

REVIEW

IOANNIS KARDAMATIS (1859–1942): THE DEBATE ON THE FALL OF ANCIENT GREECE AND THE CHAIR OF TROPICAL DISEASES AND PARASITOLOGY AT THE MEDICAL SCHOOL OF ATHENS

Spyros N. MICHALEAS^{1✉}, Lazaros VLADIMIROU², Efi PETINAKI³, Aristeidis DIAMANTIS⁴, Theodoros N. SERGENTANIS⁵, George ANDROUTSOS⁶

¹ Department of History of Medicine and Medical Deontology, Medical School, University of Crete, Crete, Greece

² Private physician, historian of medicine, Athens, Greece

³ Department of Microbiology, Medical School, University of Thessaly, Larissa, Greece

⁴ Department of Cytopathology, Naval Hospital of Athens, Athens, Greece.

⁵ Department of Clinical Therapeutics, Medical School, National and Kapodistrian University of Athens, Greece

⁶ Biomedical Research Foundation of the Academy of Athens, Athens, Greece

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ABSTRACT

Ioannis Kardamatis was born in Athens in 1859. He studied medicine at the National University of Athens (in 1932, it was renamed to National and Kapodistrian University of Athens) and specialized in internal medicine and pediatrics in Paris and Brussels. He pioneered the anti-malaria battle in Greece in 1905. In 1909, he was elected lecturer at the Chair of Tropical Diseases and Parasitology at the Medical School of Athens. Moreover, he debated on the erroneous theory of Sir Ronald Ross (1857–1932) and William Henry Samuel Jones (1876–1963) proving that malaria did not provoke the fall of ancient Greece. His original work on malaria comprised more than 150 scientific papers, including monographs. The French Government and Paris Medical Academy awarded his work and

RÉSUMÉ

Ioannis Kardamatis (1859-1942): le débat sur la chute de la Grèce antique et la chaire de maladies tropicales et de parasitologie à la Faculté de Médecine d'Athènes

Ioannis Kardamatis est né à Athènes en 1859 et il a étudié la médecine à l'Université Nationale d'Athènes (en 1932, l'Université a changé son nom en « Université Nationale et Capodistrienne d'Athènes »). Spécialisé en médecine interne et en pédiatrie à Paris et à Bruxelles, Kardamatis a été le pionnier de la bataille contre le paludisme en Grèce. En 1909, il a été élu maître de conférences à la chaire de maladies tropicales et de parasitologie à la Faculté de Médecine d'Athènes. Kardamatis a débattu la théorie erronée de Sir Ronald Ross (1857-1932) et de William Henry Samuel Jones

✉ Address for correspondence:

Spyros N. MICHALEAS
Department of History of Medicine and Medical Deontology, Medical School,
University of Crete, Crete, Greece
E-mail: sp.michaleas@gmail.com

research on malaria. In 1915, the Medical School of Athens abolished the chair of Tropical Diseases and Parasitology but Kardamatis continued to contribute to the field of the disease.

Keywords: Kardamatis, malaria, Sir Ronald Ross, history of infectious diseases.

INTRODUCTION

In 1909, Ioannis Kardamatis (1859–1942) was elected lecturer and director of the newly founded chair of Tropical Diseases and Parasitology at the Medical School of the National University of Athens (Fig. 1). For his inaugural lecture, held on November 26, 1909, he spoke about the history of malaria in Greece, as it was customary; professors and lecturers often started their courses by reviewing the history of their medical specialties (Fig. 2). As an avid researcher of history, Kardamatis was well prepared for this topic¹. He had conducted extensive studies on the historical aspects of malaria in Greece. His findings were published in *Atti de la Societa per gli Studi di Malaria*², and his work also appeared in the first volume of the proceedings of the Anti-Malaria League in Greece³. In 1908, he published his monograph, *Treatise on Marsh Diseases*⁴, which was translated into French in 1909.

During his career, Kardamatis sent various manuscripts to the Medical Academy of Paris, whose experts judged submissions based on their merit, originality, structure, and documentation. Selected papers were published in the proceedings of the Academy. In 1899, Kardamatis submitted his study of the relation of malaria to arthritis, which was announced later that year on October 17th by the Nobel prize laureate, who discovered Plasmodium, Alphonse Laveran (1845–1922) and was published in the Proceedings of the Academy^{5,6}. That same year, Kardamatis' and Dr. Spyros Kanellis' research on malignant dysentery and its relation to malaria was announced at the Paris Medical Academy. Laveran again nominated the research for publication in the Proceedings. Their study also was translated into French and published in the French journal, *Progrés Medical*⁷.

In 1900, Kardamatis' monograph *Hemoglobinuric Fever with Jaundice* was published⁸. This study

(1876–1963) prouvant que le paludisme n'a pas provoqué la chute de la Grèce antique. Son travail original sur le paludisme comprenait plus de 150 articles scientifiques, notamment des monographies. Le gouvernement français et l'Académie de médecine de Paris ont attribué leurs honneurs à ses travaux et ses recherches sur le paludisme. Cependant, en 1915, la Faculté de médecine d'Athènes a supprimé la chaire de maladies tropicales et de parasitologie, mais Kardamatis a continué à contribuer au domaine de la maladie.

Mots-clés: Kardamatis, paludisme, Sir Ronald Ross, histoire des maladies infectieuses.

examined the most dangerous and fatal complication of malaria, caused by a side effect of quinine. This milestone work was based on Kardamatis' ten years of experience. It was translated into French and submitted to the Paris Medical Academy, which presented it in December 1900. Laveran stated that it was a tribute to the Greek Medical School¹. At the time, the scientific community believed that Italian scientists were the first to describe hemoglobinuric fever after quinine consumption. With this book, Kardamatis



Figure 1: Ioannis Kardamatis (1859–1942).
Credit: Vladimiros L. Ioannis Kardamatis.
Athens: Eptalofos; 2006.

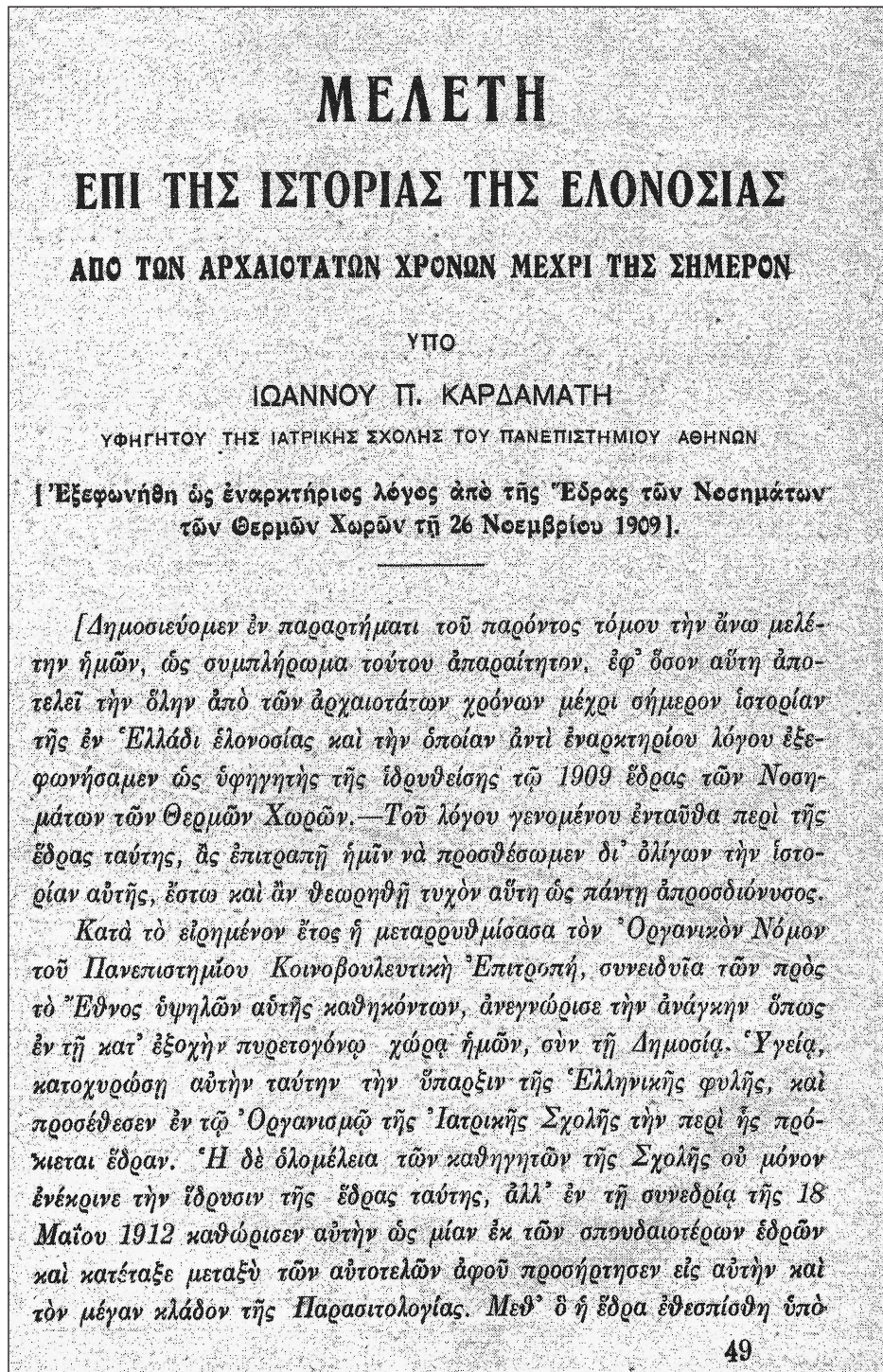


Figure 2: The inaugural course of Ioannis Kardamatis on November 26, 1909. Credit: Vladimiro L. Ioannis Kardamatis. Athens: Eptalofos; 2006.

corrected the error and proved that Greek physicians were the first to inform the medical community about this often-fatal complication of malaria. In 1903, Kardamatis received a special medal and the title of *Officier d'Académie* by the French Government for his many notable publications with the Medical Academy of Paris⁹.

The importance of teaching the historical aspects of malaria: Kardamatis debates Sir Ronald Ross (1857–1932) and William Henry Samuel Jones (1876–1963)

In 1906, the English military doctor Sir Ronald Ross (1857–1932) came to study malaria in Greece (Fig. 3). Ross, a world-renowned physician, received



Figure 3: Ronald Ross (May 13, 1857 – September 16, 1932). Source: Well come Collection, London

the Nobel Prize in Physiology or Medicine in 1902 for his work on malaria. While being in Greece, Ross observed that the disease was largely responsible for the country's underdevelopment. He hypothesized that malaria also may have contributed to the fall of ancient Greece. After his visit, at the Liverpool Institute of Tropical Diseases, Ross remarked: "It is of great concern that malaria has an impact on ancient history and the later development of Greece. I hope this will be investigated in the future"³. In September 1906, the vice president of the Greek Anti-Malaria League and Professor of Hygiene and Microbiology at medical school of Athens, Constantinos Savvas (1861–1929), visited England to seek scientific help from the English physicians and financial aid from the Greeks living in England. During that visit, Ross gave a speech in which he stated: "malaria was one of the major reasons that led to the decline of ancient Greek culture"³. Malaria is an endemic disease with frequent outbreaks. The cyclic and debilitating nature of the disease causes productivity to decline. According to Ross, malaria would have caused similar economic, social, and biological declines in ancient Greek society. He postulated that malaria was responsible for the conquest of ancient Greece by the Romans and for the collapse of the ancient Greek world. Ross' theories could not be substantiated, however. Although he designed complex mathematical models to demonstrate the spread of various malaria

epidemics, he had no specific historical knowledge about the history of ancient Greece. Thus, he consulted his friend, historian and philologist William Henry Samuel Jones (1876–1963). Jones had earned the nickname *Malaria Jones* for his theory that malaria was instrumental in the downfall of the classical civilizations of Greece and Rome¹⁰. As a scholar of Hippocratic texts, Jones knew that they contained numerous direct and indirect references to malaria-like medical conditions (i.e., mentions of intermittent and periodic fevers). Hippocratic medicine relied heavily on the "Theory of Critical Days" (48-hour or 72-hour periodicity), which can only be interpreted by accepting the prevalence of malaria in the disease system of ancient Greece. The texts of the Hippocratic Collection are unequivocal and undisputed testimony that malaria was known in ancient Greece. However, Ross and Jones had not yet connected the disease to the civilization's decline. They formulated a theory that malaria first appeared in ancient Greece in the 5th century BC. At that time, the population had no immunity to the disease. As people became incapacitated with illness, labor output decreased substantially, leading eventually to a spiritual and societal collapse. Gradually, the entire ancient Greek world succumbed to the effects of the disease. Ross and Jones thus attributed the decline of Greece to malaria and its devastating effects on Greek society and culture¹¹. They published a series of studies arguing their theory and several historians, at that time and even today, agreed with their conclusions.

Kardamatis, who had studied this topic for his 1908 monograph, disagreed with Ross and Jones. In his previously mentioned inaugural speech, he argued that malaria was already endemic in the eastern Mediterranean area during the Archaic Period (800 BC–480 BC)⁴. He noted that he was the first in the world literature to discuss the history of malaria in the ancient world. He stressed that no written evidence about the disease existed in mythical or prehistoric times in Greece, so it was necessary to study the indirect evidence of archaeologists and historians¹². His examples included the mythical stories about the labors of Hercules, whose reclamation efforts to remove marshes and stagnant waters indicate concern about a water-borne illness. He noted the myths and archaeological findings regarding reclamation of the Thessalian plain by the ancient people of Minyes (Μινύες) in the 12th century BC¹². Kardamatis also cited findings by geologists and meteorologists showing that the soil composition, climate, and meteorological conditions in ancient Greece were the same as those in the 12th century and that these conditions favored the development of malaria^{3,4}. In his 1914 book review of Kardamatis' *On Marsh Diseases*, William Jones praised

the book and described it as a classic of medical science, indicating his implicit acceptance of Kardamatis' theories about malaria in ancient Greece¹³.

The abolition of the chair of Tropical Diseases and Parasitology at the National University of Athens

After his contribution during the Balkan Wars (1912–1913), Kardamatis returned to his medical duties at the National University of Athens. In addition to various publications in medical journals, he also finished his book on malaria, the famous monograph *On Marsh Diseases*¹⁴. By the time he was preparing to submit his resume to be elected Professor and Chair of Tropical Diseases of the Tropical Countries, he had published more than 100 publications in medical journals, given dozens of oral presentations at national and international conferences, and written four books. He was a distinguished scientist in Greece and an esteemed expert in tropical diseases in the European medical community. In 1915, he received a Silver Medal by the Paris Medical Academy for his work and research on malaria. However, the same year, on May 30, 11 years after Kardamatis' inaugural speech at the University of Athens, the Medical School decided to abolish the chair of the Tropical Diseases of the Tropical Countries sustaining that it was "unnecessary". In response to this event, the publisher and director of *Medical Progress*, Ioannis Foustanos (1856–1933), published a scathing article about the injustice¹⁵. Foustanos mentioned a conspiracy among professors to prevent Kardamatis, a renowned scientist, from holding a position at the university as they believed that their professional and scientific interests were affected by him. Nevertheless, overcoming any issues pertaining to a University Chair the anti-malaria work and contribution of Ioannis Kardamatis have been widely acknowledged; on February 18, 1905, he founded the Greek Anti-Malaria League with Konstantinos Savvas (1861–1929), Professor of Hygiene and Microbiology at the School of Medicine at the National University of Athens. In 1939, on the 80th birthday anniversary, an event was held by the Medical Association of Athens, where he was awarded an honorary diploma; King George II of Greece (1890–1947), university professors and many people attended the event. Ioannis Kardamatis died in Athens in 1942 at 83 years old.

CONCLUSIONS

Kardamatis conducted an extensive research on malaria which resulted to the publication of his

monograph *Statistical Tables of the Marshes and the Frequency of Malaria in Greece*¹⁶. Furthermore, he debated the theory of Sir Ronald Ross (1857–1932) and William Henry Samuel Jones (1876–1963) proving that malaria did not provoke the fall of ancient Greece. The Medical School of Athens abolished the chair that he was holding; depriving thus a reputable scientist from the university but it provided to Greece an important advocate of the battle against malaria. Kardamatis focused on research and his work remained a reference for several years in the eradication of malaria.

Compliance with Ethics Requirements:

„The authors declare no conflict of interest regarding this article“

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