

THE GREATEST BYZANTINE ASTRONOMER  
NICEPHOROS GREGORAS AND SERBS

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**Abstract.** Nicephoros Gregoras (1295-1360) is considered along with his teacher, Theodoros Metochites, as the most significant scholar and the greatest astronomer of Byzantium. Gregoras was the first to propose, in 1324, a correction to the calculation of Easter, and the reform of the Julian calendar similar to the one adopted later, in 1582, by the Pope Gregory XIII. His famous book "Byzantine history" is an important source for the researches on medieval Serbia. He was also in a diplomatic mission on the court of Serbian king Stefan Dečanski.

1. LIFE AND WORKS OF NICEPHOROS GREGORAS

The greatest Byzantine astronomer Nicephoros Gregoras (1295-1360) was born in Heracleia of Pontus, where he obtained the basic education. He was raised by his uncle John (1249-1328), Bishop of Heracleia. John educated Nicephoros and introduced him to the ancient Greek writers, especially to Plato. At the age of twenty, he was sent by his uncle to Constantinople to continue his studies. Patriarch John XIII "the Sweet" (1315-1328) taught him Aristotelian logic. At about the same time, Nicephoros met the most eminent Platonist philosopher and Great Logothetes (a kind of Prime Minister) of the Byzantine Empire Theodoros Metochites (1260-1332), considered as the one of the greatest forerunners of the Renaissance in the Greek world. Metochites taught Nicephoros philosophy, astronomy and mathematics. He proved to be worth of his teacher, "having no other superior, neither in the East nor in the West". Moreover, he had a common interest with him: politics.

In 1320 Theodoros Metochites presented his superb student to the Emperor Andronicus II Palaeologus (1282-1328), who won his trust owing to his abilities and his intelligence.

Gregoras founded the "Mone tes Choras" ("Monastery of the Country"), a distinguished School where he started to teach philosophy, mathematics and astronomy to a large number of Byzantine and European students. The large body of his works covers various disciplines such as history, theology, philosophy, astronomy, and others, almost all the branches of knowledge in Byzantium. He was the *homo universalis* of his epoch. His "Roman History", i.e. Byzantine History, composed of 37 books, is considered especially important. Its 7 leading chapters give a short account of the events from 1204 to 1320, while the remaining 30 cover extensively the period from 1320 up to 1359.

In his philosophical works the influence of his teacher, Theodoros Metochites, is evident. Gregoras, probably due to his studies of mathematics, became a supporter of the Platonic and an opponent of the Aristotelian philosophy, another element of differentiation of the Byzantine scholars from their counterparts in the West. However, Nicephoros Gregoras distinguished himself mainly as an astronomer, continuing the astronomical work of Metochites "Elements of the Astronomical Science", which in essence is an Introduction to the Ptolemy's "Syntaxis". Of great value are his astronomical works: "About the Revilers of Astronomy", "Entreaties For Astronomy", "How Should an Astrolabe Be Constructed" and others. His very important contribution is the proposal to the emperor Andronicus II in 1324, more than 250 years before Gregory XIII, of the calendar reform and of the plan for more correct Easter calculation. As an astronomer, he is superior to those who were doing astronomy in his era, in both East and West.

Later on, after the abdication of his protector Andronicus II in 1328, Gregoras fell into disfavor, lost his property and retired from the public life. In 1330 the Patriarch of Constantinople Isaiah (1323-1332) nominated Gregoras as the head of the delegation of the Orthodox Church in the dialog for the unification of the Churches, for both his debating ability and his theological knowledge. Gregoras faced the delegates of Pope John XXII (1316-1334) without retreating an inch to their claims concerning the Papal Primacy. The same year, Gregoras started to fight against the heretic Greek Aristotelian philosopher and monk Barlaam (1290-1348). Gregoras came back into public life in 1331 with a public debate with Barlaam, which he won. He was restored by the new Emperor Andronicus III (1328-1341) at the Office of the Great Teacher of the Empire.

After 1349, Nicephoros Gregoras took active part in the reaction against the Hesychasts, the followers of Gregorios Palamas. The Hesychasm was a movement created in the ranks of the monks, aiming to their spiritual completion through the incessant praying and silence, hence the name of the movement (*hesychia* = silence). Palamas, the leader of the Hesychasts (1296-1360), even wrote a counter-speech against Gregoras entitled: "Regarding the false writings as well as the impiety of Gregoras". Unfortunately for Gregoras, Eastern Orthodox Church adopted the movement of Hesychasm and canonized Gregorios Palamas. Gregoras fell into disfavour and the Holy Synod of Vlahernae in 1351 condemned his ideas, and he was confined in the "Mone tes Choras" by the Emperor John Cantacuzen (1347-1355), without possibility to communicate with his followers. These were the years when the "Roman History" was written, along with many rhetorical, poetical and philosophical works, poems,

speeches and 161 letters. Gregoras was liberated when the next Emperor, John V Palaeologue, ascended to the Throne once again in 1355.

Nicephoros Gregoras deceased in the beginning of 1360, without renouncing his ideas. The fanatic crowd desecrated his body. The intense battle of ideas of that time increased fanaticism and restricted prudence.

## 2. ON THE IMPORTANCE OF NICEPHOROS GREGORAS FOR SERBS

The capital work of Nicephoros Gregoras, The "Roman History" ("Byzantinae Historiae" in the "Patrologia Graeca" series of Migne, 1857-1866) is the very important source for the Serbian medieval history. In its 37 volumes the writer exposes the events that took place from 1204 to 1359, interlaced with astronomical, geographical and theological informations. The considered period covers in Serbia the time from Stefan Prvovenčani to the beginning of the epoch of emperor Uroš V. The "History" is written by a contemporaneous participant who was also on the court of Serbian king Stefan Uroš III Dečanski and his son "young king", the future Emperor of Serbs and Greeks Stefan Dušan.

Of particular astronomical interest is the Gregoras' description of the battle at Velbužd on 28<sup>th</sup> July 1330, between Serbian army led by the king Stefan Uroš III Dečanski and Bulgarian one, headed by the emperor Michael Shishman, where he gives a detailed description of the Solar eclipse of 16<sup>th</sup> July of the same year (see e.g. Ćirković and Ferjančić, 1968, pp. 208-209), dating precisely the battle with the help of astronomical evidences.

In the spring of 1327, Gregoras takes part in a diplomatic mission on the court of Serbian king Stefan Uroš III Dečanski, whose second wife was Marry Palaeologue the daughter of John Palaeologue, the son of the brother of emperor Andronicus II and Irina, the daughter of Theodoros Metochites. Together with his son in law, Serbian king, John Palaeologue started to fight against Andronicus II and died in Skoplje at the end of 1326 or beginning of 1327. His widow Irina, the daughter of the great logotetes Metochites, refused to come back to Constantinople. Metochites asked the emperor to send Gregoras, the former teacher of Irina, with a diplomatic mission on the court of Stefan Dečanski in Skoplje, to persuade his daughter to come to Constantinople. Gregoras did it with success and he described in details his journey to Serbia in his letter to Andronikos Zarida (see e.g. Ćirković and Ferjančić, 1968, p. 147) which was almost completely included in "Byzantine history".

The astronomer Gregoras could be recognized from the following passage of the description of his journey: "... *And we wandered as some planets, entrusting us to God and vagues expectations. The night came down; "resigned the Sun and the darkness came down to the roads"*<sup>1</sup>, and, *it has not been the Moon. Since before it was full, now the Moon was out of the center relative to the Earth and relative to the Sun was in quadrangle position and in the beginning of the night did not gift us his rays. It is why we walked through a deep darkness like those who walked beside*

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<sup>1</sup>Homer's Odyssey II, 388.



Figure 1: Dinar of the emperor of Serbs and Greeks Dušan from the collection of Sergije Dimitrijević (Dimitrijević, 2001). On this, so called "coronation dinar", issued after the coronation of Stefan Dušan for the Emperor of Serbs and Greeks (Imperator Rascianorum et Romanorum or *Βασιλευσ και αυτοκρατωρ Σερβιας και Ρωμανιας*) on 16<sup>th</sup> April 1346 in Skoplje, one can see two angels putting the imperial crown (stema) on his head. The cyrilic inscription is S[TE]F[AN] C[A]R - STEFAN THE EMPEROR.



Figure 2: Dinar of the Serbian king Stefan Uroš III Dečanski from the collection of Sergije Dimitrijević (Dimitrijević, 2001). The Cyrillic inscription STEFAN UROSH TPHTH (H was pronounced as Greek  $\eta$ , at that time) - STEFAN UROSH THE THIRD.

*Tenaros to Hades or like those who walked for the underground prophecy of Trofonios.<sup>2</sup> To this moonless night joined the shadow of neighbouring mountains. They were so high that covered the sky so that it was not possible, according to the sentence "to direct rightly by stars" this unhappy travel"* (translated from Serbian from Radošević, 1968).

In any case, Nicephoros Gregoras was an exceptional scientific personality and a very prolific writer, important also for the Serbian history and the history of Serbian astronomy, together with his teacher Theodoros Metochites (see e.g. Vlahakos, 2003; Wolf, 1877).

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<sup>2</sup>At Tenaros on the south of Peloponnesos was the mythic entrance in Hades, while the underground prophecy of Trofonios was in Boetia