

THE INTELLECTUAL LIFE OF ANDREAS ANAGNOSTAKIS (1826 — 1897)

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ANDREAS ANAGNOSTAKIS, Athens University's first Professor of Ophthalmology died 83 years ago, but with the passage of time his fame increases, and his intellectual reputation is further consolidated^(fig. 1).

He was an imposing and well-known person in his own time. His portrait hanging in the *Ophthalmiatrion* of Athens, (Fig. 1) shows the power in his eyes, his wide forehead — which appears even wider by the lack of hair — indicates his wisdom and sound judgement, his raised chin characterises his self-confidence, and his thick masculine moustache emphasises his imposing, serious appearance. All these factors contribute to his pleasant, sympathetic expression and luminous spirituality.

He not only possessed a wide general knowledge, but he was also endowed with incomparable industriousness. Besides his scientific work, his poetic creativity took a distinguished position in the literary field. In his writings, great lyrical and descriptive abilities express themselves with unsurpassed beauty. Many authors of the present and past centuries have written about his intellectual work with just admiration. Very few literary figures can match him in creativity.

ANDREAS ANAGNOSTAKIS was born in 1826 of refugee parents from Crete on the little island of Kythira. Some biographers put his date of birth in 1829 (G. COSMETATOS), others in 1827 (K. MERMIGAS), and still others in 1826 (A. COUSIS, B. ADAMANDIADES, J. CHARAMIS, J. TSAMBARLAKIS); But the latter date should be considered the most probable. Unfortunately further information regarding his family cannot be found.

ANDREAS ANAGNOSTAKIS graduated from the Medical Faculty of Athens University in 1849 and then practised for a short time in a small town in Messinia.

With little personal savings he had, probably bolstered by the financial support of QUEEN AMALIA, he left for Paris and later for Berlin, where he studied ophthalmology under Professors DESMARRES and VON GRAEFE respectively.

Possessed of a restless and industrious spirit, ANDREAS ANAGNOSTAKIS made a success of his studies from the very beginning, managing to combine scientific medical training in ophthalmology with a comprehensive general education in Ancient Greek Culture. He returned to Athens in 1854, with his name already well-known in French and German scientific circles through his publications and his modification of the original Ophthalmoscope. From that time he was appointed Professor of Ophthalmology and Director of the *Ophthalmiatrion*, in which he established the University Eye Clinic. He remained Director until his death in 1897.

As mentioned earlier, the intellectual personality of ANDREAS ANAGNOSTAKIS, resulted in dual productivity during his active years. On the one side was his purely scientific work connected with ophthalmology, and on the other side was his historical and poetic work. In both these spheres, he presented an activity which combined positive industriousness with enthusiastic optimism.

Before describing ANDREAS ANAGNOSTAKIS' historical and poetic work,, we believe it is fitting to take a brief look at his scientific activity. This field, which covers his positive work in scientific studies and thesis on ophthalmology, has been described recently by Professor J. TSAMBARLAKIS. Among them are: his modification of the original ophthalmoscope, published in the French journal „*Annales d'Oculistique*” in 1854, including descriptions and illustrations of the normal and pathological fundus; the thesis on the entropion and trichiasis operation, 1857; the teaching of „*Elements of Ophthalmology*” 1861, and a long series of ophthalmological theses, the majority of which were printed in French journals. Besides G. COSMETATOS, other writers have analysed and presented ANAGNOSTAKIS' scientific work in articles and speeches.

A number of papers have been published on the cultural work of ANDREAS ANAGNOSTAKIS, but the following short presentation of his literary activities may not only be informative, but also an interesting communication within the historical aims of the A.I.O.

To begin with, we introduce a remarkable and interesting classical work „*Study in Optics by the Ancient Greeks*” in 1879. Here, he gives ample proof of his ability for research and just criticism. He searched for knowledge in the ancient writings, and found both elementary and advanced. He analysed the causes for differences in success between the theoretical sciences — represented by the ancient Greek spirit which attained a degree of perfection, and the practical sciences which were damaged by superstition. In particular, he mentions a part of PLOUTARCHOS, in which PLATO is indignant about the decline of science. However, the colossal critical force of the ancients, which in spite of lack of support by experiment or practical application, succeeded in interpreting natural phenomena and determining natural laws.

ANDREAS ANAGNOSTAKIS discovered the Law of Reflection of Mirrors in what has survived the „*Optics*” of EUCLIDES and ILIODOROS. In these ancient writings he also found the basic law governing the reflection of light when the reflected ray lies in the plane of the incident ray, the angle of reflection equals the angle of incidence. He also found the knowledge of the focus, and the straight lines under which the objects reflected in flat and spherical mirrors are seen. He also proved that the Ancient Greeks had prisms and lenses, convex and concave, used for spectacles.

He found that the ancients were more advanced in physiological optics; he proved that they were aware of the formation of objects and images inside the eye; he found remarkable information about the visual field regarding its measurement and theories concerning the concept of its width.

ANAGNOSTAKIS also proved that knowledge of the accommodative strength of the eye is dated from GALEN and not from KEPLER. Finally it appears from his research that the theory of conjugate foci is an invention of ARISTOTELES, developed with admirable precision by GALEN.

It was natural that all these findings while provoking certain opposition should make a vivid impression on the scientific world. Once, JEFFRIS, as well known author from Boston jokingly said, „*Andreas Anagnostakis left nothing that could not be attributed to the Ancient Greeks . . . except for the invention of the ophthalmoscope!*” The reply was characteristic, „*The ancients did not seek to invent the ophthalmoscope . . . however, I discovered in their writings the foundations of this magnificent building, whose roof we admire today.*”

The tendency of ANDREAS ANAGNOSTAKIS to apply himself to subjects like philosophy and poetry, thereby extending his intellectual horizons, not only shows a great poetical talent, but underlines his intellect and love of research. Indicative of this is his work „*The Medicine of Aristophanes*”, published in 1891, in which he investigates every medical subject mentioned in ARISTOPHANES' works. He started his archeological research with the still existing comedies, characterising ARISTOPHANES as „. . . a charming philosopher, who in a merry, ent-

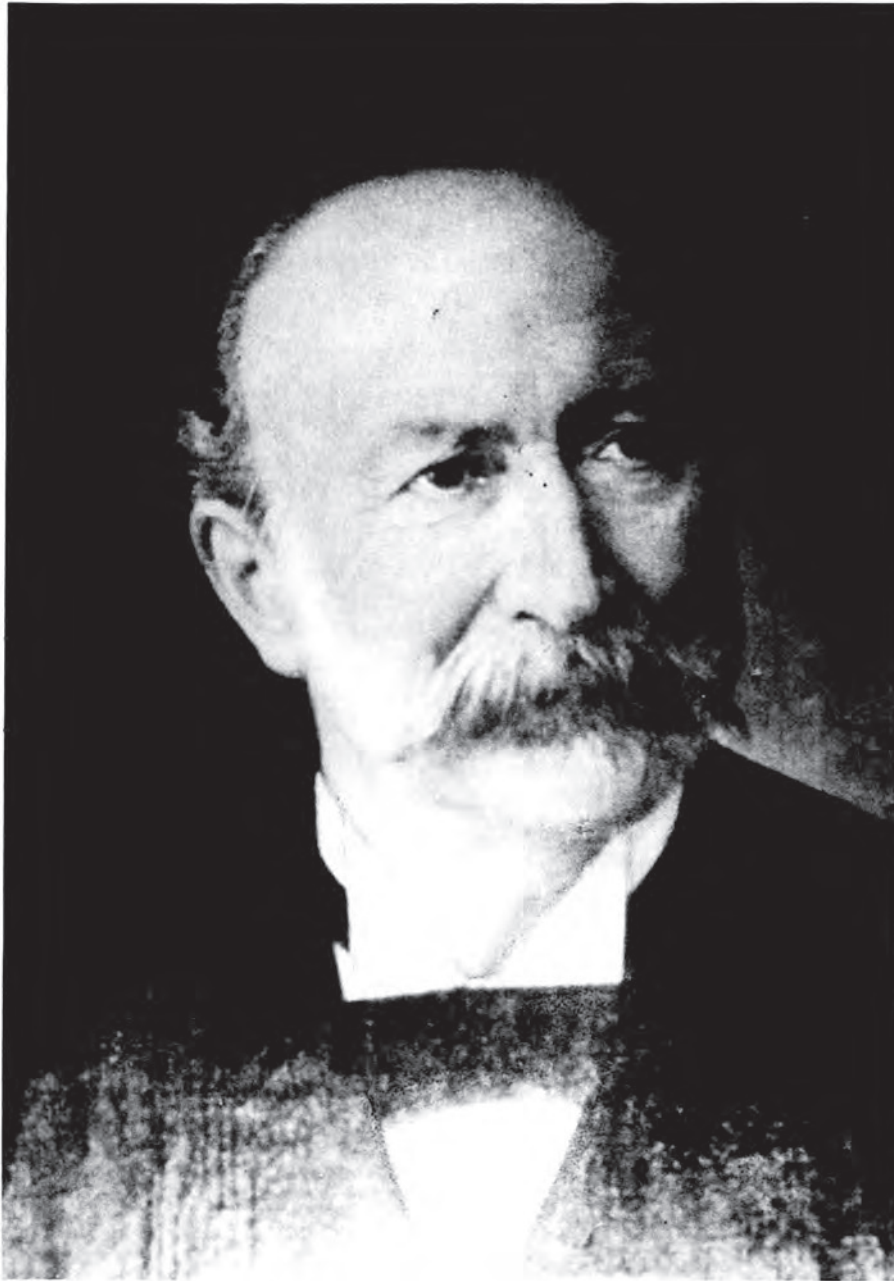


Fig. 1: ANDREAS ANAGNOSTAKIS (1826 – 1897)

entertainingly humorous style, often mixed with coarseness, presents certain knowledge, and gives moral lessons." At the end of this work he gives a maxim which is still valid in today's society:

„It is quite certain that true wisdom does not always dwell in a frowning forehead, nor issue from sullen lips."

In the above work, ANAGNOSTAKIS also writes about the medical profession which had been seriously disrupted at the time of ARISTOPHANES. There were doctors giving treatment without payment, whereas normally a medical fee was charged — proof of which is given by ARISTOPHANES who presented even APOLLO receiving fees for treatment.

He also noticed another fact that generally escaped attention: the fact that medical science had never prospered in Athens as in other areas such as the Dodecanese and Ionia, Ancient Rome and Egypt, who through their gentle rivalry contributed to the promotion of medicine, whereas other sciences were advanced by the ancient Attic spirit. This opposition between Athens and the other areas may have been due to the dogmatic Attic spirit and mere dialogue which hindered the development of clinical observation. Thus, many centuries were to pass before the rebirth of the modest principle of HIPPOCRATIC medicine developed in other countries. Therefore, while true medicine was absent during the Golden Age of Athens, every other science and all kinds of arts were flourishing.

ANDREAS ANAGNOSTAKIS also investigated and interpreted subjects such as anatomy, surgery, pathology, treatment, and veterinary science, all mentioned in ARISTOPHANES works. However, some of his interpretations are not accepted by various authors.

Another very important work by ANAGNOSTAKIS is *„The Antiseptic Method of the Ancients"* published in 1889. In this thesis he proved the seriousness of the ancient medical knowledge, concerning asepsis and antisepsis. He noticed that HIPPOCRATES recommended the washing of injuries with rainwater, namely distilled, or boiled water. GALEN also recommended the sterilisation of water by boiling.

ANAGNOSTAKIS also proved the systematic and convenient antiseptic method of HIPPOCRATES, which aimed at the prevention of sepsis in a wound, by drying. This was attained by chemicals used for embalming, such as alcohol, in the form of hot black wine, salt, copper-sulphate, thyme, etc., known as strong antiseptics. He also found that PAULUS AEGINITIS used the sterilising effect of burning. Finally, he mentioned GALEN'S advice, which involved using live gut for ligation of the vessels.

ANAGNOSTAKIS gave valuable advice to those wishing to study ancient writings, to enable them to do so with success.

„When you study the ancients, you must examine the events, and then explain the terms — otherwise you will suffer like many others; the word deceives, and the meaning escapes.”

ANDREAS ANAGNOSTAKIS was admirable in his different theses, but he excelled himself in his monumental speech, *„The Intellectual Period of the Greek Nation”* during the Olympiad 1871 – 1875 (36 pages). In this long speech, he gracefully presents the intellectual contributions of the Nation towards the universal truths. The speech was written by order of the academic senate and delivered on the 4th May 1875, during the festival of the Cultural Olympiad's founder, E. ZAPPAS.

In it, he presented a synopsis of the national cultural production of the preceding four years, and reading it, we can appreciate the broadness of ANAGNOSTAKIS' general culture, and his great ability for just criticism of other researchers. He analysed the work of the Greek theologist, the cultivation of the legal and political sciences, the advance in the sciences of mathematics and botany; he criticised the lingual problem and described the work of the Archeological Society, and the contribution to history of PAPHAGIOPoulos' book *„History of the Greek Nation”*.

Concerning his linguistic research, regarding the ancient Greek language it is worth mentioning the importance he gives to our place. He said:

„For the interpretation and judgement of the ancient masterpieces, nobody is as qualified as we are, having been raised with the Greek language. The study and research of the ancient treasures is a great mental pleasure for every Greek.”

In his speech he also analysed the progress of poetry and the arts, which, as he said, inspire the heart with a love of liberty and virtue.

Concerning medicine, he mainly praised the great importance of the presence and activity of the Medical Society of Athens.

„Medicine does not admit any other authority except the authority of experience; and because this is readily available and inexhaustible, there is no doctor, real scientist, who cannot offer his contribution, even an uncarved stone is welcomed and honoured in the universal building of science.”

The enthusiastic optimism of ANDREAS ANAGNOSTAKIS originated in his poetic nature. As a poet, he gave poetic colour and exaltation to his prose, electrifying the soul of the reader or listener, and transmitting poetic emotion to orators. His style in verse can be seen not only in short poems, but mainly to high elevation, in his great poetical work, the translation of SCHILLER's *„Maria Stuart”* in verse.

Other examples of his charming style can also be found elsewhere, mixed with a freshness and humour, sometimes rather biting, as in one of his poems about a poet, who after his marriage to a rich lady, said good-bye forever to poetry.

However, his real poetic talent is shown mainly in the above mentioned translation in verse of Maria Stuart, which bears witness to his industrious versification and careful operation of the Greek language.

Nine years before his death, in 1888, he was already an established literary figure, and accepted by Greek scholars as a *poet*, and appointed to judge, together with E. ROIDIS and J. CAMBOUROGLOU, the dramatic competition of the 4th Olympiad.

ANAGNOSTAKIS, as a connoisseur, and indefatigable researcher of ancient Greek literature used, in his writings and poetry used a neo-ancient language, rich in lyrical rhythm, which at that time was the official national language. This attempt to impose a language far different to the people's language was a vain extravagance of force in a lost cause, as finally, as was natural, the neo-Greek language won in poetry, and thereafter in prose too. Many fights took place in the university and cultural circles until the neo-ancient language was replaced by the neo-Greek language of the people, demoticism.

From this short description of ANDREAS ANAGNOSTAKIS' cultural life, we can affirm the intellectual force of this man which drove him to extend his education to such an admirable degree, and to express his natural and divine gift of poetical inspiration, which gift is depicted in every page of his cultural work, to which he devoted his whole life.

I will close this short article with the last paragraph of his classical Olympiad speech:

„Full of hope, we are looking at a bright horizon, where the future will create great works. Around us, a bloodless rebellion is taking place against materialism, civilisation and behaviour. The Greek race is the protagonist in this large amphitheatre, envied by all, patiently fighting off dangers with the help only of an all-powerful will, which is never used in vain. And on this is sustained the hope, to which we address our eager wishes.”

In summary, I would like to emphasise that, as in the case of ANAGNOSTAKIS, the first and only safe guide to determine the kind of art and value of a scientist's or writer's work are his own creations, which place him as a hero or wiseman in the worlds of science and literature.

Among his more general spheres of intellectual activity are his monumental speech *„The intellectual Period of the Greek Nation 1871 – 1875”*, delivered at the festival of the Cultural Olympiad and various original poetical works of his own.

Finally, I would like to add that the new Greek Ophthalmology today includes a number of young scientists, many of them well-educated and trained in international centres. Certainly some of them possess an artistic and literary talent besides the scientific qualification. We hope that they will develop themselves in the literary and artistic sphere, thereby continuing our tradition, and contribute to the projection of our speciality.

Summary

This article is concerned with the more general intellectual activity of Andreas Anagnostakis, the Greek ophthalmologist famous for his modification of the ophthalmoscope. Born of refugee parents in 1826 on the Greek island of Kythira, he graduated from the medical faculty of Athens University in 1849, after which he left Greece for a number of years to pursue further studies abroad. From the very start of his career, he managed to build for himself equally good foundations in the literary as well as in the scientific fields. His literary contributions leaned towards the ancient Greek culture, but also included poetical works. His research of ancient Greek literature reveals the amazing depth of the ancient scientific knowledge in his work „Study in Optics by the Ancient Greeks” published in 1879, often unsupported by experiment or practical application, but generally successful in the interpretation of natural phenomena and natural laws. In another work, „The Medicine of Aristophanes”, he investigated every medical subject mentioned in this ancient writer’s works. In „The Antiseptic Method of the Ancients”, published in 1889, he again proved the seriousness of the ancient medical knowledge concerning asepsis and antisepsis, giving details of the teachings of Hippocrates, Galen, and Paulus Aeginitis.

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FRONIMOPOULOS, J. et LAMBROU, N. — La Vie intellectuelle d'Andreas Anagnostakis (1826 — 1897)

Resumé

Cet article s'intéresse à l'activité intellectuelle générale d'Andreas Anagnostakis, l'ophtalmologiste grec renommé pour la modification, qu'il a apportée à l'ophtalmoscope. Né en 1826, sur l'île grecque de Kythira, il obtint, en 1849, son diplôme de docteur en médecine à l'Université d'Athènes. Il quitta alors son pays pendant plusieurs années pour aller se perfectionner à l'étranger. Dès le début de sa carrière, il excella aussi bien en littérature qu'en science. Ses contributions littéraires comprenaient des poèmes personnels, mais s'intéressaient aussi à l'ancienne culture Grèce. C'est ainsi que dans son travail de 1879 sur l'étude de l'Optique par les anciens Grecs, il montra leurs connaissances déjà approfondies, qui, malgré l'absence d'expériences ou d'applications pratiques, étaient souvent justes dans l'interprétation des lois et phénomènes naturels. Dans un autre de ses travaux „La Médecine d'Aristophane" il rechercha tous les sujets médicaux mentionnés dans les écrits de ce der-

nier. Dans sa monographie sur la „Méthode Antiseptique des Anciens”, publiée en 1889, il démontra à nouveau les connaissances médicales déjà avancées concernant l'asepsie et l'antisepsie, tout en donnant des détails sur l'enseignement d'Hippocrate, Galen et Paulus Aeginitis. Il faut enfin mentionner son discours monumental „La Période intellectuelle de la Nation Grécque 1871 – 1875” qu'il a fait au festival de l'Olympiade Culturelle, ainsi que sa traduction en vers de l'oeuvre de Schiller „Marie Stuart” et divers oeuvres poétiques personnelles. Dès 1888, soit 9 années avant sa mort, il était déjà reconnu comme une personnalité littéraire et un poète.

**FRONIMOPOULOS, J. y LAMBROU, N. — La vida intelectual
de Andreas Anagnostakis (1826 – 1897)**

Resumen

Este artículo interesa la actividad intelectual de Andreas Anagnostakis, el oftalmólogo griego renombrado por la modificación que hizo al oftalmoscópico. Nació en 1826 sobre la isla griega de Kythira, obtuvo en 1849 el diploma de doctor en medicina de la Universidad de Atenas. Dejo entonces su país durante muchos años para ir a perfeccionarse al extranjero. Desde el comienzo de su carrera se destacó tanto en la literatura como en las ciencias. Sus contribuciones literarias comprendían poemas personales pero se interesaba a la antigua cultura griega. Es así que en sus trabajos de 1879 sobre la escala de la óptica hecha por los griegos, demostró sus conocimientos ya profundos, que, pese a la ausencia de experiencias o aplicaciones prácticas, eran a menudo exactas en la interpretación de los fenómenos y de las leyes naturales. En otro de sus trabajos „La Medicina de Aristophanes” el investiga todos los hechos médicos mencionados en los escritos de este último. En su monografía sobre el „Método Antiséptico de los antiguos”, publicada en 1889, demostró nuevamente los conocimientos médicos ya avanzados, concernientes a la asepsia y la antisepsia, dando detalles sobre las enseñanzas de Hipócrates, Galeno y Paulus Aeginitis. Hay que mencionar finalmente su monumental discurso „El Periodo intelectual Griego 1871 – 1875” que dió en el Festival de la Olimpiada Cultural, así como la traducción al griego de la obra de Schiller „Maria Estuardo”, y diversas obras poéticas personales. Desde 1888 o sea algunos años antes de su muerte, fue conocido como una personalidad de élite y un poeta.

**FRONIMOPOULOS, J. und LAMBROU, N. – Das geistige Leben des
Andreas Anagnostakis (1826 – 1897)**

Zusammenfassung

Der Beitrag beschäftigt sich mit allgemeinen geistigen Aktivitäten des griechischen Ophthalmologen Andreas Anagnostakis, der vor allem durch seine Modifikation des Ophthalmoskops bekannt wurde. Er wurde im Jahre 1826 als Sohn kreischer Flüchtlinge auf der Insel Kythera geboren. Er studierte an der Medizinischen Fakultät der Universität Athen, wo er 1849 sein Examen ablegte. Danach verließ er Griechenland für einige Jahre, um im Ausland seine Ausbildung zu vervollkommen. Vom ersten Anfang seiner Karriere an gelang es ihm, sich sowohl auf dem literarischen als auch auf dem wissenschaftlichen Gebiet eine gleich gute Grundlage zu schaffen. Seine literarischen Beiträge befassen sich zum Teil mit der klassischen Griechischen Kultur, umfassen aber auch dichterische Werke. Seine Forschungen über die historische griechische Literatur enthüllen uns die erstaunliche Tiefe der wissenschaftlichen Erkenntnis der Alten, vor allem in seiner 1879 veröffentlichten Arbeit 'Untersuchungen zur Optik bei den alten Griechen'. Hier zeigt er, daß die alten Autoren trotz fehlender experimenteller Erfahrung und praktischer Anwendung bei der Interpretation von natürlichen Vorgängen und Naturgesetzen im allgemeinen richtig lagen. In seiner Arbeit 'Die Medizin bei Aristophanes' untersuchte er jeden einzelnen Hinweis auf einen medizinischen Sachverhalt im Werk dieses Dichters. Schließlich bewies er in dem 1889 erschienenen Beitrag 'Die antiseptische Methode bei den Alten', die Seriosität der Ärzte des alten Griechenland bezüglich Asepsis und Antisepsis unter Berufung auf die Lehren von Hippokrates, Galen und Paulos von Ägina. Besondere Erwähnung verdient sein bedeutender Vortrag 'Die geistige Epoche der griechischen Nation 1871 – 1875', den er anlässlich der kulturellen Olympiade gehalten hat. Wir verdanken ihm eine griechische Übersetzung des Schillerschen Dramas 'Maria Stuart' in Versen und zahlreiche eigene Dichtungen. Von 1888 an, d. h. schon 9 Jahre vor seinem Tod, genoß er in seiner Heimat den Ruhm einer bedeutenden literarischen Persönlichkeit und eines großen Dichters.

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