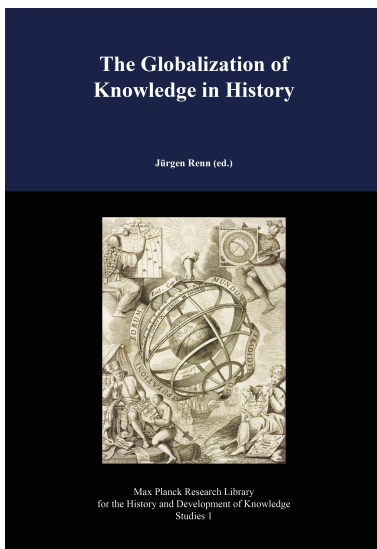


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Gotthard Strohmaier:

From Khwarazm to Cordoba: The Propagation of Non-Religious Knowledge in the Islamic Empire



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Chapter 13

From Khwarazm to Cordoba: The Propagation of Non-Religious Knowledge in the Islamic Empire

Gotthard Strohmaier

13.1 Introduction

The fact that so much Greek knowledge was transferred to Western Europe via the multi-faceted culture of the Islamic Middle Ages can be explained by various factors. The first was the tolerance of the victorious Muslims toward the *People of the Book*, among them Christian Syrian and Arab intellectuals, heirs of the ancient School of Alexandria who went on to teach more secular-minded spirits in Baghdad in the ninth century. Almost the whole syllabus of philosophy and the sciences still alive in late antiquity thus became accessible in good translations and superseded the Indian influences that were more prominent at the beginning of the Abbasid era. Another factor was the eradication of pagan traditions outside the realm of Christian influence, which created a homogeneous cultural area, dominated not only by the Koran and Muslim orthodoxy, but also—especially at the courts—by Aristotelian philosophy and Ptolemaic astronomy. As later in the European enlightenment Socrates became an iconic figure. At the Western margins of this area, where the Muslims had to retreat before an increasing Christian power, Latin Scholasticism acquired treasures of Arabic manuscripts that were translated in due course.

13.2 A Special Position of the Christians

Khwarazm, an oasis on the Amu Darya River delta and the site of an ancient culture, was ravaged by various catastrophes over the course of its history. One of these was the Arab conquest in the year 712. The universal scholar al-Bīrūnī (973–1048), a native of this land, described this event in his *Chronology* with the following words:

After Quṭayba ibn Muslim al-Bāhili¹ had killed their learned men and priests and had burned their books and writings, they became illiterate and had to rely on memory for the knowledge they required. (al-Bīrūnī and Sachau 1923, 48, 12–14)

¹An Arab military leader by order of al-Ḥajjāj ibn Yūsuf, governor of the Umayyads in Iraq, see (Bosworth 1982, 541–542).

C. E. Bosworth believes this succinct declaration to be exaggerated (Bosworth 1978a, 1062). But even a scholar as interested as al-Bīrūnī in the history of his homeland could not relate more than fragmentary and imprecise accounts about the time before the Islamic conquest, as can be shown today by numismatic research (Vaynberg 1977, 80–84). This testifies to the fact that the region suffered from a cultural vacuum that became filled over the course of time with Islamic religion and also with knowledge of non-Islamic origin contained in Arabic literature, foremost of Greek origin.

The victorious Muslims had treated the Christians in Egypt, Syria, North Africa and Spain more indulgently. According to the Koran, these populations were not heathens doomed for the sword, but *People of the Book*, i.e. of a divine revelation prior to the Koran. As such, their educational institutions also remained intact: the School of Alexandria and the Syrian theological academies and hospitals, which were also sites of medical training. In the Abbasid capital of Baghdad, Syrian and Christian Arab intellectuals impressed their keen Muslim pupils with their superior knowledge of Aristotelian philosophy, of Ptolemaic astronomy and of Galenic medicine.

Al-Bīrūnī reports a conflict that had erupted in Baghdad one hundred years previously between the Nestorian Christian philosopher Abū Bishr Mattā ibn Yūnus and the Muʿtazili theologian al-Jubbāʿī. The latter, in this respect still beholden to the worldview of the Koran, did not believe that the Earth is shaped like a sphere and acknowledged before an assembly of scholars, known as a *majlis*, that he had indignantly ripped out pages on this subject from a tract by Aristotle, at which point the philosopher ridiculed him before the entire assembly (al-Bīrūnī and Bulgakov 1962, 158–186). It is understandable that the audience would have been interested in consulting the tracts of Aristotle themselves. Arabic translations of a plenitude of Greek texts were commissioned and well paid. They were copied over and again and so propagated over the entire vast territory of Islam, from Cordoba in the West to Khwarazm in the East. There was some resistance, like that of Marcus Porcius Cato *the Elder* (234–149 BCE) of Rome who, in a previous age, had battled against what he believed to be the pernicious influence of the Greeks.² But in both instances the educated class prevailed in appropriating anything that might be of value, rather than simply leaving it in the possession of the subjugated people.

13.3 A New Kind of Uniformity

As in the ages of Hellenism and the Roman Empire, a growing uniformity in the worldly sciences and philosophy took place across a vast territory, expedited by scholarly journeys and trade in books, now produced with the inexpensive paper adopted from the Chinese. We can detect the same uniformity in other areas as well, even in those that were cultivated alongside religion and without any internal

²Cf. (Nutton 1986).

connection to it, such as music and musical instruments, and decorative patterns in handicrafts. One must not neglect the strong cultural ties that united all Muslim peoples, as was done in the first volume of a seven-volume history of philosophy published in Moscow in 1957, where the thinkers of the East, too, were duly acknowledged, but in questionable order. After the Chinese, Indians and Japanese came the Iranians and the Arab peoples with an appendix of Jewish philosophers, and at the end the peoples of Central Asia and Transcaucasia, separated from their Muslim brethren by Byzantines in between. This was methodological nonsense, but it fit well with Soviet nationalities policy (Dybnik 1957).

When the young Ibn Sīnā (980 or earlier–1037) received permission to visit the court library of the Emir in Bukhara, he immediately requested access to the catalog of books by the “Ancients” (Gohlmann 1974, 36f.). The “Ancients” were none other than the ancient Greeks, above all Aristotle along with his disciples and commentators, and the physician Galen of Pergamon (129–216 CE), who was also revered as a philosopher in his own right. As apparent from the frequent mention of their names, these were the dominant figures in the scientific and philosophical discourse. This circumstance may not be interpreted to mean that this discourse was already dominated by “European” influences, as is still the case today. The Greeks who lived around the Mediterranean were not Europeans in the contemporary sense (Strohmaier 1998), and more than a few authors who wrote in Greek were not ethnic Greeks themselves. The perpetuation of Greek philosophy in the Islamic space, emanating primarily from the School of Alexandria, was not an imported phenomenon, but just as indigenous as Oriental Christianity. As such, I would not speak of a “first international epoch of science”³; the important Arab translator Ḥunayn ibn Isḥāq (807–873 CE) collected his Greek manuscripts from all over the Middle East; he did not have to request them from the Byzantines (Strohmaier 1994). This does not exclude the possibility that Caliph al-Maʿmūn (r. 813–833 CE) endeavored in his diplomatic correspondence to fill several gaps in the inventories of his “House of Wisdom,” including the futile attempt to lure to his court the Greek philosopher Leo, who lived in poverty in his home country (Lemerle 1971, 148–154). Even though his experts in astronomy, mathematics and geodesy were so advanced that they probably had nothing left to learn from the Byzantine scholar,⁴ in my opinion having a native speaker of Greek, especially one who mastered the nomenclature, would have been useful in studying the works of the Ancients. Episodes of this kind still cannot alter the general depiction of an autochthonous stream of Ancient scientific education that had not yet run dry.

13.4 Autochthonous Greek Learning versus Indian Science

As a martyr of philosophy, Socrates was an iconic figure for many intellectuals; the notorious Abū Bakr Muḥammad ibn Zakarīyāʿ al-Rāzī (around 854–925 or

³Cf. (Endreß 2004, 2).

⁴So, certainly justifiably (Gutas 1998, 180).

935 CE), known in the Occident as Rhazes, a heretic who deemed all prophets of the revealed religions to be frauds, had even chosen him as his imam (Strohmaier 1997) and the name Suqrāt appears along with two apocryphal sayings on a mausoleum in the Street of Tombs of Shāh-i Zindā in Samarkand (Strohmaier 1993). The military campaigns of Maḥmūd of Ghazna presented al-Bīrūnī with the opportunity to study the religion, customs and also the sciences of the Hindus. He came to the conclusion that these were generally inferior to those of the Greeks. The compromises which Indian astronomers entered into with their folk religion made him aware of their lack of a Socrates who was ready to die for the sake of truth.⁵



Figure 13.1: Preface to the Zij (astronomical book) of Ulugh Beyg produced in Samarkand ca.1440. From the Art and History Collection at Arthur M. Sackler Museum, Washington DC.

In Baghdad there was initially a sort of competition with Indian science, sponsored by the courtiers of Persian ethnicity. Of particular prominence are

⁵See (al-Bīrūnī and Sachau 1925, 12, 16–18, 256.21; Strohmaier 2002b, n°s 55 and 62).

the activities of the mathematician and astronomer Abū Jaʿfar Muḥammad ibn Mūsā al-Khwārizmī (around 800–847 CE), who, as the name states, came from Khwarazm, but worked during this early period at the “House of Wisdom” in Baghdad and propagated Indian algebra. Over the course of time the modest Indian contribution was increasingly marginalized by the Greek elements, even in Central Asia. Oddly enough, the Indian heritage was perpetuated best in Spain, as can be seen from the Latin translations produced there, which preserve some of what was lost in the Arabic originals (Strohmaier 1992). Not even the system of Indian numerals was able to propagate among Muslim scholars as would be expected. They remained true to the Greek alphabetic system. Ibn Sīnā’s attentive father, who wanted his son to learn everything, sent him for this instruction to a greengrocer at the market (Gohlmann 1974, 20–21), where the practical method was better established. Ibn Sīnā’s tutor al-Nātīlī, with whom he studied Aristotelian logic and Euclidean mathematics, apparently did not feel responsible for teaching this subject.

It may seem surprising that Chinese philosophy and science did not have any visible influence on Central Asian thinking despite the geographical proximity of trade ties via the Silk Road. What did arrive were individual commercial goods and at best the stories associated with them for the purpose of promoting their sale. Included under the keyword “tea” in al-Bīrūnī’s *Pharmacognosy* is a legend relating how the beneficial effect of the plant was discovered by an imperial official.⁶ Even he, a native of Khwarazm, shared the prevalent opinion that there was only one nation to the East with a proclivity for science, namely India (Strohmaier 2008, 243f.).

13.5 The Role of the Courts

Well into the Modern Age there was no foundation of institutions in Islam comparable to the Ancient School of Alexandria or our universities (Makdisi 1981, 75). The setting for the cultivation of worldly sciences was the courts, which had flourished and multiplied over the course of feudal fragmentation. A good comparison is the proliferation of small states in eighteenth-century Germany and the Weimar minister of state and poet Goethe, although as a leading natural scientist of his time he was able to maintain connections to a university, the one in Jena. Of course, this created a precarious situation in Islam, where much depended on the person of the monarch and the constraints placed upon him by the masses and their orthodox spokesmen. This was the case in Cordoba, for instance, where the philosopher Ibn Rushd (1126–1198 CE), known in the West as Averroës, was banned; he went on to become an influential commentator of Aristotle in Latin scholasticism, an achievement denied him by the subsequent generations of Muslim thinkers.

⁶See (al-Bīrūnī and Karimov 1973, n° 237; Strohmaier 2002b, n° 85); cf. (Strohmaier 1978).

The spontaneous assemblies at the court of scholars with various areas of interest can be designated as academies in the contemporary sense. The biography of Ibn Sīnā contains a vivid depiction of the circumstances in Isfahan under the auspices of Alā³ al-Dawla, who was decried as a libertine by the orthodox.⁷ Particularly favorable conditions existed under the reign of the Ma³mūnids in Khwarazm, who ruled as the Khwarazm Shahs from 995 until 1017 (Bosworth 1978b, 1066). The manifold relationships between the individual scholars can be inferred from the manuscripts, which bear mutual dedications. It would be a rewarding task to compile lists of who dedicated what to whom. Even though not all texts have survived, in many cases we have the bibliographic notations documenting these interrelationships. At the same time, these dedicated manuscripts are an indication of the oral exchange that can be presumed, but which is reported only in exceptional cases. Worthy of particular mention is the role of the vizier and patron Abū l-Ḥusayn Aḥmad al-Suhaylī, to whom an especially great number of manuscripts were dedicated by grateful scholars. Ibn Sīnā committed to him a treatise on the subject of why the Earth stands still at the center of the cosmos (Gohlmann 1974, 149, n° 44). It may be presumed that this very issue had been challenged in preceding debates. However, these concerned only the possibility of rotation at a stationary position, not an anticipation of the Copernican Revolution. In Ghazna, Afghanistan, al-Bīrūnī dedicated an *Introduction to Astrology* to an otherwise unknown woman by the name of Rayḥāna, who came from Khwarazm like himself (al-Bīrūnī and Wright 1934).

A choice example of such a disputatious exchange is the correspondence between al-Bīrūnī and Ibn Sīnā about questions of Aristotelian natural philosophy, which they conducted until Ibn Sīnā came to Khwarazm on his flight from Bukhara. It is remarkable in terms of their worldview, as al-Bīrūnī adheres to the creationism of the Koran, while Ibn Sīnā advocates a neo-Platonic Aristotelian theory of the world's eternity.⁸ This was connected with the question as to whether the heavenly spheres are also subject to changes, which al-Bīrūnī holds to be possible, pointing out that in the mountains, too, such changes cannot be observed in real time with the naked eye. The correspondence also includes a purely historical discussion of the role of the Christian professor John Philoponus, who had taught in Alexandria five hundred years before.⁹ This demonstrates the continuing vibrancy of the heritage of the School of Alexandria.

As intellectual centers, the courts in the East as in the Spanish West presented successful competition to the caliphate capital of Baghdad, and thus it was not unusual for experts to leave the capital to seek accommodation elsewhere, as for example, the Christian scientist and translator from Syriac into Arabic Abū l-Khayr al-Ḥasan ibn Suwār ibn Bābā ibn al-Khammār, who accepted the call of

⁷See (Gohlmann 1974, 64f.; Strohmaier 2006, 37–39).

⁸See (Naṣr and Muḥaqqiq 1972, 12.7–13.1, 19.9–20.3, 51.13–52.10, 53.16–54.8; Strohmaier 2002b, n°s 6 and 7).

⁹Cf. (Sambursky 1965, 571–597).

the Khwarazm Shah Abū l-ʿAbbās Maʿmūn II (Kraemer 1986, 123–130). From Gorgan on the Caspian Sea came the physician Abū Sahl ʿĪsā ibn Yaḥyā al-Masīhī, also a Christian, as the name reveals. He wrote a handbook of medicine for the above-mentioned vizier al-Suhaylī (Ullmann 1970, 151; Karmi 1978, 271–273).

The role of the courts, even in the late nineteenth century, can be inferred from the example of Bukhara, where the scholar—and intimate of the Emir—Aḥmad Makhdūm Dōnīsh (1827–1897) was able to predict a lunar eclipse, while the clerical teachers at the madrasah Miri Arab denounced this as the work of the devil, or so it was depicted in the perhaps slightly exaggerated satire of the *Memoirs* of Sadriddin Ayni, the founder of the modern Tajik literary language (Ayni 1953). Moreover, these teachers were experts on Aristotelian logic, which they cultivated in a fatuous and tedious manner (Strohmaier 1983). This was one of the many examples for the general decline of intellectual life in the Muslim world.¹⁰

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¹⁰About the probable causes, cf. (Strohmaier 2002b; Cosandey 2007, 321–370).

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