

210 YEARS OF TECHNICAL-ENGINEERING HIGHER EDUCATION IN THE NATIONAL LANGUAGE (1813-2023)

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Abstract: *On the anniversary of 210 years since the foundation of technical-engineering education in Romanian, the personality of the great founder of Romanian school and culture, Gheorghe Asachi, is presented. Through the zeal of the great scholar, the princely charter of 15 November 1813, by which the Bordering and Engineering School at the Princely Academy of Iasi was established, is considered the birth document of the entire technical and engineering higher education in Romanian, demonstrating the total capacity of the Romanian language to allow the teaching of scientific knowledge at the highest level.*

Keywords: *Bordering and Engineering School, technical-engineering education, Gheorghe Asachi.*



Honouring education is a sacred duty and an act of culture in the history of our people. These makers of science and national culture strove to synchronize Romanian spirituality with the great European cultures.

One of the great school builders was Gheorghe Asachi, considered the father and founder of higher technical-engineering education in Romanian language.

Educated at the well-known academic centres of Europe, Lemberg (Lvov), Vienna and Rome, he continued his secondary education, where teaching was in Polish, Latin and German. Later, at university, he studied philosophy, literature and science, as well as logic, mathematics, physics and architecture.

His multilateral training, his knowledge of several foreign languages, his contact with the values of European culture, made Gheorghe Asachi not only a man of vast culture, but also a great patriot.

Returning to his homeland, he took a series of bold cultural initiatives. At the beginning of the 19th century, the most pressing problem was the right to attend higher education in Romanian, the national language, which was in line with the development of European society. It was believed that opposition to this right was due to the poverty of the Romanian language compared to Greek, Latin or other modern European languages

Having completed his training in European centres, Gheorghe Asachi was appointed as a “referandar” (director) at the Department of Foreign Affairs by the ruler Scarlat Calimachi in February 1813.

In the life of Moldavian society, the most acute problems were those concerning the land: acquisition, sale, delimitation, inheritance, to which solutions were expected from the ruling council (Divan). These problems dominated social life, generating conflicts between boyars, others with monastery abbots, between tenants, landlords, merchants. In order to resolve them correctly, ancient codices were invoked to seek justice. Solving these problems, which had

become increasingly complicated, required skilled men, bordering engineers, able to carry out the work of measuring land and who knew the *“language of the old documents and the old codices”*. Most of these were written in the national Romanian language, but with the old Cyrillic alphabet.

In these difficult circumstances in Moldovian society, Gheorghe Asachi found a favourable opportunity to establish the national school. With the support of Metropolitan Veniamin Costache, the ruler of Moldavia Scarlat Calimachi, considering the idea of a course in Romanian language in the field of bordering and engineering to be a good idea, decided to establish a “clas” (class) of this kind, reinforcing it with the *“enlightened princely paper of November 15, 1813”*. This class was to be held in the Princely Academy of Iasi Metropolitan Church, where knowledge was taught in Greek.

Thus, at the Princely Academy, Gheorghe Asachi *“for the first time taught a course of theoretical mathematics in the national language, with practical application of geodesy and architecture”*. This was the foundation of higher technical-engineering education in Romanian.

For this course, Asachi wrote a complete mathematics textbook in Romanian, and to ensure the smooth progress of practical works, he brought a series of topographical measuring instruments from Paris and Vienna.

Thirty-two sons of boyars were enrolled in this class, including the ruler's son Alexandru, his brother Asachi Petru and others. They were eventually to become bordering engineers, a very useful profession at the time.

The full course ended with the examination on 12 June 1818. The festivities were framed by an exhibition of topographical plans, architectural designs and fortifications by the school's graduates. The results of these works were attested by the anaphora (letter) of the Epitropy, signed by Metropolitan Veniamin, Prince Scarlat Ghica, Hetman C. Mavrocordat and Steward Mihail Sturdza. The amphora states that *“one of the most necessary and useful sciences is practical theoretical mathematics with its branches, for the erection of the plan of a manor, for the boundaries of which follow countless concerns, increasing especially from the ignorance of engineers, asking only for a person worthy of fulfilling this purpose, we found our patriot, Gheorghe Asachi, a member of the Academy of Rome, who, having received our request, also showed us his desire to do such a service to his country, with the very sacrifice of his particular interests. Therefore, looking at his abilities and his special knowledge, we proposed him to Your Highness for this purpose. And Your Highness, the doer of good to our country, by the enlightened letter of 15 November 1813, appointed him to the Royal School in Iași, a teacher of the sciences necessary for a political engineer”*.

Further, the anaphora states that *“at the public examination, which was held on June 12, 1818, in the presence of the ecclesiastical clergy and those of the political rank, of foreigners with knowledge, when many sons of boyars, and of other townspeople, were examined in the aforementioned sciences of theoretical and practical mathematics, taught to them in the Romanian language, among which having credentials and vivid proofs of their full knowledge, some of them judged themselves worthy to be engineers, who also in fact work to the satisfaction of the people.”*

The final examination, Asachi pointed out, *“was the first triumph of instruction in the national language.”* The young graduates were awarded diplomas as engineers and architects.

At the same time, on his return home from Rome, Asachi became involved in dramatic and musical theatre, the love of music and painting. But the difficult events of 1821 (Tudor Vladimirescu's Revolution) and the accession to the throne of the ruler Ionita Sturdza, took him away from the country for 5 years, and in 1822 he was sent to Vienna as the country's agent. During this period there was a decline in national culture.

Although it was a remarkable success for Moldavian society, and Asachi's effort *„was recognized and appreciated”*, as a result of appeals to the ruler of the country, the bordering course was never resumed.

An event of great significance for the Romanian school was the approval by the ruler of Wallachia, I. Gh. Caragea, on March 6, 1818, of the establishment of a class of bordering and engineering at the school St. Sava in Bucharest and the appointment of Gheorghe Lazăr, an engineer from Transylvania, as a teacher of arithmetics, geometry and geography. This event represented the beginning of the higher engineering school in Romanian, in Wallachia.

For continuity, the Metropolitan of Moldavia, Veniamin Costache, sent six young Moldavians to Bucharest as scholarship holders to study at the „*famous Parnasus of Muses of the multi-learned gentleman Gheorghe Lazar and of the Metropolitan of the Romanian Country, Dionisie Lupu*”.

Despite his disappointment, Gheorghe Asachi started a real pioneering work in many fields for the progress of Romanian society. His name is associated with the reorganisation of the Socola Seminary, the Vasilian Academy, the establishment of the Mihailean Academy, the School of Arts and Crafts, and agricultural and economic education. His name is also associated with the Romanian language theatre, the publication of the first political-literary gazette, the establishment and organisation of the State Archives, the Philharmonic-Dramatic Conservatory, the public libraries and the first Pinacoteca.

In his many positions, Asachi created and organized a real education system in Moldavia, he gave it the national language. His encyclopedic training, his initiatives and his hard work were extremely necessary for the period of building a solid basis for scientific disciplines, for promoting cultural values, for stimulating patriotic feelings.

On June 16, 1835, the Mihailean Academy was inaugurated, an institution of higher education, conceived, organized and supported by Gheorghe Asachi. In his conception, it was to rival the great cultural institutions of civilized Europe. In addition to the high school courses and the three faculties: philosophy, law and theology, for the special knowledge "*which would open up a useful career for young people*", the "*school of engineering*", attached to the Academy and the Institute of Arts and Crafts, was established. The Academy's courses were supplemented until 1847 with new subjects: analytical and descriptive geometry, attached to engineering, agronomy, mineralogy and geology. After 1847, the Academy, and public education in general, went through a critical period, restricting its activity. The crisis ended in 1849, with the election of Grigore Alexandru Ghica as ruler, and the Academy resumed its former momentum. It should be noted that the Academy was the fertile seed for the subsequent development of the first universities and the national emancipation movement, which formed the first generation of intellectuals, educated in their mother tongue.

In the Moldavian society of the first half of the 19th century, Gheorghe Asachi was the head of public education of all grades for many years. At the same time, he was an active participant in the life of society. In 1828, Asachi was appointed secretary of the Committee for drafting the Organic Regulation, the first political Constitution of the Romanian principalities. As a man of school, he introduced a number of provisions for schools in the Organic Regulation: recognition of the schools' assets and the obligation of the state to grant them subsidies to support, endow and increase their number.

Based on the Organic Regulations, two important law projects were issued: „*Project for the Public Bordering Codices*” in Moldova and „*Project Touching Cadastral Measurement throughout the Principality*” in Wallachia. These laws were applied to a small extent due to the great estate owner boyards, who were not interested in knowing the actual areas according to which taxes were established.

The contribution of Gheorghe Asachi in the organization of education in Moldavia represents a huge work, starting with the initiatives to create and modernize some settlements, the drafting of programs, the preparation and publication of school manuals, the definition of pedagogical precepts, the provision of favorable conditions for instruction and education, up to the humanistic, high-level content of public education.

The complexity of political and social events in Moldova in the first half of the 19th century, the Revolutions of 1821 and 1848 and the struggles for the Union of the Principalities were not understood by Gheorghe Asachi, he could not oppose the revolutionary romantic rebellion of the new generations of young people, who cultivate a new ideology and aesthetics.

His encyclopedic education, his initiatives and his hard work were extremely necessary for the period of building a solid foundation for scientific disciplines, organizing the school in the national language, promoting the values of culture, encouraging arts and crafts, stimulating patriotic feelings .

After a life full of accomplishments, tired, weighed down by long years of efforts in the service of the nation's cultural progress, Gheorghe Asachi passed into eternity on November 12, 1869, at the age of 81.

The prestige of the School of Bordering and Engineering must be noted, awarding the first "*engineering certificates*" in 1818, after which the engineering certificates issued by the applied departments of the Romanian Academies and Universities followed.

It is worth mentioning that after the establishment of the two Romanian engineering schools, the School of Gheorghe Asachi in Iași (1813) and the School of Gheorghe Lazăr in Bucharest (1818), a number of higher education institutions specialising in engineering education were founded in some countries, which are today considered among the most developed in the world.

After the union of the Romanian Principalities, the following were established: the University of Iași (1860) and the University of Bucharest (1864), which continued the tradition of technical and humanistic higher education.

On November 7, 1912, following the approval of the new regulation of the Faculty of Sciences, within the University, the higher education in electronics, applied chemistry and agronomy was established, an event that is in fact the real founding act of what would later become the Polytechnic Institute of Iasi.

In March 1937, as a result of the passing of the Education Law by the country's Parliament, technical higher education was removed from the auspices of the University, through the establishment of the Polytechnic School, the only higher education institution authorized to grant the title of engineer from that date. As a natural consequence of the development of the engineering school in Iasi, the newly created institution took from the beginning the name of Gheorghe Asachi, the founder of Romanian higher technical education.

Through the education reform of 1948, the "Gheorghe Asachi" Polytechnic Institute was established in Iasi, which operated until 1993, when, as part of the reform, the "Gheorghe Asachi" Polytechnic Institute became, on May 17, 1993, the "Gheorghe Asachi" Technical University of Iasi.

As a result of internal reforms, the "Gheorghe Asachi" Technical University of Iasi currently has eleven faculties, including the Faculty of Hydrotechnics, Geodesy and Environmental Engineering. This faculty also has a Department of Land Measurement and Cadastre, which trains future geodetic engineers, the former bordering engineers of Asachi's time.

It should be emphasized that Asachi's School has contributed to the national prestige of Romanian higher education, because it has demonstrated the full capacity of the Romanian language to allow the teaching of scientific knowledge of the highest level.

In the chaotic phase of resurgence, encyclopedism was a necessity. This need was answered by the appearance of Gheorghe Asachi in Moldavia, Gheorghe Lazăr and Ion Heliade Rădulescu in Greater Wallachia and George Baritiu in Transylvania. They contributed to the cultural elevation of the people, to the cultural synchronization of the Romanian space with the achievements of European culture and civilization, in the rhythm of the modern world.