

George Hatsopoulos - Celebration of Life and Philanthropy at MIT - January 14, 2021



Personal memories from Gian Paolo Beretta.

I have known George Hatsopoulos since 1979, when I used to visit him at ThermoElectron almost every Saturday morning, together with Elias Gyftopoulos, to discuss progress in my PhD thesis work on quantum thermodynamics. These meetings for me were a crescendo of admiration for his sharp intuition, deep knowledge, clarity and independence of thought, insight and foresight, kindness and pragmatism. In 1981, it was

him who convinced MIT to hire me as an assistant professor, to revive thermodynamic research in the mechanical engineering department. I expressed my gratitude to him by sharing with Elias the dedication of our textbook: 'to our teacher of thermodynamics, George Hatsopoulos'. In 2006 he recruited me to help him organize the Keenan Symposium, for which we also coauthored a paper entitled "Where is the entropy challenge?"



George's successes as an entrepreneur have overshadowed his scientific contributions. Therefore, I want to use my minute today to emphasize that he also deserves to be considered a "true pioneer" of the foundations of both classical and quantum thermodynamics. His 1965 book with Joe Keenan is a milestone contribution to understand the role of stability of equilibrium in the second law. The four papers he wrote with Gyftopoulos in 1976 are the first attempt to establish a coherent theory of quantum thermodynamics. In the Spring of 1971, George offered at MIT the first course ever taught worldwide entitled 'Quantum Thermodynamics'. He was so ahead of his times, that it took another 25 years before interest in the physics community began to sprout and blossom, and another 10 to explode to the viral level of the past decade.



A recent article in the May issue of Scientific American does finally some justice by listing George Hatsopoulos among the pioneers of quantum thermodynamics. The author of that article is the last winner of the Prigogine Prize for Thermodynamics, established by a special committee of the Joint European Conference on Thermodynamics, that I have the honor to chair. I mention it, because exactly ten years ago, I visited George for lunch, and over our usual fish and chips, I tested him on the idea that his next donation to MIT could be towards a new kind of "investment",

namely to establish an international prize that could give impulse, attention, visibility, and prestige to research in Thermodynamics. He immediately wanted a written memo on the idea, but soon his conditions did not allow him to follow up. Perhaps now is a good time to establish the Hatsopoulos Prize for Quantum Thermodynamics. It would be a wonderful permanent recognition of his pioneering intuition and ability to anticipate fundamental questions that forty years later are still central and partly unresolved. It would help to maintain and disseminate a permanent memory of his definite role in the history of thermodynamics.

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