



IN MEMORIAM

John Xanthakis (1904–1994)

John Xanthakis, who achieved world-wide recognition for his contribution to the solar-terrestrial phenomena, astronomy and geophysics, departed to the eternal orient on July 7th (1996) after a recent stroke.

It can be plausibly argued that science is a Greek invention, so I trust that it will not seem inappropriate to honour a modern Greek scientist by briefly discussing the nature and role of his scientific career and his contributions to the world scientific community, thus pay a post-mortal tribute to a member of the modern Academy of Athens by considering his innovative work that would have interested the members of the original platonian Academy in Athens.

Graduate in Mathematics, Athens University, in 1925; Ph.D. in Mathematics in 1930, Athens University; Astronomer and Chief Assistant in Athens University, 1929–1931; Research Associate in the Observatoire de Strasbourg, 1931–1934; professor in Mathematics, military Academy of Athens, 1938–1939; professor in Astronomy, University of Thessaloniki, Macedonia, 1939–1955; Fellow of National Academy of Athens, 1955–1994. Founder and supervisor of the Research Centre for Astronomy and Applied Mathematics (RCAAM), 1959–1994. President of Greek National Committees for Astronomy, Mathematics, Space Research; president of many scientific societies; Minister of Agriculture, 1963 and 1964.

Published six text-books in the Greek language, editor of two books in English, author and co-author of two monographs and a third one on *Ozone* is in press, and over 100 original papers.

His research work refers mainly to the mathematical analysis, positional astronomy, solar physics and solar-terrestrial relations, geophysics, climatology, seismology, archaeoastronomy.

His last ten years main research interest and dynamic involvement (he in fact made plots and calculation by hand till the last moment) referred to geomagnetic field (archaeomagnetism and palaeomagnetism) variations and palaeoclimatic research, as well as, tropospheric ozone analysis and solar physics.

The hallmark of his important scientific achievements was the "Compendium in Astronomy" (1982), a D.Reidel Publ. Co. volume dedicated to him on the occasion of completing 25 years of scientific activities as Fellow of the National Academy of Athens and for his outstanding scientific contributions. In a short time 50 authors from 15 countries coming from a wide range of Prof. Xanthakis immediate colleagues, pupils and friends joined to produce the 36 contributions included in that volume.

My first contact with academician and teacher Xanthakis was connected with my hunting for a job in 1979, being a fresh Ph.D. graduate from Edinburgh University. Since then I have been in constant collaboration under his supervision on several problems of solar-terrestrial origin and geophysics.

He was a man with a very wide spectrum of interest, open minded, exact in the approach to scientific problems, encouraging young scientists and in practice helping them in realising their scientific ideas; a dialectic man creating an atmosphere of harmonic collaboration, bringing immediate solutions to the problems, an up-to-date professor in his very late years of his life, working with his cartridge paper in analysing time-series till the last moment, a sharp mind and often he used to say: "I can teach mathematics and astronomy right now in a classroom. I honestly remember so well, provided that my body and health will hold me up".

Of particular mention is his work on solar activity and his devised area index for sunspots, the solar activity and a global survey of precipitation relationship, and the variation of ozone expressed analytically and contributing to the debated theme, proving that this variation is mainly of natural rather than anthropogenic cause.

His "successive approximations" method of time-series analysis has made a substantial contribution to the physics of variable solar-terrestrial phenomena; such computations were hand made and subsequently reconfirmed by the statistical methods of spectrum analysis. No software has as yet been developed to complement his job. Although this subjective method of analysis was occasionally met with scepticism by referees, it has overwhelmingly been proven correct; the analytical expression given to a time varying phenomena was of a high significance level. I am convinced that his repeated findings of a "network of periodicities" in various phenomena, as early as 1960, are indeed indication of the chaotic behaviour of their systems.

"Einstein expressed the energy-matter relation with one equation, I can analytically express the hedgehog's pines by one statistically highly accurate mathematical relation", was often his remarks about the type of his analysis. He was always at the forefront of modern scientific research and directed wisely his students to these new fields.

In summary, he was more than a charming, highly intelligent scientist. He was in the mould of the "great Greeks of astronomy" and on an international dimension, and the

like of which seem no longer to flourish in our bureaucratically controlled world.

He will above all be remembered with affection by me, as well as by all his pupils, colleagues, and friends, for bringing a splash of colour into everybody's lives—from moral support to assistance in any kind of personal problem.

He was a man with insight and of many virtues.

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