagant proof of his affection. My companions were anxious to depart and I set out for Marseilles to travel on from there via Genoa to Germany. I didn't have the slightest suspicion that Peiresc was negotiating with Cardinal Barberini for my journey to take the opposite direction, for me in fact to be called to Rome. I will relate in brief what befell me on this journey, since God on this occasion too intended me to be exposed to various dangers.

In Marseilles[50] we entrusted ourselves to the ocean and were ferried across to an uninhabited island about three miles off the coast, hoping that there our vessel would more easily get a favourable wind. Troubled by seasickness, we landed on the island and lay down to sleep some distance from the ship. We were later awoken from our sleep and found that the ship had already sailed. Not knowing what we were to do on this barren, uninhabited island and consequently very much frightened, we took refuge in prayer. Suddenly we saw fishermen approaching from the distance with their boats. They were intending to fish off a nearby island. We sent them lots of distress signals. But only one of them came closer to find out who we were. We promised him a not inconsiderable amount of money to take us back to Marseilles. He consented.

In Marseilles we hired[51] a speedy sailing boat, usually called a *felucca*, and set sail for Genoa, but we were shipwrecked on the way. I will tell you exactly how it came about. We had already been held up in our port of departure for three days by gales and a high running sea. The ship's captain lost patience and he decided shortly after noon on that very day to put to sea through the bay, which was much dreaded because of its precipitous reefs. He hoped to cover some 30 miles and reach by evening the harbour in Cassis, but other things were to intervene. It was the Octave of the Birth of the Blessed Virgin Mary, 1633.[52]

Intrepidly, he sailed down the bay. However, scarcely had be covered three miles when the wind started to gust from the south, whipping up dreadfully high seas, making the sea froth and foam. Heroically the captain kept his course, imbuing us all with courage by his example. But finally he got into the most dreadful trouble. The little ship was no longer able to withstand the force of the waves. The water towered so high around us that it was impossible to look at it without trembling. We all had continuously to work at bailing out the water hurled aboard by the force of the gale.

All were in despair of being saved. Everyone implored God for help and, as far as it was possible under such conditions, made confession of his sins. In obvious mortal danger as we were we made a solemn vow that, were we to set foot on the Italian coast, we would go on pilgrimage to the shrine of the Blessed Virgin at Loreto.[53] Meanwhile, to complete our misery, darkness was setting in. It was the time of the new moon. The captain in his desperation recollected that among the reefs there was a cave fashioned by nature in which he had on occasion taken refuge. The cave was about 8 feet wide, 10 feet high and extended, as I later found out, right through the mountain above it. Since it was already twilight and we had still 15 miles to cover to the longed-for harbour at Cassis, the captain decided on a patently brave but risky act of daring.

He came to his decision, as he later told us, in this way: I will make the attempt to get through to that cave, rather than expose my passengers, my ship and myself to the obvious danger of sinking during the night. And while we had no inkling at all of this perilous act of daring, our captain went ahead and carried it out. Without speaking, then, he steered towards the spot where the cave was to be found. The entrance to it was at the one moment blocked by the water flooding in, at the next open as the water surged out. Bearing this in mind, the captain, evidently with the help of his guardian angel, made his plans and carried them out. When the sea began to flood into the cave again, he steered the ship from the side into the current so that it was carried with the impetus of the waves into the cave.

This came to pass less through human effort than through divine providence. For otherwise, since the opening to the cave as we slipped through was filled with water, we would have been hurled against the rocks and would all have lost our lives. Since the ship did not, however, strike the exact centre of the opening it collided against one of the sides and sprang a leak. We quickly leaped out and pressed forwards into the cave, soaked in water as a breaker violently pounded in on us before draining back into the sea. Having made our escape from the water, we hastened to the exit to the cave on the other side of the mountain. Once there we all knelt down thanking God for having in His goodness preserved our lives in the shipwreck. The ship was pulled to safety by the crew and repaired the following day.

Where we now were, however, on the other side of the mountain, we found ourselves in new straits. For we were confronted by precipitous cliffs and jagged inaccessible crags. We were blocked in like prisoners

between two broken remnants of mountains that had cracked and split, offering no way out on any side. But our acute discernment and resourcefulness grew apace when faced by this dilemma. One of the crew, to some extent familiar with the area, set about finding for all that a way out. The one he chose, however, was no less perilous than the high sea.

Like goats we scrambled after him as he went in front. Following his exact footsteps, we struggled to find a grasp-hold with our feet and hands on the thorny bushes. Finally, with God's help, we climbed over the crags. Had any one of us not stepped exactly where the crewman had placed his feet, he would certainly have fallen to his death. As we made this dangerous climb over the rocks, our clothing and shoes were torn and ripped by catching on sharp-edged rocks to such an extent that they became quite unserviceable. Having escaped in this way from danger, we set out at three in the morning for the harbour at Cassis, not by water but, as I have described, over rugged mountainous terrain. To get there it took us three full hours, even though the distance from the cave was as the bird flies only half an hour.

After recovering our strength and after the ship had been brought round, which, as I have mentioned, had already been repaired in the cave, we continued our journey on the following day. With God's help we arrived one week later in Genoa. We stayed there a fortnight and then, after hiring another ship, set off for Leghorn. We intended travelling from there by land to Loreto in fulfilment of our vow and then continuing our journey to Germany via Venice. But divine providence had it turn out otherwise.

Our ship was driven off course by gales and storms to the nearby island of Corsica. Every wind seemed to have entered into a conspiracy against us. After a lengthy and perilous voyage we finally sailed into the harbour at Civita Vecchia, the ancient Centumcellarum.[54] This place is not less than 40 miles from Rome. Our supplies and money having been completely used up, we made the remainder of our journey by foot.

Exhausted by hunger and hardship, I arrived then in the year 1634[55] in Rome, where, without my having the slightest inkling, I had already been long expected. The Reverend Father General Muzio Vitelleschi had been urgently requested by Cardinal Barberini to inform me, wherever my journeyings might have taken me, of the papal instruction that I should not proceed to Germany but rather to Rome. He had issued letters summoning me to Rome. If only for this reason alone I

cannot admire God's providence enough. After taking up residence in Rome[56] I began work, as urged by Peiresc, by the will and command of Cardinal Francesco Barberini, on my treatise on the hieroglyphs, which is called the *Oedipus Aegyptiacus*. I completed this, with the help of God, only after twenty years' work.

Two years after my arrival in Rome I was appointed to travel to Malta with the landgrave of Hesse, who is now a cardinal of the Holy Roman Church. Since I had been the cause of his conversion to the Catholic faith, the wish was expressed that I should be his first father confessor.[57] The landgrave soon realized, however, that I could not take up a lengthy residence in Malta without serious detriment to the researches I had already begun.[58]

Consequently another priest was appointed as his father confessor and at the request of the cardinal I was called back to Rome by the Father General. In Rome the chair of mathematics in the Collegium Romanum was entrusted to me and it was while I held this chair that I produced those works relevant to this subject already known to the world. God decreed, however, that I should during my return from Malta to Rome court various mortal dangers.

Through God it came about that just as the whole of Calabria was being laid waste by frequent and terrifying earthquakes I should find myself in that area. How this came to pass, the great dangers that God rescued me from, when I attempted under the most difficult conditions to investigate the nature and peculiarities of Vesuvius, Etna and Stromboli, when collapsing mountains and houses almost crushed me, all this I have set out in detail in the book entitled *Mundus subterraneus*, to which I refer my readers. In what is reported there they will find with some astonishment the most manifest proof recorded of the protection afforded me by God.[59]

## Chapter Seven
## My Life in Rome

Attacks against me of a not immoderate nature began when certain scholars doubted my reliability, bearing in mind the novelty of my arduous undertakings and at the same time my extreme youth (I was only 32). They slandered me, bringing charges against me as an impostor. They tried to undermine the reputation I had acquired in the study of oriental languages, in mathematics and in exploring the

secrets of nature.[60] Compelled by all this, lest my Order suffer under the opprobrium of deceit, I brought out as means of protection the *Prodromus Coptus*.[61]

I did this trusting God and under the aegis of Cardinal Barberini. With this work I proved that I could with the help of divine grace carry out what I had sincerely promised. By reading it and the samples interspersed throughout, people realized that my undertaking was no empty boast. I record this so that the reader can understand how much patience is necessary for carrying out difficult tasks and how much steadfastness is needed to demolish the objections of one's opponents.

The *Prodromus* was followed by a lexicon of the ancient Egyptian language. This was compiled with the assistance of Pietro della Valle, who had become world-famous because of his travels through the whole of Asia.[62] He had handed over to me for elucidation an Arab–Egyptian lexicon which he had brought back from Egypt. I provided it with an appendix where I had explained in more detail all the items I had not fully gone into in the *Prodromus*. This supplementary material played an essential role in the restoration of hieroglyphic writings and achieved, since such a thing had never been previously tackled by anyone, through the grace and favour of God, approval and recognition among men of thorough scholarship.

Since I was, however, filling the chair of mathematics in Rome, I felt it also incumbent upon me to publish some samples from the area of my specialist expertise, all the more so since my opponents were casting doubt on my experience in this field. During the period in which I held my chair I wrote then three works: the *Magnes sive de arte magnetica*, the *Ars magna lucis et umbrae* and the *Musurgia universalis*. On their appearance these works were greeted—praise be to God—with no light applause. But this same applause provided also the stimulus for more importunate attacks against me. It was said that I was now exclusively occupied with mathematical studies since I had come up against irreconcilable difficulties with my hieroglyphic researches. I was further said to have despaired of the possibility of deciphering the hieroglyphs and to have given up all hope of writing a book on the subject.

But the infallible providence of God acted in such a truly wondrous way that not only did I finish my work on the task imposed on me, but I was also enabled to confound in a most opportune manner the machinations of my adversaries. Pope Innocent X had decided to his

eternal fame to re-erect in the Foro Agonale the obelisk which the emperor Caracalla had formerly set up in the Hippodrome and which now lay recumbent and broken by the ravages of time into five pieces.[63] Since he had heard that I was an expert on Egyptian and hieroglyphic writings and that this very fact had been the cause of my being called to Rome, the Pope had me summoned before him.

He spoke as follows: 'Father, we have decided to re-erect this obelisk. It is a very heavy block of stone. No less heavy is my commission for you to endow it with life through your deciphering of its message. It is our wish then that you should in all earnest set about completing the task apportioned you with the gift bestowed on you by God. Whosoever on contemplating this stone marvels at the unusual characters on it shall attain knowledge of the secrets depicted thereon through your deciphering of the characters'. With humility and promptness I declared myself ready to execute the task imposed upon me by the Vicar of Christ on Earth.

It did seem, however, that it could not be done without some help. So the Pope sent to the most Reverend Father General of our Society, Vincenzo Caraffa, for him to designate an assistant for me and to make provision for everything else necessary for the Pope's commission to be carried out.[64] As was his custom, this saintly man respectfully complied with the wishes of the Pope, rejoicing that the Pope had deigned to entrust a member of our Society with carrying out such a task.

The characters on the obelisk were much damaged by the stone having crumbled away. Several portions of it were completely missing. His Holiness, however, desired that the obelisk should be restored to what it had previously been and charged me with completing the existing gaps as well as I could. At this stage something remarkable now took place, which I thought I should not silently gloss over since divine providence was clearly at work. All the missing fragments from the obelisk, together with the missing characters, were in fact to be found in the hands of archaeologists.[65] On hearing that the Pope intended having me complete the characters which had been on those pieces broken off from the obelisk, they fell upon me, saying, 'Now we will see whether he understands anything at all about hieroglyphs and whether he can restore the characters on the broken-off pieces'.

Illuminated, most unworthy as I was, through the grace granted by God and supported by experiences culled from many years of observation, I did however perfectly restore the characters at the relevant places. For when the obelisk had already been erected and the

characters supplied by me had been most minutely compared with those on the surviving fragments, it turned out that these did not differ in the slightest from mine. Full of astonishment at this, people now believed me to have unearthed, with the special grace of God but for which it would have been impossible, the key to this choice literature. For my part, as was my invariable custom, I gave thanks to God for having delivered me from so much contention.

The rumours of what had happened also came to the ears of Cardinal Capponi, who was responsible for actually erecting the obelisk.[66] He wanted the account of this whole affair to be recorded for posterity in the *Oedipus Aegyptiacus*, to which I refer the reader.[67] This then is how the *Obeliscus Pamphilius* (after Pope Innocent X's family name) came into being, which pleased the Pope immensely and gained much applause from scholars.[68] I, however, attributed what I had done in no way to my own resources and merits, but rather to the Father of Enlightenment, and thanked Him from my heart for having shown in His inexpressible goodness and mercy such a magnificent blessing to me, His humble and least worthy servant.

There followed soon afterwards something no less remarkable in which I could clearly see the promptings of divine providence. When the emperor Ferdinand III was presented with a copy of the *Obeliscus Pamphilius*, he sent to me, in his zeal for furthering scholarship, a most gracious letter.[69] He encouraged me to publish the *Oedipus Aegyptiacus*, which had remained unfinished since, after the death of Pope Innocent X, there was no one who could have defrayed the printing costs. The emperor agreed at once to bear the cost of all works to be produced by me, and, lest it appear that he was playing with empty words, asked me how much it would cost to print the *Oedipus*. I wrote back that the cost of this work in four volumes could not, in the view of the booksellers, be less than 3000 Roman *scudi*. The emperor promptly agreed to this and commissioned me to have the work printed as soon as I had received the money draft.[70]

I completed the *Oedipus*, which had begun so auspiciously, within three years. Moreover, to corroborate what I wrote in the book, there were many extracts from oriental authorities to be printed in the Hebraic, Chaldaic, Arabic, Coptic and Samaritan alphabets. So that nothing might detract from the splendour of the finished work, the emperor with truly imperial generosity had the various fonts cast here in Rome[71] at a considerable expense. In addition, to help further my work and future titles, he granted me a yearly pension of one hundred

scudi, which I still receive to this day.[72] It was my wish then that all the books I had previously published should be dedicated by posterity to the magnanimous emperor Ferdinand III and those that appeared after his death to his son the emperor Leopold. All those who read these in later times will admire their splendid production by the Amsterdam bookseller Joannes Janssonius, who has assumed responsibility for the publication and printing of all my books.[73]

In 1661, moreover, God gave me further proof of His goodness. I was not only to work on the furtherance of scholarship but it pleased God too to elect me to stimulate my fellow men in the cultivation of their soul and in the pursuit of piety. It was in that year that I went to Tivoli[74] to restore my health and to collect antiquarian material for the preparation of my *Latium*. While carrying this out I heard that in the nearby mountains there were still to be seen the imposing ruins of the city of Empulum so frequently mentioned by Livy.[75] With a companion I set off on the difficult journey to examine them.

While we were walking along we soon noticed signs of a building recognizable by its roof. We came nearer and found it to be a church crumbling with age. I stepped in and saw it to have once been magnificently constructed. I was astonished that it had been erected in this desolate fastness and suspected that some wondrous event lay behind it. So I rummaged in every corner of the church hoping to come across some inscription or other. Through God's help I discovered a marble tablet engraved with the following words:

> This is the holy place where St Eustachius underwent conversion to Christianity.[76] Here the crucified Christ appeared to him on the antlers of a stag. In memory of this the emperor Constantine the Great erected this church, which was solemnly consecrated by Pope St Sylvester in honour of the Virgin and of St Eustachius.

I did not let the matter rest here, but inquired in detail from the priests of the neighbouring towns, particularly in Guadagnolo, what they knew about this site. They confirmed the truth of what I had discovered in the church. Later on I went up to the altar of the church. On it I became aware of a statue, noteworthy for its antiquity, of the Blessed Virgin. When I looked at this, neglected and wrapped in a garment of cheap material, it seemed to me as if the statue was talking to me through some inner voice: 'Behold, how deserted I am by all in this wilderness. No one cares any more for me, for this church, nor for this holy place, where I was once so exalted by the devotion of men'.

I was moved in my innermost being by these inspiring words and in a surge of tenderness I cried: 'O most gentle Mother, you seem to be inspiring me with the idea of taking the responsibility of restoring this sanctuary, but how will I be able to do it? Being a priest and being penniless, I possess neither fortune nor income nor inheritance that I could lay out for your honour and glory. It must be your task to sway the hearts of the children who love you that they may let me have the means which will enable me to do what you, O powerful and mighty Mother of God, demand of me.

Not only will I see most willingly to the restoration of this sanctuary, which is meant to honour your name, but I will, in fulfilling your wishes, willingly lay down my life to honour your name and that of your Son, who for His love of us was crucified and died and who appeared on this very spot before St Eustachius. And what is more, Blessed Mother and Virgin, see, here are three Julius thalers for you which I brought with me to pay for my food and travel. I lay them down at your sacred feet as a pledge of my never ending love for you and my goodwill towards you. I will take up the suggestion with which you have encouraged me to carry out your will.'

After delivering this prayer with the greatest of ardour before the statue, I felt my inner being suffused with bliss. On my return home I found enclosed in a letter from the most illustrious Duke August of Brunswick-Lüneburg a money draft for 400 Roman *scudi*, forwarded with a generosity that was unusual but nonetheless worthy of such a prince, for the furtherance of my studies.[77] I saw in this a hidden sign from the hand of the Mother of God. I laid aside all the work in progress and, by no means idle, began to put together the history of this saintly place, under the title: *Historia Eustachio-Mariana*.[78]

When it was printed I sent of course a copy to the emperor Leopold, my most generous patron. He in turn, as a zealous servant of the Mother of God, conscious of the sanctity of such a place, aware of the urgent need of speedy restoration, promptly forwarded to me by draft 1000 imperial thalers[79] so that I could without any delay carry out the task entrusted to me by God Almighty through His Blessed Mother. The munificence of the emperor was echoed by the illustrious duke and elector of Bavaria with 400 gold *scudi*,[80] by the most noble Johann Friedrich, count of Waldstein with 700 *scudi*[81] and by the most worthy Pedro Antonio de Aragon, vice-roy of Naples, who forwarded 100 thalers[82] to mark his devotion to St Eustachius. It can scarcely be said how much all this encouraged me, particularly when

I saw that non-Catholic princes were contributing not inconsiderable amounts of money to this pious work. I could clearly recognize from this the unseen and mysterious workings of the most gracious Mother of God.

So that I might appear no less zealous than the Holy Mother, who was so pressingly attending to the necessary subsidies, I quickly launched an onslaught on the restoration work. To begin with, I had the church fitted out with all sorts of equipment, paintings and carpets. Then I had the dilapidated altars replaced. I provided paraments, altar furnishings, priests' vestments, and all the items necessary for celebrating Mass. So that pilgrims might have somewhere to rest, I had a building erected next to the church with fifteen rooms offering every convenience.

The high cliff, on which according to ancient tradition the crucified Christ had appeared before St Eustachius between the antlers of a stag, was impossible to climb. So we installed up to the very peak a flight of steps, made possible by the generosity of the count of Waldstein, now archbishop of Prague. The steps consisted of huge stones, each about a yard wide. On the cliff itself we built a chapel dedicated to St Eustachius. On the walls inside the chapel the papal artist and devoted servant of God Johann Paul Schor[83] from Innsbruck painted exquisite scenes from the life of St Eustachius. This example was followed by the nearby towns, which had other chapels decorated with murals.

But all this would have been pointless if people had not visited the place as an act of piety. So I instituted an Apostolic Mission there, a series of Masses held by our Fathers. Each year on the Feast of St Michael the Archangel, many thousands of people of both sexes stream here to obtain indulgences and to receive Holy Communion. The ceremonies begin on the day before the feast at three o'clock in the afternoon and last until one or two o'clock in the afternoon of the following day. Throughout the night confessions are heard, sermons are given, hymns and liturgical chants are sung. Beginning at dawn, Holy Communion is distributed. All this takes place with incredible piety exhibited by the people who are urged and exhorted for the gain of their immortal soul.[84]

Before all this, on the death of Pope Innocent X, his place had been filled by Alexander VII, a Pope worthy of his Apostolic office, who up until now had been occupied with lesser duties. He had first been Inquisitor in Malta, then papal nuncio in Cologne, and then had been elected cardinal in Rome.[85] He owed his supreme position in the spiritual

hierarchy to his versatile and elevated qualities and achievements. As Pope he remained so affable that he retained his former manner of friendly intercourse with all those with whom he had first initiated it. Under this Pope not only did my studies flourish in leaps and bounds but the piety shown towards the Blessed Virgin Mary, for whom the new Pope had always exhibited great devotion, took an upward swing, as we shall shortly relate.

In 1666, when the foundations were being laid for some building or other, the remains of an Egyptian obelisk were uncovered. On this being reported to him, his Holiness without hesitation summoned me and commissioned me to examine the matter. He commanded me to approach in his name the prior of the Dominican monastery and explain to him that it was the wish of his Holiness that the obelisk be fully exposed as soon as possible to the light of day in order to accelerate the interpretation of the mysteries it bore engraved on its sides. No sooner said than done.

Just at that time, however, the celebration of our Apostolic Mission on the Eustachius mountain was imminent. We were accustomed to carry this out in the church, which had been restored, on the Feast of St Michael before huge crowds of people. Consequently, since I had of necessity to leave Rome, I delegated the task of copying out the inscription on the obelisk to Giuseppe Petrucci, my assistant in the studies I was making of Egyptian antiquities.[86] He faithfully performed this task and, as I had also instructed, forwarded without delay the completed drawings of the obelisk to Tivoli where I was staying.

Although only three sides could be copied because it was too difficult to turn the obelisk over from the hidden fourth side, I was still able to grasp—and praise, honour and glory to God for this—after I had very carefully scrutinized the drawings, so completely did they convey their mysterious meaning that the contents of the fourth side, omitted in the sketches, were as if no longer unknown to me. To prevent any unpleasantness with scholars about what I thought the fourth side to contain, I made a drawing with my own hands, without any indecision, admittedly with a somewhat hardy self-confidence, which for that reason did not remain without favourable success, of the as yet unrevealed characters on the fourth side. I sketched them as they would have to be in the original and sent the drawing to Petrucci in Rome.

Startled by this novel approach, Petrucci soon showed both sketch and letter to the assembled Dominican fathers. The more prestigious Roman scholars, who were surprised at my daring, averred that the

truth of the matter could only be established by comparison with the original. Soon after, when the obelisk was turned over, they carefully compared my drawing with all its lines, strokes and characters with the newly uncovered fourth side. They found that everything agreed without any deviation from the original and those who had ridiculed my explanation as sheer imagination were nonplussed and expressed all sorts of divergent opinions. Some said I could only have gained this knowledge through divine inspiration, others claimed that I was in league with demonic powers, but most people assumed that I had gained this insight through many years of study.

When Alexander VII was informed of all this, he summoned me and gave instructions for me to have drawn up an authentic account of all the events involved. This was delivered by the above mentioned Giuseppe Petrucci to the most illustrious and reverend prelate Marcello Severolo.[87] The Pope further desired that the report be printed and placed as a preface to the *Ad Alexandrum*.[88] Indeed, so as not to appear ignorant of the hieroglyphs on the obelisk erected in his name, the Pope did not disdain, for the purpose of gaining a true view of this matter, to receive tuition in the field of Egyptian studies. For this reason, on appropriate occasions when more important matters did not demand his attention, the Pope was instructed by me on the basics of our knowledge of the hieroglyphs. With the grace of God he made such progress in this field that he could not only grasp the manner and method of deciphering hieroglyphs but could also demonstrate the integrity and truth of my translations. This took place in the circle of eminent and experienced scholars who gathered in the autumn holidays at his country residence in the district of Albano.

For the late Pope Urban VIII I had printed an account of the Barberini obelisk (his family name) in my *Oedipus aegyptiacus*.[89] For Innocent XI had published a whole book describing the Pamphilian obelisk (again, his family name) erected with fitting magnificence in the Foro Agonale in Rome. Similarly, I was morally bound to honour Pope Alexander VII, on account of the favour he had always shown to me and who had had set up on the Piazza Minerva in Rome, in view of both the city and the entire world, the Alexandrian obelisk, erected on the back of an elephant.[90]

The book had scarcely appeared in print when a letter arrived summoning me to the Pope, who wanted to know how he could repay me for so much work. When I came before him, the Pope said it was now the time for granting a reward and I should thus ask him for

any favour at all. I replied that such a favour granted by his Holiness would transgress the rules of my order and I could not accept, all the more so was I unable and unwilling since the emperor had provided sufficient funds for my work and research. I did add, however, that if his Holiness should rather confer the favour he had in mind for me on the church of the Holy Virgin and St Eustachius, currently under restoration by me, there would be many blessings to be gained from the Holy Mother. The Pope indicated that this proposal gave him pleasure. As proof that the Pope had not been making empty promises to me, there came shortly afterwards one of his privy chamberlains who presented me in the name of his Holiness with a purse containing 900 *scudi*. This money derived from the income of vacant benefices and was made over to me for expenses connected with the church of the Virgin and St Eustachius.

Alexander VII was followed by two most mild and gentle Popes, Clement IX and Clement X, who equally shared the same great piety.[91] When I presented Clement X, who had heard a lot about the restoration of the church of the Virgin and St Eustachius, with the book I had just brought out called *Latium vetus et novum* and a copy of the recently published *Historia Eustachio-Mariana*, the former with a dedicatory preface to him, he asked how he could repay this signal honour. I replied that for my part I desired no favour or reward at all, but if he was to contribute something towards the expenses of the yearly Apostolic Mission held on the Eustachius mountain, that would be most pleasing both to God and the Mother of God.

The Pope was gratified by this proposal, promising to carry it out in honour of the Mother of God. I submitted a report on the matter and a few days later a senior official of what they call the papal chancery came to see me, bringing in the name of the Pope a purse of 180 scudi, which was to go towards the cost of the church. This amount, when added to the various sums given to me by Alexander VII, was enough to endow the mission. This is how the revenue of that holy place received a big boost.

May everything which I have found fit to relate here openly, sincerely and frankly, redound only to the praise of God and His Blessed Mother, who are eternal and omnipresent.

My thanks I return to you, wonderful Mother of God, the strength and resilience of all who worship and love you: For having, through your Son, our gentle Saviour who was crucified because of His love for us, allowed me to carry out these things. For having saved me

since the hour of my birth from many evils and having rescued me from the perils of both mind and body. For having given me the love of knowledge. For having spurred me on my whole life long to work towards the honour and glory of God, of your Son and of increasing your worship. I wanted the witness I have borne for you out of love and gratitude to be known for all time.

Grant, O Mother of Love, that when I one day have shed this mortal flesh I may be deemed worthy to praise and glorify you together with your Blessed Son, in the unity of the Father and of the Holy Spirit. Amen. Amen. Amen.

*This is as far as the account by Father Athanasius himself goes.*

*A transcript follows of the profession of faith signed in Fr Kircher's own blood and exhibited at his request in the sanctuary of the Blessed Virgin at Mentorella until after he should die, as a pledge of his love and gratitude.*

O great and admirable Mother of God! O immaculate Virgin Mary! I your most unworthy servant prostrate myself before you. Mindful of the blessings you have shown me since I was an infant, I offer you sweet Mother from the bottom of my heart my whole being, my life, my body, my soul, all I have done and all my works. I bring my vows with open heart before your altar where you first inspired me in a miraculous way to the restoration of this hallowed place, sacred to you and to St Eustachius.

May posterity recognize that whatever learning I have acquired, whatever of value I have written, is due, Holy Mother, to you, and not to my study and industry. It is bestowed on me in your grace, and enlightenment granted me by the eternal wisdom. To this end and out of gratitude to you I leave here this document, in my blood, with my pen which is now at rest.[92] Jesus, Mary, Joseph, my only possession.

I, Athanasius Kircher, your impoverished, humble and unworthy servant, entreat You, Jesus and Mary, to heed my vows.

Omnia ad majorem DEI gloriam

## Commentary on the Vita

1. Geisa lies 30 km north-east of Fulda and nestles among the forested hills of the Rhön district. Not only is Geisa now in Thuringia, in the German Democratic Republic, it also stands [at the time of writing] next to the heavily guarded border between the two Germanies. Although clearly visible from the West German side, Geisa cannot be visited by the outside world, due to the promulgation by the East German authorities of a so-called *Sperrgebiet* (prohibited territory). Relatives, tourists and Kircher investigators must wait outside the forbidden zone, in my case in 1964 in Bad Salzungen, and await the arrival of their Geisa hosts.

In Kircher's day, Geisa, the first authenticated lord of which can be traced back to 1116, belonged to the bishopric of Fulda, where it remained until 1816 when it was incorporated into Sachsen-Weimar-Eisenach. Writing in the mid-seventeenth century, the topographer M. Merian (p. 70) found little to say of the sleepy township and limited himself to 'sie liegt am Zusammenfluss der Geis und der Ulster, auf einem Hugel in einer lustigen Gegend'.[1]

Kircher fails to mention Geisa in his printed works and preferred to use the epiphet 'Fuldensis' on his title pages. He did however stay in touch with relatives and friends in Geisa. In 1649 he received a chatty letter of local news, with a list of Geisa acquaintances including Andreas Wigand SJ, from Ludwig Hopff, a lawyer in Fulda.[2] The same Andreas Wigand (see Commentary note 38 below) could report in 1659 on a visit to Geisa where he noted the inhabitants' determination to erect a monument to their illustrious son.[3]

In 1664 Kircher received a list of local priests and other religious in and from Geisa sent by Konrad Witzel, parish priest in Geisa.[4] Witzel's letter was an approach to Kircher asking him to intercede with

---

[JF's note references in this text referred to commentary and bibliographical material together. The superscript numbers in the *Vita* text now refer only to the commentary that follows; the bibliographical material has been placed in a set of footnotes.—Ed.]

[1] See also H. Hahn and L. Faber, *1150 Jahre Stadt Geisa*; J.F. Schannat, *Corpus traditionum Fuldensium*, p. 353; A. Schroeter, *Land an der Strasse*, pp. 43–49.

[2] Pontificalis Università Gregoriana [Archives, Ms] 568 f.44 (Fulda, 12 April 1649), hereafter Pont. Univ. Greg. [From this point on JF begins to follow the notation method provided by W. Gramatowski and M. Rebernik, *Epistolae Kircherianae: Index alphabeticus; index geographicus*: see above ch. 1, n. 5.—Ed]

[3] Pont. Univ. Greg. 567 f.121 (Worms, 7 November 1659).

[4] 563 f.272 (Geisa, 5 October 1664).

Alexander VII (whom Witzel recollected as Nuncio in Cologne) for the granting of an Indulgence to the parish. Witzel notes that the last such occasion was by Pope Honorius IV in 1287. Kircher's favourable reply is undated.[5] Witzel's answer again appends a formidable list of cousins and local dignitaries all anxious to be remembered in Rome.[6]

The relics—bones from fourteen canonized martyrs from the Catacomb of Priscilla in Rome—and the Papal Brief of Indulgence (signed by Alexander VII, Rome, 17 April 1665) were accompanied by a further letter from Kircher to Father Witzel. There were also four rosaries, intended for Konrad Witzel himself, Simon Hill and Melchior Wiegand (both cousins of Kircher) and for Hartmann Eckhardt, mayor of Geisa.[7] An ecstatic letter from Witzel announced the safe arrival of what must have been a bulky parcel from Rome.[8]

Witzel's initial inquiry to Kircher was sent in tandem with a letter from Melchior Wigand, town clerk in Geisa. Although Wigand's original letter is now lost, Kircher's reply,[9] where he enquires about his sisters Agnes and Eva (see Comm. n. 8 below), is now in the Hessische Landesbibliothek, Fulda.[10] The safe arrival of the relics was also reported by Joachim von Gravenegg, Prince Abbot of Fulda.[11]

The Benediktinerinnenkloster in Fulda possesses a manuscript account of the noisy and triumphant procession of the relics from Rasdorf to Geisa on 10 August 1665: 'Abschrift eines alten so betitelten Verzeichniss was und wie sichs zugetrugen bei Abholung unseres Heiligtumbs von Rastorff nachher unserer Burgstatt Geisa den 10. August in festo s. Laurentii martyris'.[12]

Kircher was to have no further direct contacts with his home town. Geisa remained, however, true to his memory, interweaving fact and fiction into a spirited tradition that has modern Kirchers in the area boasting of a direct descent from their celibate ancestor.

---

[5] Pfarrarchiv, Geisa.
[6] Pont. Univ. Greg. 564 f. 23. Geisa, 28 January 1665.
[7] Pfarrarchiv, Geisa (Rome, 7 May 1665).
[8] Pont. Univ. Greg. 562 f. 41 (Geisa, 22 June 1665).
[9] (Rome, 7 December 1664).
[10] [Mss] Ser. B. for. VIII No. 8.
[11] Pont. Univ. Greg. 562 f. 29. Fulda, 16 June 1665.
[12] See J. Fletcher, 'Fulda und der römische Phönix'. *Fuldaer Geschichtsblätter* 43 (1971): 126–133; Hahn and Faber, *1150 Jahre Stadt Geisa*; G. Richter, 'Athanasius Kircher und seine Vaterstadt Geisa', *Fuldaer Geschichtsblatter* 20 (1928): 45–59.

In 1724, the house facing the marketplace and next to the town hall where Kircher had spent his childhood was described by the Fulda antiquary J.F. Schannat, who, noting its wide and spacious windows, added the story that Kircher was prompted by this fact to boast in later life of having issued from an 'enlightened house'.[13] Writing in 1829, Dr K. Wurzer of Marburg noted that the house 'wird fortwährend allda Kirchers Haus genannt'.[14] The house was however destroyed in the great fire of 1857 which ravaged most of the mediaeval township.[15]

On the tercentenary of Kircher's birth in 1902, the town council marked the event by amputating that part of the Hauptstrasse running from I. Freudenthal's establishment to the inn belonging to M.H. Bettmann and rechristening it the Athanasius-Kircher-Strasse.

Kircher was remembered again on a less happy occasion in the printing of emergency currency (*Notgeld*) in 1921. Three notes were issued, each valid for one month only. The 25–*Pfennig* note, liberally sprinkled with hieroglyphs, depicted Kircher's indistinct portrait, with the legend 'Der Entzifferer der Hieroglyphen'. Of the two 50-*Pfennig* notes, the one reproduced Kircher's illustration of the magic lantern (*Ars magna lucis et umbrae*, p. 718) with the heading 'Lanterna magica. Erfinder Athan. Kircher'; the other bore simply portrait, name and the dates 1602–1680.

In the late 1940s and early 1950s public attention in Geisa was again focused on Kircher, largely through the efforts of Elisabeth Dobbertin-Hollenbach, the teacher Franz A. Krebs, and Gustav Mö1ler, local landlord and part-time photographer. Their combined initiative led to the setting up, in the rooms of a hunting lodge erected by their former Fulda overlords, of a museum exhibiting the books, manuscripts and other Kircheriana rescued from various municipal cupboards and archives. The museum, described in a contemporary newspaper account as the 'jewel on the demarcation-line', was opened on the 16 August 1953, narrowly missing the 250th anniversary of Kircher's birth.

The following year a granite erratic block, found in the nearby forest, was dragged to the parklands surrounding the Geisa castle. On it was set a bronze tablet, showing the bust of Kircher, proclaiming 'Dem Grossen Sohn unserer Stadt/Der Wissenschaft zum Nutzen/Unserer

---

[13] Schannat, *Corpus traditionum Fuldensium*, p. 353.

[14] See K. Brischar, 'P. Athanasius Kircher, ein Lebensbild', *Katholische Studien* 3, 5 (1877): 148.

[15] *Heimatbrief des Geisaer Amtes* 78 (1975): 2–7; 79, pp. 6–8.

Stadt zur Ehre/Und Allen zur Liebe/Athanasius Kircher'. This project was conceived and carried out by Gustav Möller (1910–1979), whose lion-hearted labours in the name of Athanasius Kircher were to win him recognition as Geisa's official 'Athanasius-Kircher-Forscher'.

Gustav Mö1ler did not live to see the tercentenary of Kircher's death.[16] It was fitting, however, that at the Kircher workshop, organized by the Herzog August Bibliothek in Wolfenbüttel to mark the tercentenary in October 1980, Fr Adelbert Schröter should give the opening paper on the efforts of Möller and the people of Geisa in keeping alive the memory of Athanasius Kircher. Fr Schröter, who was accompanied in Wolfenbüttel by Geisa's parish priest, Fr Robert Henning, is Chaplain in Geisa's St. Elisabeth Hospital and is Gustav Möller's successor as Kircher historiographer.[17]

As a final note, we record that on 15 February 1981 the newly installed bishop of Erfurt, Dr Joachim Wanke, dedicated in Geisa a community centre and kindergarten, built on the site of the former Bischöfliche Lateinschule (opened in 1884). The new building is called the Athanasius-Kircher-Haus.[18]

2. The first and second editions of the *Magnes* (1641 and 1643) have on the last (unpaginated) page of the Index the note: 'editus hic liber in lucen, ipsa*/quà editus Author Luce decem Tauri/Sole meante gradus/*1641 2. Mai. 1601'. This quaintly personalized postscript is omitted in the third edition (1654). The year 1601 is similarly the date of Kircher's birth given by Southwell, a work obviously known to Kircher and one which he promises to send to Hieronymous Langenmantel.[19]

In the undated letter sent by Kircher to Fr Witzel in answer to a letter from Witzel of 5 October 1664,[20] Kircher queries: 'Alterum est, quod scire volebam, annum scilicet nativitatis meae, quem haud dubie adhere in libro parochiali annotatum reperiet, quoad annum, mensem, diem horum'. In his reply Witzel is unable to help, since parish records dated only from 1637.[21]

---

[16] For obituaries see A. Haakman, 'Een vrij man', *Heimatbrief* 83 (1979): 11–12.
[17] *Heimatbrief* 86 (1982): 19.
[18] *Heimatbrief* 87 (1983): 7.
[19] N. Southwell, *Bibliotheca scriptorum Societatis Jesu*, p. 92; ibid., cf. pp. 73–77.
[20] See footnote 5 above.
[21] Pont. Univ. Greg. 564 f. 23 (Geisa, 25 January 1665).

3. Haselstein is a tiny community east of Hünfeld in Hesse, 15 km north-east of Fulda. In 1633 it numbered 36 households.[22]

4. Balthasar von Dernbach called Johnnn Kircher to Fulda between 1570 and 1576. Johann Kircher remains however unmentioned in the list of such appointees given by G.K. Komp.[23] Balthasar, deposed in 1576, was restored to power on 7 August 1602 and died on 15 March 1606.[24] Athanasius Kircher was subsequently to correspond with Balthasar's nephew, Peter Philipp von Dernbach (1618–1683), who studied in Rome from 1643 to 1647 and later became prince bishop of Bamberg (1672–1683).[25]

5. François Coster SJ (1532–1619), who successively headed the Belgian and Rhenish Provinces of the Society of Jesus, was also noted for his fierce proselytizing zeal.[26]

6. Seligenstadt, in the diocese of Mainz, housed a Benedictine community from 828 to 1803.[27]

7. The records of marriages in the parish church of Fulda date from 1587. Johann Kircher's marriage with Anna Gansek probably took place in the mid-1570s. The suffix *-in* on Kircher's *Gansekin* is an obsolete German feminine form.

8. There are two letters in the Gregoriana files which tell us something about Kircher's brothers and sisters. One is from Kircher's brother Andreas, who was attached to a Clarist convent in Münster in Westphalia: the other is from Father Konrad Witzel, parish priest in Geisa.[28]

From Andreas we learn that of Kircher's two other brothers, Johann is living in seclusion in Austria, but Joachim's present whereabouts are

---

[22] K. Lübeck, *Alte Ortschaften des Fuldaer Landes*, vol. 1, p. 72.
[23] G.K. Komp, *Der Fuldaer Fürstadt Balthasar von Dernbach*, p. 4.
[24] H. Heppe, *Die Restauration des Katholizismus in Fulda,* pp. 23–36.
[25] For Peter Philipp's letters to Kircher, see Pont. Univ. Greg. 568 f. 247 (Wolfsberg, 28 January, 1653); 565 f. 34 (Bamberg, 4 June 1673).
[26] C. Sommervogel et al., *Bibliothèque*, vol. 2, pp. 1510–1534.
[27] P. Lindner, *Germania monastica*, p. 42.
[28] Pont. Univ. Greg. 557 f. 58 (Münster, 28 July 1651); 564 f.23 (Geisa, 28 January 1665).

unknown. Of their sisters, Agnes married one Georg Hagen, a tanner and Calvinist at Vacha, 19 km north of Geisa. She died a Catholic in 1646, leaving one son, Jörg Aludarius. Witzel in 1665 was unable to specify either the son's religion or whereabouts. Eva had married Hans Starek of Fulda. She was visited in 1641 in the Spitalsmühle in Geisa by Witzel and Fr J. Meykrantz of Fulda, himself a native of Geisa. The Starcks then followed their sons to the Rheingau where by 1665 they had both died.

Witzel had met one of their daughters in the household of Father Kalb in Bingen. A second daughter kept house for her brother Johann, a deacon in Rüdesheim, who died in 1662. According to J. Zaun,[29] a fourth child, Bernard, who had become a priest and lived at Kastell near Mainz, died in 1673.

The death of one Anna Catharina, who was possibly Kircher's third sister, was reported in 1649 by Ludwig Hopff, lawyer in Fulda[30] and in 1650 by Eberhard Sigler, a native of Fulda who had become priest at Grünfeld, near Mainz.[31]

Andreas remains the most documented of Kircher's immediate family. His activities, and his spiritual and physical well-being were described to Kircher by Fabio Chigi, Nuncio in Cologne and subsequently Pope Alexander VII (see Comm. n. 85) in 1646.[32] Despite Chigi's confident assertions, Andreas fell seriously ill the following year and Kircher received a gloomy report on his brother's health from Leonard Hahn SJ, 'guardianus P. Andreae'.[33] A more reassuring letter came in 1651 from Johann Altingh SJ (see note 11), who commented on Andreas' spiritual life as 'virginum pater', adding 'apparet robustus, bene compactus'.[34] A final competent observation on Andreas' continuing good health came from Bernard Rottendorff, physician to Ferdinand von Fürstenberg, who wrote in 1655.[35]

Andreas' own letters to Kircher (apart from that at Pont. Univ. Gregoriana [Archive Ms] 557 f.58) are devoid of family news, and devoted to describing the spiritual careers of Friedrich Schmising,[36]

---

[29] J. Zaun, *Beiträge zur Geschichte des Landkapitels Rheingau*, pp. 25, 187, 232.
[30] Pont. Univ. Greg. 568 f.44 (Fulda, 12 April 1649).
[31] 557 f.317 (Grünfeld, 13 May 1650).
[32] 556 f.25 (Münster, 10 September 1646).
[33] 557 f.438 (Münster, 29 August 1647).
[34] 567 f.173 (Münster, 30 June 1651).
[35] 568 f.117 (Münster, 24 October 1655).
[36] 557 f.60 (Münster, 5 July 1644); 557 f.59 (Münster, 3 January 1645).

Johann Adolf Schmising[37] and Theodor von Plettenberg.[38] All three were nephews of Andreas Kircher's Mother Superior.

9. Kircher's formidable Christian name with its subtle flavour of immortality was to prove popular with his more effusive correspondents. Even Leibniz could not resist the opportunity for hyperbolic excess.[39] Kircher was not baptised in the parish church in Geisa, but in the chapel of St Gangolf.[40]

10. The Papal Seminary in Fulda opened its doors in 1572 when seventeen Jesuits called to Fulda by Balthasar took over the building known as the 'Müntz' and began teaching. It was endowed in 1584 by Gregory XIII for the accommodation of 40 nobles and 60 commoners. By 1628 the number had risen to 300 pupils.[41]

The noted and voluminous historian of Fulda and Trier, Christoph Brouwer SJ (1561–1617) was rector in Fulda[42] and dedicated to its Abbey his *Fuldensium antiquitatum*.[43] References to Fulda in Kircher's works are at: *Magnes*, p. 403; *Musurgia*, II, p. 234; *Oedipus*, III, pp. 329–337; *Phonurgia*, p. 224.

On 2 May 1963 the city council of Fulda opened its new Athanasius-Kircher-Volksschule, an event which momentarily focused public attention on Kircher's life and achievements. A glass mosaic in the schoolyard ('Pausenhof'), depicting Kircher's life and works, is by K. Staubach and A. Deisenroth.[44]

11. As late as 1676 Kircher received from Andreas Huck SJ a letter extolling the sanctity and joy of their spiritual life in Fulda together with one J.G. Staubach.[45] Kircher's Johann Altink in Fulda could well

---

[37] 557 f. 58 (Münster, 28 July 1651).
[38] 557 f. 57 (Münster, 12 February 1652).
[39] 559 f. 166 (Mainz, 16 May 1670).
[40] A. Kircher to K. Witzel, parish priest in Geisa. Rome, undated, Pfarrarchiv, Geisa (Rome, 7 May 1665).
[41] Komp, *Die zweite Schule*, pp. 33–34; Schannat, *Corpus traditionum Fuldensium*, p. 222.
[42] Sommervogel et al., *Bibliothèque*, vol. 2, pp. 218–222.
[43] On Kircher and Fulda see Fletcher 'Fulda und der römische Phönix'.
[44] *Fuldaer Monatsspiegel* (May 1963): 21–25; *Fuldaer Zeitung* (3 May 1963): 6–8.
[45] Pont. Univ. Greg. 565 f. 229 (Heiligenstadt, 29 July 1676).

be identical with the Johann Altingh SJ who wrote in 1651 on the health and well-being of Kircher's brother Andreas in Münster.[46]

12. A background of a kind for Kircher's schooldays in Fulda is provided by the *Fuldaer Chronik* compiled by Gangulf Hartung from 1607 to 1666. In it (see Gegenbaur's *Fuldaer Chronik*) are detailed with a dry relish the meteorological phenomena, failed harvests, grotesque births, suicides and murders of over half a century. In 1613 the plague claimed over 400 victims in Fulda alone. The pupils at the Papal Seminary were moved to Geisa where the help and attentiveness of the mayor, Melchior von Dernbach, brother of Balthasar, was particularly remarked upon.[47]

On the 8 September 1616 ('dem Donnerstag des Festtag der geburt Maria') the *mensa* of the Papal Seminary was burnt to the ground. After the fire, it was discovered that the great beams in the roof were rotten and on the point of collapse: 'Bei der Besichtigung bekante die baurmester, die gütliche vorsehung habe hier gewaltet'. Given the apt date and the unmistakable sign of divine intervention, it is curious that Kircher did not claim this escape for his autobiography as well.

13. N. Seng[48] describes the riding of the bounds at Fulda as beginning at Niesig, with a break for refreshment at the Hexenküppel. The priest, attended by acolytes also on horseback, carried the Eucharist in a monstrance held against his chest. Similar rides were held at Geisa and Hünfeld. In 1979, incidentally, over 700 people took part in the Geisa 'Flurprozession'.[49]

14. The Spessart (i.e. 'Spechtswald' or woodpeckers' forest) is the 'Spehtshart' of the *Nibelungenlied*. It is a forested sandstone plateau lying in the hilly district between the Main and Kinzig. Its highest point is the Geyersberg (585 m).

15. There is some evidence that in 1616 Kircher journeyed to Mainz where he was seen and examined by Johann Copper SJ (1563–1636),

---

[46] 567 f. 173 (Münster, 30 June 1651).
[47] Komp, *Die zweite Schule*, p. 35.
[48] *Selbstbiographie*, p. 8.
[49] Cf. *Heimatbrief* 82 (1978): 7.

Moderator of the Rhenish Province.[50] In 1600 there were 1,111 Jesuits, including laybrethren and novices, in Germany and Austria (704 in Germany). They were grouped in twenty-six centres, twenty-one of which were in Germany.[51]

16. In Kircher's closing days in Fulda (8 September 1618), the Jesuits performed before the Bishop of Bamberg Gottfried Lemius' *Irene, Drama hospitale*.[52]

17. The Jesuits had been active in Paderborn since the early 1580s and had taught there since 1585. The college was endowed on 10 September 1615 when Prince Bishop Theodor von Fürstenberg (1546–1618) presented the deeds of the college to Fr Schering SJ, Moderator of the Province (Lower Rhine). With the deeds came a gift of 15,000 thalers. The college possessed initially only two faculties. The philosophical faculty opened in 1614 with 46 students, the theological faculty in 1621. The Jesuit novitiate had room for only twenty-one candidates. It was transferred in 1620, with the permission of the Fürstenberg family, to Trier.[53]

18. Schott records this miraculous intervention as having occurred in 1619, under the heading 'Sanitas miraculosè restituta a P. Athan. Kirchero'.[54] Schott based his account both on discussions with Kircher and an unpublished and as yet untraced manuscript of spiritual exercises by Kircher: 'Florilegium meditationum, exercitiorum et variarum industriarum spiritualium virtutis studioso accommodatum'.[55]

According to Schott, two further witnesses were Ricquinus Goeltzgens (1594–1671) who entered the Jesuit novitiate on 17 April 1617, and Melchior Cornaeus (1598–1665), admitted into the Order on 14

---

[50] F. Reiffenberg, *Historia Societatis Jesv*, vol. 1, p. 587.
[51] J. Müller, *Das Jesuitendrama*, vol. 2, p. 43.
[52] Müller, *Das Jesuitendrama*, p. 26.
[53] On Kircher and Paderborn, see G.J. Bessen *Geschichte des Bisthums Paderborn*, vol. 1, p. 127; A. Herte, 'Die Universität und Akademie Paderborn'. In *Festschrift aus Anlass der Erhebung des Bistums Paderborn zu Erzdiozese*, pp. 71–73; G.M. Pachter, *Ratio studiorum et institutiones scholasticae*, vol. 3, pp. 214–228; Reiffenberg, *Historia Societatis Jesv*, vol. 1, pp. 377–380; G. Richter, 'Athanasius Kircher': 254–255; F. Weddigen, *Paderbornsche Geschichte*, p. 25; E. Zirngiebl, *Studien über das Institut der Gesellschaft Jesu*, p. 312.
[54] *Physica curiosa*, [Bk] III, pp. 540–542.
[55] See Sommervogel et al., *Bibliothèque*, vol. 4, p. 1074.

July 1618. Cornaeus was to contribute an 'Apologeticon' to the 1660 edition of Kircher's *Iter exstaticum* (pp. 509–512) and eventually became rector at Würzburg. In a letter to Kircher of 1653, he could remind Kircher of their novitiate in Paderborn.[56] The *Voyage littéraire* adds of this episode 'le fameux Kirker étant encore novice fut guéri de la lèpre'.[57]

19. It was probably during his stay in Paderborn that Kircher made his visit to Hamlin (Westphalia) to examine the local church archives for information on the legend of the Pied Piper.[58] He also spent some time examining the Bollerbrunn (Altenbeken) as an intermittent spring and attempted to locate the true source of the river Pader (*Mundus subterraneus*, II, p. 282). Similarly, in 1642, G.B. Riccioli SJ could acknowledge his receipt of astronomical observations carried out by Kircher in Cologne and Paderborn.[59]

20. On Christian the Younger, Duke of Brunswick-Lüneburg-Wolfenbüttel (1599–1626), known as 'der tolle Christian' or 'der tolle Halberstädter', see the Schwineköper article. The Jesuits fled from Paderborn on the 24 January 1622.[60]

21. The Feast of the Purification of the Blessed Virgin Mary (the presentation of the infant Jesus in the Temple) is held on 2 February and is celebrated with an abundance of candles (Candlemas).

22. The Jesuit presence in Cologne dated from as early as 1544, in nearby Neuss from as recently as 1616. In the April of 1621, however, the college at Cologne, including both church and library, had been destroyed by a fire starting simultaneously in four places.[61] In 1646 Kircher received a letter from Albert Spieh SJ reminding him of

[56] Pont. Univ. Greg. 567 f. 183. Würzburg, 16 April 1653. For further accounts see M. Franck, 'Imago B.V. Miraculosa Romana Paderborni'. In W. Gumppenberg, *Atlas Marianus*, p. 300.
[57] Vol. 3, p. 246.
[58] *Musurgia* II, pp. 232–233.
[59] Pont. Univ. Greg. 561 f. 182. Bologna, 30 August 1642.
[60] Reiffenberg, *Historia Societatis Jesv*, vol. 1, pp. 542–548.
[61] Reiffenberg, *Historia Societatis Jesv*, p. 521.

their mutual study in Cologne in 1622–1623 'sub P. Adamo Kasen in Physica' and of the fact that they had met again in Mainz in 1626.[62]

23. At the Jesuit college in Coblenz (opened in April 1581) Kircher is said to have taught Demosthenes, Homer, the Attic poets and Euclid.[63] He also erected a sun-dial in the forecourt of the college, which was commented on by a subsequent correspondent, Albrecht Spieh SJ.[64]

The sundial, renewed in 1926, is square in shape, marked from 7 a.m. to 7 p.m., is decorated with the signs of the Zodiac and bears the motto 'Ea fugit umbra. Fugit tacito: pede et annus et aetas'.[65] During his stay in Coblenz, Kircher also claimed to have produced various musical compositions.[66]

24. Zedler similarly notes the reasons for Kircher's transfer to Heiligenstadt: 'weil man ihn daselbst [Coblenz] wegen seiner Erkanntniss in deren Wissenschaften sehr neidete und verfolgte wurde er dadurch genothiget, sich nach Heiligenstadt zu begeben'.[67]

25. 'Höllental' is a common name both in German folklore and topography. Here the term describes the narrow valley of the River Selbitz, flowing towards its confluence with the River Saale. This area lies between Marxgrün in Upper Franconia and Blankenstein in Thuringia. Kircher's assailants were probably part of the scattered remnants of Christian's army, decisively routed by the imperial forces led by Johann Tserclaes, Count Tilly. This was on 6 August 1623 near Stadtlohe in Westphalia.[68]

26. Heiligenstadt, on the river Leine, is [at the time of writing] in the German Democratic Republic and lies 23 km south-east of Göttingen.

---

[62] Pont. Univ. Greg. 567 f. 251 (Coblenz, 22 April 1646).
[63] G.J. Rosenkranz, 'Aus dem Leben des Jesuiten A. Kircher': 21.
[64] Pont. Univ. Greg. 567 f.251. Coblenz, 22 April 1646; see also Reiffenberg, *Historia Societatis Jesv*, vol. 1, p. 257.
[65] E. Zinner, *Alte Sonnenuhren*, p. 111.
[66] In his *Musurgia*, Praef. secunda.
[67] *Universal-Lexicon*, vol. 15, p. 756.
[68] The incident is described by J. Wolf in *Eichsfeldia*, pp. 97–99.

The Jesuit college was founded in 1575 and Kircher taught elementary Latin there.[69]

As in Coblenz, Kircher found time to design and create a sundial which he placed on the southern wall of the tower of the Gothic Marienkirche. The dial is square and equipped with a projecting arm, surmounted by a tiny ball.[70] From a letter sent by Fr Kreb, parish priest in Heiligenstadt,[71] we learn that the faint outlines of the hour-markings are still to be seen, and all the metal parts of the construction are still intact.

27. Kircher's performances in Heiligenstadt are noted by J. Frechmann.[72] Johann Schweikhard von Kronberg, a product of the German and Hungarian College in Rome, became elector of Mainz in 1604 and died on 17 September 1626 at the age of 73. With Georg Riedinger he had, from 1605 to 1614, the electoral palace in Aschaffenburg, the Johannisburg, rebuilt in the style of the Renaissance. Kircher remembers Johann Schweikhard's early help and recognition.[73]

28. A similarly polyglot eulogy was drawn up by Kircher and presented to the newly converted Christina of Sweden during her visit to the Collegium Romanum on Boxing Day 1655. For this occasion, in praise of the new Roman celebrity, Kircher designed a miniature obelisk containing hyperbolic inscriptions in 23 languages, including 'Canadian' and 'American'.[74]

29. Johann Reinhard Ziegler (1569–1636) was a noted mathematician, inspired preacher and Jesuit administrator. Kircher describes his work with Ziegler in *Ars magna lucis et umbrae, Ars magnesia* and *Magnes*.[75] With Ziegler's help, Kircher designed a portable surveying tool, subsequently described in 408 pages by Schott in his *Pantometrum*.[76]

---

[69] Wolf, *Geschichte*, p. 255; H. Jüngstmann, 'Athanasius Kircher in Heiligenstadt', *Heimatland* 2 (1907): 167–170 R.,V., 'Athanasius Kircher in Heiligenstadt', *Buchenblätter* 15 (April 1981).

[70] Zinner, *Alte Sonnenuhren*, p. 97.

[71] (25 July 1964).

[72] *Historia Collegiani Geisanorum Heiligenstadtani*, pp. 123, 126.

[73] In *Magnes* (1643), pp. 224, 233 and *Tariffa Kircheriana*, p. 276.

[74] G. de Sepi, *Romani Collegii*, p. 12.

[75] E.g., *Magnes*, 1643 edn., pp. 144, 732–733; p. 27; p. 224.

[76] [Aschaffenburg], 'Aus dem Goldenen Buch Aschaffenburgs', *Aschaffenburger Geschichtsblätter* 8 (1914): 1ff.; W. Hager, 'Athanasius Kircher in Aschaffenburg', '

30. The Bergstrasse, a hilly orchard district, is in fact the former Roman road from Bessungen (Darmstadt) to Heidelberg. From 1463 it was part of the Palatinate, but on the disgrace and defeat of Friedrich V (1620), Johann Schweikhard negotiated its successful return to his principality, that of Mainz. Observations made by Kircher at this time were at Bad Orb, in Hesse, in the northwestern Spessart (*Mundus subterraneus*, I, p. 258), and at Heidelberg, in the electoral castle (*Magnes* 1643 edn., pp. 403, 754; *Phonurgia*, pp. 68, 91–92.[77]

31. From the Jesuit college in Mainz (founded in 1561) Kircher carried out a variety of scientific experiments. On 4 April 1625, he observed and recorded twelve major and 38 minor sunspots (*Ars magna* 1646, pp. 3, 6, 8; *Mundus subterraneus*, I, p. 59, illust. I, p. 64). Further astronomical observations took place in 1626 (*Mundus subterraneus*, I, p. 62). Acoustic experiments were also carried out (*Phonurgia*, p. 190).[78]

Kircher's musical skill in Mainz was later to be commented on by Carthusian monks when talking to K. Schott in Triffenstein.[79] No doubt too in 1626 Kircher's memories of Aschaffenburg were revived when the Mainz Jesuits printed a memorial *Threnus sepulcralis Reverendissimo et Illustrissimo Principi ac Domino d. loanni Suicardo*.[80]

32. There is no obvious candidate for the work on obelisks and hieroglyphics which ensnared Kircher in the library of the Jesuit college in Speier (founded 1567, destroyed 1688). Quatremère suggested[81] a work by Michele Mercati which has the right sort of title (*De gli obelischi di Roma*) and was in fact dedicated to Pope Sixtus V. This is a well-indexed and solid history of the obelisks, rather than a description, and is, more tellingly, not illustrated.

Godwin and Iversen[82] have advanced their claims for a work by J.G. Hebwart ab Hohenburg[83] which is not specifically on obelisks, which appeared after the death of Sixtus V but which is the first real book

---

*Lohrer Zeitung* (30 May, 1940); C. Wegleiter, *Oratio de palmariis seculi nostri inventis*, p. 33.

[77] See also J.S. Kestler, *Physiologia Kircheriana experimentalis*, p. 195.

[78] Kestler, *Physiologia Kircheriana experimentalis*, p. 192.

[79] Pont. Univ. Greg. 561 f. 37 (Mainz, 7 June 1655).

[80] Mainz, Collegium Societatis JESV, pr. A. Strohecker, 1626, 4°, p. 31.

[81] Quatremère, in *Recherches critiques*, p. 243.

[82] J. Godwin, *Athanasius Kircher*, p. 56; E. Iversen, *Obelisks in Exile*, vol. 1, p. 85.

[83] Herwart ab Hohenburg, *Thesaurus hieroglyphicorum*.

to offer, in the engravings of Nicolaus van Aelst, scaled illustrations of actual hieroglyphs. Kircher himself reproduces engravings from von Hohenburg's oblong folio (*Obeliscus Pamphilius*, pp. 294, 316; *Oedipus*, III, pp. 434–435), but omits any autobiographical comments in the accompanying text. On a different tack, Kircher records observations made in nearby Trier (*Magnes* 1643, p. 402).

33. Kircher describes the decision he took at Speier in the prefaces of *Oedipus Aegyptiacus*, *Prodromus Coptus* and *Sphinx mystagoga*. He also summarises his work of over thirty years on the hieroglyphs in *Ad Alexandrum*, p. 146, though without specifying the seminal text in all cases.

34. The Jesuit cause in Würzburg, where they had been active since 1567, was vigorously promoted by a series of strong prince bishops from Julius Echter von Mespelbrunn (1574–1617) to Philipp Adolph von Ehrenberg (1624–1631) and Franz von Hatzfeld (1632–1642).

Kircher, who is described on the title page of the *Ars magnesia* (see note 35) as 'Philosophiae moralis, disciplinarum mathematicarum sacrarumque linguarum Hebreae et Syrae…Professor Ord.', spent an active two years in Würzburg in teaching and research. He also constructed two sundials on the south and east walls of the central tower of the (old) university.[84] He acquired a formidable student and lifelong acolyte in the person of Kaspar Schott.[85] Less successfully, he applied in 1629 for leave to work as a missionary in China.[86]

35. The *Ars magnesia*, Kircher's first printed work, appeared as a tiny treatise in academic garb. It was defended as a thesis by (title-page) 'Joannes Jacobus Sweigkhardus à Freihausen' and dedicated by him to Franz, bishop of Würzburg (25 September 1631). Curiously, the chronogram (p. 62) yields the date 1626.

---

[84] Zinner, *Alte Sonnenuhren*, p. 219.

[85] C. Bönicke, *Grundriss*, vol. 1, pp. 65–66; F.X. Wegele, *Geschichte der Universitat Wirzburg*, vol. 2, pp. 369–370, 417.

[86] A. Huonder, 'Deutsche Jesuitenmissionare', p. 12; A. Müller, in *Catholic Encyclopaedia*, s.v. Further comments on Kircher and Würzburg are at Bönicke, *Grundriss*, vol. 1, p. 65; K. Justi and F. Mursinna, *Annalen der deutschen Universitäten*, pp. 505, 642; Wegele, *Geschichte der Universitat Wirzburg*, vol. 2, p. 323; Zirngiebl, *Studien über das Institut der Gesellschaft Jesu*, p. 368.

In a letter (26 June 1978) from Maria Günther of the University Library in Würzburg, we read: 'dieser 'Joannes Jacobus Schweigkher a Freihausen' findet sich unter dem 4. Dezember 1626 in den Matrikeln der Universität Würzburg eingetragen mit "Logicus, dedit florenum"'. Possibly this J.J. Sweigkhardus was a relative of Johann Schweikhard von Kronberg (see note 27) who died in September 1626. A. Ruland[87] notes too the presence of one Georg Schweickhart in Würzburg as rector of the university (1598–1608). The cordial reception of the work is noted by Kircher at *Magnes* (1641), Prooemium.

36. The imperial forces led by Johann Tserclaes, Count Tilly, were defeated by Gustavus Adolphus on 17 September 1631 at the battle of Breitenfeld (near Leipzig). Even in exile Kircher was to be reminded of Gustavus Adolphus and his Lutheran troops. In the spring of 1633, Peiresc forwarded a sketch of the (runic) characters engraved on the sword of Gustavus Adolphus, diffidently and inaccurately pointing out that they 'ne sont pas sans quelque rapport d'ailleurs de vos alphabets de Barachias, si la mémoire ne me trompe'.[88] Similarly, in 1641, J.M. Marci could send to Rome intercepted coded letters from the Swedish commander Gustav Banner to secure from the Roman oracle 'sensum paperorum et alphabetum'.[89]

37. Full details of Kircher's curiously prophetic dream are given in Schott and, in German, by Wegele.[90] Schott also reports a much later dream by Kircher who, during a serious illness, prescribed for himself a secretly compounded sleeping draught and after taking it dreamed that he had been crowned Pope. He woke up fully cured. The episode was subsequently quoted by Mayer (p. 128) to prove the treacherous cupidity of the Jesuits.

38. The Jesuits fled from Würzburg on 14 October 1631, after the Prince Bishop, Franz von Hatzfeld und Gleichen, had overruled the

---

[87] A. Ruland, *Series et vitae professorum SS. theologiae*, pp. 10–12.

[88] Pont. Univ. Greg. 568 f. 364 (Aix, 30 March 1633).

[89] 557 f. 92 (Prague, 2 March 1641). See Fletcher, 'J.M. Marci writes to A. Kircher', *Janus* 59 (1972): 101, 115, 117.

[90] Schott, *Physica curiosa*, I, p. 218; III, p. 524; Wegele, *Geschichte der Universitat Wirzburg*, vol. 2, pp. 327–329.

rector of the college, Fr Peter Facies, who was planning to evacuate only the younger members of the community.[91]

One of Kircher's companions on the escape from Würzburg was his student and the subsequent Jesuit, Andreas Wigand (1606–1674), who had been born in Fulda and educated at the Papal Seminary there. Wigand was to recall their flight in a letter to Kircher in 1659.[92] Wigand was to cause Kircher particular pain when he renounced his Catholic faith on Ascension Day, 1671.[93] Kircher also described his flight in the *Lingua aegyptiaca*, Prooem. A fleeting contact in Mainz who was later to remind Kircher of their meeting was V. Pistor, who became a priest in Frankfurt a.M.[94]

39. The Badische Landeshibliothek at Karlsruhe possesses (St Blasien 67) a manuscript of 167 pages in Kircher's hand with the title-page: 'Institutiones mathematicae de aritmetica [*sic*] computu ecclesiast: geometria aliisque scientiis mathematicis. Auctore R.P. Athanasio Kircher Societatis IESV Sacerdote in alma Universitate Herbipolensi Professore Matheseos, Ethicae, ac sacrae linguae, ordinario. Anno Domini 1630'. This manuscript, originally in the library of the Benedictine monastery at St Blasien (Black Forest, 948–1807), came into the possession of the then Ducal library in Karlsruhe sometime between 1808 and 1813 via the library of the university of Freiburg i[n] Br[eisgau].[95]

A similar treatise (this time of 187 pages), which also remained in manuscript, is Kircher's 'Mathematica curiosa, in quatuor partes divisa. In arithmeticam, in geometricam, in musicam et astronomiam…Anno MDCXXXX'.[96]

To complete a stillborn mathematical trio we note that one of the works heralded in vain by Southwell[97] is a 'Geometria practica combinata in usum Principum elaborate'.

---

[91] Ruland, *Series et vitae professorum SS. theologiae*, p. 34.
[92] Pont. Univ. Greg. 567 f. 121 (Worms, 7 November 1659).
[93] Letter pr. in P.V. Erberman, *Trophaea romana*, pp. 195–201: A. Kircher to V. Erbermann SJ (Rome, 7 February 1672).
[94] Pont. Univ. Greg. 568 f. 42 (Frankfurt, 28 February 1650).
[95] C. Römer (ed.), *Universale Bildung im Barock*, pp. 70–75 (with illustrations).
[96] Bib. Naz., Rome [Ms.] S. Francesco di Paola 4 1841.
[97] Southwell, *Bibliotheca scriptorum Societatis Jesu*, p. 93.

40. Kircher's stay in Lyons, where the Jesuits had been active since 1565, cannot have been very long. A visit made to a local alchemist is however recorded by Schott, writing under the curious pseudonym of Aspasius Caramuelius. Other Lyons observations are at *Magnes* (1643), pp. 401, 580. In 1655, writing from Mexico, the missionary Jesuit Francisco Ximenez (1600–1680) reminded Kircher of their friendship in Lyons in 1631. Ximenez, who led an interesting life, was, he tells Kircher, known in his student days as François Giliot.[98]

41. In the papal city of Avignon, home of the Jesuits since 1555, Kircher acted as 'Mathematum et Orientalium linguarum Professor' (title page, *Primitiae*). For his growing practical involvement in astronomy and catoptrics see M. Chossat and Fletcher.[99]

The question of priority in some of Kircher's more adventurous devices designed in Avignon led to a controversy with the Minorite Friar E. Maignan (Capparoni).

Curiously, when Evelyn visited the Trinità del Monte in Rome on 22 February 1645 he noted on the ceiling of the cloister 'Babylonish dials invented by Kircher the Jesuite'.[100] This is, however, the work of Maignan.[101] Praise for Kircher's Avignon experiments in catoptrics ('vos beaux horloges') was to come in 1668 from one De Sernoulles.[102] Observations made in and comments on work carried out at Avignon are at: *Ars magna* (1646) pp. 52, 137; *China*, p. 147; *Magnes* (1643) pp. 401, 645; *Mundus subterraneus*, I, p. 214; *Oedipus*, I, p. 63; III, p. 477; *Phonurgia,* p. 46; *Sphinx*, Prooem.; *Turris*, p. 159.

Kircher seems to have left Avignon with real regret. His second book, the *Primitiae gnomonicae catoptricae*, was written and subsequently published in Avignon by Jean Piot in 1635. It is dedicated to six councillors and local dignitaries, who with their home towns are apostrophized as: 'Nam quod inter elementa ignis, inter lapides carbunculus, inter flores rosa, sol inter planetas, vinum inter liquores, inter quadrupedes leo, aligeros inter greges aquila, hoc vos in Republica Avenionensi'. The book was seen through the press after Kircher's

---

[98] Pont. Univ. Greg. 555 f. 166 (Puebla de los Angeles, April 1655).

[99] Chosset, *Les Jésuites et leurs oeuvres à Avignon*, pp. 231, 234, 237; Fletcher, 'Astronomy in the Life and Works of Athanasius Kircher', *Isis* 61 (1970): 54–56.

[100] E. de Beer, *The Diary of John Evelyn*, vol. 2, p. 373.

[101] P. Bayle, *Dictionnaire*, vol. 3, pp. 282–283; E. Maignan, *Perspectiva horaria*, pp. 390–392; J.P. Niceron, *Nachrichten*, pp. 178–179).

[102] Pont. Univ. Greg. 564 f. 6 (Avignon, 26 May 1668).

departure by Antoine François Payen, lawyer and astronomer, who subsequently entered into a protracted correspondence with 'le soleil de nostre temps'.[103]

42. The various shrines visited by Kircher owe their origin to the legendary landing at Les Saintes-Maries of St Maximinus in the company of Mary Magdalene, Mary, Martha and Lazarus of Bethany, Mary the mother of James, and Sarah their servant. Mary Magdalene is said to have retired to end her days in a grotto set into a huge isolated rock at La Sainte-Baume, near Aubagne, 17 km from Marseilles. The grotto was subsequently converted into a chapel and is now a pilgrim centre. St Maximinus lies in one of four ostensibly fourth-century century sarcophagi in an ancient crypt at St. Maximin (8 km from La Sainte-Baume) over which the finest Gothic church (thirteenth or fourteenth century) in Provence was erected.

Lazarus was entombed in the ancient cathedral of St Lazare, of which remnants survive, on the site of a temple of Diana in Marseilles. Martha was buried in what is now the crypt of the church of St Marthe, founded in the twelfth century and partly rebuilt between 1376 and 1449. This Romanesque church is at Tarascon, 22 km from Avignon.

Kircher also carried out some research in the archives of the Cathedral church at Apt, Vaucluse. This emerges from a letter sent by the Cathedral chapter to Kircher.[104] Other field trips made by Kircher during his stay in Avignon include visits to:

Aix-en-Provence in 1633 (*Magnes* 1643, p. 645)
Arles in 1633 (*Magnes* 1643, p. 401); *Mundus subterraneus*, I, p. 114)
Besançon (*Magnes* 1643, p. 401)
Carpentras in 1631 (*Mundus subterraneus*, I, pp. 214, 236)
Marseilles in 1633 (*Magnes* 1643, p. 645)
Montpellier (*Magnes* 1643, p. 674)
Narbonne in 1631 (*Mundus subterraneus*, I, p. 236) and 1633 (*Mundus subterraneus*, II, pp. 46, 129)
Narbonne, monastery of St Maure (*Ars magna*, p. 808)
Nîmes, le Pont du Gard (*China*, p. 215)
Perpignan (*Mundus subterraneus*, I, p. 279)
Les Saintes-Maries in 1632 (*Mundus subterraneus*, II, p. 91)
Tarascon in 1632 (*Mundus subterraneus*, II, p. 91) and
Vaison-la-Romaine (*Oedipus*, III, p. 338).

---

[103] 568 f.255 (Avignon, 7 January 1634). See Fletcher, 'Claude Fabri de Peiresc, etc.', *Australian Journal of French Studies* 9 (1972): 270–271.

[104] Pont. Univ. Greg. 568 f. 202 (Apt, 26 October 1634).

43. Peiresc's abundant assistance to his young protégé was above all practical and pragmatic.[105] In 1635 for example he sent ten scudi to Rome, but for which, Kircher could note, 'nec atramentum vix calamos haberem'.[106] Peiresc died on 24 June 1637. His death was commemorated in Italy by a polyglot collection of eulogies edited by J.J. Bouchard, dedicated to cardinal F. Barberini and published in 1638 under the title *Monumentum Romanum*. The various aspects of Peiresc's help are acknowledged at: *Arithmologia*, p. 189; *Lingua aegyptiaca*, Prooem., pp. 499–500, 518, 529, 545; *Obeliscus Pamphilius*, pp. 111, 450, 503; *Oedipus*, IIA, p. 392, III, pp. 272, 338, 418, 428, 434; *Prodromus coptus*, p. 4; *Sphinx*, Prooem; *Turris*, p. 177.

44. In 1633 Kircher forwarded to Peiresc a manuscript now preserved in the Carpentras collection of Peiresciana (Registre LXXIX) with the intriguing title *Histoire, antiquités, origines, caractères hiéroglyphiques, religion et obélisques des Egyptiens rédigé en langue arabe par le rabbi Barachias Néphy de Babylone*.[107]

45. Peiresc wrote a glowing letter to P. Gassendi after seeing a sample of Kircher's hieroglyphic studies.[108] A further example that survives is the 'Notes sur trois urnes de marbre antiques de la mosquée du grand Caire, sur les colonnes de pierre du Sinaï, sur un manuscrit de Barachias Nephi, apporté à Peirese par le Père Kircher le 3 sept. 1633'.[109]

46. Mutio Vitelleschi (1563–1648) was General of the Society of Jesus from 15 November 1615 to 9 February 1645. He first writes to Kircher in the summer of 1632, in response to an approach by Kircher in the April of that year, and promises to find him an appropriate post.[110] Leopold von Ranke describes Vitelleschi as being generous, tractable and conciliatory and comments 'seine Bekannten nannten ihn den

---

[105] For Kircher's various contacts with Fabri de Peiresc, see G. Cahen-Salvador, *Un grand humaniste*, p. 160; Fletcher, 'Claude Fabri de Peiresc'; Gassendi, *Viri…Peiresc vita*, I, p. 168; Humbert, *Un amateur*, p. 252.

[106] Bib. Nat. Fonds français, nouv. acq. 5173 f. 28 (Rome, 8 February 1635).

[107] J. Tamizey de Larroque (ed.), *Les lettres de S. Petit au Conseiller Peiresc*, p. 57.

[108] In Tamizey de Larroque, *Lettres de Peiresc*, vol. 4, pp. 295–296 (Aix, 2 March 1633).

[109] Bib. Nat. Collection Dupuy 661 f. 246–248.

[110] Pont. Univ. Greg. 561 f. 16. Rome, 31 July 1632.

Engel des Friedens'.[111] Kircher further remembers Vitelleschi's help at *Oedipus*, III, p. 272 and *Sphinx*, Prooemium.

47. A letter by Kircher to Jean Ferrand SJ (1586–1672) in Aix describes his preparations for travelling to Austria. Kircher provides as forwarding address the Jesuit college in Trieste, promises to visit Aix before his departure and muses in a postscript on Peiresc's possible success in bringing about a visit to Rome, where Kircher will be able to examine 'propriis oculis' the obelisks and their inscriptions.[112]

In a letter to Gassendi of 10 July 1633, Kircher describes his imminent departure for Vienna after the Feast of the Assumption of the Virgin (15 August) together with one D. de La Vallette.[113] Kircher also describes his call 'ad Caesaream Academiam' in Vienna in the dedicatory material printed as preface to the *Primitiae*.

48. Urban VIII (1623–1644), previously known as Maffeo Barberini, is remembered for his architectural energy in helping to transform the face of mediaeval Rome.[114] His portrait hung in Kircher's Museum.[115]

49. For a succinct account of Francesco Barberini (1597–1679), created Cardinal in 1623 by his uncle, the newly crowned Pope Urban VIII, for his meteoric career until the advent of Innocent X (1644), his subsequent exile (1646) and gradual rehabilitation, and above all for his active patronage of artists and scholars, see A. Merola. For works in manuscript dedicated to Barberini see L. von Pastor. For printed works dedicated to him see A. Chacon.[116]

Despite the undoubted warmth of Barberini's relationship with Kircher, only one letter from him to Kircher is preserved.[117] Here he asks for a translation—five copies—of a 'Psalterium ab Aegyptiis Monachis ante actis saeculis diligenter exaratum'. Similarly, in April 1636 Kircher addressed to Barberini on five quarto sheets his 'Scrip-

---

[111] Ranke, *Die römischen Päpste*, vol. 3, p. 124.

[112] Bibliothèque de Carpentras. Manuscrits de Peiresc 11 402 (Avignon, 4 June 1633). Not in Kircher's hand. Another copy is at Bib. Nat. Fonds français 9362 f.16.

[113] P. Gassendi, *Opera omnia*, vol. 6, pp. 413–414.

[114] L. von Pastor, *History of the Popes*, vol. 28, pp. 322–493.

[115] De Sepi, *Romani Collegii*, p. 6.

[116] Merola, article on Barberini in *Dizionario biografico degli Italiani*, vol. 6, pp. 172–176; Pastor, *History of the Popes*, vol. 28, pp. 472–473; Chacon, *Vitae et res gestae pontificum romanorum*, vol. 4, pp. 528.

[117] Pont. Univ. Greg. 556 f. 104 (Rome, 7 November 1637).

turae mirabilis et toto oriente celebratissimae in monte Sinai rupi cuidam incisae interpretatio nova et antehac a nemine adhuc enodata'.[118] A similar document, without inscription, is at Bibliotheca Apostolica Vaticana, Rome.[119]

A summary of the role played by Urban VIII, Barberini and Peiresc in having Kircher called to Rome in 1633 is to be found at: *Obeliscus*, 'Epistola Paraeneticall, Paragraph III; and *Sphinx*, Letter (Rome, 14 August 1673) to Philippe Sylvestre du Four, printed as part of the prefatory material. Other references to Barberini's help and encouragement are at: *Arithmologia*, pp. 178–186; *Latium*, pp. 58, 79, 94, 98, 102, 146, 151–153, 222 (the plate showing the Villa Adriana is dedicated by the printer and publisher Jansson to Barberini (pp. 152–153)); *Lingua Aegyptiaca*, Prooem.; *Magnes* (1643), pp. 642, 704; *Mundus subterraneus*, II, pp. 76, 90, 159; *Obeliscus*, pp. 60, 462–466; *Oedipus*, IIB, pp. 160, 452; III, pp. 338, 501. (At III, pp. 270–302 the discussion on the 'Obeliscus olim Veranus' is dedicated to Barberini); and *Prodromus Coptus*, p. 281.

50. This accident is also described in A. Canron.[120] From Marseilles Kircher wrote to thank Peiresc for the hospitality so recently extended to him in Aix. He also commented on the kindness shown to him and his fellow-travellers by 'nobiliss. Dnus Frater tuus urbis huic moderator'.[121]

51. A fellow-passenger on the voyage from Marseilles to Genoa was Johann Hellwig (1609–1674), who was on his way to Padua to complete his medical studies. Hellwig, a friend of G.P. Harsdörffer, recalls both the journey and Kircher's erudite conversations in a letter to Kircher in 1655.[122] The journey is described in K. Goedeke's *Grundriss zur Geschichte der deutschen Dichtung*, vol. 3, p. 112; J. Hervegen, *Historische Nachricht von dess löblichen Hirten-und Blumen-Ordens*, p. 242; and G.A. Will, in *Nürnbergisches Gelehrtenlexicon*, vol. 2 (1756), pp. 86–88; vol. 6 (1802), p. 58. For a contemporary definition

[118] Bib. Nat. Fonds Dupuy 488 f. 161–163.
[119] Bib. Vat., Rome [Ms] Lat. 10486 f. 9.
[120] A. Canron, *Les Jésuites à Avignon*, p. 49.
[121] Bib. Nat. Fonds français 9538 f. 228b (Marseilles, 6 September 1633).
[122] Pont. Univ. Greg. 568 f. 109 (Regensburg, 10 January 1655).

and description of a *felucca* see Riccioli, *Geographia et hydrographia reformata*, p. 528.

Observations during the journey were made by Kircher at:

Cannes, *Magnes* 1643, p. 383
Cap Corse, Corsica, Genoa, Iles d'Hyères, La Plage (Hyères), Iles de Lérins, ibid.
Ligurian coast, *Ars magna*, p. 23
Livorno Ferraris, *Arca*, 1634 for 1633, p. 191 and *Mundus subterraneus*, II, p. 351
Porto Azzurro, Elba, *Magnes,* 1643, p. 103, 1633, p. 383
Portoferraio, Elba, *Magnes,* 1643, pp. 383, 416, 418, 1634, 1633
Portovencre and Ile St Honorat, *Magnes,* 1643, p. 383
Santa Severa, *Arca*, 1634 for 1633, p. 191; *Mundus subterraneus*, 1634 for 1633, 1 80
Sardinia, *Phonurgia*, p. 140 and
Villefranche (Nice), *Magnes,* 1643, p. 401.

52. The Birthday of Our Lady is celebrated on 8 September. The Octave is the eighth day after a church festival, the festival itself being counted, which gives us 15 September 1633.

Cassis, the ancient Carsicis Portus, is 27km east of Marseilles and is noted for its white wine.

53. Loreto is in the Italian Province of Ancona. Its principal church 'della Santa Casa' was first built in 1468 to contain the home of the Holy Family, said to have been transported by angels from Nazareth to Loreto, where it was re-erected in 1295. In 1688 a traveller could say of this pilgrim centre: 'le principal négoce de cette petite ville consiste en médaillons, en rosaires, en grains-bénits, en images, en Agnus-Dei et en autres semblables marchandises' (F. Misson, *Nouveau voyage d'Italie fait en l'année* 1688, vol. 1, p. 253). Kircher records his visits to Loreto at: *Magnes* 1643, p. 402; *Mundus subterraneus* 1658, I, p. 115.

54. Città Vecchia had its harbour laid out by Trajan in 106 A.D. It remained until comparatively modern times the dominant port and harbour of the Papal States. Kircher records several field-trips made to the area: 1634, *Arca*, p. 191; 1634, *Magnes,* 1643, pp. 671–672 and *Mundus subterraneus*, I, pp. 80, 313; and 1639, *Ars magna*, p. 148.

55. Kircher describes the rigours of his journey 'in quo tantas et tam incredibiles calamitates perpessi' in a detailed letter sent to Peiresc

from Rome in November 1633. We learn too that the last remaining stretch, from Cività Vecchia to Rome itself, was 'easily' covered in two days.[123] Another correspondent to receive Kircher's description of his late odyssey was the German Jesuit A. Bartholomäus, whom Kircher had known in Avignon and who sent his suitably awe-struck reply from Spain.[124] The date of Kircher's arrival in Rome is however given as 1635 at: *Oedipus*, III, p. 271 and *Sphinx*, Prooem.

Descriptive comments on Kircher's arrival in Rome are also to be found in letters, both written curiously on 18 March 1634, from J.J. Bouchard and R. Magiotti to Galileo.[125] A further report, on 8 April 1634, is that by G.B. Doni to Father M. Mersenne.[126]

56. Kircher's early days in Rome and his initial contacts with Barberini are described in the letters he wrote between 1633 and 1637 to Peiresc.[127]

57. Friedrich (1616–1682), Landgrave of Hesse-Darmstadt, subsequently became Cardinal (1659) and Prince Bishop of Breslau (1672). The son of Landgrave Ludwig V ('the Faithful'), he arrived in Rome on 2 November 1635, was instructed in the Catholic faith by Lucas Holstenius (1616–1682), himself a convert, and was received into the Church by Urban VIII on 11 January, 1637.

Kircher's role in his conversion is suggested by A. Raess[128] and A. de Waal,[129] while Holstenius' advice to Kircher on the impending visit to Malta is recorded in a letter to Peiresc.[130]

For further information on Friedrich, who was also a protégé of Cardinal Barberini, see A. Brück. For notes on the political background see V. Borg.[131] For comments on Friedrich's behaviour in Malta see Pallavicino.[132] Kircher was much later to dedicate 'Classis X. Magia hieroglyphica' of the *Oedipus* (IIB, pp. 435–496) to Friedrich.

---

[123] Bib. Nat. Fonds français 9538 ff. 230–233 (Rome, 14 November 1633).
[124] Pont. Univ. Greg. 566 f. 264 (Salamanca, 8 August 1634).
[125] Galilei, *Opere*, vol. 15, pp. 63–64, 65–66.
[126] Mersenne, *Correspondance*, p. 326.
[127] See Fletcher, 'Claude Fabri de Peiresc'.
[128] Raess, *Die Convertiten seit der Reformation*, vol. 5, p. 468.
[129] De Waal, *Der Campo Santo*, p. 124.
[130] In Holstenius, *Epistolae ad diversos*, vol. 46, p. 287 (Rome, 7 March 1637).
[131] V. Borg, *Fabio Chigi*, pp. 60, 67.
[132] S. Pallavicino, *Della vita di Alessandro VII*, vol. 1, pp. 79–81.

The expedition embarked at Civita Vecchia on 8 May 1637, sailed via Naples and Messina to La Valetta which they reached on 2 June 1637, which was a Whit Sunday. Kircher's departure from Rome was noted by R. Magiotti in a letter to Galileo.[133]

Kircher himself describes his outward journey to Malta and his inspection of Vesuvius, Etna and the Liparic Isles in a letter to Buxtorf, Professor of Hebrew in Basel.[134] A later printed account of the Sicilian experience is at: *Mundus subterraneus*, 'Praef. prima. Caput primum'.

Elsewhere Kircher reports on his visit to and work in the library of the monastery of S. Salvatore dei Greci near Messina (*Arca*, pp. 5–8; *Musurgia*, I, pp. 213, 540–542); his examination with K. Schott of the site of Archimedes' reported burning of the Roman fleet of Marcellus at Syracuse (*Ars magna*, pp. 874–880, 880–886; *Magnes* 1643, p. 402; *Phonurgia*, pp. 73–75, 82, cf. Knowles- Middleton's article 'Archimedes, Kircher, Buffon and the Burning Mirrors', *Isis* 52 [1961]: 533–543); and his conchological studies at Trapani (*Mundus subterraneus*, I, pp. 300; II, p. 58). Other Sicilian observations are at: *Ars magna*, p. 23; *Iter extaticum*, II (1657) p. 140; *Lingua aegyptiaca*, Prooemium; *Magnes* (1643), p. 674; *Mundus subterraneus*, I, pp. 268–269, 300; *Phonurgia*, p. 140.

58. Apart from his spiritual guardianship of Landgrave Friedrich, Kircher was also appointed in Malta to teach mathematics to the novices of the Order of St John of Jerusalem in Malta.[135] He is also said to have made here, on 29 June 1637, the Feast of SS Peter and Paul, the fourth and final vow of his own Order.[136]

Other glimpses of his activities and feelings at the time emerge from his correspondence. Mutio Vitelleschi sympathised with him on the paucity of books in Malta and promised to talk with Barberini on Kircher's future role.[137]

A later letter, which comments with approval on Kircher's part in the spiritual education of his aristocratic ward, notes with little apparent reaction Kircher's request to travel to the Orient with his fellow

[133] Of 16 May 1637: Galilei, *Opere*, vol. 17, p. 80.
[134] University of Basel Archives (La Valetta, 6 January 1638).
[135] Borg, *Fabio Chigi*, p. 62.
[136] H. Meurer, 'Augsatz über Athanasius Kircher'.
[137] Pont. Univ. Greg. 561 f. 19 (Rome, 30 July 1637).

Jesuit Jean Baptiste du Cortas (1599–1678). Theodor Beck (b. 1600) is suggested here as a possible replacement for Kircher in Malta.[138]

Similarly, in the letter to Buxtorf (see Comm. n. 57), Kircher comments 'de libris Arabicis, Coptis, Graecis, quos inter manuscriptorum greges hinc inde college'. Nor apparently did Kircher's widening circle of correspondents suffer from his sojourn in Malta. Onophre Borges SJ, before embarking in Genoa for missionary work in the Americas, found 'contra spem expectationemque' letters awaiting him from Rome.[139]

Kircher's lack of certainty in Malta about his own future movements is mirrored in a letter he wrote in the autumn of 1637 to Hermann Georg, Prince Bishop (1634–1644) of Fulda, where he notes his plans to return to Rome in the near future.[140]

The correspondence at this time between Chigi and Barberini frequently dwells on Kircher's unease on the island and Friedrich's unwillingness to let him go.[141]

A more tangible testimony of Kircher's stay in Malta is the *Specula Melitensis*, a mathematical teaching tool, published in Naples in 1638 under the pseudonym of Salvatore Imbroll, Prior General of the Knights Hospitallers. A slim quarto of [viii] + 63 pages, it was dedicated on 6 January 1638 to Jean Paul de Lascaris-Castellar, the French Grand Master (1636–1657) of the Order of St John of Jerusalem in Malta.

This is now the rarest of Kircher's works[142] and the text was reprinted in 1662 by Schott.[143] It was read by, among others, Benedetto Salvago, who wrote to Kircher, belatedly wishing him good luck on his 'periculoso itinere' from Messina to Rome, and who commented on his daily perusal of the *Specula Melitensis*.

Comments by Kircher deriving from his experiments and observations on Malta are at: *Ars magna*, pp. 22–23, 808; *Iter extaticum*, II (1657), p. 140; *Lingua aegyptiaca*, Prooem.; *Magnes* (1643), pp. 352,

---

[138] 561 f. 18 (Rome, 7 January 1638).
[139] 567 f. 2 (Genoa, 3 December 1637).
[140] 561 f. 68 (Malta, 15 September 1637).
[141] Borg, *Fabio Chigi*, pp. 312, 341–342, 351–352, 360–362.
[142] [Copies are held in the University Library of Copenhagen, and in the Biblioteca Nazionale and the Biblioteca Casanatense in Rome.—Ed.]
[143] Schott, *Technica curiosa*, pp. 427–477.

383, 384, 674; *Mundus subterraneus*, I, pp. 179–180, 300, 338; II, pp. 50, 97–98, 157; *Oedipus*, III, p. 495; *Phonurgia*, p. 140.[144]

59. Kircher's nightmarish return to Rome through the Calabrian earthquakes of 1638[145] is described in eloquent detail in *Mundus subterraneus*: 'Praefatio prima. Caput secundum. De horrendis Terrae motibus anno 1638 in Calabria quatuordecim dierem spacio'. It was in fact during this journey that Kircher made his decision to write the *Mundus subterraneus*.[146]

Against a background of raging seas and devastated landscape, with the roaring of Etna and Stromboli pulsating in the sulphur-laden air, Kircher reached Messina on 24 March 1638 in the company of two Franciscans and two laymen. Three days were spent moving tortuously from Capo Peloro via Milazzo to Capo Vaticano and on 27 March, Palm Sunday, they continued their buffeted way to Rochetta. From Pizzo they moved through Tropea (Pr. Catanzaro) to S. Eufemia Marina, where they discovered the Benedictine monastery founded by Robert Guiscard newly levelled to the ground, together with the nearby town. With Stromboli a constant fiery spectacle, they moved slowly by sea through Nicastro, Amantea, Paola and Belvedere, eventually reaching Naples. From Naples Kircher made his famous expedition to the steaming crater of Vesuvius, which he examined and measured in some detail. The following day he sailed to the Isola d' Ischia and from there returned to Rome.[147]

A later correspondent who drew heavily on Kircher's first-hand experiences of the Calabrian earthquakes was F. Travagini, a doctor in Venice who is one of the first seismologists.[148]

On his safe return home, Kircher received letters from Melchior Inchofer SJ (1584–1648) congratulating him on his 'placationem

[144] See also F. Buonanni, *Musaeum Kircherianum*, ch. 9; Kestler, *Physiologia Kircheriana experimentalis*, p. 187; G.A. Petrucci, *Prodromo apologetico*, p. 152.

[145] See A. di Somma, *Historico racconto dei terremoti della Calabria*.

[146] Thus see I, p. 180.

[147] *Mundus subterraneus*, 'Praefatio prima. Caput tertium. De Montis Vesuvii, reliquarumque Insularum exploratione ab authore facta'.

[148] Pont. Univ. Greg. 562 f. 144 (Venice, April 1665); 562 f. 164 (Venice, no date given); 565 f. 130 (Venice, 7 May 1665).

Scyllae et Charybdis',[149] and from Lucio Carrara, who drew attention to a topical work on Vesuvius by P. Castelli.[150]

During his hectic journey from Malta to Rome, Kircher still succeeded in making a large variety of observations:

> Calabria in general: *Ars magna*, p. 23; *Magnes* 1643, p. 611 (27 March 1638); *Mundus subterraneus*, I, pp. 63, 179–180, 206, 221, 300; *Phonurgia*, pp. 121–123
> Capo Peloro: *Magnes,* 1643, pp. 383, 610–611
> Etna, *Arca*, p. 21; *Ars magna*, p. 16; *China*, p. 185; *Magnes* 1643, pp. 402, 611; *Mundus subterraneus*, I, pp. 63, 186, 187–190
> Isola d'Ischia, *Magnes* 1643, p. 383
> Liparic Isles, *Magnes* 1643, p. 383; *Mundus subterraneus*, I, pp. 75, 77, 268–269; *Musurgia*, II, p. 234; *Phonurgia*, p. 224
> Messina, *Magnes* 1643, p. 352; *Mundus subterraneus*, II, p. 373
> Messina lighthouse, *Magnes* 1643, p. 383[151]
> Strait of Messina, *Ars magna*, p. 801; *Magnes* 1643, pp. 383, 402, 610–611; *Mundus subterraneus*, I, pp. 49–103[152]
> Naples, *Magnes* 1643, p. 352; *Mundus subterraneus*, I, pp. 178–179, 222; II, p. 46
> Palermo, *Ars magna*, p. 807; *Magnes* 1643, p. 352; *Mundus subterraneus*, II, pp. 46, 62
> Paola, *Magnes* 1643, p. 402
> Pozzuoli, *Arca*, p. 191; *Mundus subterraneus*, I, p. 80
> San Eufèmia, *Mundus subterraneus*, I, pp. 221, 240, 291
> Stromboli, *Arca*, p. 21; *Magnes* 1643, p. 611; *Mundus subterraneus*, I, pp. 75, 77, 222
> Tre Castagne, Etna, *China*, p. 185, *Magnes* 1643, p. 402
> Tropea, *Magnes* 1643, p. 402 and
> Vesuvius, *Arca*, p. 21; *Mundus subterraneus*, I, pp. 179–180, 222.

60. As early as 1636, Kircher attests the empty vainglory and prurience of his critics in a heated letter to Peiresc.[153] More misgivings are aired in the second Preface of the *Musurgia* where Kircher foresees possible critical reaction against 'compositiones meae variae sub aliorum tamen nomine impressae in Germania', while a distinct air of disillusionment is perceptible in his review of the public reception of his various writings on the Egyptian hieroglyphs (*Sphinx*, Prooemium).

---

[149] 561 f. 111 (Rome, 1 June 1638).
[150] 568 f. 366. 4 June 1638.
[151] See also Kestler, *Physiologia Kircheriana experimentalis*, p. 47.
[152] See also Kestler, *Physiologia Kircheriana experimentalis*, p. 187; de Sepi, *Romani Collegii*, p. 24 (17 May 1638).
[153] Bib. Nat., Fonds français, 9538 f. 236–238 (Rome, 3 December 1636).

In the Preface to his *Physiologia Kircheriana*, a work which Kircher himself shepherded through Jansson's press,[154] J.S. Kestler contributes an interesting essay on Kircher's critics. He treats them under three main headings: 1) critics of the *Musurgia*, principally Meibom; 2) critics of the *Oedipus*, identified only as 'Empiricus' and 'Moyses'; 3) critics of Kircher's views on alchemy as exemplified in the *Mundus subterraneus*.[155] These include Valeriano Bonvicino and the pseudonymous Salomon von Blawenstein.

Kestler further castigates the aberrant views of 'innumeri alii', who remain unnamed. Kircher himself was, uncharacteristically, to attack bitterly von Blawenstein ('fictitans bubo et excucullatus monachus'—could Blawenstein have been Giuseppe Francesco Borri?) and others of his ilk in a letter (Rome, 1 March 1669) to H.A. Langenmantel.[156]

61. The *Prodromus coptus*, published by the Sacra Congregatio de Propaganda Fide, is known with two title-pages. One has a central woodcut (5.5 × 7.5 cm) showing Christ addressing the Apostles after the Crucifixion. The Latin legend is from Mark 16:15, in English: 'Go through the whole world and preach the Gospel to all Mankind'. The second bears the Barberini crest, here as for a Cardinal, showing three bees. It is flanked in turn with the not quite perfectly remembered Greek text from Luke 12:2, the words spoken by Christ on the first journey to Jerusalem: 'Whatever is covered up will be uncovered, and every secret will be made known'.

The Biblioteca Palatina in Parma is one of the few libraries to possess copies of both: the first at Pal. 1497 St De Rossi 1151 and the second at DD* I 28625. In the dedicatory letter to Cardinal Barberini,[157] Kircher promises to bring out his 'opus Hieroglyphicorum . . . enigmatum redivivum Oedipum'.

Other prefatory material includes a clutch of polyglot testimonies to Kircher's linguistic and authorial competence. These are by Isaacus Sciadrensis, Maronite archbishop of Tripoli (Syrian); Abraham

[154] Pont. Univ. Greg. 565 f. 15 (Rome, 7 May 1672).

[155] II, pp. 250ff., 280ff., repr. in J. Manget, *Bibliotheca chemica curiosa*, vol. 1, pp. 54–109.

[156] For various events that exposed Kircher to public and scholarly ridicule see J. Arckenholz, *Historische Merkwürdigkeiten*, vol. 2, p. 97; J.B. Mencke, *Zwey Reden von der Charlatanerie*, p. 83; Niceron, *Nachrichten*, vol. 21, p. 364; C. Tromler, *Bibliothecae Copto-Jacobitae specimen*, p. 2; J. Zedler, *Universal-Lexicon*, vol. 15, p. 756.

[157] (Rome, 2 August 1636).

Ecchellensis, Maronite scholar working in Rome (Syrian, Arabic, Estrangelo-Syrian, Samaritan); Petrus Paulus Copus, an Armenian priest (Armenian); Michael, an Esronite priest (Chaldaic); Iodocus Hopffner, of Würzburg (Hebrew); loannes Baptista lonas, teacher of Syrian at the Roman Sapientia (Hebrew); and four Ethiopian priests who joined forces for a concluding five-line tribute in Ethiopian: Machzanta Maroiam, Chabta Maroiam, Azfa Dungel and Tansa Christos.[158]

Kircher mentions the possibility of a second printing of the *Prodromus Coptus* in a letter to Peiresc, with an aside that Barberini has appropriated for his own use 220 copies of the first printing. We learn here too that 500 copies had been circulated in Spain, Portugal, Germany and Poland.[159]

Champollion saw in the *Prodromus coptus* the first work to 'répandre en Europe des notions exactes sur la langue copte'.[160] Earlier commentators were less kind.[161] Kircher himself refers elsewhere to the *Prodromus* with some pride: *China*, p. 1; *Magnes* (1643) Prooem.; *Oedipus*, IIA, pp. 110–122; III, pp. 27, 272.[162]

62. Pietro Valle, who spent a nomadic life in restless touch with various learned men and societies, was by no means pleased with Kircher's treatment of the manuscripts he had brought back from Cairo.[163] Kircher was no stranger to the eccentric traveller and was probably

---

[158] A. Bertelotti, 'Le tipografie orientali e gli orientalisti a Roma nei secoli XVI e XVII', *Rivista Europea* 9 (1878): 256–257.

[159] Bib. Nat. Fonds français 9538 f.240 (Rome, 7 January 1637). For Peiresc's reaction to the *Prodromus coptus* see Fletcher, 'Claude Fabri de Peiresc', pp. 255–258; Tamizey de Larroque *Lettres… aux Capucins*, pp. 192, 268, 303. Misgivings on Kircher's suitability for such work were voiced by C. Saumaise in a letter to Peiresc. For more modern misgivings on Kircher's command of Coptic see M. Chaîne, 'Une composition oubliée de Père A. Kircher en l'honneur de Peiresc', *Révue de l'Orient chrétien* 3 Serie 9 (1933–1934): 207–208.

[160] J.J. Champollion-Figeac, *Notice sur deux grammaires de la langue copte*, p. 2.

[161] See Barthélemy, *Mémoire*, pp. 213–214; P.G. Bietenholz, 'Pietro della Valle (1586–1652)'. In *Studien zur Geschichte der Orientkenntnis und des Orientbildes*, pp. 41–42, 81; C. Blumberg, *Fundamenta linguae Copticae*, pp. 7, 15, 16, 28–30; G. Horn, *De originibus Americanis*, p. 277; C. Jordan, *Histoire de la vie et des ouvrages de M. La Croze*, pp. 172, 289–292; M. Lacroze, *Lexicon aegyptiaco-latinum*, Praef.; G.W. Leibniz, *Opera omnia*, vol. 6, pp. 132, 166, 296; B. de Montfaucon, *L'antiquité expliquée*, vol. 1, pp. 281, 11 322, 340, 352; A. Pfeiffer, *Dubia vexata scripturae sacrae*, pp. 223, 224, 227, 231; J.S. Rittangel, *Hochfeyerliche Solenniteten*, B2, B2r, B3, E, Er, E2r, H2, H4r, I, Ir, I2r, I3, Klr, K2, K2r; C. Tromler, *Bibliothecae copto-jacobitae*, p. 22; J. Wagenseil, *Tela ignea Satanae*, pp. 429–433; J. Wilkens, *Novum Testamentum*, pp. 91–92.

[162] See also de Sepi, *Romani Collegii*, p. 9.

[163] Pont. Univ. Greg. 557 f. 400 (Rome, no date given).

unmoved by della Valle's chagrin. Kircher had first visited Valle immediately after his arrival in Rome in 1633.[164] There was a warm response from Valle,[165] who also expressed keen pleasure at the appearance of the *Prodromus coptus*.[166]

In the Prooemium of the *Lingua aegyptiaca restituta* Kircher pays tribute to Valle, Barberini and Peiresc for their various roles in promoting his Egyptological progress. Ferdinand III is thanked again (dedicatory letter of 7 November 1643) for his monetary muscle and the scholarly help of Abraham Ecchellensis is acknowledged. There are no polyglot encomia as in the *Prodromus coptus*.

The manuscripts that della Valle had first discovered in Cairo in 1616 were originally destined by him for editing and publication by the Franciscan Thomas Obicini. Only after Obicini's death on 7 November 1632 did Valle turn to Kircher, who omitted to mention Obicini or his work in either the *Prodromus coptus* and the *Lingua aegyptiaca restituta*.[167]

Although Kircher fails to specify the relevant title, he wrote in 1641 'ad Sereniss. Principem' (probably Prince Cardinal Leopoldo de' Medici) in Florence asking for assistance in producing fonts for an Arabic typeface.[168]

Denis Pétau SJ (1583–1652) wrote a letter of qualified approval on the *Lingua aegyptiaca* and appended further questions on Egyptian chronology.[169] Barthold Nihus (1589–1657) admired this work and promised to find out and forward the views of Saumaise and Golius.[170] Elements from the *Lingua aegyptiaca* were incorporated by Lacroze in his *Lexicon* as late as 1775.[171]

Grateful references by Kircher to Pietro Valle are to be found at: *Lingua*, Prooemium; *Oedipus*, I, p. 16; IIA, p. 112; IIB, pp. 295–300; III, pp. 57–60, 399, 402–410, 432–434; *Prodromus*, pp. 5, 18, 170, 196,

---

[164] Bib. Nat. Fonds français, 9538 f. 230–233 (Rome, 14 November 1633).

[165] Pont. Univ. Greg. 557 f. 409 (Rome, October 1634).

[166] 557 f. 291 (Caietae, 6 July 1637): addressed to Malta.

[167] A. van Lantschoot, *Un précurseur d'Athanase Kircher*, pp. x, xiv.

[168] Bib. Naz. Aut. Pal. IV.41 (Rome, 9 March 1641).

[169] Pont. Univ. Greg. 557 f. 20 (Paris, 3 August 1645). Duplicated at 567 f. 69. Printed in both Pétau's *Epistolarum*, vol. 3, p. 375 and *Opus de doctrina temporum*, vol. 3, p. 354.

[170] Pont. Univ. Greg. 557 f. 203 (Amsterdam, March 1650).

[171] Defined as excellent by Woide in 1774, the *Lingua aegyptiaca* did of course attract its share of adverse criticism: S. Bochart, *Geographia sacra*, col. 60; P. Jablonski, *Pantheon Aegyptiorum*, vol. 1, p. 274; J. Ludolf, *Ad suam Historiam Aethiopicam commentarius*, pp. 442–443; E. Quatremère, *Recherches*, p. 53; C. Sicard, *Mémoires*, vol. 2, p. 61.

206; *Scrutinium*, p. 138; *Sphinx*, pp. 7, 12–14, 19; *Turris*, pp. 70, 92–95, 96–104.

63. Pope Innocent X (1644–1655) was born in 1574 as Giambattista Pamfili. Politically he favoured Spain, reversing the French orientation of the Barberini regime that preceded him.[172] His portrait was displayed in Kircher's Museum and the engraving of him at the head of the *Obeliscus Pamphilius* was executed by G.A. Canino (1617–1666) and C. Bloemaert (1603–1680).

The Forum Agonale, officially named the Circo Agonale, is popularly known as the Piazza Navona and is, after St Peter's Square, the largest public arena in Rome. It is dominated by Bernini's Fontana dei Fiumi, surmounted by the obelisk, and fronted by the Palazzo Pamfili (G. Rainaldi, 1650). From 1653 to 1798 the square was flooded on August weekends ('Festa del Lago') for the aquatic enjoyment of the coach-driven nobility.

The Emperor Caracalla (211–217) conducted a despotic regime and had the dubious distinction of being assassinated.

64. Vincenzo Caraffa (1585–1649) was after an active career in Naples, elected General of the Society of Jesus on 7 January 1646. Leopold von Ranke describes him as 'ein Mann, der selbst eine persönliche Bedienung verschmähte, lauter Demuth und Frömmigkeit'.[173]

In Paragraph III of his prefatory 'Epistola Paraenetica' addressed to the readers of the *Obeliscus Pamphilius*, Kircher identifies his research assistant as Jacques Viva SJ and mourns his recent death (25 April 1650) at Loreto. Viva, who was born in Fribourg in 1605, came to Rome in 1646 and also collaborated with Kircher on the *Musurgia* (Praef. tertia). He had previously lectured in Ingolstadt and was friend and correspondent both of J.B. Riccioli SJ[174] and the scientifically minded Scottish royalist Sir Robert Murray (1610–1673).

Kaspar Schott SJ also acted as assistant to Kircher during the physical production of the *Oedipus* from 1652 to 1655. Schott reminisces on his Roman sojourn in *Iter exstaticum* (1660), pp. 3–4. A subsequent assistant was the Scottish Jesuit William Monteith (1612 or

[172] Pastor, *History of the Popes*, vol. 30, pp. 381–411.
[173] Ranke, *Die römischen Päpste*, vol. 3, p. 126.
[174] Riccioli, *Almagestum*, vol. 1, pp. 377, 379, 387.

1619–1663) of whom the *Acta SS. Martii* (II, p. 217) reports 'et ipse Guilielmus Montesius Soc. Jesu Sacerdos Romae anno 1661 Socius P. Athanasii Kircheri in libris adendis'. A letter from Johann Friedrich, Duke of Holstein, commenting both on Kircher's optical inventions and on the *Musurgia* is in fact addressed to Monteith.[175]

65. Those archaeologists personally known to Kircher who are mentioned and thanked in the 'Epistola Paraenetica' (Paragraph III) of the *Obeliscus Pamphilius* are: G.F. Abela (Malta); F. Angeloni; Cardinal Barberini and his custodian of numismatics L. Agostino; G.P. Bellori; F. Gualdi; C. Menedrius; M. Milesius; G. Nardi (Florence); C.F. de Peiresc (Aix); C. del Pozzo; J. Rhodius (Padua); G.B. Romano; P. Stephanoni; C. di Vintimiglia (Palermo); and I. Vitelleschi.

Kircher had the extant fragments copied (by M.A. Canini) on to new blocks of stone, some of which, on being fitted to the shaft, were misplaced.[176] The original fragments led a somewhat peripatetic existence until they were taken into the Egyptian collection in the Vatican founded by Gregory XVI, where they have remained.[177]

66. Aloysius Capponi (1583–1659) became a Cardinal in 1621, and was Bishop of Ravenna from 1621 to 1645, when he resigned and took up residence in Rome. From 1649 to 1653 he acted as the Vatican librarian.[178]

67. *Oedipus aegyptiacus*, III, p. 162.

68. Among the prefatory material in the *Obeliscus Pamphilius*, which includes an 83-line Latin eulogy by the English doctor J.A. Gibbes (1611–1677), we find a detailed 'Epistola Paraenetica ad reconditae literaturae peritos lectores' (20 pages, unpaginated), which is dated 19 September 1650. Kircher describes here his initiation into the mystery of the hieroglyphs, his various patrons, how the work is set

[175] Pont. Univ. Greg. 555 f. 292 (Paris, 6 July 1661).
[176] Iversen, *Obelisks in Exile*, vol. 1, p. 86.
[177] A. Ungarelli, *Interpretatio obeliscorum urbis*, vol. 1, p. 17. They are illustrated in Iversen, *Obelisks in Exile*, figs. 39, a,b,c,d.
[178] See L. Osbat (ed.), *Dizionario biografico degli Italiani*, vol. 19, pp. 67–69.

out and sketches his basic approach to a general philosophy of the hieroglyphs.[179]

Leon Santi (1585–1651 or 1652), also thanked in the 'Epistola Paraenetica', was Prefect of Studies at the Collegium Romanum. On his death, a stone of such magnitude was taken from his bladder that it gained for itself a permanent resting place in Kircher's Museum.[180]

A more public testimony to Kircher's accomplishments in the *Obeliscus Pamphilius* was delivered by the Dutch poet and dramatist Joost van den Vondel (1587–1679). A convert to Catholicism since 1641, he forwarded in 1652 a Pindaric ode of 134 lines, which presented a dialogue between 'Pamfilius' (Innocent X) and 'de geest van Hermes'. The 'Edipus of Teeckentolck van den E. Heere Athanasius Kircher Verlichter van de gebloemde Wijsheid der Egytenaren' is preserved as a broadsheet[181] and later appeared (p. 226) in *Apollo's harp*.[182] Barthold Nihus, who received his copy of the *Obeliscus Pamphilius* in November 1650,[183] also comments knowingly on Vondel's printed tribute.[184] The description of the obelisk itself is at Book V, pp. 391–560.[185]

69. Ferdinand III (1608–1657) was German emperor from 1637 to 1657. He was noted for his hatred of flattery and his dislike of all Italians.[186] His sweeping assistance for Kircher derives perhaps from a phrase 'et commendationem Germanicae Nationis' in an early letter of October 1640.[187] Kircher prints this letter in the 'Epistola Paraenetica' of the *Obeliscus Pamphilius* (Paragraph I) together with one of 12 February 1641 where Ferdinand expresses his surprised delight at Kircher's skill in translating Arabic.

---

[179] Testimonies on Kircher's collation of the obelisk and the fragments are at: Pont. Univ. Greg. 561 f. 114 (Rome, 14 August 1650) for F. Angeloni and G.P. Bellori; 561 f. 104 (Rome, 14 October 1647) for L. Agostino; 561 f. 113. (Rome, no date given) for L. Santi SJ.

[180] De Sepi, *Romani Collegii*, p. 35.

[181] Pont. Univ. Greg. 562 f. 184; a Latin version is at 563 f. 311.

[182] J.H.W. Unger, *Bibliographie van Vondels werken*, no. 498.

[183] Pont. Univ. Greg. 557 f. 182 (Amsterdam, 28 November 1650).

[184] 557 f. 234 (Amsterdam, 23 September 1652).

[185] For further commentary, see C. Allen, 'The Predecessors of Champollion', pp. 528–536; L. Habachi, *The Obelisks of Egypt*, pp. 139–144; Iversen, *The Myth of Egypt*, p. 92; Iversen, *Obelisks in Exile*, 1, pp. 84–90; J. Janssen, 'Athanase Kircher, "égyptologue"'; J. Marsham, *Canon chronicus Aegyptiacus, etc.*, p. 462.

[186] M. Koch, *Geschichte des deutschen Reichs*, vol. 1, p. 7; K. Eder, 'Ferdinand III', in *Neue deutsche Biographie*, vol. 5, pp. 85–86.

[187] Pont. Univ. Greg. 556 f. 168 (Regensburg, 3 October 1640).

Before the financial backing of the *Oedipus* was settled (L. von Pastor in his *History of the Popes*, vol. 31 p. 272) implies that the cost of the *Oedipus* was borne by Alexander VII), Kircher received on various occasions grants of 100 scudi from Ferdinand's Confessor, Johann Gans SJ (1591–1662).[188] Despite such hints of financial largesse, Kircher remained uncertain of finding a suitable patron for the *Oedipus*, since as he explained in 1648 to M. Mersenne 'est enim tanta horum temporum calamitas, ut principes de promotione literarum librorumq. animum vix applicare possint'.[189] In a similar strain, soon after the death of Ferdinand III (the funeral eulogy was incidentally given by Andreas Wigand, see Comm. n. 38) we find Kircher, in a letter to J.E. von Rautenstein, expressing grave fears of not being able to find a replacement for his august patron.[190]

Ferdinand's portrait was displayed in Kircher's Museum and the engraving of the emperor as frontispice to the *Oedipus* was the work of I. Bichi (fl. 1650–1670) and C. Bloemaert (1603–1680). Ferdinand III is praised by Kircher for his acumen and help at: *Iter ectaticum*, II (1657) Praefatio; *Itinerarium exstaticum* (1656) Praef.; *Lingua Aegyptiaca*, Prooem.; *Mundus subterraneus*, Praef. secunda; *Musurgia*, Praef. prima; *Oedipus*, III, pp. 160–211, where the 'Obeliscus Ramassaeus sive Lateranensis interpretatio' is dedicated to Ferdinand.[191]

70. The draft of Kircher's letter to Ferdinand thanking him for his generous help is in the Gregoriana.[192] The range of Ferdinand's backing for Kircher's works is glanced at by Schott.[193] Elsewhere, Schott estimates the cost of printing the *Oedipus* at 4000 *scudi*.[194]

71. Part of the unpaginated prefatory material of Volume I (1652) of the *Oedipus* is a 56-page *Triumphus Caesareus polyglottus*. This contains tributes in 27 languages to Ferdinand III and his imperial generosity with subdued asides on Kircher's omniscience. The various eulogies are introduced by Prince Pompeo Colonna in an Italian song

---

[188] 561 f. 131 (Regensburg, 30 July 1641); 561 f. 130 (Ebersdorff, 11 October 1642); 557 f. 35 (Linz, 9 July 1646); 557 f. 116 (Vienna, 18 March 1651).
[189] Bib. Nat. Fonds français, nouv. acq. 6204 f. 105 (Rome, 10 March 1648).
[190] (May, 1657). See S. Lubienietzski, *Theatrum cometicum*, vol. 1, pp. 136–137.
[191] See also de Sepi, *Romani Collegii*, p. 23.
[192] Pont. Univ. Greg. 561 f. 24 (Rome, 4 March 1652).
[193] Schott, *Mathesis Caesarea*, p. 462.
[194] Pont. Univ. Greg. 561 f. 38 (Mainz, 22 July 1655).

of 136 lines; contributors include Ferdinand von Fürstenberg (No. 2, Latin), J.A. Gibbes (No. 8, English), G. P. Harsdörffer (No. 9, German) and M. Boym S. J. (No. 25, Chinese). The non-Roman typefaces are Greek, Serbian, Hebrew, Syrian, Arabic, Chaldaic, Armenian, Persian, Samaritan, Coptic, Ethiopian, the 'lingua hieroglyphica Brachmanum', Chinese and Egyptian hieroglyphics.

At the end of the *Triumphus*, Kircher notes that of the languages printed here, only Hungarian, Czech and Turkish fail to appear within the *Oedipus* itself. These collective tributes seem to have been published separately by Mascardi. A copy (1653) in the Biblioteca Casanatense in Rome is attributed to Kircher, who was however responsible only for the Persian (No. 20), Samaritan (21), Coptic (22), Brahman [Sanskrit] (24) and hieroglyphic (27) eulogies.

72. The various monies received by Kircher include: from J. Schega SJ (1595–1664), Confessor to the Emperor Leopold I, 150 'florenos Rhenanses . . . pro suo Amanuensi';[195] from Friedrich, Duke of Schleswig, 200 'imperiales' forwarded from Gottorp;[196] from S. Schürer, 100 'aurei'.[197] In a curious reversal, K. Schott thanks Kircher for the gift of six scudi 'per li mei studii'.[198]

73. Joannes Jansson van Waesberghe was active as a printer and publisher in Amsterdam from 1651 to 1681. In his later years he entered into a partnership with Elizaeus Weyerstraet, his son-in-law. According to a letter from Carla M. Faas, Deputy Keeper of Manuscripts at the Universiteits-Bibliotheek in Amsterdam, the archives of the Jansson van Waesbergh publishing firm have not survived.[199]

In a draft contract,[200] Jansson offered Kircher 2200 scudi 'in vigore del nostro contratto per tutti li suoi libri', with Jansson holding copyright for the Empire, England, France and the Low Countries.

---

[195] 555 f. 300 (Vienna, 29 January 1661).

[196] (5 November 1650); cf. J.P. Ludewig, *Reliquiae manuscriptorum*, vol. 5, p. 390.

[197] Pont. Univ. Greg. 560 f. 46 (Strauberg, 23 July 1671).

[198] 567 f. 45 (Würzburg, 16 June 1657).

[199] (8 May 1979); see I.H. van Eeghen, *De Amsterdamse boekhandel*, vol. 4, pp. 160–161; A.M. Ledeboer, *Het geslacht van Waesberghe*, pp. 118–133.

[200] Pont. Univ. Greg. 563 f. 244 (Amsterdam, 29 July 1661). Kircher's confirmation of the contract is at 563 f. 265. (Rome, 25 August 1661).

Kircher was to become an active proselytiser for his Amsterdam publisher,[201] and in December 1663 we find the English traveller Philip Skippon reporting: 'He said Johnson the printer at Amsterdam offered him 2000 for all his writings'.[202]

74. Tivoli, in the Sabine Mountains, 29 km from Rome, was a favourite summer residence of the ageing Kircher and the site of a long-standing Jesuit college (near the Porta S. Croce). In a querulous letter to Antonio Caprini SJ, rector of the Collegium Romanum, Kircher complains of the shortage of books in the Tivoli college and the consequent difficulty of handling a numismatic query by the Queen of Naples.[203] A second favoured country residence was at Tusculum, 21 km from Rome in the Alban Mountains. A letter of 1667 to Sophianna Bernhardi of Warsaw was penned by Kircher, he tells her, 'in peramoena Agri Tusculani rusticatione'.[204]

Comments by Kircher on the Tivoli area are at: *Arca*, p. 21; *China*, p. 209; *Diatribe*, p. 98 *Latium*, p. 203; *Mundus subterraneus*, I, pp. 95, 279; II, pp. 46, 125, 339; *Phonurgia*, p. 10.

Kircher travelled little after his return in 1638 from Malta. But he did make a series of field-trips into the Campagna, principally when working on his Latium (see Praefatio), often from Tivoli or Tusculum. Excursions recorded by him are to:

Fumarola, *Magnes,* 1643, p. 701
Guadagnolo, *Latium*, pp. 176–177, 185–186; *Mundus subterraneus*, II, p. 339; *Phonurgia*, pp. 113–115, 120, 228[205]
Lago di Nemi (Genzano), *Latium*, 10 October 1662, p. 49
Lago di Vico (Viterbo), *Mundus subterraneus*, I, p. 238
La Tolfa (Città Vecchia), *Ars magna*, p. 26; *Mundus subterraneus* 1639, I, p. 313; II, p. 23[206]
Montecassino, *Latium*, p. 239
Monte di Viterbo, *Mundus subterraneus*, I, p. 238

---

[201] H.A. Langenmantel, *Fasciculus Epistolarum*, pp. 2, 9, 17–19, 25, 35, 38–39, 41–43, 46, 50–51, 67, 69, 72–75, 80–81, 85, 88.

[202] P. Skippon, 'An account of a journey made thro' part of the Low Countries, Germany, Italy and France'. In A. and J. Churchill, *A Collection of Voyages and Travels*, vol. 6, p. 673.

[203] Pont. Univ. Greg. 563 f. 118 (Tivoli, 3 October 1665); duplicate at 563 f. 291.

[204] 564 f. 13. (Ex Tusculano Agro, 24 October 1667).

[205] See also G.A. Petrucci, *Prodromo apologetico*, pp. 24–25.

[206] See also Buonanni, *Musaeum Kircherianum*, p. 205; Kestler, *Physiologia Kircheriana experimentalis*, p. 31.

Monte Soratte (Orignano), *Oedipus*, III, p. 497
Palinuro, *Magnes,* 1643, p. 402
Rieti, *Latium,* 1660, pp. 229–233
Sezze, *Latium*, 5 November 1650, p. 252
Viterbo, *Mundus subterraneus,* 1659, II, p. 98

In the summer of 1659 Kircher also spent some weeks in Florence. We learn of this from Kircher's letter of thanks to Leopoldo de' Medici, the Grand Duke of Tuscany[207] and from an envious note to Kircher by Schega.[208] Elsewhere Kircher refers to visits he has made to Florence (*Mundus subterraneus*, I, p. 300; II, p. 458) and Montepulciano (I, p. 309).

One outcome of such visits was to have been the widesweeping *Iter Hetruscum*, promised by Southwell and Buonanni.[209] Kircher recorded its completion in March 1676 in a letter to Langenmantel,[210] when it was submitted to the grand-ducal censors in Florence. The work never appeared, although it was revised by Antonio Baldigiani SJ and forwarded to Jansson in Amsterdam in the summer of 1678.[211]

75. See, for example, Livy, *Ab urbe condita*, VII xviii 2. Empulum, now Ampiglione, is a small town in the Sabine Mountains, east of Tivoli and in the direction of Sassuolo. Further comments on Empulum by Kircher are to be found in *Latium*, pp. 175–179.

76. Guadagnolo is the highest village in Latium and nestles at 1218 m in the Monti Prenestini. For comments on the St Eustachius (martyred *c.* 120), Constantine (280–337) and Pope Sylvester I (314–355) legends see Hans Kühner.[212] A more poetic view and one more closely in accord with Kircher's outpourings is that of Maria Graham (1785–1842) who spent three months in the summer of 1820 in the vicinity of Guadagnolo.[213]

---

[207] Bib. Naz. Aut. Pal. IV.45 (Rome, 28 October 1659).
[208] Pont. Univ. Greg. 562 f. 92 (Posen, 28 November 1659).
[209] Southwell, *Bibliotheca scriptorum Societatis Jesu*, p. 93; Buonanni *Musaeum Kircherianum*, p. 65.
[210] Langenmantel, *Fasciculus epistolarum*, pp. 64–68.
[211] Sommervogel et al., *Bibliothèque*, vol. 4, p. 1073.
[212] Kühner, *Latium*, pp. 158–163. [Here, and in the text at n. 294, JF attaches Kühner to another author Merisio, but the connection does not be vereified.—Ed.].
[213] M. Graham, *Der Miss Graham*, pp. 99–105. For further notes on Kircher's activity in Mentorella see W. Beinert, 'Die Mentorella', *Korrespondenzblatt fur die Alumnen des Collegium Germanicum et Hungaricum* (May 1960): 35–50; V. Cascioli, *Memoria*

In the *Historia Eustachio-Mariana* (p. 159) we find a statement 'ego Aegidius Paulinus ab Acquata Asculanae [Ascoli Piceno], Parochus huius Ecclesiae S. Eustachii…' In 1670 Kircher reports to Cardinal G.N. di Conti the appointment of Father Paolo to the church and Mission.[214] A later Mission, that of 1676, attracted, as Kircher reports to Langenmantel,[215] over 12,000 pilgrims and saw thirty priests administer the sacraments.

An interesting view of the church and a eulogy to its restorer is given by P. Spinola SJ to his friend G. Smal. Father Spinola visited the church on his return from a pilgrimage to Subiaco.[216]

77. Kircher first wrote to August the Younger, Duke of Brunswick-Lüneburg (1579–1666) on 18 January 1650.[217] The correspondence between Kircher and August was accompanied by an emporium-like range of gifts, books, cryptographical exercises, medicines, manuscripts and sums of cash. In 1664 Kircher could thank August for the safe receipt of 200 *Imperiales*.[218] Fifteen months later, a further 300 *Imperiales* arrived,[219] while in the May of the same year, shortly before his death, August could announce the dispatch of 400 *Reichstaler* to Rome.[220]

Before beginning his series of progressive bank drafts, August had sent late in 1659 a large chunk of amber containing a whole lizard.[221] This permanently captive member of the *Lacertidae*, which was further immured by Kircher in a silver case for exhibition in his Museum, is

---

*storico-critica del santuario di Mentorella*.; D. Lucas, 'Hier ruht Athanasius Kirchers Herz', *Heimatbrief* 86 (1982): 7; G. Marii, 'Il santuario della Mentorella' *Civiltà Cattolica* 4 (1915): 692–703; 1 (1916): 168–176, 563–577; T. Olejniczak, *Alcuni devoti della Madonna di Mentorella*; A. Vermeersch, *Le Sanctuaire de la Mentorella*, pp. 105–123.

[214] Pont. Univ. Greg. 559 f.S (Rome, 30 November 1670).

[215] *Fasciculus epistolarum*, pp. 78–83.

[216] Pont. Univ. Greg. 566 f.205. Rome, 21 May 1677.

[217] Universität Hamburg (hereafter Univ. Hamb.) Bibliotheksarchiv no. 351 (Rome, 18 January 1650). For an exhaustive survey of August's protean roles in life and literature see P. Raabe and E. Schinkel, *Sammler Fürst Gelehrter Herzog*; H. Butzmann, 'August d. J. Herzog von Braunschweig-Lüneburg-Wolfenbüttel', in *Neue deutsche Biographie*, vol. 1, pp. 445–446; H. Härtel, 'Herzog August und sein Büchegragent Johann Georg Anckel'. In P. Raabe (ed.) *Wolfenbütteler Beiträge* 3 (1978): 235–282.

[218] Univ. Hamb. Bibliotheksarchiv, no. 360 (Rome, 31 October 1664).

[219] Bibliotheksarchiv, no. 369 (Rome, 8 January 1666).

[220] Pont. Univ. Greg 556 f.89 (Wolfenbüttel, 28 May 1666).

[221] Univ. Hamb. Bibliotheksarchiv, no. 355 (Rome, 3 January 1660).

described and illustrated in *Mundus subterraneus*, II, p. 76.[222] In return Kircher forwarded books and medicines, and in 1665 a printed and illustrated broadsheet (37 cm × 25 cm) dedicated to August, the 'Iter cometae anni 1664 a 14. Decemb. usque ad 30. Romae observatum. Ad Serenissimum Principem Augustum, Ducem Brunsvic. et Luneburg'.[223] He also promised to dedicate to August the second edition of his *Ars magna lucis et umbrae*, which did not appear, however, until five years after the Duke's death.[224] The *Iter Hetruscum* (see Comm. n. 74) was similarly intended to bear August's name.[225] Kircher's crowning gift to August, 'mitto id…quo nihil mihi fuit carius nil pretiosus'[226] was a manuscript of the Gospels in large Estrangelo Syriac, believed by Kircher to date from 945 but which is in reality 400 years older.[227]

For references to August in Kircher's printed works, see *Ad Alexandrum*, 'Praefatio'; *Arithmologia*, p. 149; *Mundus subterraneus*, Praef. secunda; *Polygraphia*, pp. 80–81, Append. p. l.[228]

78. The *Historia Eustachio-Mariana* was dedicated (12 April 1665) to G.N. di Conti (1618–1698), created Cardinal on 15 February 1666 and Bishop of Ancona from March 1666 until his death. The Contis held sway over the Mentorella region from the time of Innocent III (whose brother Riccardo Conti became lord of Poli) until the nineteenth century. Conti presented Kircher in 1670 with six *scudi* towards the cost of an incumbent for the church.[229] Two years later he offered to officiate at the yearly Apostolic Mission held in the church,[230] and in 1674 he commented with pleased surprise on the extraordinary piety and fervour of both celebrants and congregation during the Mission.[231]

In 1665 Kircher wrote to the Grand Duke of Tuscany, forwarding the *Historia* with a concise summary of how he had rediscovered the

---

[222] See also Buonanni, *Musaeum Kircherianum*, p. 215; de Sepi, *Romani Collegii*, p. 44.

[223] Copies are in the Herzog August Bibliothek, Wolfenbüttel at 45.4. Astron. 4° (9) and in the Universitäts-bibliothek, Erlangen-Nuremberg at Trew S 1096.

[224] Univ. Hamb. Bibliotheksarchiv, no. 360 (Rome, 31 October 1664).

[225] Bibliotheksarchiv, no. 366 (Rome, 25 July 1665).

[226] Bibliotheksarchiv, 6 Noviss. 2° 59r–61r.

[227] Bibliotheksarchiv, Cod. Guelf. 3.1.300 Aug. 2°. For further details on this princely manuscript see J. Assfalg, *Syrische Handschriften*, vol. 5, pp. 8–15.

[228] See also Buonanni, *Musaeum Kircherianum*, p. 215; de Sepi, *Romani Collegii*, p. 44.

[229] Pont. Univ. Greg. 559 f. 66 (Ancona, 25 September 1670).

[230] 560 f. 17 (Tivoli, 30 June 1672).

[231] 566 f. 60 (Ancona, 18 November 1674).

venerable site.[232] Five months later this gift was followed with news of an intriguing discovery. Kircher relates how, during his researches into the history of the church, he had unearthed 'un errore considerabile nella genealogia de' conti Tuscolani', which was, moreover, 'non poco pregiudiziale alla Casa Conti'. Further elaboration on this dark point is missing.[233] In the 'Praefatio ad Lectorem' of the *Historia* Kircher describes the discovery of the church in 1661 while he was carrying out field-work for the *Latium*. He acknowledges here the local historical help of Francesco Capitosto, parish priest in Guadagnolo.

The contents of this small quarto (22.8 cm. × 17.5 cm) are very much in the concise style of a guide book, with an engraved frontispice, five fold-out plates (pp. 84, 119, 121, 133, 168) and one inserted (p. 110). Kircher introduced the book to Duke August in a glowing letter in April 1665.[234] The book itself was sent the following month, with a potted summary of St Eustachius' doings.[235] A further four copies were sent, via the ducal book-agent in Augsburg, J.G. Anckel, in the late summer of 1665.[236] Philipp Callmus SJ, in a letter dealing with the sparse literary manuscripts left by the late Kaspar Schott, could however note the arrival in Würzburg of twenty copies of the *Historia*.[237]

79. Leopold I (1640–1705) was the second son of Ferdinand III and was elected Emperor in 1658 (his election and coronation were described in a letter to Kircher by J.M. Marci).[238] Peace-loving and a devout Catholic, Leopold helped to revive the flagging economy of his imperial lands, took an active part in the growing theatre and music performances in Vienna and encouraged the spread of Baroque architecture in Vienna and Prague. His cordial relationship with Kircher is noted by J.W. Nagl and J. Zeidler, and in describing Leopold's operas, masques and their musical presentation, Nadler adds, 'der grosse Mathematiker Athanasius Kircher war Maschinenmeister'.[239]

---

[232] Bib. Nat. Aut. Pal. IV.46 (Rome, 16 May 1665).
[233] Aut. Pal. IV. 47 (Rome, 4 September 1665).
[234] Univ. Hamb. Bibliotheksarchiv, no. 364 (Rome, 25 April 1665).
[235] Bibliotheksarchiv, no. 365 (Rome, 8 May 1665).
[236] Bibliotheksarchiv, no. 409 (Rome, 22 August 1665).
[237] Pont. Univ. Greg. 558 f. 17 (Würzburg, 20 July 1666).
[238] 557 f. 99 (Prague, 19 August 1658).
[239] J. Nagl and J. Zeidler, *Deutsch-osterreichische Literaturgeschichte*, vol. 1, p. 668; vol. 3, p. 22.

Most of Kircher's European correspondents do in fact derive from the courts of Ferdinand III and Leopold I. A valuable series in this context, written between 1655 and 1675, comes from Leopold's Confessor, Philipp Müller SJ (1613–1676), who describes with some verve the contiguous worlds of Bohemian science, new books and court gossip. Impressed by the various letters received from Rome, Leopold suggested in 1666 that Kircher's letters should be printed, so polished was their style.[240] In 1669 Leopold granted Kircher a yearly pension of 100 *scudi*—'in ultimis vostrae vitae annis'.[241] This was followed the year after by a gift of 600 *scudi*, which was diverted into the Mentorella coffers.[242] Not surprisingly, Leopold's portrait joined those of other benefactors in the Museum. Kircher himself expresses his formal gratitude to Leopold in *Latium*, p. 185 and *Mundus subterraneus*, Praef. secunda.

80. Ferdinand Maria (1636–1679), Elector of Bavaria 1651–1679, forwarded a series of formal scribe-written letters to Kircher.[243]

81. Johann Friedrich, Count Waldstein (1642–1694) lived in Rome for some years before becoming Bishop of Hradec Králové (1673–1676), Archbishop of Prague (1675–1694) and perpetual Chancellor of the University of Prague. He corresponded extensively with Kircher from the mid-1660s to 1677. In 1667, having heard of 'felicissimam tuam missionem in Sacrum montem Eustachianum', he forwards 150 *scudi*.[244] This was followed two years later by 100 imperiales and 'nummum aureum Suae Maiestatis cum catena'.[245] In the same year he thanked Kircher for forwarding 'de transcripta excursione in montem Eustachianum'[246] and wrote, with a slightly comic blend of commiseration

[240] Pont. Univ. Greg. 555 f. 19 (Vienna, 6 August 1666).
[241] 559 f. 64 (Vienna, 8 March 1669).
[242] 559 f. 5 (Rome, 30 November 1670): letter to G.N. di Conti.
[243] From 556 f. 179. Munich, 1650 to PUG 560 f. 66 (Landshut, 22 October 1671). Drafts of Kircher's letters to Ferdinand Maria describing the *Oedipus* and the *Ad Alexandrum* are at Pont. Univ. Greg. 561 f. 59 (Rome 13 July 1652) and 555 f. 120 (Rome, 12 July 1666). For further details on see H. Scherer, 'Ferdinand Maria, Kurfürst von Bayern', in *Neue deutsche Biographie*, vol. 5, pp. 86–87.
[244] Pont. Univ. Greg. 558 f. 68 (Vienna, 24 November 1667).
[245] 558 f. 69 (Vienna, 19 January 1669).
[246] 558 f. 72 (Olmütz, 11 July 1669).

and active generosity 'tui capitis dolores mihi summe displicent. Mitto tibi centum scuta'.[247]

In 1671 he returned profuse thanks 'pro libro meo nomine inscripto'[248] this was the second edition of the *Ars magna lucis et umbrae*, originally intended by Kircher for Duke August of Brunswick-Lüneberg (see Comm. n. 77). Petrucci's *Prodomo* was similarly dedicated to Waldstein (n. 86).

As late as 1677 we find Waldstein forwarding yet another 100 scudi for use at Mentorella.[249] His last letter has a slightly ominous tone, when he expresses his grief at news of Kircher's ill health. His concluding 'sumus omnes quidem mortales' strikes a note of incongruous reassurance that is all too frequent in the correspondence of Kircher's last years.[250]

Two drafts of Kircher's replies to Waldstein are preserved in Rome. In the one, which is headed 'Littera commendationis in favorem J.F. Comitis de Waldstein', Kircher comments on Waldstein's activities in Rome when he acted both in the Curia and as chamberlain to Alexander VII.[251] In the second, which is a straightforward letter rather than a referee's report, Kircher describes the latest successful Mission at Mentorella, his recuperative stay at Tivoli, his quiet industrious life—'ego prospero Deo gratias eiusq. S. Matris aiutoria'. He mentions too his latest commission, which like so many broached in his closing years has vanished without trace: 'quod voco Catrophylacium artium mathematicarum quod Catholicus rex per Card. Nithardum mihi imposuit'.[252] Kircher reflects further on Waldstein's generosity at: *Ad Alexandrum*, Praef., pp. 138–139 and *Latium*, pp. 185, 252.

We learn further from the *Latium* of Kircher's visit with Waldstein in 1664 to the Alban Lake (p. 203) and of an excursion on 20 July 1667 by coach over the Ponte Salario (river Anio) to examine Sabine ruins (p. 217). De Sepi records the exhibition of Waldstein's portrait in the Museum.[253] His portrait at the head of the *Ars magna lucis et umbrae*

---

[247] 558 f.58 (Olmütz, 22 August 1669).
[248] 560 f.120 (Olmütz, 17 December 1671).
[249] 566 f.93 (Prague, 13 March 1677).
[250] 566 f.90 (Prague, 10 July 1677).
[251] 563 f.259 (Rome, 30 January 1666).
[252] 566 f.235 (Rome, 16 November 1675).
[253] De Sepi, *Romani Collegii*, p. 7.

was engraved by H. Bary (1640–1707). Kircher's dedicatory letter here[254] praises Waldstein's generosity towards the Mentorella project.

82. Cardinal Pedro Antonio de Aragón was Viceroy of Naples from April 1666 to February 1672.[255] His gift to the Mentorella fund is also referred to by Kircher in *Latium*, p. 185. Kircher's growing proclivity towards Spain, reflecting that of Pope Clement IX and the Roman Curia generally is illustrated *inter alia* by his dedication (14 June 1673) of the *Arca Noë* to King Carlos II and by his curious quasi-biographical, quasi-emblematic *Principi christiani archetypon*, dedicated (September 1666) to Antonio Juan de Centellas.[256]

83. Johann Paul Schor (1615–1674) was known in Rome as Giovanni Paolo Tedesco.[257] His activity in Mentorelia is described in a manuscript written in 1742 in Innsbruck by Anton Roschmann (who also possessed a copy of the *Vita*) and preserved in the Ferdinandeum in Innsbruck.[258] Schor designed the full-page portrait in the *Musurgia* of Archduke Leopold Wilhelm (engraved by P. Ponti, 1603–1658, of Antwerp).[259] The engraved title-page of the *Mundus subterraneus* was also designed by Schor, and cut by T. Matham (1605 or 1606–1676) in Amsterdam.

84. The first Mission offered at the church of St Eustace and the Virgin was on the feast-day of St Michael the Archangel (29 September), 1664, when 5,000 people attended the two-day ceremonies (*Historia Eustachio-Mariana*, pp. 149–150). The feast-day of St Eustace is held on either 20 September or 29 March. Of the two saints, St Michael is certainly the more militantly attractive. Possibly too Kircher wanted to avoid diverting the faithful from appropriate attendance at the church of St Eustace in Rome on 20 September.

---

[254] (Rome, November, 1670).

[255] E. Pontieri et al., *Storia di Napoli*, vol. 3, pp. 390–434.

[256] See T.F. Glick, 'On the influence of Kircher in Spain', *Isis* 62 (1971): 379–381

[257] Lutterotti, O von, 'Schor, Johann Ferdinand', in U. Thieme and F. Becker (dir.), *Allgemeines Lexikon der bildenden Künstler*, vol. 30, p. 262.

[258] Dip. 1031 ff. 67–68.

[259] For comment on this portrait, see letter to Kircher from J. Schega SJ., Pont. Univ. Greg. 561 f.150 (Brussels, 2 January 1649).

On his death, Kircher's body was buried in the Gesù in Rome. His heart, enclosed in crystal,[260] was interred before the altar in the church of St Eustace at Mentorella. Curiously, this was not until St Michael's Day, 1683.[261] According to this source, Kircher's heart was enclosed in a small leaden box within a larger one of white marble. We learn too that a white marble slab marks the spot, immediately before the altar rails. Its inscription reads: 'P. Athanasius Kirker Societatis JESV/ templi huius instaurator, propinquum/sui cordis Thesauro suum/hie voluit cor'.

85. Alexander VII, born in 1599, was Pope from 7 April 1655 to 22 May 1667. He was previously known as Fabio Chigi. From 1634 to 1639 he was active in Malta as Inquisitor and Apostolic Delegate. He became Bishop of Nardò in 1635, and from 1639 to 1651 acted as Nuncio in Cologne, where he played an important part in the negotiations leading to the Peace of Westphalia (1648). He became State Secretary to the Papal States in the November of 1651, was created Cardinal in March 1652 and was elected Pope in the April of 1655. Disappointingly, he failed to refrain from nepotism, delegating too much of his papal duties to his own State Secretary, Rospigliosi, and bringing about a humiliating loss for the Church in the Treaty of Pisa with France in 1664.[262]

He had a long and fruitful relationship with Kircher. A letter he wrote in June 1639 on an Egyptian statue is printed in *Oedipus* (III, pp. 497–498) and *Ad Alexandrum* (pp. 126–127). From North Germany, where he was acquainted with Kircher's brother Andreas, he forwarded a whole series of letters on scientific news, new books and mutual friends. Other reports covering Chigi's activities in Cologne and Münster were directed to Kircher by H. Modersohn SJ,[263] and by the theological polemicist B. Nihus.[264]

As Pope, Chigi's letters dwindled to formal acknowledgments of Kircher's successive works. Kircher on the other hand found him-

[260] Bayerische Staatsbibliothek, Munich, Cod. lat. 8295 f. 46.

[261] F. Baertius and C. Lanningus, *Acta Sanctorum Maii*, vol. 6, pp. 667–668.

[262] For more details on Alexander VII see M. Rosa, M., article on 'Alessandro VII, papa', in *Dizionario biografico degli Italiani*, vol. 2, pp. 205ff.; Pastor, *History of the Popes*, vol. 31, pp. 269–313.

[263] Pont. Univ. Greg. 567 f. 227 (Münster, 5 January 1646) and 567 f. 200 (Münster, 17 May 1646).

[264] 557 f. 198 (Amsterdam, 13 October 1651).

self overwhelmed with requests for various detailed and often bulky reports on topics as diverse as hieroglyphs, the draining of the Pontine Marshes, the origin of numbers, and the construction of astrolabes.[265]

A wry complaint by Kircher to J.G. Anckel on the pressure of papal requests and commissions is at University of Basel Library, Archives.[266] Kircher's scholarly relationship with the Holy Father is praised in a letter to Alexander VII written by the General of the Society of Jesus, G.P. Oliva (1600–1681).[267] Kircher described his progress at Mentorella to Alexander VII in the autumn of 1666.[268] In the same year he directed the Pope's attention to excavations on 'la sotteranea giuglia' discovered under the Campo Marzo[269] and to his further work on obelisks in general.[270]

De Sepi notes the presence of Alexander VII's portrait in Kircher's Museum and Kircher reports on Alexander VII's generosity and erudition at: *Ars magna*, p. 802; *Latium*, pp. 38, 224; *Oedipus*, IIB, pp. 497–546 ('Classis XII. Theosophia metaphysics seu theologia hieroglyphics' is dedicated to F. Chigi); *Turris*, p. 219.[271]

86. Giuseppe (sometimes Gioseffo) Antonio Petrucci is described on the title page of what is ostensibly his *Fisiologia* as 'candidate di Teologia'. The work (4°, 32 pages) is dedicated to two minor clerics: Franz Anton, Count Dietrichstein (1643–1721), canon in Regensburg, and the Scot William Lewis Leslie (1641–1704), canon in Breslau. Both Dietrichstein and Leslie entered the novitiate of the Society of Jesus in Rome on 2 May 1666 (Kircher's birthday), and both were possibly fellow-students with Petrucci. Pfaff sees Petrucci as Kircher's 'in studiis Aegyptiacis adiutor',[272] a view that could be reinforced perhaps by the final (unpaginated) leaf of the *Ad Alexandrum* which bears a sonnet in Italian headed 'Sopra la presente opera' by 'Giuseffo Petrucci Romano'.

---

[265] These are briefly described in C.D. Fea, *Miscellanea filologica*, vol. 1, pp. 23–26, cccxxi–xxvi.
[266] (Rome, 22 July 1662).
[267] Bib. Vat. Ms. Chigi C.111 63 (Rome, 20 April 1662).
[268] Ms. Chigi C.III 62 f. 458 (Rome, 5 September 1666).
[269] Report of 28 July, 1666: A.M. Bandini, *De obelisco Caesaris Augusti*, p. 102.
[270] Bib. Vat. Ms. Chigi J. VI.225 (8) (Tusculum, 27 October 1666).
[271] See De Sepi, *Romani Collegii*, p. 13.
[272] J.L. Pfaff, *Vita Athanasii Kircheri*, p. 25.

Kircher himself, in a letter to S. Lubieniecki,[273] describes Petrucci as 'subtilis ingenii iuvenem…meum privatum Academicum'.

Both in this letter and in an earlier one[274] to Lubieniecki (where Petrucci appears as 'meus privatus discipulus'), Kircher describes himself as being the author of the *Fisiologia*.[275] Similarly, in a covering letter with the *Fisiologia* to Duke August of Brunswick-Lüneburg, Kircher notes of the text 'ob multas causas sub meo nomine publicâ luci committendum non censui'.[276] This comment no doubt led August to write on the title page of the *Fisiologia*, 'Kercherus Jesuita è verus Authorus'.[277] Even earlier in 1665, Juan Caramuel de Lobkowitz had glanced approvingly at Kircher's authorship of the *Fisiologia* in a letter to Kircher.[278] One wonders, in fact, if Kestler, in calling his compendium drawn from Kircher's works the *Physiologia Kircheriana*, was not indulging in a subtle word play.

Petrucci wrote the *Prodomo*,[279] but at least one commentator[280] has since attributed this work to Kircher. One letter from Petrucci to Kircher survives, where Petrucci, writing from Loreto, describes his intention of returning to Rome at the end of the month to enjoy there 'il desiderato comercio literario tante da me ambito'.[281]

87. Marcello Severolo appears in the *Latium* (pp. 81, 86) as providing a copy of the 'Apotheosis Homeri' for Kircher's use. Zedler notes a Marcello Severolo who lived from 1644 to 1707 and was 'ein gelehrter und beredter Advocat von Rom…wurde in die arcadische Akademie aufgenommen'.[282] Whether this legal academician is Kircher's 'abate' is not known.

88. In the 'Praefatio Benevole Lector' of the *Ad Alexandrum*, Kircher summarizes his Egyptological career from the *Prodromus Coptus* on,

---

[273] Lubieniecki, *Theatrum cometicum*, vol. 1, pp. 754–755 (Rome, 25 July 1665).
[274] (Rome, 8 May 1665).
[275] Bib. Nat. Fonds latins, nouv. acq. 1640 f.59.
[276] Univ. Hamb. Bibliotheksarchiv, No 363 (Rome, 27 March 1665).
[277] Now at 42.1. Astron. (20) in the Herzog August Bibliothek, Wolfenbüttel.
[278] Pont. Univ. Greg. 555 f.167 (Naples, 24 March 1665); see also Harenberg, *Pragmatische Geschichte*, vol. 2, p. 197; P. Carl, *Repertorium der Cometen-Astronomie*, p. 73.
[279] See *Giornali de' Letterati*, 1678, pp. 40–42.
[280] G.B. Brocchi, *Conchiologia fossile*, vol. 1, p. xxv.
[281] Pont. Univ. Greg. 560 f.38 (Loreto, 19 June 1671).
[282] Zedler, *Universal-Lexicon*, vol. 37, p. 690.

noting the help of Duke August of Brunswick-Lüneburg, that of J.F. Count Waldstein (financial), C.A. Magnini (use of museum) and of J.A. Gibbes (provision of elegant eulogies in Latin verse). The verse tributes include a 36-line Latin ode to Alexander VII and ten allusive epigrams on the 'elephant obelisk'.[283] On pp. 2–5 of the same work, Kircher summarizes the discovery of the obelisk in 1665 by the Dominican fathers from the monastery adjacent to S. Maria sopra Minerva. He sketches, with a proper sense of drama, the reactions of Alexander VII and of other ecclesiastical and Curial officials, including Cardinal I. Nini and Fr M. Iacobuzio.

The roles of G. Petrucci and M. Severolo are defined, and Petrucci's letter to Severolo, outlining the accuracy of Kircher's drawing of the concealed fourth face of the recumbent obelisk, is printed in full. In defending Kircher from the inevitable sniping, Petrucci, somewhat sententiously declaring 'l'odio rende caliginoso l'intelletto', points out the eulogies already earned by Kircher for his *Oedipus* and for the work in replacing the 'lost' fragments of the *Obeliscus Pamphilius*. The four sides of the obelisk are illustrated facing p. 23.[284]

89. On the Barberini obelisk, see *Ad Alexandrum*, p. 131; *Obeliscus Pamphilius*, pp. 59–60; *Oedipus*, III, pp. 270–271 (fold-out illustration dated Rome, 15 September 1654).[285]

90. The obelisk now stands on the sturdy marble back of an elephant in the Piazza della Minerva. The design was created by Gianlorenzo Bernini who is said to have found the inspiration in a woodcut from Francesco Colonna's pleasing idyll *Hypnerotomachia Poliphili*.[286] Curiously, this woodcut had previously been submitted to Kircher, some time before 1654, by Harsdörffer, who had forwarded the relevant sheet (f. 48) from an unspecified French translation of the *Hypnerotomachia* (French translations appeared in 1546, 1554 and 1561). Harsdörffer had sought Kircher's opinion on the 'hieroglyphs' shown

[283] Pont. Univ. Greg. 558 f. 126 has five further epigrams on the obelisk.

[284] On the obelisk itself, see Iversen, *Obelisks in Exile*, vol. 1, pp. 93–100; L. Habachi, *The Obelisks of Egypt*, pp. 129–130.

[285] See also Iverson, *Obelisks in Exile*, vol. 1, pp. 164, 167, 168.

[286] Iverson, *Obelisks in Exile*, vol. 1, p. 96. On Bernini's design see H. Brauer and R. Wittkower, *Die Zeichnungen des Gianlorenzo Bernini*, pp. 143–145, 150; V. Rivosecchi, *Esotismo in Roma barocca*, pp. 119–138.

on the obelisk behind the elephant. Kircher rejected any suggestion of authenticity (*Oedipus*, III, pp. 41–42), seeing (rightly) in the hieroglyphs nothing more than spurious doodles.

The actual work on the monument (from April 1666 to February 1667) was carried out by Bernini's Ercole Ferrata, and the formal dedication took place on 11 June 1667. Alexander VII died on 22 May 1667. Bernini died on 28 November 1680, nine days before his 82nd birthday. Kircher died on 27 November.[287] Rosenkranz quotes a ten-line elegy on this twin loss to the intellectual and artistic life of Rome: 'Berninum et Kirker vicino fundo raptos/Roma dolet …'[288]

91. Formerly Giulio Rospigliosi, Pope Clement IX (1600–1669) reigned from June 1667 until December 1669. His portrait hung in Kircher's Museum.[289]

In an undated draft of a letter to Clement IX,[290] Kircher describes his discovery of 'il luogo' (i.e. the church of St Eustace and the Virgin), and sketches the help given by Alexander VII, Leopold, and 'altri principi di Germania'. He broaches with some delicacy the pressing need of an annual stipend for the priest in charge, and perhaps for some Indulgence for the 'innumerabile multitudini de popoli' who throng to the isolated church. Another letter[291] asks for formal permission for Kircher to dedicate to Clement IX his forthcoming *Latium*. In a later letter[292] to P. Müller, SJ, Confessor of Leopold I, we find Kircher recalling a visit made by Clement IX to Mentorella itself.

Clement X (1590–1676) spent an ineffectual reign as Pope (1670–1676), dominated by Cardinal P. Paluzzi.[293] The *Latium* was in fact dedicated to this Pope and Kircher's dedicatory preface is dated May 1670. The full-page portrait here of Clement X is unsigned, but the striking engraved title page is the work of Romeyn de Hooghe (1645–1708).

---

[287] Bib. Vat. Lat. 7890 f.78$^{r}$. Necrolo Romano del MDLXII al MDCCLXI.

[288] Rosenkranz, 'Aus dem Leben', p. 54.

[289] For further details on his short pontificate, see Pastor, *History of the Popes*, vol. 31, pp. 314–37.

[290] Pont. Univ. Greg. 565 f.5.

[291] 566 f.231 (Rome, 6 January 1668).

[292] 566 f.237 (Rome, 12 September 1675).

[293] Pastor, *History of the Popes*, vol. 31, pp. 443–453.

92. According to Kühner,[294] the sheet of paper on which Kircher's vow was written was rediscovered in the church after the Second World War. It now hangs again on display in the church, which is today, as it has been since 1857, administered by two Polish Resurrectionist priests.

To end on a literal note ('calami mei suspensione') we may add that Kircher's inkwell and sandshaker were discovered in 1915 in the Castello S. Angelo in Rome. The inkwell (13 cm. square, 6.5 cm high) is in bronze and is inscribed 'Athanasius Kircherus Romanus Pater'. The sander is of alabaster (Capparoni).

[294] Kühner, *Latium*, p. 162.

APPENDIX

# PUBLICATIONS OF JOHN FLETCHER

## 1967

1. 'Ein Musikgelehrter aus der Barockzeit', *Neue Zürcher Zeitung*, 14 May 1967.

## 1968

2. 'Athanasius Kircher and the distribution of his books', *The Library*, 5th series, 23 (1968), 108–117.

## 1969

3. 'German books (1501–1800) in Australian libraries: a survey', *AUMLA*, no. 31 (May 1969), 40–62.
4. 'Barossa Pearl', *Barossa Historic Bulletin*, 1, no. 1 (1969), 3–4.
5. 'A brief survey of the unpublished correspondence of Athanasius Kircher, S.J. (1602–1680)', *Manuscripta*, 13 (1969), 150–160.
6. 'Medical men and medicine in the correspondence of Athanasius Kircher (1602–1680)', *Janus*, 56 (1969), 259–277.

## 1970

7. *Short-title catalogue of German imprints in Australia from 1501–1800*, Clayton, Department of German, Monash University, 1970, [iv]–229pp.
8. 'An unrecorded collection in Australia of 19th century writings on Indo-European philology', *AUMLA*, no. 33 (May 1970), 77–87.
9. 'Astronomy in the life and correspondence of Athanasius Kircher', *Isis*, 61 (1970), 52–67.
10. 'Catalogue of European (excluding English) manuscripts (1550–1850) in Australia', *Biblionews*, no. 227 (1970), 18.

1971

11. 'Two German Stammbücher (1774–1789) in Australia', *AUMLA*, no. 36 (November 1971), 177–186.

1972

12. (With Marlene Norst) *German language books in the libraries of Canberra, Melbourne and New South Wales*, North Ryde, German Section, School of Modern Languages, Macquarie University, 1972, [iv]-IV–417pp.
13. 'Georg Philipp Harsdörfer, Nürnberg, und Athanasius Kircher', *Mitteilungen des vereins für Geschichte der Stadt Nürnberg*, 59 (1972), 203–210.
14. 'Athanasius Kircherus restituendus: the bibliographic basis of biographic research for a seventeenth century figure', *AARL*, 3 (1972), 187–203.
15. 'Claude Fabri de Peiresc and the other French correspondents of Athanasius Kircher (1602–1680)', *Australian Journal of French Studies*, 9 (1972), 250–273.
16. 'Johann Marcus Marci writes to Athanasius Kircher', *Janus*, 59 (1972), 95–118.
17. 'Attic archives', *AARL*, 3 (1972), 55.

1973

18. 'Fulda and der romische Phönix', *Fuldaer Gescbicbtsblätter*, 43 (1973), 126–133.

1974

19. *Pieter Nuyts and his Album amicorum'* in J.C.T. Oates, *The manuscripts of Thomas Erpenius* & John Fletcher, *Pieter Nuyts and his 'Album amicorum'*, Melbourne, Bibliographical Society of Australia and New Zealand, 1974 (Occasional Publication 1), pp. 19–51.
20. 'The Herzog August Bibliothek in Wolfenbüttel', *AARL*, 5 (1974), 182–194.

1975

21. (With MarleneNorst) *German literature in the libraries* of *the A.CT. and New South* Wales, North Ryde, German Section, School of Modern Languages, Macquarie University, 1975, 3 volumes, XII–524; XIV–466; XVI–407pp.
22. (With Kathleen Coleridge, H.H.R. Love and W.D. Thorn) 'Facilities for bibliographical research in Australian and New Zealand libraries', *AARL*, 6 (1975), 135–143.

1976

23. 'German diaries, Australiana and literary manuscripts (1550–1850) in Australia', *AUMLA*, no. 45 (May 1976), 36–53.
24. 'Nuytsiana', *BSANZ Bulletin*, no. 9 (August 1976), 25–27.
25. 'The Library of St Patrick's College, Manly', *AARL*, 7 (1916), 249–261.
26. 'The Spanish Gospel of Barnabas', *Novum Testamentum*, 18 (1976), 314–320.
27. Review of G. Hoffmeister, *Die spanische Diana in Deutschland. Vergleichende Untersuchungen zu Stilwandel und Weltbild des Schäfer Romans im 17. Jahrhundert*, Berlin, E. Schmidt, 1972 in *AUMLA*, no. 45 (May 1976), 142–143.

1977

28. *St James' Church, Forest Lodge. A chronicle of parish life (1877–1977)*, Forest Lodge, St James' Church, [1977], [iv] 37pp.
29. 'French literary manuscripts (1550–1850) in Australian libraries', *AUMLA*, no. 48 (November 1977), 320–332.
30. Review of A. Ward, *Book production, fiction, and the German reading public 1740–1800*, Oxford, Clarendon Press, 1974 in *AUMLA*, no. 47 (May 1977), 91–92.

1978

31. 'STC items in the Fisher Library at the University of Sydney', *BSANZ Bulletin*, 3 (1978), 103–108.

32. 'European manuscript holdings (1550–1850) in Australian libraries', *AARL*, 9 (1978), 22–32.

1979

33. (with Rose Smith) A *short title catalogue of sixteenth century printed books held in libraries and private collections in New South Wales with a list of provenances.* Sydney, The Library Council of New South Wales, 1979, [6]-viii–230-[2]pp.
34. Edited (with Axel Clark and Robin Marsden) *Between two worlds. 'Loss of faith' and late nineteenth century Australian literature. Essays by Vincent Buckley, Manning Clark, Dorothy Green, A.D. Hope, Patrick Morgan, Elizabeth Perkins, Fay Zwicky*, Sydney, Wentworth Books Pty. Ltd, 1979, vi–122pp.
35. 'STC and Wing items in St Patrick's College, Manly, N.S.W.', *BSANZ Bulletin*, 4 (1979), 63–64.
36. 'The Herzog August Bibliothek in Wolfenbüttel revisited', *AARL*, 10 (1979), 92–98.
37. 'A forgotten 19th century book-collector in Sydney: Joseph John Spruson', *Biblionews*, no. 245 (1979), 55–63.
38. 'Novels which sell', Biblionews, no. 246 (1979), 80–83.
39. Review of S.A. Jorgensen, *Johann Georg Hamann*, Stuttgart, Metzler, 1976 in *AUMLA*, no. 51 (May 1979), 139–140.
40. Review of P. Hocks & P. Schmidt, Literarische and politische Zeitschriften 1789–1805, Stuttgart, Metzler, 1975 in *AUMLA*, no. 51 (May 1979), 140–141.

1980

41. 'Provenance of 16th century books now in New South Wales', *AARL*, 11 (1980), 179–188.
42. 'The Library of St Patrick's College, Manly. Unfamiliar libraries XXII', *The Book Collector*, 29 (1980), 179–202.
43. 'Sixteenth century books in New South Wales with Benedictine provenances', *Tjurunga: Australasian Benedictine Review*, (1980), 13–24.
44. 'Thomas Schröer gratuliert Elias Major zu seinem Geburtstag', *Wolfenbütteler Barock-Nachrichten*, 7 (1980), 27–30.

45. 'The State Library's exhibition of fine bindings (22 Feb.–25 May, 1980)', Morocco Bound, 1 (1980), 13–16.
46. 'Public servant and Catholic in late 19th century, Sydney', *Footprints*, 3, no. 11 (May 1980), 2023.
47. 'A first finding-list of Australian book-collectors, booksellers and binders: Australian marks of provenance in sixteenth century books in New South Wales', *Biblionews*, nos. 248–249 (1980), 30–44.
48. (With Rose Smith) 'STC items in the State Library of New South Wales', *BSANZ Bulletin*, 4 (1980), 283–287.

1981

49. 'Athanasius Kircher—Versuch eines Porträts', in Christel Römer, ed., *Universals Bildung im Barock. Der Gelehrte Athanasius Kircher*, Rastatt, Stadt Rastatt; Karlsruhe, Badische Landesbibliothek, 1981, pp. 15–16.
50. (With Gerhard Römer) 'Zeittafel', in *Universals Bildung im Barock*, pp. 17–30.
51. 'Athanasius Kircher und die deutsche Literatur', in *Universale Bildung im Barock*, pp. 31–39.
52. 'Athanasius Kircher im Spiegel der Sekundärliteratur', in *Universale Bildung im Barock*, pp. 45–50.
53. (With Rose Smith) 'Wing items in the State Library of New South Wales', *BSANZ Bulletin*, 5 (1981), 61–68.
54. 'J.N. Degotardi, author *of The Art of Printing*', *Biblionews*, no. 252 (1981), 59–63.
55. 'The doctor of 100 arts', Australian Broadcasting Commission broadcast, 29 December 1981.

1982

56. *Biblionews and Australian Notes & Queries. Index 1947–1979 Numbers 1–245*, Sydney, Book Collectors' Society of Australia, 1982, [ii]–208pp.
57. Edited (with Jürgen Wegner): Johann Nepomuk Degotardi, *The Art of Printing (Sydney, 1861)*, Sydney, Brandywine Press, 1982, 2 volumes *(Text & Reprint)* [24] + [40]pp.
58. Edited (with Edmund Campion, Axel Clark and Robin Marsden) *Celts in Australia: imagination and identity. Colloquium papers,*

*March 1980*, Sydney, The Christopher Brennan Society, [1982], [vi]–99pp.

59. *Athanasius Kircher. Ein Mann unter Druck*, Fulda, Rhönklub, 1982, 22pp.
60. 'Book restoration and binding in the Duke August Library, Wolfenbüttel', *Morocco Bound*, 3 (1982), 8–10.
61. 'Athanasius Kircher and his *Musurgia universalis* (1650)', *Musicology*, 7 (1982), 73–83.
62. 'Who is "Hec."?', *Biblionews*, no. 254 (1982), 37–39.
63. Review of Elizabeth Webby, *Early Australian poetry. An annotated bibliography of original poems published in Australian newspapers, magazines & almanacks before 1850*, Sydney, Hale & Iremonger, 1982 in *Biblionews*, no. 255 (1982), 61–63.

1983

64. (With Frank Carleton) *The printed works (1518–1570)* of *Martin Luther in the libraries of Sydney. A catalogue.* Sydney, John Fletcher, 1983, x–23-[6] leaves.
65. Edited (with Axel Clark and Robin Marsden) *The theme of love in Australian writing: colloquium papers, September 1982*, Sydney, The Christopher Brennan Society, 1983, vii–87 leaves.
66. *Humboldt-Briefe in Australien: Text und Kommentar. Anlässlich einer Regionaltagung der Forschungsstipendiaten der Humboldt-Stiftung in Australien herausgegeben Melbourne, 23–25 November 1983*, Melbourne, Alexander von Humboldt-Stiftung, 1983, [ii]–22pp.
67. 'Johann Nepomuk Degotardi (1823–1882). Printer, publisher, photographer', in Johannes H. Voigt, ed., *New beginnings. Germans in New South Wales and Queensland*, Stuttgart, Institut für Auslandsbeziehungen, 1983 (Studies in International Cultural Relations, 20), pp. 205–213.
68. 'Milestones in the Library of the University of Sydney', *Biblionews*, no. 258 (1983), 35–38, and no. 259 (1983), 67–76.
69. Review of Brad Sabin Hill, ed., *Incunabula Hebraica and Judaica. Five centuries of Hebraica and Judaica, rare bibles and Hebrew incunables from the Jacob M. Lowy Collection. Exhibition catalogue*, Ottawa, National Library of Canada, 1981 in *Biblionews*, no. 257 (1983), 24.

70. Review of Barbara Cook, comp., The *Morpeth Collection: a finding list of books received from St John's Theological College, Morpeth: with an appendix: the manuscript catalogue of the Tyrrell Library, 1880*, Newcastle, Auchmuty Library, 1982 in *Biblionews*, no. 257 (1983), 25–26.
71. Review of H. McGregor, *The horse and buggy days*, Canberra, Roebuck, 1981 in *Biblionews*, no. 260 (1983), 115–117.
72. Review of Bill Hornadge, *How to publish your own book. A complete guide to self- publishing in Australia*, Dubbo, Review Publications, 1983 in *Biblionews*, no. 260 (1983), 118.

1984

73. *John Degotardi, Printer, publisher and photographer*, Sydney, Book Collectors' Society of Australia, 1984 (Studies in Australian Bibliography, 25), viii–173pp.
74. *Biblionews and Australian Notes & Queries. Index 1979–1983 Numbers 246–260*, Sydney, Book Collectors' Society of Australia, 1984, iv–42pp.
75. (With Neil A. Radford), 'In *establishing and maintaining a library'. Two essays on the University of Sydney Library*, Sydney, University of Sydney Library, 1984, 60pp.
76. (With Sigrid McCausland) *John Degotardi printer, publisher, photographer, 1823–1882. Catalogue of* an *exhibition held in the Anteroom to the Galleries, State Library of NSW, Macquarie St, Sydney, 3 November–30 December 1984*, Sydney, State Library of NSW, 1984, [ii]–11pp.
77. 'St James' Church, Forest Lodge 1900–1946', *Leichhardt Historical journal*, 13 (1984), 39–44.
78. 'Zur Alexander von Humboldt-Forschung. XIII Humboldt Briefe in Australien', *Alexander von Humboldt-Stiftung. Mitteilungen*, 44 (1984), 33–38.
79. 'Archive of Australian Judaica', *Biblionews*, no. 261 (1984), 27–28.
80. 'Robert Schachner (1875–1912) and Australia. Part I: Schachner and John Le Gay Brereton', *Biblionews*, no. 262 (1984), 45–53.
81. 'Robert Schachner (1875–1912) and Australia. Part II: Schachner's views of Australian literature', *Biblionews*, no. 263 (1984), 72–80.
82. 'Tatura', *Biblionews*, no. 263 (1984), 93–98.
83. 'Sydneys erste deutsche Zeitung', *Die Woche in Australien*, 10 & 17 July 1984.

84. 'From the Waikato to Vienna and back: how two Maoris learned to print', *BSANZ Bulletin*, 8 (1984), 147–155.
85. Review of J. Beer, *Sämtliche Werke, I: Der simplicianische Welt-Kucker oder abentheuerliche Jan Rebhu*, ed. F. van Ingen & H.-G. Roloff, Berne, Frankfurt am Main & Las Vegas, Peter Lang, 1981 in *AUMLA*, no. 62 (November 1984), 256–258.
86. Review of J.H. Voigt, ed., New B*eginnings. Germans in New South Wales and Queensland*, Stuttgart, Institut für Auslandsbeziehungen, 1983 *in Biblionews*, no. 262 (1984), 61–62.
87. Review of Craig Munro, *Wild man of letters. The story of P.R. Stephensen*, Melbourne, Melbourne University Press, 1984 in *Biblionews*, no. 264 (1984), 123–128.

1985

88. 'The first monograph on the duck-billed platypus', *Biblionews*, no. 265 (1985), 13–19.
89. 'Alfred and Topsy. Letters in exile', *Biblionews*, no. 266 (1985), 35–52.
90. 'Unfamiliar bookplates no. l: Fred C. James', *Biblionews*, no. 267 (1985), 82–83.
91. 'Atanasius Kircher', *Wolfenbütteler Barock-Nachrichten*, 12 (1985), 116–117.
92. 'Karl Scherzer and the visit of the *Novara* to Sydney, 1858', *Journal of the Royal Australian Historical* Society, 71 (1985), 189–206.
93. Review of Edward N. Zempel and Linda W. Verkler, *First editions: a guide to identification*, Peoria, Ill. Spoon River Press, 1984 in *Biblionews*, no. 267 (1985), 7679.

1986

94. 'Kircher and astronomy: a postscript', in Maristella Casciato, Maria Grazia Ianniello & Maria Vitale, eds, *Enciclopedismo in Roma Barocca. Athanasius Kircher e il Museo del Collegio Romano tra Wunderkammer e museo scientifico*, Venice, Marsilio Editori, 1986, pp. 29–38.
95. 'Kircher and Duke August of Wolfenbüttel: museal thoughts', in. *Enciclopedismo in Roma Barocca*, pp. 282–294.

96. 'From the Waikato to Vienna and back: how two Maoris learned to print', *Tangata*, 29 (1986), 44–47. See above no. 84.
97. 'Australian fiction in the German Democratic Republic', *Outrider*, 3, no. 1 (June 1986), 51–56.
98. 'Where the scholar is king or: the Herzog August Bibliothek in Wolfenbüttel', *AARL*, 17 (1986), 149–160.
99. 'Dr D.A. Mackaen', *Biblionews*, no. 271 (1986), 88–89.
100. Review of The Pierpont Morgan Library, New York, *Art of the printed book 1455–1955. Masterpieces of typography through five centuries from the collections of the Pierpont Morgan Library, New York*, New York & Boston, PML and D.R. Godine, 1973 (fourth printing, 1984) in *Biblionews*, no. 269 (1986), 19–22.
101. Review of Brian R. Howes, comp.,. A *checklist of some recent Australasian antiquarian book-dealers' catalogues*, Wagga Wagga, the compiler, 1985 in *Biblionews*, no. 269 (1986), 23–24.
102. Review of Trevor Mills, *Rare book collections in Australian libraries: an annotated bibliography*, Melbourne, Bibliographical Society of Australia and New Zealand, 1985 in *Biblionews*, no. 271 (1986), 83–85.

1987

103. 'Theodor Müller and his nineteen years in Australia', in Walter Veit, ed., *Anti-podische Aufklärungen/Antipodean Enlightenments. Festschrift für Leslie Bodi*, Frankfurt am Main, Berne, New York, Peter Lang, 1987, pp. 87–104.
104. 'George Allen and the Toxteth Park Library', *Biblionews*, no. 273 (1987), 8–19.
105. 'Hopkins lives', *Biblionews*, no. 273 (1987), 26.
106. 'Some notes on French manuscript Americana (1780–1831) in Australian libraries', *Biblionews*, no. 274 (1987), 35–44.
107. 'Henry W. Longfellow: *Nuremberg*', *Biblionews*, no. 274 (1987), 51–54.
108. 'N. Monsarrat: *This is the schoolroom*', *Biblionews*, no. 275 (1987), 88.
109. Review of John Hay & David Bean, *The early imprints at New Norcia. A bibliographical study* of *pre-1801 books in the Benedictine Monastery Library at New Norcia, Western Australia*, Perth, The Library, Western Australian Institute of Technology, 1986 in *BSANZ Bulletin*, 11 (1987), 76–79.

1988

110. *German manuscripts (1538–1864) in the libraries of Sydney. A descriptive catalogue*, Sydney, Book Collectors' Society of Australia, 1988 (Studies in Australian Bibliography, 27), x–121pp.
111. Edited *Athanasius Kircher and seine Beziehungen zum gelehrten Europa seiner Zeit*, Wiesbaden, Otto Harrassowitz, 1988 (Wolfenbütteler Arbeiten zur Barockforschung, 17), VIII–214pp. (preface, pp. VII–VIII).
112. 'Athanasius Kircher: a man under pressure', in *Athanasius Kircher und seine Beziehungen zum gelehrten Europa seiner Zeit*, pp. 1–15.
113. 'Athanasius Kircher and Duke August of Brunswick-Lüneburg. A chronicle of friendship' in *Athanasius Kircher und seine Beziehungen zum gelehrten Europa seiner Zeit*, pp. 99–138.
114. 'Athanasius Kircher and his correspondence', in *Athanasius Kircher und seine Beziehungen zum gelehrten Europa seiner Zeit*, pp. 139–178.
115. 'Kircher's works', in *Athanasius Kircher und seine Beziehungen zum gelehrten Europa seiner Zeit*, pp. 179–190.
116. 'A bibliography', in *Athanasius Kircher und seine Beziehungen zum gelehrten Europa seiner Zeit*, pp. 190–195.
117. 'The *Novara* in Sydney, November–December 1858: on unlocking a time-warp', in W. Boyd Rayward, ed., *Australian library history in context. Papers for the Third Forum on Australian Library History, University of New South Wales, 17 and 18 July 1987*, Sydney, School of Librarianship, University of New South Wales, 1988, pp. 7–25.
118. 'Übersetzungen' in K. Moulden and G. von Wilpert, eds, *Buddenbrooks-Hand-buch*, Stuttgart, Kröner, 1988, pp. 349–352.
119. 'Bibliographie', in *Buddenbrooks-Handbuch*, pp. 365–393.
120. 'On looking into Mrs Chapman's home reading or: on a pile of books found in a Glebe lane', *Biblionews*, no. 277 (1988), 9–11.
121. 'A Hugh McCrae mini-miscellany', *Biblionews*, no. 277 (1988), 12–19 and no. 278 (1988), 44–49.
122. '1788: "Not the Bicentenary"', *Biblionews*, no. 278 (1988), 53–54.
123. 'Unfamiliar bookplates no. 3: F.X. Schwarz', *Biblionews*, no. 278 (1988), 55–56.
124. Review of Daphne F. Salt, *The gateway to the south. An intimate insight into the origins of the Sutherland shire. First step—Sylvania!*, Como West, the author, 1987 *in Biblionews*, no. 277 (1988), 20–21.

1989

125. *Poetry books and poetr y broadsheets published from 1950 to 1980 in New South Wales.* A catalogue, Sydney, Book Collectors' Society of Australia, 1989 (Studies in Australian Bibliography, 29), x–153pp.
126. 'Letters from Thomas Mann, Somerset Maugham, Thornton Wilder and others to F.G. Birkenbihl', *Biblionews*, no. 282 (1989), 40–46.
127. 'Lionel Lindsay sends a bookplate to Jane Windeyer', *Biblionews*, no. 283 (1989), 82–83.
128. 'Henry Austin Dobson and book collectors', *Biblionews*, no. 283 (1989), 83–86.
129. 'Favorite jewels', *Biblionews*, no. 284 (1989), 99–105.
130. 'Basse's *Sunnes-Set*—1613', *Biblionews*, no. 284 (1989), 115–117.
131. Review of Ian F. McLaren, *Henry Kendall, A comprehensive bibliography*, Parkville, University of Melbourne Library, 1987 in *Biblionews*, no. 281 (1989), 13–15.
132. Review of Jean Stone, *The passionate bibliophile. The story of Walter Stone, Australian bookman extraordinaire*, North Ryde, Angus and Robertson, 1988 in *Biblionews*, no. 281 (1989), 21–23.
133. Review of Phil Collas, *The inner domain*, Sydney, G. Stone, 1989 in *Biblionews*, no. 284 (1989), 109–110.
134. Review of George Isaacs, *The burlesque of Frankenstein; or, the man gorilla*, Sydney, G. Stone, 1989 in *Biblionews*, no. 284 (1989), 110–111.

1990

135. *The Jane Windeyer bookplate collection in the University of Sydney Library. A catalogue.* Sydney, Book Collectors' Society of Australia, 1990 (Studies in Australian Bibliography, 30), xx–137pp.
136. *The story of William Nathaniel Pratt (1847–1933) and the poems that weren't published in 1917*, Sydney, Book Collectors' Society of Australia, 1990 (Studies in Australian Bibliography, 31) viii–85pp.
137. 'Notes on the early non-Hebrew books in the Rabbi Falk Memorial Library of the Great Synagogue, Sydney', *Biblionews*, no. 285 (1990), 10–16 and no. 286 (1990), 42–47.
138. Review of Claude A. Prance, *Essays of a book collector. Reminiscences on some old books and their authors*, West Cornwall,

Connecticut, Locust Hill Press, 1989 in *Biblionews*, no. 285 (1990), 17–19.

139. Review of Ian F. McLaren, *James Lionel Michael. A comprehensive bibliography*, Parkville, University of Melbourne Library, 1989 in *Biblionews*, no. 285 (1990), 19–20.
140. Review of Ian F. McLaren, *Henry Tolman Dwight. Bookseller and publisher*, Parkville, University of Melbourne Library, 1989 in *Biblionews*, no. 285 (1990), 22–23.
141. Review of Michael Smethurst, *The British Library in the 1990s*, Cambridge, Provincial Booksellers Fair Association, 1990 in *Biblionews*, no. 288 (1990), 112–113.

1991

142. *Frederick Sefton Delmer. From Hermann Grimm and Arthur Streeton to Ezra Pound*, Sydney, Book Collectors' Society of Australia, 1991 (Studies in Australian Bibliography, 33), x–182-[2]pp.
143. *Hermann Lau and his sojourns (1854–1859) in Sydney, Goulburn, Braidwood, Araluen, Moruya and Shoalhaven*, Sydney, Book Collectors' Society of Australia, 1991 (Studies in Australian Bibliography, 35), viii–54pp.
144. 'Frederick Sefton Delmer and Ezra Pound', *Biblionews*, no. 289 (1991), 14–19 and no. 290 (1991), 40–44.
145. Review of Hugh Anderson, *George Loyau: the man who wrote bush ballads*, together with *The Queenslanders' new colonial campfire song book* and *The Sydney songster*, Ascot Vale, Red Rooster Press, 1991 in *Biblionews*, no. 291 (1991), 85–86.

For each journal cited more than once, the following abbreviations have been used:

| | |
|---|---|
| *AARL* | *Australian Academic & Research Libraries* |
| *Biblionews* | *Biblionews and Australian Notes & Queries* |
| *BSANZ Bulletin* | *Bibliographical Society of Australia and New Zealand Bulletin* |
| *Janus* | *Janus. Revue internationale de 1'histoire des sciences, de la medecine, de la pharmacie et de la technique* |
| *Morocco Bound* | *Morocco Bound: Quarterly Journal of the Guild of Craft Bookbinders.* |

# BIBLIOGRAPHY

*Note*: Bracketed items refer to those works not in the original thesis, and include both John Fletcher's additional writings of relevance and others' more recent scholarship on Kircher. Bracketed pagination, numeration and other minor details refer to those parts of Fletcher's original bibliography left incomplete which the Editor has not been able to verify.

## A. Kircher's Works

### 1. *Printed Works (in Chronological Order)*


1 *Ars magnesia*. Würzburg, E.M. Zinck, 1631, 4°; [viii] 63 pages. Dedicated (25 September 1631) by J.J. Schweigkhard von Freihausen to Franz, Graf von Hatzfeld, Bishop of Bamberg-Würzburg.

2 *Primitiae gnomonicae catoptricae, hoc est horologiographiae novae specularis*. Avignon, J. Pilot. 1635, 4°; [xii] 228 [xvi]. Dedicated (10 May 1633) to J. de Cambis, P. Carre, D. de Lagnes, D. d'Orsan, B. Siffredy and C. Sylvestre of the Avignon City Council.

3 *Prodromus Coptus sive Aegyptiacus*. Rome, Sacra Congregatio de Propaganda Fide, 1636, 4°; [xviii] 338 [ii]. Dedicated (2 August 1636) to Francesco, Cardinal Barberini.

4 *Specula Melitensis encyclica*. Naples, S. Roncaglioli, 1638, 4°; [viii] 63. Dedicated (6 January 1638) by S. Imbroll to J.P. de Lascaris-Castellar.

5 *Magnes, sive de arte magnetica*. Rome, H. Scheus, 1641, 4°; [xxxiii] 916 [xxxii]. Dedicated (4 May 1641) to Emperor Ferdinand III.

5a *Magnes, sive*... Cologne, J. Kalcoven, 1643, 4°; [xxx] 797 [ixl]. Dedicated (4 May 1641) to Emperor Ferdinand III.

5b *Magnes, sive*... Rome, B. Deversin and Z. Masotti, 1654, 2°; [xxxii] 618 [xxviii]. Dedicated (1 January 1654) to King Ferdinand IV.

6 *Lingua aegyptiaca restituta*. Rome, H. Scheus, 1643, 4°; [xxv] 622 [lxvi]. Dedicated (7 November 1643) to Emperor Ferdinand III. [Note: JF also used Ms version from the Bibliotheca Anglicana, Rome (Ms 631. m. O. 285).].

7a *Ars magna lucis et umbrae*. Rome, H. Scheus, l646, 4°; [x1] 935 [xv]. Dedicated (November 1645) to Archduke Ferdinand.

7b *Ars magna lucis et umbrae*. Amsterdam, J. Jansson van Waesberghe, 1671, 2°; [xxxvi] 810 [ix]. Dedicated (November 1670) to J.F. von Waldstein.

8 *Musurgia universalis sive ars magna consoni et dissoni*. Rome, heirs of F. Corbelleti, 1650, 2°; [xxiv] 690 [iv] 462 [xxxviii]. Dedicated (8 December 1649) to Archduke Leopold Wilhelm.

8a *Philosophischer Extract und Auszug aus der Musurgia universalis*, Tr. A. Hirsch. Schwäbisch-Hall, J.R. Laidig (pr.), 1662, 8°; [xviii] 376 [xxv]. Dedicated to Joachim Albrecht and Heinrich Friedrich, Grafen von Hohenlohe und Gleichen; Franz and Philipp Albrecht, 'Herren zu Lympburg.'

9 *Obeliscus Pamphilius*. Rome, L. Grignani, 1650, 2°; [1xix] 560 [xxix]. Dedicated (4 October 1650) to Pope Innocent X.

10 *Oedipus aegyptiacus*. Rome, V. Mascardi, 1652–1654, 2°; vol. I [c] 424 [xxxix]; IIa [ii] 440 [xxx]; IIb 546 [xxvi]; III [ii] 590 [xxxv]. Dedicated (January 1655) to Emperor Ferdinand III.

11a *Itinerarium exstaticum*. Rome, V. Mascardi, 1656, 4°; [viii] 464 [xxiv]. Dedicated (June 1656) to Queen Christina of Sweden.

11b *Iter exstaticum coeleste*, ed. K. Schott. Würzburg, J.A. and W. Endter, 1660, 4°; reprinted in Würzburg, 1671. Dedicated (8 September 1660) by K. Schott to Joachim von Gravenegg, Prince Abbot of Fulda.

12 *Iter exstaticum II.* Rome, V. Mascardi, 1657, 4°; [xxiv] 237 [xiii]. Dedicated (1 November 1657) to King Leopold Ignaz.

13 *Scrutinium pestis.* Rome, V. Mascardi, 1658, 4°; [xvi] 252 [xv]. Dedicated (22 February 1658) to Pope Alexander VII.

13a *Scrutinium pestis*, Preface: C. Lange. Leipzig, heirs of Schürer and Götze, 1659, 12°; [xlviii] 427 [il]. Dedicated (22 February 1658) to Pope Alexander VII.

13b *Scrutinium pestis*, Preface: C. Lange. Leipzig, heirs of Schürer and J. Fritzsch, 1671, 4°; [viii] 148 [xxviii]. Dedicated (22 February 1658) to Pope Alexander VII.

13c *Naturliche und medicinalische Durchgründung der leidigen ansteckenden Sucht.* Augsburg, J.C. Brandan, 1680, 8°; [viii] 302 [xvii]. Dedicated to Augsburg City Council.

13d *Naturlyke en geneeskonstige navorsching der peste*, Tr. Z. van de Graaf. Rotterdam, A. van Waesberghe, 1669, 8°.

14 *Pantometrum Kircherianum*, ed. K. Schott. Würzburg, heirs of J.G. Schönwetter, 1660, 4°. Reprinted in Würzburg, 1669; [xiii] 408 [xx]. Dedicated (12 March 1660) to Christian Ludwig, Duke of Mecklenburg.

15 *Diatribe de prodigiosis crucibus.* Rome, V. Mascardi, 1661, 8°; [viii] 103. Dedicated (25 March 1661) to Archduke Leopold Wilhelm.

16 *Polygraphia nova et universalis.* Rome, Varesi, 1663, 2°; 148. No formal dedication, but printed under the auspices of Emperor Leopold I.

17 *Mundus subterraneus.* Amsterdam, J. Jansson van Waesberghe, 1664–1665, 2° (44.5 x 28); [xxxviii] 346 [vi], [xii] 487 [ix]. Dedicated to Pope Alexander VII (vol. 1) to Emperor Leopold I (vol. 2) (June 1663).

17a *Mundus subterraneus.* Amsterdam, J. Jansson van Waesberghe, 1665, 2° (39.8 x 24); [xxxiv] 346 [vi], [xii] 487 [ix]. Dedicated to Pope Alexander VII (vol. 1), Emperor Leopold I (vol. 2) (June 1663).

17b *Mundus subterraneus.* Amsterdam, J. Jansson van Waesberghe, 1678, 2°; [xxi] 366 [vi], [x] 507 [x]. Dedicated to Pope Alexander VII (vol. 1), Emperor Leopold I (vol. 2) (June 1663).

17c *D'onder-aardse weereld.* Amsterdam, J. Jansson van Waesberghe, 1682, 2°; 425, 416. Dedicated to Pope Alexander VII (vol. 1), Emperor Leopold I (vol. 2) (June 1663).

18 *Historia Eustachio-Mariana.* Rome, Varesi, 1665, 4°; [xii] 184 [xi]. Dedicated (12 April 1665) to G.N. di Conti, later (15 February 1666) cardinal.

19 *Arithmologia sive de abditis numerorum mystetiis.* Rome,Varesi, 1665, 4°; [xvi] 301 [ix]. Dedicated (17 July 1665) to Count F. Nádasdy.

19a Kircher, A., *Iter cometae anni 1664 a 14. Decemb. usque ad 30. Romae observatum.* Rome, 3. Jan. 1665 (Broadsheet).

20 *Ad Alexandrum VII. Pont. Max., Obelisci aegyptiaci…interpretatio.* Rome, Varesi, 1666, 2°; [xxiv] 146 [iv]. Dedicated (June 1666) to Pope Alexander VII.

21a *China illustrata.* Amsterdam, J. Jansson van Waesberghe, 1667, 2°; [xviii] 237 [xi]. Dedicated (8 December 1666) to G.P. Oliva SJ.

21b *China illustrata.* Antwerp, J. de Meurs, 1667, 2°; [xiv] 246 [x]. Dedicated (8 December 1666) to G.P. Oliva, SJ.

21c *La Chine illustrée*, Tr. F.S. d'Alquié. Amsterdam, J. Jansson van Waesberghe, 1670, 2°; [xviii] 367 [xii]. Dedicated (by Jansson) to F.M. Le Tellier, Marquis de Louvois.

21c *Toonneel van China*, tr. J.H. Glazemaker. Amsterdam, J. Jansson van Waesberghe, 1668, 2°; [viii] 286 [x].

22a *Magneticum naturae regnum*. Rome, I. de Lazaris, 1667, 4°; 136. Dedicated (January 1667) to Fr A. Fabian.
22b *Magneticum*... Amsterdam, J. Jansson van Waesberghe, [1667], 12°; [xx] 201 [viii]. Dedicated (January 1667) to Fr A. Fabian.
23 *Organum mathematicum*, ed. K. Schott. Würzburg, J.A. Endter and heirs of Pi.W.Endter, 1668, 4°; reprinted in Nürnberg, 1670, in Würzburg, 1688; [xviii] 858 [viii]. Dedicated (January 1668) by K. Schott to J. Caspar.
24 *Ars magna sciendi*. Amsterdam, J. Jansson van Waesberghe, 1669, 2°; [xviii] 482 [x]. Dedicated to Emperor Leopold I.
25 *Latium*. Amsterdam, J. Jansson van Waesberghe, 1671, 2°; [xxix] 263 [x]. Dedicated (May 1670) to Pope Clement X.
26 *Principis christiani archetypon politicum*. Amsterdam, J. Jansson van Waesberghe, 1672, 4°; [xviii] 235 [i] [also titled *Splendor et Gloria Domus Joanniae*]. Dedicated (September 1666) to Marquis A.J. Centellas.
27 *Phonurgia nova*. Kempten, R. Dreher, 1673, 2°; [vl] 229 [xviii]. Dedicated (12 February 1673) to Emperor Leopold I.
28 *Neue Hall- und Thonkünst oder mechanische Gehaim*, tr. T. Nisslen. Nördlingen, F. Schultes, 1684, 2°; [viii] 162 [xvi].
29 *Arca Noë*, Amsterdam, J. Jansson van Waesberghe, 1675, 2°; [xviii] 240 [xvi]. Dedicated (24 June 1673) to King Carlos II.
30 *Sphinx mystagoga*. Amsterdam, J. Jansson van Waesberghe, 1676, 2°; [xix] 72 [vi]. Dedicated (25 December 1675) to Archbishop C. de Neuville de Villeroy.
31 *Turris Babel*. Amsterdam, J. Jansson van Waesberghe, 1679, 2°; [xvi] 219 [xi]. Dedicated (9 June 1676) to Emperor Leopold I.
32 *Tariffa Kircheriana sive mense Pythagorica expansa*. Rome, N.A. Tinassi, 1679, 8°; [xix] 316 [ii], [iii] [200]. Dedicated (27 July 1679) by B. de Benedictis to L. Odeschalchi, Duke of Caera.
33 *Vita. Fasciculus epistolarum*, ed. H.A. Langenmantel. Augsburg, S. Utzschneider, 1684, 8°; 78, [iv] 100.

## 2. *Miscellaneous Kircherian Manuscripts*

*Vita Athanasii Kircheri Soc. JESU*. Octavo volume of 151 pages, being the Jesuit's autobiography as copied by P. Conrad Holtgrev on 7 September 1682, in Rome and presented to Christian von Plettenberg in Paderborn. (Bibliothèque Nationale, Paris [Ms] Fonds Latin. Nouv. Acquis. 216).

*L'horloge du P. Athanase Kircher*. Four folio sides of closely written French describing the demonstration, by Kircher, of his sunflower-seed clock in the Jesuit college at Aix on 3 September 1633. By an unknown hand. (Bibl. Nat. Fonds Dupuy. 661, ff. 228–231).

*Praefatio ad lectorem ex Prodromo Copto-Aegyptiaco*. Eleven quarto sides in Kircher's hand, with corrections and additions, being the preface to his *Prodromus* of 1636. Possibly Kircher forwarded this specimen to Peiresc before publication and for his approval. (Bibl. Nat. Fonds Dupuy. 663, ff. 95–106).

*Scripturae mirabilis et toto oriente celebratissimae in monte Sinai rupi cuidam incisae INTERPRETATIO NOVA ET ANTEHAC a nemine adhuc enodata*. (A similar document is preserved in the Vatican Archives: see Vat. Int. 10486, f. 9.). Five quarto sides in Kircher's hand: no corrections. Dated April 1636 and addressed to Cardinal Francesco Barbarini: 'Mae-caenatem munificentissimu'. (Bibl. Nat. Fonds Dupuy. 488, ff. 161–163).

*Osservazione della cometa*. A printed broadsheet, circulated by Kircher to the majority of his astronomically interested correspondents: observations on the Comet of December 1665 to January 1666. No indication of recipient. (Bibl. Nat. Fonds français, n.a. 10638, f. 18).

### 3. *Writing Edited by Others*

Langenmantel, H.A., *Fasciculus epistolarum R.P.A. Kircheri complectentium materias philosophico-mathematico-medicas*. Augsburg 1684.

## B. Biographies of Kircher

### 1. *Detailed Biographies Based on the Langenmantel Edition of the Vita*

Behlau, A., *Athanasius Kircher, Eine Lebensskizze. Programm des königl. kath. Gymnasiums zu Heiligenstadt für das Schuljahr, 1873–1874*. Heiligenstadt 1874, pp. 18. Behlau takes most of his material from Pfaff.

Brischar, K., SJ, 'P. Athanasius Kircher, ein Lebensbild.' *Katholische Studien* (Würzburg) 3, 5 (1877): 249ff. This study is closely based on the Langenmantel edition, places special emphasis on Kircher's providential escapes from death and has been widely used by more modern biographers. Brischar omits any detailed reference to Kircher's correspondence and in his own effusive presentation generally reproduces the flavour of the original.

Kircher, A., *Selbstbiographie des P. Athanasius Kircher*, tr. N. Seng. Fulda 1901.

Meurer, H., 'Augsatz über Athanasius Kircher.' *Beiblatt der Magdeburgischen Zeitung* 53 (1901): 138ff. Meurer's chief source would seem to be a Jesuit father, van Meurs, in Limburg: 'und am 10 April erhiett ich einen ausführlichen actenmässigen Lebenslauf des Gelehrten, und ebenso auf einige Fragen lateinisch abgefasste Antwort'; see p. 138.

Pfaff, J.L., *Vita Athanasii Kircheri, Geisani, insignis sui temporis philosophi et mathematici et orientalium linguarum peritissimi*. (Abhandlung zum Programm des Lyzeums und Gymnasiums zu Fulda). Fulda 1831. Pfaff leans heavily on the Langenmantel edition of Kircher's autobiography but also includes a brief survey (pp. 27–31) of Kircher's correspondence in Rome.

Rosenkranz, G.J., 'Aus dem Leben des Jesuiten A. Kircher.' *Zeitschrift für westfälische Geschichte und Alterthums-kunde* (Münster) 13 (1858): 11ff.

Wurzer, K., 'Athanasius Kircher, ein Lebensbild.' *Buchonia, eine Zeitschrift für vaterländische Geschichte, Alterthumskunde, Geographie, Statistik, und Topographie* 4, 3 (1829): 137ff.

### 2. *Less Detailed Biographies*

*Note*: Encyclopaedia articles are usually entered 'Kircher, Athanasius', but JK sometimes chose to omit the authors of short articles (often hard to obtain) and listed instead Encyclopaedia titles only with their relevant volume and page numbers.

Agnew, L.R.C., *Athanasius Kircher, 1602–1680, An Exhibition of Books from the History of Medicine Collection at Glendening*. Kansas City 1958.

Alegambe, P. (ed.), *Bibl[iotheca] scriptorum Soc[etatis] JESV: post excusum A. M.D.C.VIII catalogum Petri Ribadaneirae Societatis eiusdem theologi nunc hoc novo apparatu librorum ad annum reparatae salutis M.DC.XLII editorum concinnata, et illustrium virorum elogiis adornata a Phil. Alegambe Bruxellensi ex ead. Soc. Iesu*. Antwerp 1643 (completed by Nathan Sotwel or Southwell [q.v.]).

Battarra, G.A., *Rerum naturalium historia… existentium in Museo Kircheriano*, edita iam a Fr Philippo Bonannio. Rome 1736, pp. xxxvff.

Bäumer, R., *Hoefer and Rahne's 'Lexicon für Theologie und Kirche'*. Freiburg i[n] Br[eisgau] 1961, vol. 6, pp. 290f.

Baumgarten, S.J., *Nachrichten von den Begebenheiten und Schriften berühmten Gelehrten*. Halle 1757, vol. 10, [q.v.].

Bayle, P., *Dictionnaire historique et critique*. Basel 1740 [5th] edn., vol. 2 [q.v.].

Bougerel, J., and J.-P. Niceron, *Mémoires pour servir à l'histoire des hommes illustres dans la republique des lettres*. Paris 1729–1745, vol. 27, pp. 189ff.
Brewster, D., *Edinburgh Encyclopaedia. Conducted by D. Brewster, with the assistance of gentlemen eminent in science and literature.* Edinburgh 1830, 18 vols.
Buchberger, M. (ed.), *Kirchliches Handlexicon*. Freiburg i[n] Br[resgau], 1933, vol. 2, p. 389; vol. 5, p. 1052.
Buddeus, J.F., *Allgemeines historisches Lexicon*. Leipzig 1730–1737, vol. 3, pp. 33f.
Choron, A.E., and F.J. Fayolle, *Dictionnaire historique des musiciens, artistes et amateurs, morts ou vivans. Précédé d'un sommaire de l'histoire de la musique.* Paris 1810–1811, vol. 1, p. 369.
Daumas, M. (ed.), *Dictionnaire des bibliographies*. Paris 1918, vol. 2, pp. 816ff.
*Der Grosse Brockhaus*. Leipzig 1928–1935, 20 vols.
*Der Grosse Herder: Nachschlagewerk für Wissen und Leben*. Freiburg i[n] Br[eisgau] 1931–1935, vol. 6, col. 1416.
*Dictionnaire de théologie catholique*, dir. A. Vacant, E, Mangenot et al. Paris 1924, 15 vols.
Diderot, D., and J. d'Alembert, *Encyclopédie ou dictionnaire raisonné des sciences, des arts et des métiers*. Paris 1772, vol. 8, p. 205.
*Enciclopedia Italiana di scienze, lettere e arti*. Rome 1929–1938, vol. 20, pp. 209f.
*Enciclopedia universal Illustrada Europeo-Americana*. Barcelona 1926–1930, vol. 28, p. 3454.
*Encyclopedia Britannica* (14th edn.), Chicago 1936, vol. 13, pp. 410f.
Erman, A.K., *Allgemeine Deutsche Biographie*, vol. 16, pp. 1882f.
Feller, F.-X., *Biographie universelle*. Lyon 1860, 8 vols.
Fétis, F.-J., *Biographie universelle des musiciens*. Paris 1863, vol. 5.
Frères Didot (printer), *Nouvelle biographie générale*. Paris 1861, vol. 28, pp. 769ff.
Gehring, F., *Grove's Dictionary of Music and Musicians*. London 1927, vol. 3, p. 26.
Gerber, E.L., *Neues historisch-biographisches Lexikon der Tonkünstler*. Leipzig 1812–1814, vol. 3, pp. 46f.
*Grande Larousse du XX. Siècle, Le*. Paris 1923–1933, vol. 4, p. 249.
Grégoire, E., *Nouvelle biographie générale* [or in other versions *universelle*], dir. J.C.F. Hoefer. Paris 1861, vol. 27, cols. 769ff.
Gurlt, E., *Biographisches Lexicon der hervorragenden Aerzte aller Zeiten und Voelker*. Berlin 1931, vol. 3, p. 520.
Gutman, J., *Athanasius Kircher und das Schöpfungs und Entwicklungsproblem*. Fulda 1938, pp. 1ff.
Hammerton, J.A., *Concise Universal Biography*. London 1934, vol. 2, p. 854.
[Hanegraaff, W.J. (ed.), with A. Faivre, R. van den Broek and J.-P. Brach, *Dictionary of Gnosis and Western Esotericism*. Leiden and Boston 2006, vol. 2, pp. 666ff. (A. Kilcher)].
Harenberg, J.C., *Pragmatische Geschichte des Ordens der Jesuiten, seit ihrem Ursprung bis auf gegenwärtige Zeit*. Halle 1710, vol. 1, pp. 169, vol. 2, 1089ff.
Hollenberg, G.H., *Nachrichten von dem Leben und den Erfindunger de berühmtesten Mathematikern*. Münster 1788, pp. 165ff.
Jackson, S.M. (ed.), *The New Schaff-Herzog Encyclopedia of Religious Knowledge*. New York 1910, vol. 6, pp. 344ff.
Jöcher, C.J., *Fortsetzung und Ergänzungen zu C.G. Joechers allgemeinem Gelehrten-Lexicon*, Angefangen vom J.C. Adelung und K. von Buchstaben fortgesetzt von H.W. Rotemund. Delmenhorst 1810, vol. 3, p. 38.
Koch, L., *Jesuiten-Lexicon: die Gesellschaft Jesu einst und jetzt*. Paderborn 1934, pp. 983; 1612f., 1646f.
Krafft, F., *Neue deutsche Biographie*. Berlin 1977, vol. 11, pp. 641–645.
Leemans, C., *Description raisonnée des monuments Égyptiens du Musée d'Antiquités des Pays-Bas*. Leyden 1840, pp. 41ff.

Major, R.H., *Annals of Medical History*. Series 3. New York 1939, vol. 1, pp. 105ff.
Marestaing, P., 'Un égyptologue du 17. siècle: le père Kircher'. *Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes* 30 (1908): 22ff.
McDonald, I.T., *The Catholic Digest*. St Paul, Minnesota 1938, vol. 2, pp. 90f.
Mencke, J.B., *Compendiöses Gelehrten-Lexicon…Denen Liebhabern der Historie der Gelehrten, und andern curieusen Personen zu nützlichen Gebrauch zum Druck befördert*. Leipzig 1715, pp. 1094ff.
Mercati, A. and Pelzer A., *Dizionario ecclesiastico*. Turin 1953–1958, vol. 2, p. 550.
Moréri, L., *Le grand dictionnaire historique ou le mélange curieux de l'histoire sacrée et profane*. Paris 1732, 6 vols.
Müller, A., see under Grégoire[1].
——, *The Catholic Encyclopedia*, ed. C.C. Hebermann. New York 1910, vol. 8, pp. 661f.
Németh, F., and A. Gyenis, *Szaz Jesuitica Arcél*. Budapest 1941, vol. 2, pp. 270ff.
*Nouveau Dictionnaire Historique-Portatif, ou histoire abrégée de tous les hommes que se sont fait un nom par des Talens, des Vertus, des Fortaits, des Erreaus par une Société de Gens de Lettres*. Amsterdam 1766, vol. 5, p. 95.
Petrucci, G., *Prodromo apologetico alii studi Chircheriani*. Amsterdam 1677, pp. 1ff.
Pierer, H.A., *Universal-Lexicon der Gegenwart und Vergangenheit oder neuestos encyclopädisches Wortebuch der Wissenschaften, Künste unde Gewerbe*. Attenburg 1851, vol. 8, pp. [q.v.].
Reilly, C., 'Athanasius Kircher, A Contemporary of the Sceptical Chemist'. *Journal of Chemical Education* 32 (1955): 253ff. [Repr. *Jesuit Science Bulletin* 33 (1956): 40ff.].
——, 'Father Athan. Kircher S.I., Master of a Hundred Arts'. *'Studies' Dublin* 44 (1955): 457ff.
——, *Athanasius Kircher S.J.: Master of a Hundred Arts, 1602–1680*. (Studia Kircheriana, 1). Wiesbaden 1974.
Saguet, L., *La grande encyclopédie*. Paris 1910, vol. 21, pp. 546ff.
Sapper, K., *Athanasius Kircher als Geograph*. (Aus der Vergangenheit der Universität Würzburg). Würzburg 1932, pp. 355ff.
Schneider, A., 'Athanasius Kircher, "Janus".' *Zeitschrift für Geschichte und Literatur der Medicin* 29 (1847): 598ff.
Schwartz, R., *Allgemeine Encyclopadie der Wissenschaften und Kunste*, dir. J.S. Ersch and J.G. Grüber. Leipzig 1884, vol. 36, pp. 266–271.
Stelle, G., *Anleitung zur Historie der Gelehrten*. Jena 1727, vol. 2, pp. 343–344.
Sticker, G., 'Die medica facultas Wirtzeburgensis im 17 Jahrhundet'. *Festschrift zum 46. deutschen Artzetag in Würzburg*. Würzburg 1927, pp. 77–78.
Testore, C., *Enciclopedia Catholica*. Rome 1949, vol. 7, pp. 702ff.
Weiss, C., *Biographie universelle ancienne et moderne*, vol. 22 (1818), pp. 440–447.
Welle, C.J., Leben des Jesuitenpaters Athan. Kircher. In Ms, dated 1812, Frankfurt (am Main) Univ. Library (based on the Langenmantel edition).
Wetzer, H.F. and B. Welte (eds), *Kirchenlexicon oder Encyclopädie der catholischen Theologie und ihrer Hilffswissenschaften*. Freiburg i[n] Br[eisgau] 1882–1903, vol. 7, pp. 716–718.
Witte, H., *Diarium biographicum in quo scriptores seculi post natum Christum XVII*. Gdansk and Riga 1688–1691, 2 vols.
Zedler, J. H., *Universal-Lexicon aller Wissenschaften und Künste*. Halle 1737.

---

[1] JF evidently took [A.] Müller to have written an entry in a *Biographie* of 1861, but he can be identified as the first cited author within an entry for J.C.F. Hoefer's *Nouvelle biographie générale* by Ernest Grégoire, published in that year.—Ed.

## C. Other Printed Books and Journal Articles

Adams, F.D., *The Birth and Development of the Geological Sciences*. Baltimore 1938.
Adelung, J., *Geschichte der menschlichen Narrheit*. Leipzig 1787.
Agricola, G., *De natura eorum quae effluunt e terra*. Freiburg i[n] Br[eisgau] 1545.
——, *De natura fossilium*. Basel 1558.
Agricoletti, F., *Il Rodrigo*. Venice 1648.
——, *Istoria Iberica*. Venice 1648.
Agrippa, H.C., *De occulta philosophia*. Argentorati Leyden 1531.
——, *Trattato di Camillo Agrippa Milanese di trasportar la Guglia in su la Piazza di San Pietro*. Rome 1583.
Aguilon, F. de, *Opticorum libri sex philosophis juxta ac Mathematicis utiles*. Nuremberg 1702 edn., 6 vols.
Aldrovandi, U., *Istoria naturale*. Bologna 1599–1602.
Alemariensis, A.M., *De arte navigandi institutionem*.
Alexandro, de A., *Dies geniales*. Rome 1522.
Alhazen, *Vitellionis perspectivae*. Nuremburg 1553, Basel 1572, 10 vols.
Allacci, L., *De Ecclesiae Occidentalis atque Orientalis perpetua consensione*. Cologne 1648, 3 vols.
——, *Drammaturgia*. Venice 1755.
——, *Opusculorum, Graecorum et Latinorum, vestustiorum ac recentiorum, libri decem*. Cologne 1653, 2 vols.
Allard, H.J., *Vondels gedichten op de Societeit van Jezus*. Hertogenbosch 1868.
Allen, C., 'The Predecessors of Champollion.' *Proceedings of the American Philosophical Society* 104 (1960): 527ff.
Allmanz, G., 'Fuldaer Germaniker.' *Fuldaer Geschichtsblätter* 8, 10 (1916[?]): 140ff.
Almagin, R., *L'opera geografica di Luca Holstenio, Studi e Testi*. Vatican 1942.
Ambros, A.W., *Geschichte der Musik*. Leipzig 1891.
*Analecta Juris Pontifica—Congregationes Cardinalices*. Vatican 1886.
Angeloni, F., and G.P. Bellori, *Istoria di Terni*. Rome 1646.
——, *L'Istoria augusta da Giulio Cesare a Costantino il magno*. Rome 1685.
Anonymous, *A True Narration of the Two Wonderful Prophets at Rome: Presaging the End of the World to be in the Year 1670, etc*. London 1666 edn.
Arckenholz, J., *Historische Merkwürdigkeiten, die Königin Christina von Schweden betreffend*. Leipzig and Amsterdam 1751–1760, 4 vols.
Arnold, G., *Unpartheiysche Kirchen- und Ketzer-historien vom Anfang des N. Test. bis auf das Jahr Christi 1680*. Schaffhausen 1740–1742, 3 vols.
Artigny, G. d', *Nouveaux mémoires d'histoire, de critique, et de littérature*. Paris 1749, 3 vols.
Arus, D. G., *Elenchus medicamentoria spagyricorum*. Venice 1666.
[Aschaffenburg], 'Aus dem Goldenen Buch Aschaffenburgs'. *Aschaffenburger Geschichtsblätter* 8 (1914): 1ff.
Assemani, J.S., *Bibliotheca orientalis*. Rome 1719, 5 vols.
Assfalg, J., *Syrische Handschriften*. (Verzeichnis der orientalischen Handschriften in Deutschland, 5). Wiesbaden 1963).
Astruc, J., *De morbis venereis*. Paris 1736–1740, 2 vols.
Auboeuf, V. d', *Histoire des Chevaliers sani Jean de Jérusalem, appellés depuis Chevaliers de Rhodes, etc*. Paris 1772 . 5 vols.
Avancini, N. von, *Poesis lyrica*. Vienna 1670.
[Bach, J.A., 'Athanasius Kircher and his Method: A Study in the Relations of the Arts and Sciences in the Seventeenth Century'. (Doctoral dissert., University of Oklahoma), Oklahoma City 1985].
Bacon, F., *De augmentis scientiarum*. Leyden 1645.
Baertius, F., and C. Lanningus, *Acta sanctorum maii*. Paris and Rome 1863–, 7 vols.

Baker, T., *Reflections upon Learning*. London 1700.
[Baldwin, M., 'Athanasius Kircher and the Magnetic Philosophy' (Doctoral dissert., University of Chicago), Chicago 1987].
[——, 'Kircher's Magnetic Investigations'. In D. Stozenberg (ed.), *The Great Art of Knowing: The Baroque Encyclopedia of Athanasius Kircher*. Stanford 2001, pp. 27ff.].
Baldi, A., *Die Hexenprozesse in Deutschland und ihr hervorragendster Bekampfer*. Würzburg 1874.
Banck, L., *Roma triumphans, seu actus inaugurationis et coronationis Innocentii Decimi Pont. max. brevis descriptio*. Franekere 1645.
Bandini, A.M., *De obelisco Caesaris Augusti e Campi Martii ruderibus nuper eruto commentarius*. Rome 1750.
Bandino, A.M., *De obeliscis Caesaris Aug. et Campi Martii ruderibus Nuper Eruto*. Rome 1750.
Bardi, H., *Medicus, intro. physicus. enchymicus*, Genoa 1657.
Bargaeus, P.A., *Commentarium de obelisco, etc*. Rome 1586.
Bargrave, J., *Pope Alexander VII and the College of Cardinals*. (Publications of the Camden Society 92). London 1867.
Barthélemy, J.J., *Mémoire dans lequel on prouve que les Chinois sont une colonie égyptienne*. Paris 1760.
Bartholinus, T., *De armillis veterum schedion. Accessit Olai Wormii de aureo cornu Danico*. Amsterdam 1676.
Bartsch, K. (ed.), *Die historisch-politischen Volkslieder des dreissigjährigen Krieges*, comp. J.W. von Ditfurth. Heidelberg 1882, No. 31.1.21.
Batllori, A., 'Le Lullième de la renaissance et du baroque, a Padore et a Rome'. In *Actes du XI Congras International de Philosophie*, pp. 2ff. Brussels 1953.
Baumgartner, A., *Geschichte der Weltliteratur*. Freiburg i[n] Br[eisgau] 1911.
——, *Joost v.d. Vondel: Sein Leben und seine Werke*. Freiburg i[n] Br[eisgau] 1882.
Bayer, J., *Uranometria*. Augsberg 1603 [Also in *Commentarii Academiae Scientiarum Imperalis Petropolitane* (1736): 128ff.].
Bayne-Jones, S., and H. Zinsser, *Text Book of Bacteriology*. New York 1934.
Beani, A., *Clemente IX, Notizie storiche*. Prato 1893.
Becher, J.J., *Actorum laboratorii chymici monacensis seu physicae subterraneae*. Frankfurt a[m] M[ain] 1669.
——, *Character pro notitia linguarum universali, inventum steganographicum hactenus inauditum*. Frankfurt 1661.
——, *Chymischer Glucks-Hafen, oder grosse chymische Concordants und Collection von funffzehn hundert chymischen Processen, etc*. Frankfurt a[m] M[ain] 1682.
——, *Experimentum chymicum novum…responsi ad Rolfincii schedas de non entitate Mercurii Corporum*. Frankfurt a[m] M[ain] 1671.
——, *Physica subterranea, profundam subterraneorum,*, ed. F. Stahl. Leipzig 1703.
Beckmann, K., *Heinrich Lindenborn, der kölnische Diogenes*. Bonn 1908.
Beer, E.J. de (ed.), *The Diary of John Evelyn*. Oxford 1955, 6 vols.
Beinert, W., 'Die Mentorella'. *Korrespondenzblatt fur die Alumnen des Collegium Germanicum et Hungaricum* (May 1960): 35ff.
[Beinlich, H. et al. (eds.), *Magie des Wissens: Athanasius Kircher 1602–1680; Universalgelehrter, Sammler, Visionär*. Dettelbach 2002].
Beldt, C.N.D., *Les médailles romaines de Christine de Suède*. Rome 1908.
Bell, A.E., *Christian Huygens and the Development of Science in the Seventeenth Century*. London 1947.
Belloni, A., *Francesco Redi, scrittori Italiani con notizie storiche e analisi estetiete*. Turin 1931.
Benzing, J., *Die Buchdrucker des 16. und 17. Jahrhunderts im deutschen Sprachgebiet*. (Beiträge zum Buch- und Bibliothekswesen 12). Wiesbaden 1963.
Berck, T., see under Kedd.

Berger, L., *Tractatus historico-moralis de numis in ore defunctorum*. Dresden 1712.
Bergman, T., *Die Welt Beschreibung*. Griefswald 1769.
[M. Bernal, *Black Athena: The Afroasiatic Roots of Classical Civilization*, vol. 1: *The Fabrication of Ancient Greece, 1785–1985*. London 1991 edn.].
Bernier, F., *Voyages*. Amsterdam 1699, 2 vols.
Bernouilli, J., *Zusätze zu den neueste Nachrichen aus Italien*. Leipzig 1777.
[Bernoulli, R., 'Seelische Entwicklung im Spiegel der Alchemie und verwandter Disziplinen', *Eranos-Jahrbuch* 3 (1935): 231ff.].
Berryat, J., *Collection académique*. Dijon 1761.
Bertelotti, A., 'Le tipografie orientali e gli orientalisti a Roma nei secoli XVI e XVII'. *Rivista Europea* 9 (1878): 217ff.
Berthelot, M., *Les origines de l'alchemie*. Paris 1885.
Bessen, G.J., *Geschichte des Bisthums Paderborn*. Paderborn 1820, 2 vols.
Beyersdorff, W., *Studien zu Philipp von Zesens biblischen Romanen 'Assenat' und 'Simson'*. Leipzig 1928.
Biancini, G., *Aristotelis loca mathematica*. Bologna 1615.
——, *Sphaera mundi sive cosmographia demonstrativa*. Modena 1654 edn.
Bietenholz, P.G., 'Pietro della Valle (1586–1652)'. In *Studien zur Geschichte der Orientkenntnis und des Orientbildes im Abendlande*, pp. 1ff. (Basler Beiträge zur Geschichtswissenschaft 85). Basel 1962.
Bigourdan, M.G., *Annales célestes du dix-septième siècle*. Paris 1901.
Bindi, G., *De rara epilepsiae differentia consultatio*. Rome 1658.
——, *Loemographiae centumcellensis*. Rome 1658.
Birch, S., *The Egyptian Hieroglyphs*. London 1867.
Birch, T., *Miscellaneous Works of Mr. John Greaves*. London 1737.
——, *The History of the Royal Society of London*. London 1756–1757, 4 vols.
——, *The Life of the Honourable Robert Boyle*. London 1744.
Birken, S. von (ed.), *Hochfürstlicher Brandenburgischer Ulysses*. Bayreuth 1669.
Bittner, L., *Gesamtinventar des Wiener-Haus-Hof-und Staats-archivs, Inventare Österreichischer Staatlicher Archive*. Vienna 1938.
Blauenstein, S. von (pseud.), *Interpellatio brevis ad philosophos veritatis tam amantores: quam scrutatores pro lapide philosophorum contra antichymsiticum Mundum subterraneum P. Athanasii Kircheri Jesuitae, etc.* Biel 1667.
Blumberg, C.G., *Fundamenta linguae Copticae*. Leipzig 1716.
Boas, M., *Robert Boyle and 17th Century Chemistry*. Cambridge 1958.
Bobertag, F. (ed.), *Deutsche National-Litteratur*. Berlin 1974.
Bochart, S., *Geographia sacra*. Leyden 1712.
Bodemann, E., *Der Briefwechsel der Herzogin Sophie von Hannover*. Leipzig, 1885.
——, *Der Briefwechsel des G.W. Leibniz in der königlichen öffentlichen Bibliothek zu Hannover*. Hannover 1889.
Boehme, J.G., *De vita Borrichii historia*. Copenhagen 1758.
Boenicke, C., see Bönicke.
Boghurst, W., *Loimographia*. London 1666.
Boissonade, J.F. (ed.), *L. Holstenii epistolae ad diversos*. Paris 1817.
Bolton, H.C., 'The Porta Magica, Rome.' *Journal of American Folk-lore* 8 (1895): 73ff.
——, *Evolution of the Thermometer, 1592–1743*. Easton, PA 1900.
Bolzano, G.V., *Hieroglyphica*. Basel 1556.
Bönicke, C., *Grundriss einer Geschichte von der Universität zu Wirzburg*. Wirzburg 1782–1788, 2 vols.
Bonnet, H., *Aegypt. Schrifttum*. Leipzig 1911.
Bonvicino, V., *Lanx peripatetica, qua vetus arcani physici veritas et auctoris Mundi Subterranei nova obiecta revocantur ad pondus*. Padua 1667.
Boor, H. de, and R. Newald, *Geschichte der deutschen Literatur voin Anfängen bis zur Gegenwart*. Munich 1951–1990, 12 vols.

Borel, P., *De vero telescopii inventore, cum brevi omnium conspiciliorum historia*. The Hague 1655, 2 vols.
——, *Historiarum et observationum medico-physicarum*. Castres 1653, 2 vols.
Borg, V., *Fabio Chigi, Apostolic Delegate in Malta (1634–1639): An Edition of his Official Correspondence*. (Studi e testi 249). Vatican 1967.
Boringhieri, P., *Francesco Redi: Consulti medici*. Florence 1958.
Bosio, G., *Dell' istoria della sacra religione et illma. Militia di San Giovanni Gierosolimitano*. Rome 1594–1602.
Bost, J., *Tritemii steganographia*. Nürnberg 1721.
Bouchard, J.J. (ed.), *Monumentum Romanum Nicolao Claudio Fabricio Perescio senatori Aquensi doctrinae virtutisque causa factum*. Rome 1638.
Bouchard-Houzard, M.J., *Catalogue de la Bibliothèque de Feu*. Paris 1842.
Bourdelot, P., *L'histoire de la musique et de ses effets*. Paris 1715.
Boyle, R., *Chymista scepticus, vel dubia et paradoxa chymicophysica*. Rotterdam 1662.
——, *New Experiments and Observations Touching Cold*. London 1665.
——, *New Experiments Physico-Mechanicall touching the Spring of the Air*. Oxford 1660.
——, *The Works of the Honourable Robert Boyle,* London 1772, 6 vols.
Brahe, T., *Astronomiae instuaratae progymnasmata*. Prague 1602–1603, 2 vols.
——, *De stella nova*. Lavingen 1573.
Brancassio, F.M., *De chocolatis potu diatribe*. Rome, 1664.
Brauer, H., and R. Wittkower, *Die Zeichnungen des Gianlorenzo Bernini*. Berlin 1981.
Braun, G., *Civitates orbis terrarum*. Antwerp 1572.
Breusing, A., *Lebensnachrichten von B. Varenius*. Gotha 1880.
Breval, J., *Remarks on Europe*. London 1738.
Bridges, J.H., *The Life and Work of RogerBacon: an Introduction to the 'Opus Major'*. Oxford 1897.
Brocchi, G.B., *Conchiologia fossile subapennina con osservazioni geologiche*. Milan 1814, 2 vols.
[Brock, W.H., *The Fontana History of Chemistry*. London 1992].
Brodbeck, K., *Philipp Wilhelm, Reichsgraf zu Boienburg*. Jena 1927.
Brom, G., *Vondels Bekering*. Amsterdam 1907.
[Brooke, J.H., *Science and Religion: Some Historical Perspectives*. Cambridge: Cambridge University Press, 1991].
[——, *Heterodoxy in Early Modern Science and Religion*. Oxford: Oxford University Press, 2005].
Brossard, S. de, *Dictionnaire de musique*. Paris 1703.
Brou, A., *Jesuites de la légende*. Paris 1906.
Brouwer, C., *Fuldensium antiquitatum libri IIII*. Antwerp 1612.
Brück, A.P., 'Friedrich, Landgraf von Hessen-Darmstadt', in H. Jaeger (ed.), *Neue deutsche Biographie*. Berlin 1960, vol. 5, p. 504.
Brunati (Abbé), *Musei Kircheriani inscriptiones ethnicae et Christianae*. Medina 1837.
Buache, P., *Essai de geographie physique*. Paris 1752.
Bullialdus, I., *Astronomia philolaica*. Amsterdam 1645.
Buonanni, F., *Musaeum Kircherianum, sive Musaeum a P. Athanasio Kirchero in Collegio Romano Societatis Jesu iam pridem incoeptum nuper resitutum, auctum, descriptum et iconibus illustratum*. Rome 1709 (a catalogue of the exhibits).
——, *Numismata Pontificum*. Rome 1699.
——, *Obseruantes circa viuentia, quae in rebus non viuentibus reperiuntur. Cum micrographia curiosa, siue rerum minutissimarum obseruationibus, quae ope microscopij*. Rome 1691.
——, *Ricrenzioni dell' occhii e della mente nell' aservazione delle chiocciole*. Rome 1681.

Burckhard, J., *Historia bibliothecae Augustae quae Wolffenbutteli est*. Leipzig 1744–1746, 3 vols.
Burnet, G., *A History of His Own Time*. London 1724, 2 vols.
Burney, C., *A General History of Music*. London 1776–1789, 4 vols.
[Butterfield, H., *The Origins of Modern Science, 1300–1800*. London 1965].
Butzmann, H., 'August d. J., Herzog von Braunschweig-Lüneburg-Wolfenbüttel', in H. Jaeger (ed.), *Neue deutsche Biographie*. Berlin, 1952, vol. 1, pp. 445–446.
Buxtorf, J., *Lexicon Hebraicum et Chaldaicum*. Basel 1615.
Cabeus, N., *Philosophia magnetica…inqua multa quoque dicuntur de electris et aliis attractionibus*. Cologne 1629.
——, H. Leclercq (dir.), *Dictionnaire de l'archéologie chrétienne et de liturgie*. Paris 1924–1953, 15 vols.
Caesariano, C., *Di Lucio Vitruvio Pollione de architectura*. Como 1521, 10 vols.
Cagnatus, M., *De Romani aeris salubritate commentarius*. Rome 1599.
Cahen-Salvador, G., *Un grand humaniste: Peiresc, 1580–1637*. Paris 1951.
Calvis, S., *Melopoiia seu melodiae condendae ratio*. Erfurt 1592.
——, *Compendium musicae pers. incipientibus conscriptum*. Leipzig 1602.
Cambry, J., *Manuele interprète de correspondance, ou vocabulaires polyglottes alphabétique*. Paris 1805.
Canron, A., *Le guide du pélerin catholique dans Avignon*. Avignon 1874.
——, *Les Jésuites à Avignon, esquisse historique*. Avignon 1875.
Cantor, M., *Geschichte der Mathematik*. Leipzig 1900–1908, vol. 2.
Capparoni, P., 'Il calamaio di Atanasio Chircher'. *Rivista di storia critica delle scienze mediche e naturali* Grottaferrata 6, 2 (1915): 345ff. [also found in *Pontificia Academia Scientiarum: Commentationes* 6, 25 (1942): 345ff. Ed.].
Caramuel, A. [psed. = Kaspar Schott], *Joco-seriorum naturae et artis sive magiae naturalis centuriae tres*. Würzburg 1659.[3]
Caramuel y Lobkowitz, J., *Cursus mathematicus*. Würzburg 1661. See also Schott.[4]
——, *Primus columnus ob oculo ponens metametricam quae variis currentium*. Rome 1663.
Cardanus, H., *De rerum subtilitate*. Nürnberg 1550.
Carl, P., *Repertorium der cometen-astronomie*. Munich 1864.
[Caron, R., et al. (eds.), *Ésotérisme, gnoses et imaginaire symboliqie: Mélanges offerts à Antoine Faivre* (Gnostica 3), Louvain 2001].
Carus, J.V., *Geschichte der Zoologie*. Munich 1872.
[Casciato, M., et al. (eds.), *Enciclopedismo in Roma barocca: Athanasius Kircher et il Museo del Collegio Romano tra Wunderkammer e museo scientifico*. Venice 1986].
Cascioli, V., *Memoria storico-critica del santuario di Mentorella*. Rome 1901.
Castel, L.B., *La musique en couleurs*. 1720.
Castelli, P., *Incendio del Monte Vesuvio*. Rome 1632.
*Catalogus Provinciarum Soc. JESV*. Rome 1679.
Caus, S. de, *Saisons des forces mouvantes*. Paris 1615.
Caussin, N., *Symbolica Aegyptiorum sapientia olim ab eo scripta*. Paris 1634.
Celli, A., *L'aere infetto in La Campania di Roma*. Rome 1933.

[2] Paris 1878–1919.
[3] GVK gives 1666 for the only *Joco-seriorum* title by Caramuel.
[4] JF does not explain the connection between Caramuel de Lobkowitz and Kaspar Schott: the catalogues appear to list the same work by either name. Aspasius Caramuel was a pseudonym for Kaspar Schott.

Cenal, R., 'Juan Caramuel. Su epistolario con Atanasio Kircher. S.I.'. *Crisis. Revista espanola de Filosofia* 1 (1954): 101ff.
Chacon, A., *Vitae et res gestae Pontificum Romanorum et S.R.E. cardinalium*. Rome 1677, 4 vols.
Chaîne, M., 'Une composition oubliée de Père A. Kircher en l'honneur de Peiresc'. *Révue de l'Orient Chrétien* (Paris) 3 Serie 9 (1933–1934): 207f.
Chamberlayne, J., *Oratio Dominica in diversas linguas omnium fere gentium*. Amsterdam 1715.
Champollion-Figeac, J.J., *Notice sur deux grammaires de la langue copte*. Paris 1842.
Champollion-Figeac, *Lettre au sujet des recherches du docteur Young sur les hiéroglyphes égyptiens*. Paris 1857.
Chateaubriand, F.R. de, *Génie du Christianisme*. Paris 1804.
Chaudon, L.M. (dir.), *Nouveau dictionnaire historique-portatif, etc.* Caen 1783, 8 vols.
Chauliac, G. de, *La grande chirurgie* (1546). Bordeaux 1936 edn.
Chossat, M., *Les Jésuites et leurs oeuvres à Avignon, 1563–1768*. Avignon 1896.
Christenius, J., *Tabulae institutiorum imperialium*. [n.p. n.d.].
——, *Exercitationes juridicae*. Daventria 1640.
Churchill, A. and J., *A Collection of Voyages and Travels*. London 1732 edn., 6 vols.
Cioni, R., *Niccolò Stenone: Scienziato e vescovo*. Florence 1953.
Claretta, G.G., *La Regina Cristina di Svezia in Italia 1655–1689: Memorie storiche ed aneddotiche, con documenti*. Turin 1892.
Clauder, G., *Tractatus de tinctura universali*. Altenburg 1678.
Cleator, E., *Lost Languages*. London 1959.
Clot-Bey, A.B., *De la peste observée en Egypte*. Paris 1840.
Cohen-Salvador, C., *Peiresc: Un grand humaniste*. Paris 1951.
Collegium Societatis JESV, Mainz, *Threnus sepulcralis Reverendissimo et Illustrissimo Principi ac Domino d. loanni Suicardo*. Mainz 1626.
Colonna, F., *Hypnerotomachia Poliphili*. Venice 1499.
*Commentarii Academiae Scientiarum Imperialis Petropolitanae*. Leipzig 1722.
Compayré, G., *Histoires des doctrines d'education*. Paris 1879.
Conring, H., *Anecdota Boine-burgica*. Hannover 1714.
Contucci, C., *Musei Kircheriani aerea notis illustrata*. Rome 1763–1765, 2 vols.
Copernicus, N., *De revolutionibus orbium caelestium*. Nürnberg 1543.
Cordara, J.C., *Collegii Germanici et Hungarici historia*. Rome 1770.
Cornelius, F., *Interpretatio obelisci Romani*.
Cortesio, P., *Discursus astronomicus novissimus*. Palermo 1642.
Coudrette, C., *Nachricht von der wahren Beschaffenheit des Instituts der Jesuiten*. Stettin 1785.
Courtet, J., 'L'État ancien de l'instruction publique dans Vaucluse'. *Bulletin de Vaucluse* (1874): 462ff.
Crétineau-Joly, J., *Histoire de la Compagnie de Jésus*. Paris 1851.
Crombach, H., *Persicae linguae rudimenta*. Colonia Agrippina n.d. [1640–1650s].
[Crombie, A.C., *Augustine to Galileo*, London 1979 edn., 2 vols].
Cugnoni, G., *Della supposta falsificazione della Biblia Alexandrina Heptaglotta*. Bologna 1883.
Cyzevsky, D., 'Literarische Lesefrüchte', *Zeitschrift für slavische Philologie* 13 (1936): 51–76.
Dairval, B. de, *De l'utilité des voyages, et de l'avantage que la recherche des antiquitez procure aux sçavans*. Rouen 1727, 2 vols.
Dalgarno, G., *Ars signorum*. London 1661.
Darby, J., *The Volcanoes or Burning and Fire-Vomiting Mountains Famous in the World: with their Remarquables. Collected for the most part out of Kircher's 'Subterraneous World'*. London 1669.

Darmstaedter, L., *Handbuch zur Geschichte der Naturwissenschaften und der Technik*. Berlin 1908.
Darwin, E., *Zoonomia: or, the Laws of Organic Life*. London 1801 edn., 4 vols.
De Sepi, G. de, *Romani Collegii Societatis Jesu musaeum celeberrimum*. Amsterdam 1678.
Defoe, D., *A Journal of the Plague Year*. London 1720.
Delore, J., 'Les maladies pulmonaires'. (Doctoral dissert., Université de Lyon). Lyon 1951.
Descartes, R., *Discours de la méthode*. Leyden 1637.
——, *Epistolae*. Amsterdam 1668.
——, *Principia philosophiae*. Amsterdam 1644.
*Dictionary of National Biography*. London 1890.
*Dictionnaire des bibliographies*. Paris 1960.
*Dictionnaire historique-portatif*. Amsterdam 1770.
*Diggs, L.* and T., *Pantometria*. London 1571.
Dietze, W., *Quirinus Kuhlmann. Ketzer und Poste: Versuch einer monographischen Darstellung von Leben und Werk*. (Neue Beitrage zur Literaturwissenschaft 17). Berlin 1963.
Dillmann, A., *Grammatik der aethiopischen Sprache*. Leipzig 1857.
Dismerbroeck, I. van, *Disputationum practicarum de historiis aegrorum, morbis thoracis laborantium*. Triers 1656.
Dissel, K., *Philipp von Zesen und die Deutschgesinnte Gnossenschaft*. Hamburg 1890.
Divini, E., *Lettera di Eustachio Divini all'Ill. Sig. Conte Carl'Antonio Manzini. Si ragguaglia di un nuovo lavoro e componimento di Lenti, che servono a occhialoni o semplici, o composti*. Rome 1663.
Dobbertin-Hollenbach, E. 'Geisa ehrte seinen grossen Sohn'. *Buchenblätter* (Beilag der Fuldaer Zeitung für Heimatfreunde [Fulda]) (3 April 1975): 23f.
[Dobbs, B.J., 'Newton's Commentary on the *Emerald Tablet* of Hermes Trismegistus: Its Scientific and Theological Significance'. In I. Merkel and A.G. Debus (eds.), *Hermeticism and the Renaissance*, Washington, DC., 1988, pp. 178ff.].
Dobell, C.C., *Antony van Leeuwenhoek and his Little Animals*. London 1932.
Dobrzensky, J.W., *Nova fontium philosophia*. Ferrara 1657.
Doering, J. (ed.), *Des Augsburger Partiziers Ph. Hainhofer Reisen nach Innsbruck und Dresden*. Vienna 1901.
[Domingues, B.H., *Tradição na modernidade e modernidae na tradicão: A modernidade ibérica e a revolução copernicana*. Rio de Janeiro 1996.
Donatus, A., *Roma vetus et recens*. Rome 1725 edn.
Doni, G.B., *Annotazioni sopra il compendio de'generi e de'modi della musica*. Rome 1640.
——, *De praestantia musicae veteris*. Florence 1647, 3 vols.
——, *Trattato sopra gl' instrumenti di tassti di diverse armonie*. Rome 1635.
Drebbel, C.J., *Een Kort Tractaet van de Natuere der Elementen*. Haerlem 1621.
Driver, F.M., *Bibliotheca Monasteriensis sive notitia de scriptoribus Monasterio-Westphalis*. Münster 1799.
Duhlmann, J., *Die Sprachkunde und die Missionen: Ein Beitrag zur Charakteristik der altern Katholischen Missionsthätigkeit 1500–1800*. Freiburg i[n] Br[eisgau] 1891.
Duhr, B., *Geschichte der Jesuiten in den Ländern deutscher Zunge*. Regensburg 1907–1928, 4 vols.
Ebner, T., 'Fr. v. Spee und die Hexenprozesse seiner Zeit'. *Sammlung gemeinverstandlicher wissenschaftlicher Vorträge* 13 (1898): 77ff.
Eckhart, R., *Die Jesuiten in der deutschen Dichtung und im Volksmund*. Bamberg 1906.
Eckstein, F. von, *Des Jésuites*. Paris 1827.

Eder, K., 'Ferdinand III', in H. Jaeger (ed.) *Neue deutsche Biographie*. Berlin 1961, pp. 85f.
Eeghen, I.H. van, *De Amsterdamse boekhandel 1680–1725*. Amsterdam 1960–1978, 5 vols.
Egelhaaf, G., *Gustav Adolf in Deutschland (1630–1632)*. (Schriften des Vereins für Reformation-sgeschichte 18, 3). Halle 1901.
Eggs, G.J., von, *Pontificum doctum*. Cologne 1718.
Elichmann, J., *Aurea carmina Pythagorae cum paraphrasa Arabica*. Leyden 1640.
——, *Tubula cebetis*. Leyden 1640.
[Englmann, F., *Sphärenharmonie und Mikrokosmos: Das politische Denken des Athansius Kircher (1602–1680)*. Cologne 2006].
Erasmus, D., *Moriae encomium*. Strassburg 1511.
Erbermann, V., *Trophaea Romana, s. Catholicae Ecclesiae quae Lutheranismi propugnatoribus Jenensibus Johanni Musaeo et Andreae Wigando eripuit erexitque*. Mainz 1672.
Erlach, J.B.F. von, *Die grossen Deutschen*. Berlin 1935.
Eschenburg, J.J., *Gotthold Ephraim Lessings Kollektaneen zur Literature*. Berlin 1790.
Ettlinger, J., *Christian Hofmann von Hofmannswaldau*. Halle 1891.
Ettmuller, M., *Chymia rationalis et experimentalis curiosa*. Leyden 1684.
Eubel, C., *Hierarchia catholica medii aevi*. Münster and Padua 1935–1968, 6 vols.
Faber, J., *Animalia mexicana descriptionibus scholasiisque exposite*. Rome 1628.
Fabretti, R., 'Dissertazione in cui se emendano alcuni errori sequiti nella descrizione del Lazio antico fatta dal P. Atanasio Kircher'. In *Saggio di Dissertazioni Academiche publicamente lette nella nobile Academia Etrusca dell' antichissima citta di Cortona* 3 (1741): 221ff.
Fabri de Peiresc *see* Peiresc, N.C. Fabri de.
Fagriccio, A., *Philosophische Oratorie*. Leipzig 1724.
[Faivre, A., *Eckartshausen et la théosophie chrétienne*. Paris 1969].
[Faivre, A. and Hanegraaff, W.J. (eds.), *Western Esotericism and the Science of Religion: Selected Papers presented at the 17th Congress of the International Association for the History of Religions, Mexico City 1995* (Gnostica 2), Louvain 1998; with the chapter by Faivre, 'Questions of Terminology proper to the Study of Esoteric Currents in Modern and Contemporary Europe', pp. 1ff.].
Fallopio, G., *De metallis atque fossilibus liber*. Venice 1564.
——, *Observationes anatomicae*. Venice 1561.
Faucher, J., *Ein Winter in Italien, Griechenland und Konstantinopel*. Magdeburg 1876, 2 vols.
Fazelli, T., *De rebus siculis decades duae*. Palermo 1558.
Fea, C.D., *Miscellanea filologica, critica e antiquaria*. Rome 1790–1836, 2 vols.
[Feingold, M. (ed.), *Jesuit Science and the Republic of Letters*. Cambridge, Mass. 2003].
Felginer, T.C., *Leben des gelehrten Lucae Holstenii Protonotarii Apostolici und Bibliothecae Vaticanae Custodis*. Hamburg 1723.
Fernow, C.L. (ed.), *Winckelmann's Werke*. Dresden and Berlin 1808–1825, 11 vols.
Ferrand, J.-Ph., *L'art de feu ou de peindre en email, etc.* Paris 1721[5].
Fétis, J., *Biographie des musiciens*. Paris 1833.
[Findlen, P. (ed.), *Athanasius Kircher: The Last Man who knew Everything,* London 2004; with the 'Introduction: Athanasius Kircher: The Last Man who knew Everything…or Did He?' pp. 1ff. and 'A Jesuit's Books in the New World: Athanasius Kircher and his American Readers', pp. 329ff—Ed.].

[5] JF also refers to a review of this in the Journal *Trevoux* (July 1722): 1234ff.

Fischbeck, A.W., *Dissertatio academica de viventibus sponte nascentibus*. Helmstedt 1679.
Fischer von Erlach, J.B., *Entwurf einer historischen Architektur*. Vienna 1721.
Flemming, W., 'Vondels Einfluss auf A. Gryphius'. *Neophilologus* 13 (1928): 266ff.
——, *Andreas Gryphius und die Bühne*. Marburg 1914.
[Fletcher, J.E., 'Athanasius Kircher and the Distribution of his Books', *The Library* 5th series, 23 (1968): 108ff.].
——, 'A Brief Survey of the Unpublished Correspondence of Athanasius Kircher, S.J. (16021680)', *Manuscripta* 13 (1969): 150ff.
[——, 'Medical Men and Medicine in the Correspondence of Athanasius Kircher (1602–1680)', *Janus* 56 (1969): 259ff.].
[——, 'A Brief Survey of the Unpublished correspondence of Father Athanasius Kircher'. *Manuscripta* 13 (1970): 150ff.].
——, 'Astronomy in the Life and Works of Athanasius Kircher'; and 'Astronomy in the Life and Correspondence of Athanasius Kircher'. *Isis,* 61 (1970), 42ff.; 52ff. respectively.
——, 'Fulda und der römische Phönix'. *Fuldaer Geschichtsblätter* 43 (1971): 126ff.
——, 'Claude Fabri de Peiresc and the other French Correspondents of Athanasius Kircher'. *Australian Journal of French Studies* 9 (1972): 250ff.
——, 'J.M. Marci writes to A. Kircher'. *Janus* 59 (1972): 95ff.
[——, 'Georg Philipp Harsdörfer, Nürnberg, und Athanasius Kircher'. *Mitteilungen des vereins für Geschichte der Stadt Nürnberg*, 59 (1972): 203ff.].
[——, 'Athanasius Kircherus *Restituendus*: The Bibliographic Basis of Biographic Research for a Seventeenth Century Figure'. *Australian Academic and Research Libraries* 3 (1972): 187ff.].
[——, 'Claude Fabri de Peiresc and the Other French Correspondents of Athanasius Kircher (1602–1680)'. *Australian Journal of French Studies* 9 (1972), 250ff.].
[——, 'The Herzog August Bibliothek in Wolfenbüttel'. *Australian Academic and Research Libraries* 5 (1974): 182ff.].
[——, 'The Herzog August Bibliothek in Wolfenbüttel Revisited'. *Australian Academic and Research Libraries* 10 (1979): 92ff.].
——, 'Thomas Schröer gratuliert Elias Major zu seinem Geburtstag'. *Wolfenbütteler Barock-Nachrichten* 7 (1980): 27ff.].
[——, 'Athanasius Kircher—Versuch eines Porträts', and (with Gerhard Römer) 'Zeittafel', 'Athanasius Kircher und die deutsche Literatur', 'Athanasius Kircher im Spiegel der Sekundärliteratur'. In Christel Römer (ed.), *Universals Bildung im Barock. Der Gelehrte Athanasius Kircher*, Rastatt 1981, pp. 15f., and pp. 17ff., 31ff., 45ff., respectively].
[——, *Athanasius Kircher. Ein Mann unter Druck*. Fulda 1982].
[——, 'Athanasius Kircher and his *Musurgia universalis* (1650)'. *Musicology* 7 (1982): 73ff.].
[——, 'Athanasius Kircher', *Wolfenbütteler Barock-Nachrichten* 12 (1985): 116f.].
[——, 'Kircher and Astronomy: A Postscript'. In Maristella Casciato et al. (eds.), *Enciclopedismo in Roma Barocca. Athanasius Kircher e il Museo del Collegio Romano tra Wunderkammer e museo scientifico.* Venice 1986, pp. 29ff.].
[——, 'Kircher and Duke August of Wolfenbüttel: Museal Thoughts'. In *Enciclopedismo in Roma Barocca,* pp. 282ff.].
[——, 'Where the Scholar is King or: the Herzog August Bibliothek in Wolfenbüttel', *Australian Academic and Research Libraries* 17 (1986): 149ff.].
[——, *German Manuscripts (1538–1864) in the Libraries of Sydney: A Descriptive Catalogue.* (Studies in Australian Bibliography 27). Sydney 1988.
[—— (ed.), *Athanasius Kircher und seine Beziehungen zum gelehrten Europa seiner Zeit* (Wolfenbütteler Arbeiten zur Barockforschung 17). Wiesbaden 1988; including Fletcher's articles preface: pp. vii–viii; 'Athanasius Kircher: A Man under Pressure', in pp. 1ff.; 'Athanasius Kircher and Duke August of Brunswick-Lüneburg.

A Vhronicle of Friendship', pp. 99ff.; 'Athanasius Kircher and his Correspondence', pp. 139ff.; 'Kircher's Works', pp. 179ff.; 'A Bibliography', pp. 190ff.].
[——, with M. Norst, *German Language Books in the Libraries of Canberra, Melbourne and New South Wales*, Sydney 1972].
Fludd, R., *Naturae simia.* Frankfurt a[m] M[ain] 1617.
——, *Philosophia sacra et vere christiana, seu meteorologica cosmica*. Frankfurt a[m] M[ain] 1626.
——, *Utriusque cosmi maioris scilicet et minoris metaphysica, physica atque technica historia*. London 1618, 2 vols.
Fontana, F., *Novae caelestium terrestriumque rerum observationes*. Naples 1646.
Fouqueray, H., *Histoire de la Compagnie de Jesus en France, à la suppression*. Paris 1910–1925, 5 vols.
Fourmont, E., *Réflexions sur des anciens peuples*. Paris 1747 edn., 2 vols.
Fournier, G., *Hydrographie, contenant la théorie et la practique de touts les parties de la navigation*. Paris 1643.
——, *Geographia orbis notitia per littora maris et ripas fluviorum*. Paris 1648.
Fover, L., *De sympathia et antipathia, de magne seu Herculo Lapide*. Ingolstadt 1618.
Fracastoro, G., *De sympathia et antipathia rerum.* Venice 1546, 3 vols.
——, *Syphilidis*. Verona 1530.
Francisci, E., *Ost- und West-Indischer wie auch sinesischer Lust- und Stats-Garten*. Nürnberg 1668.
——, *Neu-polirter geschicht-, kunst- und sitten-spiegel ausländischer Völker*. Nürnberg 1670.
Franck, M., 'Imago B.V. Miraculosa Romana Paderborni'. In W. Gumppenberg, *Atlas Marianus, sive de imaginibus deiparae per orbem christianum*. Ingolstadt 1657, vol. 1, pp. 216–217; Munich 1672, No. 25, pp. 67–69.
Franckenberg, A. von, *Gemma magica oder Magisches Edelgestein, etc.* Amsterdam 1648.
——, *Optime de pietal e sapientia meriti… oder Jacob Bohmens/von alt Seidenburg. theosophische Schriften*. Amsterdam 1675.
Franz, W., *Animalium sacra historia*. Wittenberg 1612.
Frazer, J.G., *The Golden Bough: A Study in Magic and Religion*. London 1920.
Frechmann, J., *Historia Collegiani Geisanorum Heiligenstadtani*. Magdeburg 1929.
Friedlaender, P., 'Pindar oder Kircher'. *Hermes* 70 (1935): 463ff.
——, 'Athanasius Kircher und Leibniz: Ein Beitrag zur Geschichte der Polyhistorie im XVII. Jahrhundert'. In *Atti della Pontificia Accademia Romana di Archeologia*. Series 3. 13 (1937): 229ff.
Friedrich, J., *Entzifferung verschollener Schriften und Sprachen*. Berlin 1954.
[Frigo, G.F., 'Il ruolo della sapienza egizia nella rappresentazione del sapere di Athanasius Kircher'. In F. Vercellone, and A. Bertinelli (eds.), *Athanasius Kircher L'idea di scienza universale.* (Serie Morphé). Milan 2007, pp. 91–106].
Frommann, J.C. *Tractatus de fascinatione novus et singularis*. Nürnberg 1675.
Fülöp-Miller, R., *Macht und Geheimnis der Jesuiten*. Leipzig 1929.
——, *The Power and Secret of the Jesuits*. London 1957.
Gabrieli, G., 'Il Carteggio Kircheriano'. *Reale Academia d'Italia rendiconti della classe di scienze morali e storiche* (Fasc. 1–5, Series 7) 2 (1940): [1ff.].
Gaillaud, L., *La Pierre de Si-gnan-fou*. (Variétés sinologiques [Chang-Hai: Mission catholique, 1892–1938], 3). Rome 1932.
Gaio, M.A., *Hippocratis… sententiae definitivae M.A.G.… opus*. Rome 1647.
Galilei, G., *Dialogo… dove nei congressi di quattro giornate*. Florence 1632.
——, *Le opere*, ed. A. Favoro. Florence 1890–1909, 20 vols.
——, *Sidereus nuncius*. Venice 1610.
Galilei, V., *Dialogo della musica antica e della moderna*. Florence 1581.
Garrison, F.H., *An Introduction to the History of Medicine*. Philadelphia 1929.
Garrucci, C., 'Catalogo del Museo Kircheriano'. *Civiltà Cattolica*. Serie XI. 1 (1878): 453ff.

——, 'Origini e vicende del Museo Kircheriano dal 1651 al 1773'. *Civiltà Cattolica*. Serie 10. 12 (1881): 727ff.
Gassendi, P., *Opera omnia*. Lyon 1658, 6 vols (with the *Epistolae* of the Florence 1727 edn., vol. 6, being used).
——, *Viri illustris Nicolai Claudii Fabricii de Peiresc… vita*. The Hague 1655, 2 pts.
Gastaldi, G., *Tractatus de avertenda et profliganda peste, politico-legalis*. Bologna 1684.
Gaston, F., *Tractatus de peste*. Görlitz 1660.
Gatterer, C.W., *Allgemeines Repertorium der mineralogischen, bergwerks und salzwerke-wissenschaftlischen Litteratur*. Heidelberg 1798–1799, 2 vols.
Gay, F.P., *Disease and Resistance*. Springfield 1935.
Gegenbauer, J., *Programm… des kurfürstlichen Gymnasiums zu Fulda—23/24 März*. Funda 1843.
Geibertz, J.G., *Westfälische Beiträge zur deutschen Geschichte*. Darmstadt 1819–1823, 2 vols.
*Geistliches Psalterlein*, PP. Soc. Jesu. Cologne 1718.
Gelenius, A., *Colonia supplex*. Cologne 1639.
——, *De admiranda sacra et civili magnitudine coloniae Claudine Agrippae*. Cologne 1645.
Geraldinus, J., *De meteoris tractatus*. Paris 1613.
Gerhardt, H., *Die philosophischen Schriften von G.W. Leibniz*. Berlin 1875.
Gieseler, R., *Die geistliche Lieddichtung der Katholiken im Zeitalter der Aufklarung*. Augsburg 1928.
Gilbert, W., *De magnete, magnetisque corporibus et de magno magnete tellure: physiologa nova*. London 1600.
*Giornali de' Letterati*, ed. F. Nazzari. Rome 1668–1681.
Glick, T.F., 'On the influence of Kircher in Spain'. *Isis* 62 (1971): 379ff.
Gmelin, J.F., *Die mineralogia*. Nürnberg 1780.
Godwin, J., *Athanasius Kircher, A Renaissance man and the Quest for Lost Knowledge*. London 1979.
[—— (ed.), *The Harmony of the Spheres: A Sourcebook of the Pythagorean Tradition in Music*. Rochester, Vt. 1993].
[——, *Music, Mysticism and Magic*. London 1986].
[——, *Athanasius Kircher's Theater of the World*. London and New York 2009].
Goedeke, K., *Grundriss zur Geschichte der deutschen Dichtung aus den Quellen*. Dresden 1884–1966 edn., 15 vols.
Goethe, J.W. von, *Zur Farbenlehre*. Tübingen 1810.
——, *Briefwechsel zwischen Schiller und Goethe*. Stuttgart 1829.
——, *Werke*. Weimar 1887–1912, 50 vols.
Goezaldo, M., *Antiquitates ecclesiae orientalis*. Rome 1742.
Goetz, Z., *Epistolae de re numismatica*. Wittenberg 1716.
——, *De numis dissertationes XX*. Wittenberg 1716.
Golius, J., *Lexicon Arabicum*. Leyden 1653.
——, *Vita Tamerlani*. Leyden 1636.
——, *Additamentum atlas sinensis*. Amsterdam 1655.
[Goodrick-Clarke, N., *The Western Esoteric Traditions: A Historical Introduction*. Oxford 2008].
[Gorman, M.J., *La technica curiosa di Kaspar Schott*. Rome 2000].
Gotzinger, M.W. *Deutsche Dichter*. Zurich 1831.
Graham, M., *Der Miss Graham Sommeraufenthalt in den Gebirgen bey Rom*. In H. Hirzel, *Ansichten von Italian nach neuern auslandischen Reiseberichten*. Leipzig 1823, vol. 1, pp. 3–296.
[Gramatowski, W. and Rebernik, M., *Epistolae Kircherianae: Index alphabeticus; index geographicus* (Subsidia ad Historiarum S.I., 11), Rome 2001].
Grandamy [or i], J., *De die supremo et natali Christi*. Paris 1665.

Grandamy, J., *Le parallèle des deux comètes qui ont paru[s] les années 1664 and 1665*. Paris 1665.
——, *Nova demonstrati immobilitatis terrae ex virtute magnetica*. La Flèche 1645.
Grauert, W.H., *Köonigin Christina und ihr Hof*, Bonn 1837–1842, 2 vols.
Greenwood, G., *Rain and Rivers: or Hutton and Playfair against Lyell and All Comers*. London 1857.
Gregorius a Sancto Vincentio, *Opus geometricum quadraturæ circuli et sectionum coni decem libris comprehensum*. Antwerp 1647.
Grienberger, C. SJ, *Nova imaginum coelestinum prospective*, ed. BH. A. Hangenmantel. Augsburg 1679.
Grimmelshausen, H.J.C. von, *Der abentheurliche Simplicissimus Teutsch*. Nürnberg 1669.
——, *Rathstübel Plutonis oder Kunst Reich zu werden*. Tübingen 1672.
Grimaldi, F.M., *Physico-mathesis de lumine, coloribus, et iride*. Bologna 1655.
Grotius, H., *Annales et historia de rebus belgicis*. Amsterdam 1657.
Grube, H., *De ictu tarantulae et vi musices*. Frankfurt a[m] M[ain] 1679.
Grueber, J., *Geographia Asiae*. Paris 1656.
Gryphius, A., *Catharina von Georgien. Abdruck der Ausgabe von 1663*. Halle 1928.
——, *Leo Armenius: Trauerspiel*. Frankfurt a[m] M[ain] 1650.
——, *Lyrische Gedichte*, ed. H. Paln. (Bibliothek der Litterarisichen Vereins in Stuttgart, 171). Tübingen 1884.
——, *Mumiae Wratislavienses*. Breslau 1662.
Guericke, O., *Experimentum nova (ut vocantur) Magdeburgica*. Amsterdam 1672.
Guitton, G., *Le Père de la Chaize, confesseur de Louis XIV*. Paris 1959, 2 vols.
Gumppenberg, W., *Atlas Marianis*. Munich 1672.
Günther, S., *Vermischte Untersuchungen zur Geschichte der math. Wissenschaften*.
Haakman, A., 'Een vrij man.' *NRC Handelsblad* (5 and 11 January 1980). [Also in Haakman, *Heimatbrief des Geisaer Amtes* 83 (1979): 1ff. [?].
Haas, R., *Die Musik des Barocks*. (Handbuch der Musikwissenschaften). Potsdam 1928.
Habachi, L., *The Obelisks of Egypt. Skyscrapers of the past*, ed. C.C. van Siclen III. London 1978.
Härtel, H., 'Herzog August und sein Büchegragent Johann Georg Anckel. Studien zum Erwerbungsvorgang.' In P. Raabe (ed.) *Wolfenbütteler Beiträge* 3 (1978): 235ff.
Hagedorn, F. von, 'Der Gelehrte'. In *Bibliothek der deutschen Klassiker*. Hildburhausen 1861, vol. 3, [s.v.].
Hager, W., 'Athanasius Kircher in Aschaffenburg'. *Lohrer Zeitung* (30, May, 1940).
Haggard, H.W., *Devils, Drugs and Doctors*. London 1933.
Hahn, H., and L. Faber, *1150 Jahre Stadt Geisa (817–1967)*. Fulda 1967 (ed. by the *Heimatbrief des Geisaer Amtes* to mark their 8th Meeting in Fulda).
Hall, I.H., 'The Syriac Part of the Chinese Nestorian Tablet'. *Journal of the American Oriental Society* 12 (1889): 124f.
Haller, A. von, *Bibliotheca anatomica*. Zurich 1774.
——, *Bibliotheca medicinae practicae*. Berne 1776–1778.
Halley, E., *Catalogus stellarum australium*. London 1679.
Happel, E.W., *Mundus mirabilis tripartitus*. Ulm 1687.
——, *Gröste Denkwürdigkeiten der Welt; oder so genannte Relationes curiosae, etc.* Hamburg 1683–1691, 5 vols.
Harcourt-Smith, S., *A Catalogue of Various Clocks*. Peiping 1933.
Harenburg, J.C., *Pragmatische Geschichte des Ordens der Jesuiten, seit ihrem Ursprunge bis auf gegenwartige Zeit*. Helmstadt 1760.
Harford, F.K., *Ballads of Schiller:* No. 1. *The Diver*. London 1878.
[Harrison, P., *'Religion' and the Religions in the English Enlightenment*. Cambridge 1990].
Harsdörffer, G.P., *Sophista, sive logica et pseudo-politica sub schemate comoediae repraesentata*. Nürnberg 1647.

——, *Der Geschichtspiegel: vorweisend Hundert Denckwürdige Begebenheiten*. Nürnberg 1654.
——, *Mathematische und physikalische Erquickstunden*. Nürnberg 1651–1653.
——, *Poetischer Trichter, die deutsche Dicht- und Reimkunst*. Nürnburg 1648–1653.
Harsdörffer, G.P., and D. Schwenter, *Delitiae physico-mathematicae: oder mathematische und philosophischen Erquickstund, etc*. Nürnberg 1651, vol. 3.
Hartford, F.K. (ed.), Ballads of Schiller. No. 1, The Diver: with Notes. London 1878.
Harting, P., *Das Mikroskop*. Brunswick 1859.
Hartleben, H., *Champollion, sein Leben und Werken*. Berlin 1906, 2 vols.
Hartung, G., *Fuldaer Chronik*, ed. J. Gegenbaur. (Programm des Kurfürstlichen Gymnasiums zu Fulda). Fulda 1863.
Harvey, W., *Exercitatio anatomica de motu cordis et sanguinis in animalibus*. Frankfurt a[m] M[ain] 1628.
Hauschild, R., 'Die erste Publikation der indischen Nagari-Schriftzeichen in Europa durch Athan. Kircher und Heinrich Roth'. *Wissenschaftliche Zeitschrift der Friedrich-Schiller-Universität* 5 (1956): 499ff.
Hebbelynck, A., and A. van Lantschoot, *Codices coptici Bibl. Vaticanae*. Vatican 1937.
[Heibron, J.L. (ed.), *Advancements of Learning: Essays in Honour of Paolo Rossi* (Biblioteca di "Nuncius": Studia e Testi, 62). Florence 2007].
Held, H.L., *Angelus Silesius sämtliche poetische Werke*. Munich 1922, 2 vols.
Heller, J.E., 'Das Nestorianische Denkmal'. *Zeitschrift fur Katholische Theologie* 9 (1885): 84ff.
Helmot, J.B. van, *Ortus medicinae*. Amsterdam 1648.
Henle, J., *Pathologische Untersuchungen*. Berlin 1840.
Heppe, H., *Die Restauration des Katholizismus in Fulda, auf dem Eichsfelde und in Würzburg*. Marburg 1850.
Herbelot, B. d', *Bibliothèque Orientale*. Paris 1697.
Herder, J.G., *Abhandlung über der Ursprung der Sprache*. Berlin 1789.
——, *Aelteste Urkunde des Menschengeschlechts*. Urkunde 1774.
——, *Auch eine Philosophie der Geschichte zur Bildung der Menschheit*. Riga 1774.
——, *Sämtliche Werke*, ed. B. Suphan. Berlin 1913, 33 vols.
[Hergenröther, S.], *Bibliothèque théologique*. Paris 1892, 14 vols.
Herte, A., 'Die Universität und Akademie Paderborn'. In *Festschrift aus Anlass der Erhebung des Bistums Paderborn zur Erzdiozese*, pp. 70ff. Paderborn 1930.
Hervegen, J., *Historische Nachricht von des löblichen Hirten-und Blumen-Ordens an der Pegnitz Anfang und Fortgang*. Nürnberg 1744.
Herwart ab Hohenburg, J.G., *Thesaurus hieroglyphicorum*. Augsburg 1610.
Hess, W., 'Langenmantel, Hieronymous Ambrosius', in *Allgemeine deutsche Biographie*, ed. A. Bettelheim et al. Leipzig 1883, vol. 17, pp. 671f.
Heveliusz, J., *Cometographia*. Gdansk 1668.
——, *Prodromus cometicus*. Gdansk 1665.
——, *Selenographia*. Gdansk 1647.
[Hine, W., 'Athanasius Kircher and Magnetism'. In J. Fletcher (ed.), *Athanasius Kircher und seine Beziehungen zum gelehrten Europa seiner Zeit*. Wiesbaden 1988, pp. 79ff.].
[Hirai, H., 'Kircher's Chymical Interpretation of the Creation and Spontaneous Generation'. In L.M. Principe (ed.), *Chymists and Chymistry: Studies in the History of Alchemy and Early Modern Chemistry*. Sagamore Beach, 2006, pp. 77ff.].
Hirsch, A., *Magnetische Wissenschaften*. Munich 1893.
Hirst, L.F., *A History of the Plague*. Oxford 1953.
Hirzel, H., *Ansichten von Italian nach neuern auslandischen Reiseberichten*. Leipzig 1823–1841, 3 vols.
Hodierna, G., *L'occhio della mosca, discorso fisico intorno all'anatomia dell'occhio in tutti gli animali anulosi, detti insetti*. Palermo 1644.
Hoefer, F., *Histoire de la physique et de la chimie*. Paris 1900.

Hoefnagel, G., *Archetypa studiaque patris*. Frankfurt a[m] M[ain] 1592.
Hoeschel, D., *Hieroglyphica Horapollinis a Davide Hoeschelio. Fide codicis Augustani ms. correcta. suppleta, illustrata*. Augsburg 1595.
Hoffmann, F.L., *Fr Lambeck…als bibliographisch-literarhistorischer Schriftsteller*. Hamburg 1864.
Holstenius, L., *Diatribe Abyssinorum de Purgatori*. Not in BM Deut. B?.
——, *Epistolae ad diversos*, ed. J.F. Boissonade. Paris 1817.
Hooke, R., *Micrographia*. London 1665.
Horn, G., *De originibus Americanis*. Leyden 1652, 4 vols.
Horst, J.D., *Pharmocopoeia Galeno: chymica catholica*. Frankfurt a. M. 1651.
Huguetan, J., *Voyage d'Italie curieux et nouveau*. Lyon 1681.
Humbert, P., *Peiresc: Un amateur français*. Paris 1933.
Huonder, A., *Deutsche Jesuitenmissionare des 17. und 18. Jahrhunderts: Ein Beitrag zur Missionsgeschichte und zur deutschen Biographie*. (Stimmen aus Maria-Laach Ergänzungsheft 74). Freiburg i[n] Br[esigau] 1899.
Huygens, C., *Celestial Worlds*. London 1698, 8 vols.
Ilg, A., *Die Fischer von Erlach*. Vienna 1895.
Imbroll, F., *Specula Melitensis encyclica, sive syntagma novum instrumentorum physico-mathematicorum*. Messina and Naples 1638.
Intorcetta, P., *Compendiosa narratione dello stato della Missione Cirese*. Rome 1672.
——, *Sinarum scientia politico-moralis*. Rome 1672.
Iversen, E., *Obelisks in Exile*. Copenhagen 1968–1972, 2 vols.
——, *The Myth of Egypt and its Hieroglyphics in the European Tradition*. Copenhagen 1961.
Jablonski, P.E., *Pantheon Aegyptiorum*. Frankfurt a[m] M[ain] 1750–1752, 3 vols.
[James, J., *The Music of the Spheres: Music, Science and the Natural Order of the Universe*. Heidelberg 1995].
Jammers, V., 'Rythmische und tonale Studien zur Musik der Antike und des Mittelaters', *Archiv für Musikforschung* 6 (1941): 151ff.
Jansen, B., *Die Pflege der Philosophie im Jesuitenorden*. Fulda 1938.
Janssen, J., 'Athanase Kircher, "égyptologue"'. *Chronique d'Egypte* 18 (1943): 240ff.
——, 'Athanasius Kircher als "Egyptoloog"', *Wetenschappelijke Tijdingen: Orgaan van de vereniging voor wetenschap* (Ghent) 7, 9 (1942): 221ff.
Jansson van Waesberghe, J., *Biblia septum linguarum*. Paris 1666 [see also under Kircher's works.].
Jaramillo-Arango, J., *Malaria*. London 1950.
Jockisch, W., *Andreas Gryphius und der literarische Barock*. (Germanische Studien, 89). Berlin 1930.
Jonston, J., *Historia naturalis de Piscibus*. Rouan 1768.
Jordan, C.E., *Histoire de la vie et des ouvrages de M. La Croze*. Amsterdam 1741.
——, *Recueil de littérature, de philosophie et d'histoire*. Amsterdam 1730.
Jüngstmann, H., 'Athanasius Kircher in Heiligenstadt'. *Heimatland* (Nordhausen) 2 (1907): 167ff.
Juncker, C., *Commentarius de vita, scriptisque ac meritis illustris viri Iobi Ludolf*. Leipzig 1710.
Jung, C.J., *The Integration of the Personality*. London 1940.
[Jung, C.G., *Aion: Researches into the Phenomenology of the Self*. (Trans. R.F.C. Hull) (in *Collected Works*, vol. 9). Princeton 1959].
[——, *Psychology and Religion West and East*. (Trans, R.F.C. Hull) (in *Collected Works*, vol. 11). Princeton 1958].
Justi, C., *Winckelmann und seine Zeitgenossen*. Leipzig 1923.
Justi, K.W., and F.S. Mursinna, *Annalen der deutschen Universitäten*. Marburg 1798.
Kahlert, A., 'Der Schwärmer Quirinus Kuhlmann.' *Deutsches Museum. Zeitschrift Fur Literatur, Kunst und offentliches Leben* 10 (1860): 318ff.
——, *Angelus Silesius: Eine literar-historiche Untersuchung*. Breslau 1853.

Kaiser, W., 'Athanasius Kircher (1602–1680) zur 375. Wiederkehr seines Geburtstages.' *Eichsfelder Heimathefte* (Heiligenstadt) 17 (1977): 47ff.
Kandadi, S. ben, *Liber seu hortus mirabilium orbis terrae*. Rome 1585.
Kant, I., *Betrachtungen der seit einiger Zeit wahrgenommenen Erderschütterungen*. Hamburg 1756.
Kayser, W., *Die Klangmalalerei bei Harsdörffer. Ein Beitrag zur Geschichte der Literature, Poetik und Sprachtheorie der Barockzeit*. Leipzig 1932.
Kedd, J., *Zwoelff künstreich caluinistische Atzelsprüng*. Cologne 1649.
Kendrick, T.D., *St James in Spain*. London 1960.
Kepler, J., *Astronomica nova*. Prague 1609.
——, *Astronomicae pars optica*. Prague 1604.
——, *De cometis*. Prague 1618.
——, *De stella nova in pede serpentarii*. Prague 1606.
——, *Dioptrice*. Augsburg 1611.
Kerll, J.K., *Modulatio organica super Magnificat*. Munich 1686.
Kerschbaumer, A., *Geschichte des deutschen National-hospizes. Anima zu Rom*. Vienna 1868.
Kesson, J., *The Cross and the Dragon*. London 1854.
Kestler, J.S., *Physiologia Kircheriana experimentalis*. Amsterdam 1680.
Keysler, J.G., *Neueste Reise durch Deutschland…Italien*. Hannover 1740.
Kindermann, H., *Der Rokoko-Goethe*. Leipzig 1932.
Klopp, O., see under Leibniz.
Klueber, J.L., *Die Kryptographik*. Tübingen 1809.
Knittel, G., 'Ars universalis sciendi ac disserendi Lulliano-Kiercheriana'. In *Via regia ad omnes scientias et artes*, pp. 1ff. [?] Prague 1682.
Knowles-Middleton, W.E., 'Archimedes, Kircher, Buffon and the Burning Mirrors.' *Isis* 52 (1961): 533ff.
Koberg, F., *Lieder und Taten, deutsche Volksgeschichte im deutschen Volkslied*. Berlin 1942.
Koch, M., *Geschichte des deutschen Reichs unter der Regierung Ferdinands III*. Vienna 1865, 2 vols.
Koecher, A., *Memoiren der Herzogin Sophie nachmals Kurfürstin von Hannover*. Leipzig 1879.
Koehler, J.D., *Historischer Münz-Belustigung, Achter Theil*. Nürnberg 1736.
Koernchen, H., *Zesens Romane*. Berlin 1912.
Koffmane, G., *Die Religiosen Bewegungen in der Evangelischen Kirche Schlesiens wahrend des 17 Jhdts*. Breslau 1880.
[Kohn, R., *Curious Obsessions in the History of Science and Spirituality*. Sydney 2001].
Kolhans, J., *Neuerfundene mathematische und optische Curiositäten*. Leipzig 1676.
Komp, G.K., *Die zweite Schule Fuldas und das päpstliche Seminar, 1571–1773. Aus Quellen geschöpft*. Fulda 1877.
——, *Der Fuldaer Fürstabt Balthasar von Dernbach und die Stiftsrebellion von 1576*. Fulda 1915.
Kralik, R.V., *Johannes Scheffler als katholischer Apologet und Polemiker*. Trier 1913.
Kraus, J., *Geistlich curieuze Nachrichten von Begebenheiten, etc*. Prague 1717–1722, 7 pts.
Kruif, P. de, *The Microbe Hunters*. New York 1926.
Kuhlmann, Q., *Die prießwürdige Venus*. Breslau 1664.
——, *Teutsche Psalmen*. [Berlin?] 1870.
——, *Quirin Kuhlmanns Breßlauers Lehrreiche Weißheits Lehr- Hof- Tugend- Sonnenblumen preißwürdigster Sprüche*. Jena 1671.
——, *Unsterbliche Sterblichkeit oder Hundert Spil-erisinnliche Virzeilige Grabeschrifften*. Jena 1671.
——, *Hundert lehrreiche Geschicht-Sonnen-blumen*. Jena 1672.

——, *Lehrreicher Geschicht-Herold, oder, Freudige und traurige Begebenheiten hoher und nidriger Personen*. Jena, 1673.
——, *Epistola de arte magna sciendi, sive combinatoria e lugduno. Batava Romam transmissa cum responsoria viri in orbe terrarum quadripartito celeberrimi Athanasi Kircheri*. Amsterdam 1674 (repr. as *Epistolae duae de arte magna sciendi, sive combinatoria*. Leyden 1674).
——, *Prodromus quinquennii mirabilis*. Leyden 1674.
——, *Kircheriana de arte magna sciendi sive combinatoria, admirabilibus quibusdam Inventis, Sapienta infusa Adamaea Salomonaeque, etc*. London 1681.
——, *Responsoria de sapientia insula Adamaea Salomonaeaque, circa Februarium 1676*. London 1681.
——, *Testimonia humana*. London 1683.
Kühn, W. (ed.), *Die Musikerziehung, Zentral-Organ für alle Fragen der Schulmusik, ihrer Grenzgebiete und Hilfwissenschaften*. Leipzig 1928.
Kühner, H., *Latium, Land im Schatten Roms: Geschichte, Gestalten, Gesichte*. Köln 1967.
Kunkel, J., *Noctiluca constans…dissertatione brevi:—de luce igne ac perennibus lucernis*. Wittenberg 1676.
Lachmann, K. (ed.), see *Gotthold Ephraim Lessing's sämmtliche Schriften*. Leipzig 1857, 13 vols.
[Lachmann, R., 'Zwei Weisen der Wissensdarstellung im 17. Jahrhundert (Athanasius Kircher und Jan Amos Comenius),' *Poetica* 38, 3–4 (2006): 329ff.].
Lacroze, M.V., *Lexicon Aegyptiaco-Latinum*, ed. C. Scholtz and C.G. Woide. Oxford 1775.
Lafaye, G., 'Le Musée Kircher.' *Revue Archéologique* 37 (1879): 239ff.
Lana Terzi, F., *Prodromo, overo saggio di alcune inventione nuove premesso all'Arte Maestra, opera che prepara, etc*. Brescia 1670.
Lancisi, G.M., *De noxiis paludum effluviis eorumque remediis*. Rome 1717.
Lange, A., and E.A. Soudart, *Traité de Cryptographie*. Paris 1925.
Lange, C., *A Kircheri Scrutinium…pestis cum prefatione*. Leipzig 1659.
——, *Miscellanea curiosa medica*. Leipzig 1657.
Lange, J.C., *A. Kircheri. Natürliche und medizialische Durchgrundung der leidigen ansteckenden Sucht*. Augsburg 1680.
——, *Pathologia animata seu animadversiones in pathologiam spagiricam*. Frankfurt 1688.
Langenmantel, H.A., *Circa salamandrum*. Augsburg 1688.
——, *De ossibus elephantum*. Leeuwenhoek 1686, Augsburg 1689.
——, *De verme narcotica virtute praedito*. Augsburg 1688.
——, *Fasciculus epistolarum*, see above under A3.
——, *Le Bel Pierre…Accurata Relatio de morte Marchionis Monadleschi…ex gallico in latinum translata ab R.O.H.A.L*. Augsburg 1668.
——, *Microscopii tontoniani fabrica*. Augsburg 1688.
Langius, W., *De veritatibus geometricis…contra M. Meibomium*. Copenhagen 1656.
Lantschoot, A. van, *Un précurseur d'Athanase Kircher: Thomas Obicini et la Scala Vaticana Copte 71*. (Bibliothèque du Muséon 22). Louvain 1948.
Larroque *see* Tamizey de Larroque.
Ledeboer, A.M., *Het geslacht van Waesberghe. Een bijdrage tot de geschiedenis der boekdrukkunst en van den boekhandel in Nederland*. Gravenhage and Utrecht 1869.
Lehner, T., *Simon Rettenbacher: ein Erzieher und Lehrer des deutschen Volks*. Vienna 1905.
Leibniz, G.W., *Ars combinatoria*. Frankfurt 1690.
——, *Accessiones historicae*. Leipzig 1700.
——, *Opera*, ed. J. Dutens. Geneva 1768, 6 vols.

[——], *Werke von Leibniz* (ed. O. Klopp). Hannover 1864, 11 vols].
——, *Sämtliche Schriften und Briefe*, ed. Preussischen Akademie deer Wissenschaften. Darmstadt 1923–1962, 6 vols.
[Leinkauf, T., Mundus Combinatus: *Studien zur Struktur der barocken Universalwissenschaft am Beispiel Athanasius Kirchers SJ (1602–1680).* Berlin, 1993].
[Leinkauf, T., 'Sapere e universalità: la struttura della scientia universalis all'inizio dell'Èta moderna'. In Vercellone and Bertinetti (eds.), *Athanasius Kircher: L'idea di scienza universale.* (Serie Morphé). Milan 2007, pp. 21–38].
Lenglet-Duffresnoy, C., *Histoire de la philosophie hermetique.* Paris 1742.
Lessing, G.E., see under Lachmann.
Letterius, A.D., *Cosmopathia Kircheriana.* [n.p. n.d.].
Leurechon, J., *Récreations mathématiques*. Paris 1629.
Levi della Vida, G., *Ricerche sulla formazione del piu antico fondo dei Mss. Orientali della Biblioteca Apostolica Vaticana*. Vatican 1939.
Libri, G., *Histoire des sciences mathématiques en Italie, depuis la renaissance des letters jusqu'à la fin du dix-septième siècle.* Paris 1841, 4 vols.
Liesegang, F.P., *Vom Geisterspiel zum Kino*. Düsseldorf 1918.
Lindenborn, H., *Der die Welt beleuchtende cöllnische Diogenes*. Cologne 1740–1742.
Lindner, P., *Germania monastica: Klosterverzeichnis der deutschen Benediktiner und Cisterzienser*. Ottobeuren 1967.
Littrow, J.J., *Die Wunder des Himmels*. Stuttgart 1835, vol. 2.
Locy, W.A., *The Growth of Biology*. New York 1925.
Loeffler, F., *Vorlesungen über die geschichtliche Entwicklung der Lehre den Bakterien.* Leipzig 1887.
Lohenstein, C. von, *Agrippina*. Breslau 1665.
——, *Epicharis*. Breslau 1665.
——, *Ibrahim Sultan*. Leipzig 1673.
——, *Sophonisbe*. Breslau 1680.
——, *Großmüthiger Feldherr Arminius oder Hermann*. Leipzig 1689–1690.
Longomontanus, C.S., *Rotundi in plano, seu circuli, absoluta mensura*. Amsterdam 1644.
Loria, G., 'La vita scientifica de Cristiano Huygens quale si desume dal suo carteggio'. *Pontificia Academia Scientiarum: Commentationes* 6, 24 (1942): 1079ff.
[Lo Sardo, E. (ed.), *Athanasius Kircher: Il museo del mondo*. Rome 2001].
Löscher, V.E., *Unschuldige Nachrichten von alten und neuen Theologischen, etc.* Leipzig 1701–1719.
Lozzi, C. (ed.), *Il Bibliofilo, Anno Quinto*. Bologna 1885.
Lübeck, K., *Alte Ortschaften des fuldaer Landes*. Fulda 1934.
Lubieniecki, S., *Theatrum cometicum*. Amsterdam 1666–1668, 2 vols.
Lucas, D., 'Hier ruht Athanasius Kirchers Herz'. *Heimatbrief Heimatbrief des Geisaer Amtes* 86 (1981): 7.
Lucas, F., *Europäischer Helicon*. Frankfurt a[m] M[ain] 1711.
Ludewig, J.P., *Reliquiae manuscriptorum omnis aevi diplomatum ac monumentorum ineditorum adhuc*. Frankfurt a[m] M[ain], Leipzig and Halle 1720–1741, 12 vols.
——, *Einleitung zu dem teutschen Münzwesen mittlerer Zeiten*. Wendisch Halle 1709.
Ludolf, J., *Ad suam historiam Aethiopicam commentarius*. Frankfurt a. M., 1691.
Lull, Raimundo, *Ars magna et ultima*. Frankfurt am Main 1691.
——, *Opera omnia*, ed. I. Salzinger. Mainz 1721–1742, 10 vols.
Lutterotti, O von, 'Schor, Johann Ferdinand', in U. Thieme and F. Becker (dir.), *Allgemeines Lexikon der bildenden Künstler*. Leipzig, 1936, vol. 30, pp. 262ff.
M.A.C.D., 'Système d'un Anglois médicin' (pamphlet). Paris 1726.
Macasio, J.C., *Pathologiae animatae specimen*. Leipzig 1660.
McCracken, G.E., 'Athanasius Kircher's Universal Polygraphy.' *Isis* 39 (1948): 215ff.
——, 'Lucullus' Tomb.' *Isis* 46 (1955): 335ff.

[McDonald, G., 'Orpheus Germanicus: Metrical Music and the Reception of Marsilio Ficino's Poetics and Music Theory in Renaissance Germany'. (Doctoral dissert., University of Melbourne), Melbourne 2002].
MacPike, E.F., *Hevelius, Flamsteed and Halley*. London 1937.
Magiotti, R., *Renitenza certissima dell'acqua alla compressione*. Rome 1642.
Magri, D., *Breve racconte del viaggio al Monte Libano*. Rome 1655.
Maier, M, *Arcana arcanissima; hoc est hieroglyphica Aegypta-Graeca*. London 1614.
Maignan, E., *Perspectiva horaria sive de horographia gnomonica*. Rome 1648.
Major, R.H., *Disease and Man*. Baltimore 1932.
[Malcolm, N., 'Private and Public Letters: Kircher, Esotericism, and the Republic of Letters'. In Findlen (ed.), *Athanasius Kircher: The Last Man Who Knew Everything*, London 2004, pp. 297ff.].
Malpighi, M., *De pulmonibus observationes anatomicae*. Bologna 1661.
Manget, J.J., *Bibliotheca chemica curiosa seu rerum ad Alchemiam pertinentium thesaurus instructissimus*. Geneva 1702, 2 vols.
Manheimer, V., *Die Lyrik des A. Gryphius: Studien und Materialen*. Berlin 1904.
Marchi, J., *L'Aes grave del Museo Kircheriano*. Rome 1839.
Marci, J.M. von, *De ides idearum operationibus*. Prague 1635.
——, *De iride*. Prague 1648.
——, *De longitudine seu differentia inter duos meridianos*. Prague 1650.
——, *De natura urinae*. Regensburg 1678.
——, *Idearum operaticium idea, sive Hypotyposis et detectio illius occultae virtutis*. Prague 1634.
——, *Philosophia veter instaurata*. Prague 1662.
Marestaing, P., 'Un Égyptologue du 17. siècle: le père Kircher'. Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes 30 (1908): 22ff.
Marii, G., 'Il sanctuario della Mentorella e il Pr A. Kircher'. *Civiltà Cattolica* [No.] 4 (1915): 692–703; [No.] 1 (1916): 168ff., 563ff.
Mariotte, E., *Traité du movement des eaux*. Paris 1668.
Marsham, J., *Canon chronicus Aegyptiacus, Ebraicus, Graecus et disquisitiones*. Leipzig 1676.
Martini, M., *Brevis relatio… de qualitate Christianorum apud Sinos*. Rome 1654.
——, *De bello inter Tartaros et Chinenses*. Rome 1654.
——, *Historia Sinensis*. Munich 1658.
Mattheson, J., *Das beschützte Orchester*. Hamburg 1717.
Maty, P.H., *A General Index to the Philosophical Transactions*. London 1787, 70 vols.
Maull, O., *Handbuch der Geomorphologie*. Vienna 1958.
Maurolico, F., *Photismi de lumine et umbra ad perspectivam radiorum incidentium Facientes*. Venice 1575.
Mayer, F., *Päpstische vernunftlose Schluss-kunst der neuen Jesuitischen Läster-Academie in Schlesien zum besten*. Hamburg 1694.
Mayer, M., *Arcana arcanissima*. London 1614.
Mayne, E.C. *Deutsche Dichter, Reden und Abhandlungen*. Leipzig 1928.
Mazzari, F., *Il giornali de letteranti*. Rome 1668.
Meibom, M., *Antiquae musicae auctores septem Graece et Latine, etc*. Amsterdam 1652, 2 vols.
Meisen, V., *Prominent Danish Scientists*. Copenhagen 1932.
Mencke, J.B., *Zwey Reden von der Charlatanerie oder Marktschreyerey der Gelehrten*. Leipzig 1716.
Mercati, M., *De gli obelischi di Roma*. Rome 1589.
Mercuriali, H., *Lectiones Patauii habita 1577 in quibus de Pest… tractatur. De peste in Universum, praesertim vero de Veneta et Patavina*. Venice 1577.
Merian, M.U., *Topographie von Heßen und den Nachbar-ländern*. Frankfurt a[m] M[ain] 1655.

Merola, A., [article on Cardinal F. Barberini], *Dizionario biografico degli Italiani*. Rome, 1964, vol. 6, pp. 172ff.
Mersenne, M., *Harmonie universelle*. Paris 1636, 2 vols.
Meursius, J., *Auctores musices antiquissimi*. Leyden 1616.
Meyer, E. von, *The History of Chemistry*. London 1891.
Meyer, J., 'Zu Schiller's Kampf mit dem Drachen'. *Archiv für das Studium der neueren Sprachen und Literaturen* 3 (1847): 232ff.
[Miller, P.N., *Peiresc's Europe: Learning and Virtue in the Seventeenth Century*. New Haven, N.J. 2000].
[——, 'Copts and Scholars: Athanasius Kircher in Peiresc's Republic of Letters'. In P. Findlen (ed.), *Athanasius Kircher: The Last Man who Knew Everything*. London 2004, pp. 133ff.].
Milliet de Challes, C.F., *Cursus seu mundus mathematicus*. Lyon 1674, 3 vols.
Misson, F.M., *Nouveau voyage d'Italie fait en l'année 1688*. The Hague 1691, 2 vols.
[Mitchell, J., and Rhone, C., *Twelve Tribe Nations and the Science of Enchanting the Landscape*. London 1991].
Moelter, M., 'Athanasius Kircher. Dem Rhöner Universalgelehrten zum 300. Geburtstag.' *Heimatbrief des Geisaer Amtes* 86 (1981): 6.
Monconys, B. de., *Journal des voyages…où les sçavants trouveront un nombre infini de nouveautez, etc*. Paris 1677, 2 vols.
Montalbini, O., *Dendrologiae naturalis*. Bologna 1667, 2 vols.
Montfaucon, B. de, *L'antiquité expliquée et représentée en figures*. Paris 1714–1724, 10 vols.
——, *Palaeographia graeca*. Paris 1708.
Morcelli, S.A., *Inscriptiones*. Rome 1783.
Moréri, L., *Le grand dictionaire historique ou le mélange curieux d'histoire sacrée et profane*. Pareis 1687.
Morhof, D.G., *Polyhistor, sive de notitia auctorum et rerum commentarii*. Lübeck 1688.
Morland, S., *Tuba Stentoro-Phonica: an Instrument of Excellent Use, as well at Sea as at Land*. London 1672.
Mostrada, G.F., *Festosi applausi fatti nella Sapienza, Coll. Romano ed altri luoghi di Roma, alla Serenissima Regina di Suetia*. Rome 1656.
Mulerus, N., *Institutionum astronomicarum*. Groningen 1616.
Müller, A., *Hebromadas Observationum de rebus Sinicis, etc.* Colonia Brandenburg 1674.
——, *Monumentum Sinicum*. Berlin 1672.
——, *De Sinarum Magnaeque Tartariae rebus commentatio alphabetica*. Berlin, 1675.
Müller, F.M., *Lectures on the Science of Language*. London 1861, 2 vols.
Müller, G., *Deutsche Dichtung von der Renaissance bis zum Ausgang des Barock*. Potsdam 1927.
Müller, J., *Das Jesuitendrama in den Ländern deutscher Zunge von Anfang (1555) bis zum Hochbarock (1665)*. Augsburg 1930, 2 vols.
Müller, M.C., 'Lanterna Magica'. (Doctoral dissert., Universität Jena). Jena 1704.
Mullet, C.F., *History of the Plague*. Lexington 1956.
Nadler, J., *Literaturgeschichte der deutschen Stämmer und Landschaften*. Regensburg 1912–1928, 4 vols.
Nagl, J.W., and J. Zeidler, *Deutsch-osterreichische Literaturgeschichte*. Vienna 1897–1937, 4 vols.
Napier, J., *Rabdologiae, seu numerationis per virgulas*. London 1617, 2 vols.
Narciss, G.A., *Studien zu den Frauenzimmergesprachen G.Ph. Harsdörffers*. Greifswald 1927.
Nardi, G., *De igne subterraneo*. Florence 1631.
——, *T. Lucretii Cari de rerum natura…Una cum paraphtastica explanatione, etc.* [Florence] 1647.

——, *Noctes physicae geniales*. Bologna 1657.
Naumann, E.G.R., *Catalogus librorum manuscriptorum qui in Bibliotheca Senatoris civitatis Lipsiensis asservatur*. Leipzig 1834–1845.
Nedham, M., *Medela Medicinae. A Plea for the Free Profession*. London 1665.
Neickel, C.F., *Museographia oder Anleitung zum rechten Begriff und nützlicher Auslegung der Museorum oder Raritätenkammern*. Leipzig 1727.
Newald, R., *Die deutschen Gedichte Simon Rettenbachers*. Augsburg 1930.
——, see also under Boor.
Newbold, W.R., *Roger Bacon*. Philadelphia 1928.
Newton, I., *Lectiones optica*. London 1727.
——, *Opticks*. London 1704.
——, *Philosophiae naturalis principia mathematica*., London 1687.
——, *Treatise on the Reflexions, Refractions, Inflexions and Colours of Light*. London 1704.
Niceron, J.F., *Perspective curieuse ou magie artificielle des effets merveilleux de l'optique*. Paris 1638.
——, *Thaumaturgus opticus*. Paris 1646.
Niceron, J.P., *Nachrichten von den Begebenheiten und Schriften berühmter Gelehrten*. Halle 1749–1771, 23 vols.
Nieremberg, J.E., *Trophaea Mariana: seu, de victrice misericordia Deiparæ, etc*. Antwerp 1658.
Noack, F., *Das Deutschtum in Rom*. Stuttgart 1927.
[Nummedal, T.E., 'Kircher's Subterranean World and the Dignity of the Geocosm'. In D. Stolzenberg (ed.), *Great Art of Knowing: The Baroque Encyclopedia of Athanasius Kircher*. Stanford 2001, pp. 37ff.].
Noe, J., *De Religionze Bezieling van Vondels Werk*. Lannos 1952.
Oertel, R., *Macht und Magie des Films*. Vienna 1959.
Olejniczak, T., *Alcuni devoti della Madonna di Mentorella*. Rome 1902.
Olhoff[ius], J.E., *Excerpta ex literis illustrium et clariss. virorum*. Gedanisk 1683.
Orsato, S., *Monumenta Patavina Sertorio Ursati studio collecta, digesta, explicata, suisque iconibus expressa*. Padua 1652.
Osbat, L. (ed.), 'Capponi, Luigi', *Dizionario biografico degli Italiani*. Rome 1976, vol. 19, pp. 67–69.
[Osler, M.J. (ed.), *Rethinking the Scientific Revolution*. Cambridge 2000].
Pachter, G.M., *Ratio studiorum et institutiones scholasticae Societatis Jesu*. Berlin 1890 (Monumenta Germaniae Paedagogica 9).
Paget, N., *Disputatio de peste*. Leyden 1639.
Palissy, B., *Discours admirables de la nature des eaux et des fontaines, de la terre, etc.* Paris 1580.
Pallavicino, S., *Della vita di Alessandro VII*. Prato 1839–1840, 5 vols—*Historiae Concilii Tridentini*. Antwerp 1670.
Palm, H., *Andreas Gryphius: Trauerspiele*. Tübingen 1882.
——, 'Gryphius, Andreas,' in *Allgemeine deutsche Biographie*. Leipzig 1879, vol. 10, pp. 75f.
Paracelsus, *De peste, etc*. Strassburg 1576.
Pardies, I. G., *Horologum thaumanticum duplex*. [n.p. n.d.].
——, *De motu et natura cometarum*. Burdigala 1665.
——, *Discourse de la connoissance* des bestes. Paris 1672.
Pariser, L., 'Quellen zu Gryphius' "Katharina von Georgien".' *Zeitschrift für vergleichende Literaturgeschichte* 5 (1892): 207ff.
Parsons, J., 'Observations upon Father Kircher's Opinion concerning the Burning of the Fleet of Marcellus by Archimedes', [rep. in] *Philosophical Transactions of the Royal Society* 48, 2 (1754): 621.

Pasch, G., *Schediama de curiosis hujus seculi inventis, quorum accuratiori cultui facem praetulit antiquitas*. Kiloni 1695.
Pastor, L. von, *Geschichte der Päpste*. Freiburg i[n] Br[eisgau] 1928, 16 vols.
——, *History of the Popes from the Close of the Middle Ages*, transl. E. Graf OSB. London 1891–1953, 40 vols.
Pastorius-Hirtenberg, J., *Bellum Scythicon Cosassicum*. Gdansk 1652.
——, *Florum Polonicum*. Leyden 1641.
——, *Meditationes super passionem Jesu Christi*. Jena 1664.
Paullini, C.F., *Cynographia curiosa seu canis descriptio*. Nürnberg 1685.
——, *De candore liber singularis*. Leipzig 1703.
——, *Flagellum Salutis oder Heilung durch Schlage*. Frankfurt a[m] M[ain] 1698.
——, *Geographia curiosa*. Frankfurt a[m] M[ain] 1699.
——, *Monatliche Unterredungen einiger guten Freunde von allerhand Büchern und andern annehmlichen Geschichten*. Leipzig 1697.
——, *Observationes medico-physicae, etc*. Leipzig 1706.
——, *Rerum et antiquitatum Germanicarum syntagma*. Frankfurt a[m] M[ain] 1698.
Pause, de la, see under Plantavit.
Payen, A.F., *Prodromus Justinianus*. Paris 1665.
——, *Emblema astronomicum*. Paris 1666.
Peiresc, N.C. Fabri de, *Correspondence avec plusieurs missionaires et religieux de l'ordre des Capucins 1631–1637*. Paris 1891.
Pelcel, F.M., *Böhmische, mährische und schlesische Gelehrte und Schriftsteller*. Prague 1786.
Perez, A., *Conclusiones theologicae de Deo Trino et Uno*. Rome 1648.
Pereura, Thomas, *Eine Musiklehre in chinesischer Sprache… die der Kaiser von China auch ins Tatarische übersetzen liess*. Freiburg i[n] Br[eisgau] 1908.
Pérez Bayer, F., *De nummis Hebraeo-Samaritanis*. Valence 1781.
Pétau [Petavius], D., *Epistolarum libri tres*. Paris 1653, 1652.
——, *Opus theologicis dogmatibus,… de Tridentini Concilii interpretatione, etc*. Antwerp 1700.
——, *Opus de doctrina temporum*, ed. J. Hardvinus. Antwerp 1703, 3 vols.
Petit, S., *see* Tamizey de Larroque, P.
Petreius, Th., *Doctrina Christiana, Armenice, in Latinum versa*. Amesterdam 1667.
Petrucci, G.A., *Fisiologia nuova della natura delle comete nuovamente compersa l'anno 1664 del mese di Dicembre*. Rome 1665.
Pfeiffer, A., *Dubia vexata scripturae sacrae sive loca difficiliora Veteris Testamenti*. Dresden and Leipzig 1713.
Phillips, E.C., 'The Correspondence of Fa. Christopher Clavius S.I. preserved in the Archives of the Pontifical Gregorian University.' *Archivium Historicum Soc. JESU* 8 (1939): 193–222.
Piccirillo, C., *Il piu antico museo dal Collegio Romano al palazzo delle scienze all'EVR*. Rome 1962.
Pignor, L., *Characteres Aegyptii, hoc est sacrorum quibus Aegyptii utuntur simulacrorum delineatio et explicatio*. Frankfurt a[m] M[ain] 1608.
——, *Mensa Isiaca… ex Kirchero Chiffletioque interpretatio*. Amsterdam 1669.
——, *Vetustissimae tabulae hieroglyphicis hoc est sacris litteris caelatae accurata explicatio*. Venice 1605.
Pitra, J.B., *Études sur la Collection des Actes des Saints per les RR.PP. Jesuites Bollandistes, precedées d'une dissertation sur les Anciennes collections hagiographiques, et suivies d'un recueil de pieces pièces inédites*. Paris 1850.
Pizzi, G., *Dissertazione sopra un antico cammeo*. 1772.
Plantavit de la Pause, J. de, *Netâ ha-gefen: Planta Vitis seu thesaurus synonymicus Hebraico-Chaldaico Rabbinicus*. Lodève 1644.

Plencicz, M.A. von, *Opera medico-physica*. Vienna 1762.
——, *Tractatus de Scarlatina*. Vienna 1780.
Poggendorf, J.C., *Histoire de la physique*. Paris 1883.
Pontieri, E. et al., *Storia di Napoli. Storia politica ed economica*. Naples 1967–1981, 5 10 vols.
*Pontificia Università Gregoriana 1553–1953*. Rome 1953.
Porta, Giambattista, *De magia naturalis*. Naples 1558.
Powell, H., *Carolus Stuardus*. Leicester, UK 1955.
Praetorius, M., *Syntagma musicum*. Wittenberg 1615–1620, 3 vols.
Prantl, C., *Geschichte der Logik in Abendlande*. Leipzig 1867.
Priestley, J., *The History and Present State of Electricity: with original experiments*. London 1775, vol. 1.
Prioratio, G., *History of Her Majesty Christina Alexandra Queen of Swedeland*, transl. K. Burbery. London 1658.
——, *Historia della sacra real Maestà di Christina Alessandra, Regina di Suetia, etc.* Rome 1656.
Protz, A., 'Mekanische Musikinstrumente'. In F. Blume (ed.), *Die Musik in Geschichte und Gegenwart*. Basel 1960, vol. 8, cols. 1868ff.
Quatremère, E., *Recherches Critiques et Historiques sur la langue et la littérature de l'Egypte*. Paris 1808.
Quincey, J., *Loimologia: or an Historical Account of the Plague in London*. London 1720.
R., V., 'Athanasius Kircher in Heiligenstadt'. *Buchenblätter* (Beilag der Fuldaer Zeitung für Heimatfreunde [Fulda]) (15, April 1981): 1ff. [?].
Raabe, P., and E. Schinkel (eds), *Sammler Fürst Gelehrter Herzog August zu Braunschweig und Lüneburg 1579–1666*. (Ausstellungskatalog der Herzog August Bibliothek, 27). Wolfen-büttel 1979.
Raess, A., *Die Convertiten seit der Reformation*. Freiburg i[n] Br[eisgau] 1866–1880, 13 vols.
Ramazzini, B., *De morbis artificium diatriba*. Modena 1700.
Rance, A.J., *L'Academie d'Arles au 17 Siècle d'après les documents originaux*. Paris 1886–1890.
Ranke, L. von, *Die römischen Päpste, ihre Kirche und ihr Staat*. Berlin 1938 edn., 3 vols in 2.
[Rastatt, S. (ed.), *Universale Bildung im Barock: Der gelehrte Athanasius Kircher*. Karlsruhe 1981].
Rattray, S., *Aditus novus*. Glasgow 1658.
Redi, F., *Esperienze intorno a diverse cose naturali, e particolarmente a quelle, che ci son portate dall'Indie*. Florence 1671.
——, *Esperienze intorno alla generazione degl'insetti*. Florence 1668.
——, *Osservazioni intorno agli animali viventi che si trovano negli animali viventi*. Florence 1684.
Rehm, W. (ed.), *Briefe von Winckelmann*. Berlin 1952.
Reiffenberg, F., *Historia Societatis Jesv ad Rhenum inferiorem*. Cologne 1764, 2 vols.
Reimmann, J.F., *Bibliotheca acroamatica theologica*. Hannover 1712.
——, *Versuch einer Einleitung in die Historiam Literariam, so wohl insgemein als auch in die Historiam Literariam derer Teutschen*. Magdeburg 1708–1710, 3 pts. in 4 vols[6].
Rhode [Rhodius], J., *Mantissa anatomica ad Thomum Bartholinum*. Copenhagen 1654 (also within *Historiarun anatomicarum rariorum*. Copenhagen 1654, vol. 3).
——, *Observationum medicinatium centuriae tres*. Padua 1657.
——, *Frac. frigimelice tractatus de themis artificialibus*. Padua 1658.

[6] JF gives a volume 4.

Ribadaneira, *see* Alegambe, G.
Riccioli, J.B., *Almagestum novum astronomiam veteram et novam complectens*. Bologna 1651.
[——, *Astronomia reformata*. Bologna 1665].
——, *Geographia et hydrographia reformata*. Bologna 1672.
Richter, G., 'Athanasius Kircher und seine Vaterstadt Geisa.' *Fuldaer Geschichtsblätter* 20 (1928): 45ff.
Richter, W., *Geschichte der Stadt Paderborn*, ed. C. Spancken. Paderborn 1899–1903, 2 vols.
Rinaldi, E., *La fondazione del Collegio Romano*. Arezzo 1914.
Rist, J., *Die aller edelste Belustigung Kunst- und Tugend-liebender Gemüther*. Frankfurt a[m] M[ain] 1666.
Rittangel, J.S., *Hochfeyerliche Solenniteten, Gebehte und Collecten so von der Jüdischen Kirchen am ersten Neuen-Jahrs-Tag gebetet und abgehandelt*. Königsberg 1662.
Ritter, K., *Studien über die geographische Stellung und horizontale Ausbreitung der Erdteile*. Berlin 1826.
Rivosecchi, V., *Esotismo in Roma barocca. Studi sul Padre Kircher*. Rome 1982.
Rizza, C., *Peiresc e l'Italia*. Turin 1965.
Robinson, V., *The Study of Medicine*. New York 1931.
Roden, J. Limberg von, *Denkwürdige Reisebeschreibung durch Deutschland, Italien, Spanien*. Leipzig 1690.
Rolfinck, G.[W.], *Chimia in artis forma redacta*. Jena 1667, Geneva 1671, 6 vols.
——, *Liber de purgantibus vegetabilibus*. Jena 1667.
——, *Non ens chimicum, mercurius metallorum et mineralium*. Jena 1670.
Rome, A., 'Pindare ou Kircher?' *Études Classiques* (Namur) 4 (1935): 337ff.
Römer, C. (ed.), *Universale Bildung im Barock. Der Gelehrte Athanasius Kircher*. Rastatt 1981.
Rommel, C. von, *Leibniz und Landgraf Ernst von Hessen-Rheinfels: Ein ungedruckter Briefwechsel uber religiose und politische Gegenstande*. Frankfurt a[m] M[ain] 1847.
Rosa, D., 'Il Rev. Padre Kircher trasformista.' *Bolletino dei Musei di Zoologica ed Anatomia di Torino* 17, 421 (1902): [1ff.].
Rosa, M., 'Alessandro VII, papa', in Alexander VII. *Dizionario biografico degii Italiani*. Rome 1960, vol. 2, pp. 205–215.
Ross, A., *Medicus medicatus: or, the Physicians Religion cured*. London 1645.
[Rossi, P., *The Dark Abyss of Time: The History of the Earth and the History of Nations*. (trans. L.G. Cochrane). Chicago 1987 edn.].
Roth, J., *Die Ungebung von Vesuvius*. Berlin 1857.
Rottendorff, B., *Dreyfaches Gutachten von der neuen Fiebersucht, der rothen Ruhr und der Pest*. Frankfurt 1679.
[Rowland, I.D., 'Athanasius Kircher, Giordano Bruno, and the *Panspermia* of the Infinite Universe'. In Findlen (ed.), *Athanasius Kircher: The Last Man who knew Everything*. London 2004, pp. 192ff.].
[——, *The Ecstatic Journey: Athanasius Kircher in Baroque Rome*. Chicago 2000].
Ruebsam, P., 'Athanasius Kircher aus Geisa. Ein bedeutender europäischer Gelehrter aus dem Hessenland.' *Heimat im Bild* (Giessen) 15 (1969): pp. 1ff [?].
Ruettenhauer. I., *Fr. v. Spee: ein lebender Martyrer*. Freiburg i[n] Br[eisgau] 1951.
Ruland, A., *Series et vitae professorum SS. theologiae qui Wirceburgi a fundata academia per divum Julium que in Annum MDCCCXXXIV docuerunt*. Würzburg 1835.
Sachs, C., *A Short History of World Music*. London 1949.
——, *Eine Weltgeschichte des Tanzes*. Berlin 1933.
Sacrobosco, J. de, *Sphaera mundi*. Paris 1500.
Salle, A.J., *History of Bacteriology*. London [n.d.].
Saumaise, C., *Epistolarum liber primus*, ed. A. Clementius. Leyden 1656.
Scacchi, M., *Cribrum musicum ad triticum syfertinum*. Venice 1643.

Scavenius, P., *Linguae islandicae rudimenta*. 1654.
Schannat, J.F., *Corpus traditionum Fuldensium*. Leipzig 1724.
——, *Diocesis Fuldensis cum annexa sua hierarchia*. Frankfurt a[m] M[ain] 1727.
Scheiner, C., *De maculis solarib, et stellis circa lovem errantibus, etc.* Augsburg 1612.
——, *Exegesis fundamentorum gnomonicarum*. Ingolstadt 1615.
——, *Oculus, hoc est fundamentum opticum*. Innsbruck 1619.
——, *Prodromus de sole mobili et stabili terra contra Galilaeum*. Rome 1651.
——, *Rosa ursina, sive, Sol ex admirando facularum & macularum suarum phoenomeno varius, etc.* Bracciani 1630.
Schellhammer, G.C., *De natura sibi et medicus vindicata*. Kiel 1697.
Scherer, H., 'Ferdinand Maria, Kurfürst von Bayern', in H. Jaeger (ed.), *Neue deutsche Biographie*. Berlin 1961, vol. 5, pp. 86–87.
Scherz, G. (ed.), *N. Stenonis: epistolae et epistolae ad eum datae*. Copenhagen 1952.
Schiller, J.C.F. von, see Hartford.
Schmitt, K., 'Das Minoritenkloster, der Borgiasbau, das Jesuitenkollegium and der Ackerhof in Fulda.' In Schneider, *Buchonia*, vol. 3, pp. 1ff. [?].
Schneider, J. (ed.), *Buchonia, eine Zeitschrift für vaterländische Geschichte, Alterthums-Kunde, Geographie, Statistik und Topographie*. Fulda 1829, 4 vols.
[Scholem, G., Kabbaliste chrétiens (Cahiers d'hermétisme). Paris 1979].
Schott, K[aspar, or G. = Gaspar], *Mechanica hydraulico-pneumatica*. Würzburg 1657.
——, *Mechanica Hydraulico-pneumatici*. Frankfurt 1657.
Schott, K., *Magia universalis naturae et artis*. Würzburg 1657–1659, 2 vols.
——, *Pantometrum Kircherianum, hoc est instrumentum geometricum novum a P. Ath. Kirchero antehac inventum*. Würzburg 1660.
——, *Cursus mathematicus, etc.* Nürnburg 1661.
——, *Mathesis Caesarea, sive. amussis Ferdinandea*. Würzburg 1662, 4 vols.
——, *Physica curiosa*, 2 vols. Würzburg 1662.
——, *Technica curiosa*. Würzburg 1664, 2 vols.
——, *Schola steganographica…in classes octo distributa*. Nürnberg 1665, 4 vols.
——, *Loco-seriorum naturae et artis sive magiae naturalis centuriae tres*. Würzburg 1667, 4 vols in 1.
——, *Organum mathaematicum*. Nürnburg 1668.
——, *Magia optica*. Bamberg 1671.
Schroeck, L. Jr, *Exercitationem…de moscho…publicae disquisitioni submittit*. Jena 1667.
——, *Memoriana Welschiana…sive historia vitae G.H. Welschii*. Augsburg 1678.
Schroeder, E., *Das Historische Volkslied des 30 jhg. Krieges*. Marburg 1916.
Schroeder, J.H., *Riks-Radet Benzt Skytte*. Uppsala 1854.
Schroeter, A., *Land an der Strasse. Die Geschichte der katholischen Pfarreien in der thüringischen Rhön*. Leipzig 1965.
Schryoch, R.H., *The Development of Modern Medicine*. New York 1932.
[Schuchard, M.K., *Restoring the Temple of Vision: Cabalistic Freemasonry and Stuart Culture*. (Brill's Studies in Intellectual History 110). Leiden 2002].
Schwalenberg, H., *Aphorismi hieroglyphici, hieroglyphici quibus veterum philosophorum mysteria quaedam dedclaruantur ex commentariis hieroglyphicis 10. Pier. Valeriani et Coel. Augustini Curiosis collecti*. Leipzig 1592, 1605.
Schwenkfelt, C., *Fossilium*. Leipzig 1600.
Schwenter, D., *Delitiæ physico mathematicæ…, order mathematische und philosophische Erquickstunden…zusammen getragen durch G.P. Harsdörffern*. Nürnberg 1651–1653, 3 vols (or pts).
Schwineköper, B., 'Christian d. J., Herzog von Braunsweig-Lüneburg-Wolfenbüttel', in H. Jaeger (ed.), *Neue deutsche Biographie*. Berlin 1953–, vol. 3, pp. 225f.
Scott, A.J., *The History of the Jesuits told to the German People*, transl. Th. Griesinger. London 1903.

Scott, J., 'On the Burning Mirrors of Archimedes, with some Propositions relating to the Concentration of Light produced by Reflections of Different Forms'. *Royal Society of Edinburgh Transactions* 25 (1869): 123ff.
Selden, J., *De anno civili et calendario veteris ecclesiae seu republicae judaicae dissertatio*. London 1644.
——, *De Dis Syris syntagmata II* (1617). Leipzig 1662 edn.
Seltmann, C., *Angelus Silesius und seine Mystik*. Breslau 1877.
Sengwerd, A., *Idea physicae generalis et specialis*. Utrecht 1658.
Sengwerd, I.W., *De tarantula*. Leyden 1668.
Sennert, D., *De pestilentia*. Wittenberg 1607.
Sepi, G. de. See under De Sepi. *Romani Collegii Societatis Jesu musaeum celeberrimum*. Amsterdam 1678.
Servetus, M., *Christianismi restitutio*. Nürnberg 1553.
Severinus, M.A., *De piscibus in sicco viventibus*. Naples 1655, 1659.
——, *Tractata de qualitate et natura chocolatae*. Nürnberg 1644.
——, *Vipera Pythia*. Padua 1651.
Sicard, C., *Mémoires des missions du Levant*. Lyon 1780, 2 vols.
[Siebert, *Die große kosmologische Kontroverse: Rekonstruktionsversuche anhand des* Itinerarium exstaticum *von Athanasius Kircher SJ (1602–1680).* (Boethius, 55). Munich 2006].
Silesius, A., *Gründliche Ursachen und Motive*. Olmütz 1653.
Singer, C., *The Development of the Doctrine of Contagium Vivum, 1500–1750: a preliminary sketch*. London 1913.
Sinibaldus, J.B., *Geneathropeiae, etc*. Rome 1642.
Skippon, P., 'An account of a journey made thro' part of the Low Countries, Germany, Italy and France.' In A. and J. Churchill, *A Collection of Voyages and Travels*, London 1736 edn., vol. 6, pp. 559ff.
Slare, F. 'An Abstract of a Letter from Dr Wincler chief Physician of the Prince Palatine, etc.'. *Philosophical Transactions, giving some Accompt of the Present Untertakings, etc.* 13 (1832): 93ff.
Smith, T., *Vita Joannis Gravi… de illius Studiis, Itineribus in Italia*. London 1707.
Somma, A. di, *Historico racconto dei terremoti della Calabria dall' anno 1638 fin' anno 41*. Naples 1641.
Sommervogel, C., *Chymische Zeichen und ihre Bedeutung*: [with] *Catalogue de Heerdegen, a Nürnberg*. Nürnberg 1837.
Sommervogel, C., with A. and A. de Backer, and A. Carayon, *Bibliothèque de la Compagnie de Jésus*. Brussels and Paris 1890–1932, 11 vols.
Southwell, N. (usually called = Sotwell), *Bibliotheca scriptorum Societatis Jesu. Opus inchoatum à R.P. Petro Ribadaneira anno salutis 1602. Continuatum à R.P. Philippo Alegambe usque ad annum 1642.* Rome 1676.
Spahr, B.L., 'Quirin Kuhlmann: the Jena Years'. *Modern Language Notes* 72 (1957): 605ff.
Spallanzani, L., *Dissertationi de fisca animale e vegetabile, etc*. Modena 1780.
Speth, J., *Ars magna consoni et dissoni*. Augsburg 1693.
Spitzel, [G.]T., *De atheismi radice epistola ad H. Meibomium*. Augsburg 1666.
——, *De Atheismo eradicando… epistola. Accessit pius literati hominis secessus*. Augsburg 1669.
——, *Scrutinium atheismi historico-aetiologicum*. Augsburg 1666.
Sprenger, J.R., *Roma nova delineata*. Frankfurt a[m] M[ain] 1660.
Stanzel, V., *Legatus Vranicus exorbe novo in veterem, hoc est observationes americanae cometarum*. Prague 1683.
Stauder, W., 'Kircher, Athanasius', in F. Blume (ed.), *Die Musik in Geschichte und Gegenwart*. Basel 1958, vol. 7, col. 937ff.
Steno, N., *De solido intra solidum naturaliter contento*. Florence 1669.

——, *Traité du movement des eaux*. Paris 1668.
Stevin, S., *De Beghinselen der Weeghcoast*. Leyden 1586.
Sticker, G., *Aus der Vergangenheit der Universität Würzburg*. Berlin and Würzburg 1932.
[Stolzenberg, D. (ed.), *The Great Art of Knowing: The Baroque Encyclopedia of Athanasius Kircher*. Stanford 2001; with the chapter Stolzenberg, 'The Connoisseur of Magic', pp. 49ff.; and 'Kircher among the Ruins: Esoteric Knowledge and Universal History', pp. 127ff.].
Stosch, S. von, 'Christlicher Lebenslauff A. Gryphii.' In C. Knorr, *Signaculum Dei*, pp. 30ff . Glogów 1665.
Stranz, F., *Johann Baptista van Helmot*. Leipzig 1907.
Strich, M., *Das Kurhaus Bayern im Zeitalter Ludwigs XIV und die europäischen Mächte*. Munich 1933.
Stubel, Alphonsus, *Ein Wort über den Sitz der vulkanischen Kräfte*. Leipzig 1901.
Sturm, J.C., *Collegii experimentalis sive curiosi*. Nürnberg 1685, 2 vols.
Sturm, J.C., and L. Reiderer, *Idolum naturae*. Altdorf 1692.
Suaningius, J. (= Svaning, H.J.), *De Epicuro et Epicureis philosophis*, Hafnia 1723 edn.
Suess, E., *Das Antlitz der Erde*. Prague, Vienna and Leipzig 1883–1909, 3 vols.
Sumner, W.L., *The Organ, its Evolution, Principles of Construction and Use*. New York 1952.
Suphan, B., *Herders sämmtliche Werke*. Berlin 1883.
Szasz, H., *Christine von Schweden, Regentin und Renegatin*. Freiburg i[n] Br[eisgau] 1930.
Szczesniak, B., 'Ath. Kircher's "China Illustrata".' *Osiris*, 10, 1952, pp. 385–411.
——, 'The Origins of the Chinese Language according to Athan. Kircher's theory.' *Journal of the American Oriental Society* 72 (1952): 21ff.
Tamizey de Larroque, J.P. (ed.), *Les lettres de Peiresc*. Paris 1888–1898, 7 vols.
——, *Les lettres de S. Petit au Conseiller Peiresc*. Nîmes 1887.
——, *Lettres de Fabri de Peiresc aux Capucins*. Paris 1892.
[Tamizey de Larroque, J.P.,] *Les correspondants de Peiresc: lettres inédites publées et annotées par Philippe Tamizey de Larroque*. (Slatkine Reprints). Geneva 1972, 2 vols.
Tappe, J., *Controversiarum medicarum circa doctrinam de febribus ortarum sexta*. Helmstedt 1649.
Terrin, C., *La Venus et l'obelisque d'Arles*. Arles 1680.
Terzi, L.F., *Prodromo, overo saggio di alcune inventioni nuove premesso all'Arte Maestra*, etc. Brescia 1670.
Thieme, U. and F. Becker, *Allgemeines Lexikon der bildenden Künstler, etc.* Leipzig 1924, 17 vols.
Thiene, H., *Temperatur und Zustand des Erdinnern*. Jena 1907.
Thomas, V., *The Italian Biography of Sir Robt. Dudley Kt.* Stoneleigh 1856.
Thorndike, L., A *History of Magic and Experimental Science*, vols. 7–8: *The Seventeenth Century*. New York 1958.
Tibal, A., *Inventaire des manuscrits de Winckelmann deposés à la Bibliothèque Nationale*. Paris 1911.
Toc, F. du, *Histoire des secretaires d'état*. Paris 1668.
Tomasini, G.F. (pseud.[?]), *Elogia virorum literis et sapientia illustrium ad vivum expressis imaginibus exornata*. Padua 1644.
Tozzetti, G.T., *Atti e memorie inedite dell'Accademia del Cimento*. Florence 1780, 4 vols.
Travagino, F., *Super observationibus a se factis tempore ultimorum terraemotuum ac potissimum Ragusiani physica disquisitio seu gyri terrae diurni indicium*. Leyden 1669.
Treblin, A., *Angelus Silesius: ein Vortrag*. Breslau 1877.
Trithemius von Trittenheim, J., *Polygraphia*. Frankfurt a[m] M[ain] 1518.

——, *Stegonographia: hoc est, ars per occultam scripturam animi sui voluntatem absentibus aperiendi certa*. Frankfurt 1698.
Tromler, C.H., *Bibliothecae Copto-Jacobitae specimen*. Leipzig 1767.
[Trompf, G.W., 'Macrohistory'. In Hanegraaff et al., *Dictionary of Gnosis and Western Esotericism*. Leiden, 2006, vol. 2, pp. 701ff.].
Trostler, J., 'Zu Stoffgeschichte von Schillers Balladen.' *Euphorion* 20 (1913): 573ff.
Tylkowski, W., *Meterologia curiosa, etc.* Cracow 1669.
——, *Philosophia curiosa seu universa Aristotelis philosophia juxta communes sententias exposita, etc.* Oliva 1680–1682 , 2 vols. in 4 pts.
——, *Arithmetica curiosa*. Cracow 1668.
——, *Pietas Christiana seu Compendium Christianae perfectionis*. [n.p. n. d.].
Ugolinus, B., *Thesaurus antiquatum sacrarum*. Venice 1744–1769.
Ullrich, H., 'Zu Schillers Balladen.' *Archiv fur Litteraturgeschichte* 9 (1879): 220ff.
Ulrich, A., *Die durchleuchtige Syrerin Aramena*. Nürnberg 1678–1680, 5 vols.
Ungarelli, A.M., *Interpretatio obeliscorum urbis*. Rome 1842, 2 vols.
Unger, J.H.W., *Bibliographie van Vondels werken*. Amsterdam 1888.
Valerian, J.P., *Commentaires hiéroglyphiques ou images des choses*. Lyon 1576.
Valle, P., *Delle conditioni di Abbas Re di Persia*. Venice 1628.
——, *Discorso sulla musica dell' età nostra*. [Rome] 1640.
Vallemont, L. de, *Curiositez de la nature et de l'art sur le végétation ou l'agriculture et le jardinage dans leur perfection*. Brussels 1734, 2 vols.
Varenius, B., *Geographia generalis*. Cambridge 1672.
Vechius, H., *Imago Vechiana Alessandro VII, Pont. Max. Dedicata*. Paris 1656.
Veith, F.A., *Bibliotheca Augustana*. Augsburg 1785–1796, 12 vols.
[Vermeir, K., 'Athanasius Kircher's Magical Instruments'. *Studies in History and Philosophy of Science* 38, 2 (2007): 363–400].
[Vercellone, F. and Bertinetti, A. (eds.), *Athanasius Kircher*, *Athanasius Kircher: L'idea di scienza universale*. (Serie Morphé). Milan 2007].
Vermeersch, A., *Le Sanctuaire de la Mentorella et le P. Kircher*. Brussells 1891.
[Versluis, A., *Wisdom's Children: A Christian Esoteric Tradition*. Albany, NY. 1999].
[Versluis, A., (ed.), *The Wisdom of Jacob Böhme* (Great Works of Christian Spirituality, 2). St. Paul, Minn. 2003].
Vesalius, A., *De humani corporis fabrica*. Tübingen 1552, 2 vols.
Vesling, J., *De plantis aegyptis observationes et notas ad Prosperum Albinum*. Padua 1638.
——, *De pullitie Aegyptiorum*. Copenhagen 1664.
——, *Systema anatomica*. Utrecht 1696.
Vetter, S., 'Bücherschau: P. Friedländer, *Die Melodie zu Pindars'*. *Zeitschrift für Musikwissenschaft* 17 (1935): 121ff.
Vicentino, N., *L'antica musica: ridotta alla moderna prattica*. Rome 1555.
Vida, G.L. della, *Ricerche sulla formazione del più antico fondo dei manoscritti orientali della Biblioteca Vaticana*. (Biblioteca Apostolica Vaticana, 92). Vatican City 1934.
Viëtor, K., 'Vom Stil und Geist der deutschen Barockdichtung'. Extract repr. in R. Alewyn, *Deutsche Barockforschung*. Berlin 1965, pp. 38ff.
Vitello, V., *Vitellionis perspectivae*. Nuremburg 1553 and Basel 1572 edns.
Vitruvius Pollio, M., *De architectura*. Pisa 1975 edn.
Vogel, C. de, *Disputatio de peste: Pria et posteria*. Amstel 1663.
Voigt, G., *Curiositates physicae, etc.* Güstrow 1668.
——, *Deliciae physicae*. Rostock 1671.
Volkmann, J.J., *Historisch-kritische nachrichten von Italien*. Leipzig 1770–1771, 3 vols.
Vollmer, H. (ed.), *Allgemeine Lexikon der bildenden Künste*. Leipzig 1936.
Vondel, J. van, *Al de Dichtwerken van Joost van Vondel*, ed. J. van Vloten. Schiedam 1864–1866.

Vondel, J. van den, *Apollos harp*. Amsterdam 1658.
——, *Poema de maiestate ecclesiae catholicae*. Amsterdam, n.d. [*ca*. 1630].
Vossius, G., *Rudimenta linguae Persicae*. Leyden 1639.
Vossius, I., *De Nili et aliorum fluminum origine*. The Hague 1666.
——, *Dissertation sur l'origine du nil*. Paris 1667.
*Voyage littéraire de deux religieux Bénédictins de la Congrégation de S. Maur*. Paris 1717–1724, 2 vols.
Waal, A. de, *Der Campo Santo der Deutschen zu Rom*. Freiburg i[n] Br[eisgau] 1896.
Waard, C. de, and R. Pintard (eds), *Correspondance du P. Marin Mersenne, religieux minime*. (Bibliothèque des archives de philosophie). Paris 1932, 18 vols.
Waesberghe, see under Jansson.
Wagenseil, J.C., *Tela ignea Satanae*. Altdorf 1681.
Wagner, R., 'Zum Wiederaufleben dewr antiken Muiskschristeller seit dem 16. Jahrhundert: Ein Beitrag zur Frage: Kircher oder Pindar?' *Philologus* 91 (1945): 161ff.
Wall, C.W., *The Orthography of the Jews*. Dublin 1849.
Walsh, J.J., *Popes and Science*. London 1913.
Walther, J.G., *Musikalisches Lexicon*. Leipzig 1732, 2 vols.
Warburton, W., *Divine Legation of Moses*. London 1738.
Waterhouse, J., 'Historical Notes on Early Photographic Optics'. *Journal of the Camera Club* 1 (1896) 115ff.
——, 'Notes on the Early History of the Camera Obscura'. *The Photographic Journal* 25, 9 (1901): 270ff.
Weddigen, F., *Paderbornsche Geschichte*. Paderborn 1801.
Wegele, F.X. von, *Geschichte der Universitat Wirzburg*. Berlin 1882, 2 vols.
Wegleiter, C., *Oratio de palmariis seculi nostri inventis*. Altdorf 1679.
Wellek, A., 'Renaissance- und Barock-Synäthesie'. *Deutsche Vierteljahrhesschrift für Literatur-wissenschaft und Geistesgeschichte* 9 (1931): 534ff.
Weller, E. (ed.), *Die Lieder des 30. jhg. Krieges*. Basel 1858.
Wenk, C., *De miris rerum mutationibus in generatione, augmentatione, et alteratione*. Ingolstadt 1623.
——, *Notae unguenti magnetici et actiones ejujdem adversus Rudolphum Goclenium*. Dillingen 1626.
Werner, K., *Geschichte der katholischen Theologie*. Munich 1866.
Wertheimer, O. von, *Christine von Schweden*. Leipzig 1936.
[White, A.D. *A History of the Warfare of Science with Theology in Christendom*. New York 1896, 2 vols].
Wichmann, J., *De peste, febribus*. Leyden 1642.
Wigand, A. *Sermo revocatorius, d.i. Wiederruffs-Predigt. Darinn seines von dem Pabstthum Abfalles und aus dem Jesuiten Orden Austrits motiva*. Jena 1671.
[Wikman, K.R., *Lachesis and Nemesis: Four Chapters on the Human Condition in the Writings of Carl Linnaeus*. (Scripta Instituti Donneriani Aboensis IV). Stockholm 1970].
[Wilding, N., '"If You Have a Secret, Either Keep it, or Reveal It"'; and Wilding, 'Kircher's Correspondence'. In D. Stolzenberg (ed.), *The Great Art of Knowing: The Baroque Encyclopedia of Athanasius Kircher*. Stanford 2001, pp. 93ff., and pp. 141ff. respectively].
Wilkens, J., *Novum Testamentum Aegyptiacum vulgo Copticum*. Oxford 1716.
——, *Leben des berühmten Joh. Friderici Gronovii*. Hamburg 1723.
——, *Leben des gelehrten Lucae Holstenii, Protonotarii Apostolici*. Hamburg 1723.

Will, G.A., *Nürnbergisches Gelehrtenlexicon*. Nürnberg and Altdorf 1755–1758, 1802–1808, 8 vols.
[Wimmer, R. (ed.), *"Benebenst feinen und neu=inventirten Kupffer=Stücken": Die Illustrationen der posthumen Grimmelhausen-Gesamtausgabe (1683–1713)* (Sondergabe für die Mitglieder der Grimmelshausen-Gesellschaft 5). Lützeburg (1980s)].
Winckelmann, J.J., *Geschichte der Kunst des Alterthums*. Dresden 1864–1867.
——, see also under Fernow; Rehm.
Windelband, W., *History of Philosophy*. London 1907.
Winslow, C.E.A., *The Conquest of Epidemic Diseases: a Chapter in the History of Ideas*. London 1933, Princeton 1943.
Wirdig, S., *Nova medicina spirituum*. Hamburg 1673.
Wither, G. *Britain's Remembrancer*. London 1857.
Witte, N., *De pestilentia*. Leyden 1648.
Wittmann, P., *Angelus Silesius als Convertite*. Augsburg 1842.
Woide, C.G., 'Mémoire sur le dictionnaire copte.' *Journal des Scavans* (June 1774): 1ff. [?].
Wolf, A., *The History of Science, Technology and Philosophy in the 16th and 17th Centuries*. London 1935.
Wolf, J., *Eichsfeldia Docta sive commentatio de scholis, bibliothecis et doctis Eichsfeldiacis*. Heiligenstadt 1797.
——, *Geschichte und Beschreibung der Stadt Heiligenstadt (mit Urkunden)*. Göttingen 1800.
Worm, O., *De aureo cornu*. Copenhagen 1641.
——, *Regum Daniae series duplex*. Copenhagen 1642.
[Yates, F., *Giordano Bruno and the Hermetic Tradition*. London 1964].
Zachariae, Th., 'Das Daranagari Alphabet bei Athanasius Kircher.' *Wiener Zeitschrift fur die Kunde des Morgenlandes* 15 (1901): 313ff.
Zacchia, P., *Questiones medico-legales*. Rome 1630, 4 vols.
——, *De affectionibus hypochondriacis*. Augsburg 1671.
Zahn, J., *Oculus artificialis teledioptricus, sive telescopium*. Würzburg 1685–1666, 3 vols in 1; Nürnberg 1702 edn.
Zarlino, G., *Le istitutioni harmoniche*. Venice 1558.
Zaun, J., *Beiträge zur Geschichte des Landkapitels Rheingau*. Wiesbaden 1879.
Zenker, J. Th., *Bibliotheca Orientali*. Leipzig 1846, 2 vols in 1.
Zesen, P. von, *Assenat: das ist derselben und Josefs heilige Staats-, Liebes- und Lebensgeschichte*. Munich 1670.
——, *Simson, eine Helden- und Liebes-geschichte*. Nürnberg 1679.
Zesen, P.C. von, *Coelum astronomico-poeticum sive mythologicum stellarum fixarum*. Amsterdam 1662.
Ziegler, H.A. von, *Die asiatische Banise*. Leipzig 1689.
Ziegler, J.R., *Christophori Clavii opera omnis ab ipso authore recognita*. Mainz 1612.
[Ziggelaar, August. *Chaos: Niels Stensen's Chaos Manuscript Copenhagen 1659*. Copenhagen 1997].
Zinner, E., *Alte Sonnenuhren an europäoischen Gebäuden*. Wiesbaden 1964.
Zirngiebl, E., *Studien über das Institut der Gesellschaft Jesu*. Leipzig 1870.
Zittel, K.A., *The History of Geology*. London 1922.
Zoega, G., *De origine et usu obeliscorum*. Rome 1797.
Zwelfer, J., *Animadversiones, in pharmacopoeiam Augustaram et annexam eius mantissan*. Dordrecht 1672.
——, *Pharmacopoeia Augustuum reformata*. Augsburg 1653.

# INDEX