



Summary :

School of higher education in sciences (astronomy, mathematics, geography). With a tradition going back to the 7th century, the school acquired particular fame in the 13th and 14th centuries, when it became a place where various scientific traditions converged and developed. The most prominent scholars of that period were attracted to it, with emphasis on the developments in astronomy.

Date

13th-15th centuries

Geographical Location

Trebizond

1. Historical Background

The city of [Trebizond](#) had established a tradition in the study of mathematical sciences, especially astronomy, arithmetic and geometry. Already in the 7th century, the renowned teacher Tychikos probably taught there mathematics as well as elements of science;¹ his classes were attended by students from nearby areas and even from Constantinople, possibly at the expense of the Byzantine state. The [church of St. Eugenios](#), where he used to teach, became a centre of attraction for youths from all over the Empire, as reported in the autobiography of one of his students, Ananias of Shirak (from Shirak, Armenia),² who also mentions his teacher's rich library.

There are no sources providing information about the operation of the school in the 9th-10th centuries.³ The systematic development of sciences is attested from the 11th century on, and especially in the years of the Grand Komnenoi (1204-1461), in the [state of Trebizond](#), when a group of important scholars appeared and organised the School of Trebizond, according to the Byzantine standards of that period: a number of students were gathered around a famous teacher before they followed their own careers as teachers. The school was greatly helped by Emperor [Alexios II Grand Komnenos](#) (1297-1330), who paid considerable amounts inviting astronomers, physicians and philosophers to teach.⁴ The school also flourished in the years of [Alexios III Grand Komnenos](#) (1349-1390), who supported it in every possible way. Although the school operated until the [fall of Trebizond](#) to the Ottomans (1461), limited information is provided by the sources after Alexios III's death.

2. Structure and Operation

The school was initially based at the church of St. Eugenios, where Tychikos supposedly established his library already in the 7th century; after the church was destroyed by fire in 1340, the lessons were given at the [church of Hagia Sophia](#) (the Divine Wisdom), 2 km to the west of Trebizond.⁵

The function of the school was defined by each renowned scholar who became the pole of attraction and the teacher of higher-level students; this was how schools of higher education operated at that period. The teacher decided on the content and the structure of the lessons according to his interests.⁶

The School of Trebizond has been associated with influential scholars of the Late Byzantine period. Among those who taught there were [Gregory Chioniades](#), the priest Manuel, [Constantine Loukites](#) and [Andrew Libadenos](#), who all systematically studied astronomy and mathematics with spectacular results.⁷ Some of their students were [George Chrysokokkes](#), cardinal [Bessarion](#) and [Georgios Amiroutzes](#). The school became the centre of attraction for scholars interested in astronomy from various regions of the Byzantine Empire, as happened with [George Akropolites](#), who visited the city in 1281 sent by Emperor [Michael VIII Palaiologos](#) (1261-1282).

3. Impact on sciences

In its heyday, the school is characterized by an intense interest in Persian astronomy, while Trebizond became the point through which Persian astronomical tradition was introduced in Byzantium. This was partly due to the geographical position of the city, the last station in the [routes](#) of communication and [trade with the East](#). Apart from commercial relations, the Empire of Trebizond had also close diplomatic ties with Persia. It should be noted that astronomy in that period in Persia was highly developed, as suggested by both written sources and the existence of an observatory in Maraga. Important for the introduction of the Persian astronomy to the School of Trebizond was the role of Gregory Chioniades (late 13th-early 14th century): Chioniades travelled to Persia, learned the Persian language, studied astronomy by Shams al-Din al-Bukhari, a prominent Persian astronomer, and collected a large number of texts, including notes taken during his teacher's lectures,⁸ which he later took to Trebizond; they were translated by the priest Manuel and Chioniades used them in his own classes.

A series of astronomical texts of the same period proves the attraction of the school and the increased interest in astronomy including, apart from the



translation of the work of Shamsh al-Din al-Bukhari, a [text of astronomical predictions](#) about the city of Trebizond in 1336.⁹

The scholars gathered in Trebizond also served as mediators as they were responsible for spreading the Persian astronomical tradition to Constantinople and the West. The "[Introduction to the Syntaxis of the Persians](#)" written by George Chrysokokkes in 1346 is a work that greatly contributed to the development of Byzantine astronomical studies.

1. About Tychikos, see Lemerle, P., *Ο πρώτος βυζαντινός ουμανισμός* (Athens 1985), pp. 79 ff.
2. See Lemerle, P., *Ο πρώτος βυζαντινός ουμανισμός* (Athens 1985), pp. 77-81.
3. However, there are occasional indications: the *life of St. Abramios* reports that Abramios, born in Trebizond circa 925, after receiving basic education, could not continue to higher studies in his birthplace; see Lemerle, P., *Ο πρώτος βυζαντινός ουμανισμός* (Athens 1985), pp. 231 ff.
4. According to metropolitan Joseph, see Παπαδόπουλος-Κεραμεύς, Α. (ed.), "Ιωσήφ Τραπεζούντος (Ιωάννης Λαζαρόπουλος), «Εγκώμιον»", *Fontes historiae imperii Trapezuntini* (Saint Petersburg 1897), pp. 61-62. However, Papadopoulos supports that the *Εγκώμιον* refers to Alexios III.
5. See Bryer, A.A.M. – Winfield, D., *The Byzantine Monuments and Topography of Pontos I* (Washington D.C. 1985), pp. 222-223.
6. See Lemerle, P., *Ο πρώτος βυζαντινός ουμανισμός* (Athens 1985), pp. 218ff.
7. See Παρανάκας, Μ. (ed.), *Ανδρέα Λιβαδηνού, Περιήγησις* (Constantinople 1874), pp. 22ff.
8. Νικολαΐδης, Θ., "Οι επιστήμες στο Βυζάντιο", in Καράς, Γ. (ed.), *Ιστορία και φιλοσοφία των επιστημών στον ελληνικό χώρο* (Athens 2003), pp. 26-44, esp. p. 39.
9. It was initially attributed to Libadenos, but subsequent evidence proved this attribution wrong, and the writer remains unknown. See Mercier, R., *An Almanac for Trebizond for the year 1336* (Corpus des astronomes Byzantins VII, Institut Orientaliste de Louvain, Louvain-la-Neuve 1994).

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Chronological Table

7th c. (third quarter): Tychikos teaches at the church of St. Eugenios, inaugurating the tradition of the school

1297: Alexios II Grand Komnenos ascends the throne of Trebizond (1297-1330)

1340: The centre of the school is transferred to the church of Hagia Sophia

1349: Alexios III Grand Komnenos ascends the throne of Trebizond (1349-1390)