

## Athanasius Kircher

Celebrated for the versatility of his knowledge and particularly distinguished for his knowledge of the natural sciences, b. 2 May, 1601, at Geisa, a small town on the northern bank of the Upper Rhone (Buchonia); d. at Rome, 28 Nov., 1680.

From his birthplace he was accustomed to add the Latin epithet *Bucho*, or *Buchonius*, to his name, although later he preferred calling himself *Fuldensis* after Fulda, the capital of his native country. The name Athanasius was given him in honour of the saint on whose feast he was born.

John Kircher, the father of Athanasius, had studied philosophy and theology at Mainz, without, however, embracing the priestly calling. As soon as he had obtained the doctor's degree in the latter faculty, he went to lecture on theology in the Benedictine house at Seligenstadt. Athanasius studied humanities at the Jesuit College in Fulda, and on 2 Oct., 1618, entered the Society of Jesus at Paderborn. At the end of his novitiate he repaired to Cologne for his philosophical studies. The journey thither was, on account of the confusion caused by the Thirty Years' War, attended with great danger. Together with his study of speculative philosophy the talented young student devoted himself especially to the natural sciences and the classical languages, for which reason he was shortly afterwards called to teach these branches at the Jesuit colleges in Coblenz and Heiligenstadt. In Mainz, where Kircher (1625) began his theological studies, he attracted the notice of the elector through his ability and his skill as an experimentalist. In 1628 he was ordained priest, and hardly had he finished his last year of probation at Speyer when the chair of ethics and mathematics was given to him the University of Würzburg, while at the same time he had to give instructions in the Syrian and Hebrew languages. However, the disorders consequent on the wars obliged him to go first to Lyons in France (1631) and later to Avignon.

The discovery of some hieroglyphic characters in the library at Speyer led Kircher to make his first attempt to solve the problem of hieroglyphical writing, which still baffled all scholars. At Aix he made the acquaintance of the well-known French senator, Scolas Peiresc, whose magnificent collections aroused in Kircher the highest interest. Recognizing in Kircher the right man to solve the old Egyptian riddle, Peiresc applied direct to Rome and to the General of the Jesuits to have Kircher's call to Vienna by the emperor set aside and to procure a summons for the scholar to the Eternal City. This generous intention was favoured by Providence, inasmuch as Kircher on his way to Vienna was shipwrecked near Civit  Vecchia, and arrived in Rome before the knowledge of his call thither had reached him. Until his death (28 Nov., 1680), Rome was now to be the principal scene of Kircher's many-sided activity, which soon developed in such an astonishing way that pope, emperor, princes, and prelates vied with one another in furthering and supporting the investigations of the learned scholar. After six years of successful teaching in the Roman College, where he lectured on physics, mathematics, and Oriental languages, he was released from these duties that he might have freedom in his studies and might devote himself to formal scientific research, especially in Southern Italy and Sicily. He took advantage of a trip to Malta to explore thoroughly the various volcanoes which exist between Naples and that island. He studied especially in 1638 the Strait of Messina, where, besides the noise of the surge, a dull subterranean rumble attracted his attention. At Trapani and Palermo his interest was aroused by the remains of antediluvian elephants. But before all else he tried to discover the subterranean power of the volcanoes of Etna and Stromboli, then in eruption; public attention had been called to such mysterious phenomena by the frightful eruption of Vesuvius in 1630.

When Kircher left Messina in 1638 to return to Naples, a terrible earthquake occurred which destroyed the city of Euphemia. Like Pliny before him (A.D. 79), Kircher wished to study at close range this

powerful convulsion of nature. On reaching Naples he at once climbed Vesuvius, and had himself lowered by means of a rope into the crater of the volcanic mountain and with the help of his pantometer ascertained exactly the different dimensions of the crater and its inner structure. As the firstfruits of his travels he published, for the Knights of Malta, "Specula Melitensis Encyclica sive syntagma novum instrumentorum physico-mathematicorum" (Messina, 1638). It was forty years later that the fully matured results of these investigations appeared in Kircher's great work, the "Mundus Subterraneus", in two volumes (Amsterdam, 1678), which enjoyed the greatest repute in his time; not only did it give an incentive to the more searching investigation of subterranean forces, but it contributed much to their final explanation. When again in Rome, Kircher began collecting all kinds of antiquities and ethnologically important remains, thus laying the foundation of the well-known museum which, as the "Museum Kircherianum", still attracts today so many visitors to the Roman College. Epoch-making also were Kircher's labours in the domain of deciphering hieroglyphics, and, on the excavation of the so-called Pamphylian obelisk, he succeeded in supplying correctly the portions which had been concealed from him. It must be remembered that in those days little or no attention was paid to this subject, and that it was therefore in itself a great service to have taken the initiative in this branch of investigation, however lacking his efforts may have been in the fundamental principles of the science as it is known today. Kircher also gave an impetus to the intimate study of the relations between the different languages: Latin, Greek, Hebrew, Chaldaic, Syrian, Samaritan, Arabic, Armenian, Coptic, Persian, Ethiopian, Italian, German, Spanish, French, Portuguese.

Thus in the most varied branches of science Kircher played the rôle of pioneer. Even medicine received his attention, as is shown for example by his treatise, "Scrutinium physico-medicum contagiosæ luis, quæ pestis dicitur" (Rome, 1658). He also tried to form a universal language ("Polygraphia seu artificium lingarum, quo cum omnibus totius mundi populis poterit quis correspondere", Rome, 1663). His scientific activities brought him into scientific correspondence with scholars labouring in the most different fields, as the numerous volumes of his extant letters show. It is to his inventive mind that we owe one of the earliest of our counting machines: the speaking-tube and æolian harp were perfected by him. He was also the inventor of the magic lantern which has since been brought to such perfection and is today almost indispensable.

That the most varied judgments should be formed and expressed on a man of such encyclopædic knowledge was only to be expected. He tried to find a grain of truth even in the false sciences of alchemy, astrology, and horoscopy, which were still in his time much in vogue, nor is it surprising that in the province of astronomy he did not at this early date defend the Copernican System.

With all his learning and vast amount of adulation which he received on all sides, Kircher retained throughout his life a deep humility and a childlike piety. In 1629 he had intimated to his general his desire to devote his life exclusively to the spreading of the Faith in China, but this wish remained unfulfilled, and, to console himself for this disappointment, he erected during his last years a sanctuary (della Mentorella) in honour of the Mother of God on the crest of the Sabine Hill near Rome, whither, during his lifetime as now, thousands made pilgrimages and found help and consolation. In this sanctuary Kircher's heart was buried, and at the beginning of the twentieth century this place of pilgrimage was distinguished by a gigantic statue of our Divine Redeemer on the neighbouring crest of Guadagnole.

To give an approximate idea of Kircher's literary activity it is only necessary to remark that during his sojourn in Rome no less than forty-four folio volumes came from his pen. A full list of his writings is to be found in Sommervogel, "Bibl. Scriptorum S.J.". Besides the works already named, it is sufficient to mention here: "Magnes sive de arte magnetica" (Rome, 1640; Cologne, 1643, 1654); "Lingua

ægyptiaca restituta" (Rome, 1643); "Ars magna lucis et umbræ" (Rome, 1644); "Musurgia universalis sive ars consoni et dissoni" (Rome, 1650); "Itinerarium extaticum s. opificium coeleste" (Rome, 1656); "Iter extaticum secundum, mundi subterranei prodromus" (Rome, 1657); "Obeliscus Pamphylius" (Rome, 1650).