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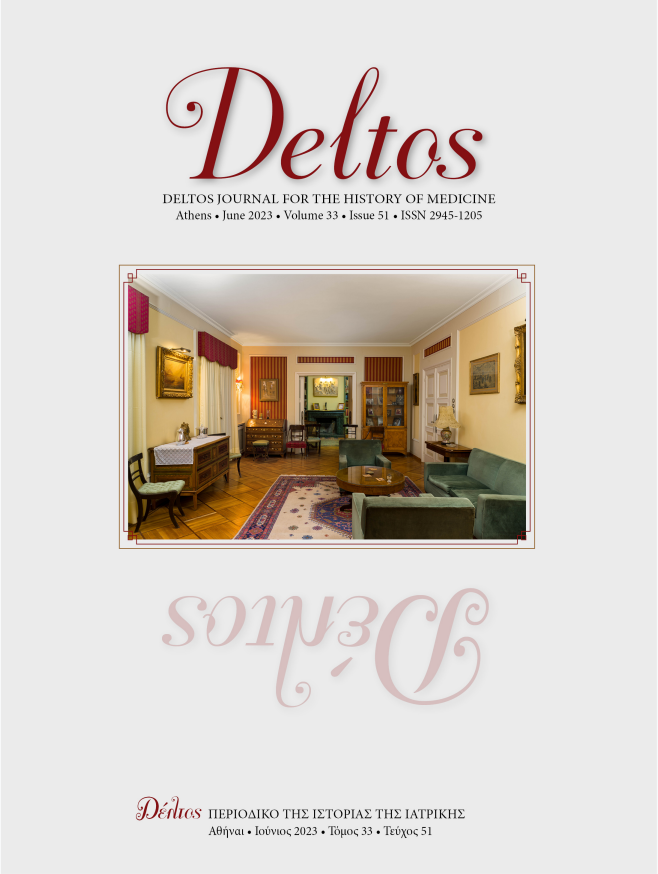

Anastasios Damvergis (1857-1920). A Pioneer of Greek Pharmacy

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Figure 1. Professor Anastasios Damvergis with his children. Maria on the left, Aikaterini on the right and his only son Konstantinos. Photo taken 1905.

Key words: *Early modern Greek pharmaceutical companies, Greek Thermal Springs, Kurka company factory*

Anastasios Damvergis, professor of Medicinal Chemistry at the University of Athens, took up Greece's *"Pharmacy as an art and turned it into a flourishing science"*[a]. His scientific, writing, and administrative work was enormous.

In April 1892, at the age of 35, which was considered young by Greek academic standards at the time, he was appointed as an adjunct professor of Medicinal Chemistry. Prior to his appointment, he had conducted brilliant studies abroad and had 10 years of successful teaching experience at military schools and at the prestigious "Varvakeion" secondary school. His arrival brought about a renewal in traditional academic fields, and his impressive oratory skills[b] and infectious enthusiasm made students fall in love with the science of chemistry. In 1876, Damvergis completed his studies in Athens and was awarded the highest distinction among his fellow students. The eminent professor and pioneer of chemistry in Greece, Anastasios Christomanos, appreciating the excellent performance of his student and anticipating his potential to excel further in science, helped him to continue his studies abroad through a scholarship. He studied first at the University of Heidelberg under the famous professors Robert Wilhelm Bunsen and Hermann von Helmholtz and then at the University of Berlin, under the distinguished professor Felix Hoffmann[c]. He received his doctorate in philosophy from the University of Heidelberg in 1878 and, in 1880, in collaboration with Siegmund Gabriel, professor of organic chemistry, published his first original work entitled "Über Nitroderivate der Diphennylmono- und disulfosäure" (On nitro derivatives of sulfonic acid). After completing his studies in Germany, he continued in Paris alongside professor Charles Adolphe Wurz. In 1881, after completing a brilliant course of studies abroad, he decided to return to his homeland, despite the alluring proposals of his professors there.

Damvergis had a strong sense of duty to his country from an early age. His paternal family hailed from the town of Rethymno on the then-enslaved island of Crete. He was born in Mykonos in 1857, when his father Konstantinos was serving as a hygienist in the quarantine centre of Mykonos, on the nearby islet of Rhenia. After completing primary school in Mykonos, he and his family moved to Piraeus, where he finished his high school education following his father's retirement. The Damvergis family was one of the oldest and most noble in Rethymno. The professor's grandfather, Hadji Ioannis Damvergis, a wealthy merchant, was one of the first members of the Philike Hetairia ("Society of Friends", an organisation working secretly to overthrow the Ottoman rule of Greece). Hadji Ioannis had been appointed Minister of Finance at the Annually Elected Local Government of the Island of Crete, formed after the beginning of the "Holy Struggle" on the island. In the conflicts that followed, he was slaughtered in 1824 in the area of Kissamos, while trying to escape with his family and other Cretans by boat to the Aegean island of Kythira. His three youngest sons, the fifteen-year-old Anastasios, the twelve-year-old Titus, and the ten-year-old Miltiades, were captured and sold on the slave market of Sandrivani Square in Chania on Good Friday 1824. Anastasios, in honour of whom professor Damvergis was given his Christian name, committed suicide in Egypt where they all were sold. Titus and Miltiades were released after seven years thanks to pressure by the Greek Governor Ioannis Capodistrias on King Charles V of France to intercede with the Egyptian Pasha Mohammed Ali. The only daughter of Hadji Ioannis Damvergis, Maria, a prisoner in Crete, was exchanged for female Turkish prisoners. The two eldest children, Constantine (known as captain Constantis), the professor's father, and Nikolaos, secretary of the Provisional Council of 1830, fought bravely in Crete and in numerous military operations in Greece. In 1828, during one of the deadliest battles of the Cretan Revolution, in Frangokastelo of Sfakia, captain Constantis exhibited his impetuous nature by fearlessly engaging in battle, defying danger and was seriously wounded. Fleeing to mainland Greece and having no means of sustenance, he sought the aid of the Greek state, which appointed him as a hygienist at various quarantine centres of the Cyclades, including Mykonos where Anastasios was born.

Upon his return from abroad, Anastasios Damvergis was appointed by Prime Minister Harilaos Trikoupis to lead the Department of Mining, Monopolies and Customs at the Ministry of Finance. The young scientist was recognised for his abilities and expertise, which were seen as crucial to the prime minister's goal of promoting industrial development in the country. In particular, Trikoupis sought individuals with scientific knowledge, vision, morals, and integrity in the performance of their duties.

In his capacity as a professor, he proposed several measures for improving the practice of Pharmacy in Greece, with a primary focus on the reconstitution and re-organisation of the School of Pharmacy. His conviction was that a combination of theoretical and practical education for pharmacists would optimally serve the needs of Greek society. He

a. From the speech of the professor of chemistry at the National Technical University of Athens Alexandros Vournazos for the 25th anniversary of the professorship of Anastasios Damvergis.

b. The Parnassus Hall had the privilege of hosting many of his eloquent speeches on a variety of topics, ranging from lectures on the constituents of the Universe to a scientific memorial of Robert Bunsen.

c. When, years later, the teacher and his former student reunited at a conference held in Heidelberg, the teacher was overjoyed and embraced Anastasios Damvergis, proud that Greek Science was being represented in international fora by him.

organised studies based on the curricula of great foreign universities and drew up a comprehensive and demanding program of practical exercises for his students, who held him in high esteem. He ensured that the laboratory of Pharmaceutical Chemistry was equipped with suitable instruments, not only to enhance student training but also to meet the demands of society and the economy. One of Damvergis' most important projects was the study of all of Greece's thermal springs. His findings were published in books and scientific journals in Greece and abroad, informing interested parties of their therapeutic properties. With these studies, Damvergis demonstrated that Greek thermal springs share comparable chemical composition, physical properties, and therapeutic indications with renowned European thermal springs. His foremost objective was to publicise the features of Greek thermal springs to the international community. To achieve this, he authored a monograph on the topic, which was translated into German and French and disseminated among eminent scientists worldwide. In addition, he presented his research on Greek thermal springs at the 1903 Chemistry Conference in Berlin.

As a member of the Medical Council, Greece's official body on health issues, he published many studies and dissertations and he prepared and submitted legislative drafts, memoranda, and expert reports to the state. He dedicated himself persistently to the critical issue of quinine adulteration[a]. Damvergis was a prolific writer, having educational texts, original papers, memoranda, studies, dissertations, as well as several solemn speeches and obituaries to his credit.

Damvergis was a staunch advocate for the creation of an international Pharmacopoeia. In 1899, due to the absence of a modern Pharmacopoeia in Greece, he authored and published his own version, which was richly illustrated and akin to the German Pharmazeutisches Manuale. The first edition was well-received, prompting a second edition in 1909 that incorporated the latest pharmaceutical entries from the Pharmacopeias of Germany, England and France. Additionally, Damvergis included the new regulations on "heroic drugs", as determined by an International Committee in which he participated.

For his overall contribution to Pharmacy, he was awarded, in 1917, the title of Pharmacist to His Majesty the King Constantine I, a title conferred only once before, during the reign of King Otto, on Xavier Landerer. He was also awarded the Order of the Knights of the Royal Order of the Saviour, the Order of the Crown of Italy, the Golden Red Eagle of Germany, the Golden Cross of Francis Joseph of Austria, and the Laurel of the French Academy. Damvergis' international scientific recognition was evidenced by the award of two medals, one by the Biological and Chemical Society of London, of which he was made an honorary member in 1900, for his long research on Greek tobacco and thermal waters, and the other by the Brixton School of Pharmacy, for his published Pharmacopoeia. Damvergis was an honorary, life, and regular member of various national and foreign societies and associations and took part in international conferences. He represented Greece at the International Conference of Applied Chemistry in Brussels in 1894, with a paper on the qualities of tobacco varieties cultivated in Greece and in 1902 at the International Commission of Brussels, to draft an international pharmaceutical code for "heroic medicines". In 1982, the journal *Deutsche Apotheker Zeitung* dedicated the article "Zum 125 Geburtstag von Anastasios Konstantin Damvergis" to the 125th anniversary of the professor's birth. The article makes special reference to the high quality of his Pharmacopoeia.

A significant milestone in the history of Pharmacy in Greece was the establishment of Professor Damvergis' model pharmacy and scientific laboratories in the emblematic Palace of Proia, at 39 Panepistimiou Street, opposite the National Library, which became a landmark of Athens. The inauguration of this pharmacy on 1 October 1906 was attended by university professors, renowned scientists of the city, representatives of social and political institutions, and many people who gathered to honour the professor and admire the pharmacy. Damvergis implemented innovative systems that reflected his extensive scientific experience and European practice. His pharmacy stood on a par with even the best European pharmacies. The fame and prestige of professor Damvergis and his pharmacy is reflected in the three-page tribute to him in the prestigious *American Druggist and Pharmaceutical Record* magazine entitled "The Condition of Pharmacies in Greece"[b].

The emblem of pharmacies, the god Asclepius, adorned the outer glass door of the entrance (Fig. 2). All pharmaceutical pots and bottles on the shelves were decorated with the typical ancient Greek motif of a square meander border, specially commissioned by Damvergis at the Kurka company factory in Prachatitz, Bohemia. These are now housed at the Louros Foundation for the History of Medicine in Athens, generously donated by Anastasios Damvergis the Younger. A document regarding the donation is shown in the background (Fig. 3). Even the Royal Court of Greece ordered oxygen bags from the pharmacy of Damvergis for the needs of King Constantine I, who was afflicted by a severe respiratory disease.

a. In 1917, in his report "On assigning the sale of the State's quinine exclusively to pharmacists" Damvergis supported that the Medical Council *"should strongly recommend to the Government, in view of the uncovered misdeeds of resellers, the withdrawal of their right to sell quinine"*.

b. American Druggist and Pharmaceutical Record, New York, January - December 1912, pp. 29-31.

Figure 2. The emblem chosen by Professor Damvergis

Figure 3. The group of the Damvergis' bottles with the typical ancient Greek motif of a square meander border arranged in a shelf at Louros' Foundation.

The laboratories carried out all types of chemical, microscopic, and microbiological tests[a], while also hosting an embalming and necropsy department, an X-ray department, a sterilisation unit, etc. (Fig. 4)

Moreover, it boasted an incubator (couveuse) for premature infants. The pharmacy's chemical laboratory was used for the quantitative analysis of drinking water and thermal waters, foods, drinks, textiles, paper, leather, dyes, fuels, building materials, oils, fertilisers, cooking utensils,

a. In the first ten years of its operation, the pharmacy carried out 43,435 prescriptions, performed 5,452 urine tests and 943 microscopical, microbiological and chemical tests.

Figure 4. Professor Damvergis in front of the Laboratories of his Pharmacy surrounded by his coworkers, famous scientists of that era.

cosmetics, ores and, in general, all kinds of materials used in industry. One of the most important tasks of the Damvergis Scientific Laboratories was the preparation of the well-known Thermal Baths for those who could not visit the thermal springs of the spa towns. The Damvergis Thermal Baths were chemical preparations with a composition that mirrored the constituent elements of each source.

The Damvergis pharmacy was distinguished for its partners, who were important scientists of the time. After the death of Anastasios Damvergis in 1920, the pharmacy passed to his son Konstantinos. For 70 consecutive years, from 1 October 1906 to 31 July 1976, the pharmacy operated in the Megaron of Proia, an exquisite building in Athens. Unfortunately, this was demolished in 1976, marking an inglorious end for the pharmacy. The pharmacy was relocated to Megaron Koupa, where it continued to operate until its closure on 31 December 2006, due to the retirement of Professor Anastasios Damvergis' grandson, Tasos.

Regrettably, his success in the professional and social realms did not extend to his physical well-being. In 1905, at the age of just 48, he suffered a detached retina in his right eye due to overexertion, leading to a significant decline in his eyesight. Twelve years later, he was diagnosed with a

Figure 5. The factory of the Damvergis Pharmaceutical Company, established in 1932.

neoplasm in his kidneys. The celebration of his 25th jubilee as a professor, in 1917, found him bedridden in his home. The unveiling of the professor's bust, the work of the then-young sculptor Michael Tombros, a precious gift given to him by his colleagues, associates, and students, was a moving moment[a]. Grateful, the professor declared "*I am happy that I have devoted my strength, and I have suffered serious damages in my eyesight and my health for the sake of the high and honourable work of the scientific education of young people*". Very soon, his painful and severe kidney disease took its toll on him physically. Despite the strain on his health, he did not lose his courage and believed he would overcome it. During this difficult time, he did not stop teaching at the university, where he went once a week, taking strong painkillers to help diminish his suffering. His psychological condition deteriorated significantly after he lost vision in his remaining eye, rendering him unable to continue working. This development caused him immense distress. He always had his beloved children by his side, Aikaterini, wife of Professor Emmanuel Emmanuel, Maria, wife of tobacco manufacturer Evangelos Papastratos, and Konstantinos. His death on 13 June 1920, at the age of just 63, deeply saddened Greek society and the European academic community.

As early as 1901, the professor aspired to establish a model pharmaceutical factory that could compete with foreign counterparts. This idea was conceived almost simultaneously with his plan to establish a pharmacy. To participate financially in this ambitious project, investors were required to forgo any return on their capital for a minimum of five years. As anticipated, this condition proved discouraging to interested parties, so, regrettably, Damvergis' dream remained unrealised. However, after pharmaceutical studies in Athens and a postgraduate degree in chemistry in Berlin, his son Konstantinos took over his father's pharmacy and began efforts to establish a pharmaceutical plant. On 21 November 1932, he laid the foundation stone of the factory on the land he bought at 7, Hellas Street and Constantinoupoleos Street in Sepolia, a suburb of Athens.

The factory evolved from the pharmacy that served as both a scientific laboratory and a pharmaceutical production facility. The Damvergis Pharmaceutical Industry was the first purely pharmaceutical industry in Greece. The professor never got to see his dream come true. Nor did he get to celebrate the pharmacy's 50th anniversary and the factory's 25th anniversary with his colleagues, friends, students, and state representatives. In 1947, Hellas Street, where the factory was located, was renamed in honour of the professor to "Anastasios Damvergis Street". The naming ceremony was held on 20 June at the factory site in the presence of many dignitaries. Today, the old factory building hosts the offices of the Menarini pharmaceutical company.

a In honour of the 25th anniversary of the professorship of Anastasios Damvergis, a commemorative medal was issued depicting his figure.

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