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Obituary

Claudemir Roque Tossato (1961–2026): A Tireless Brazilian Scholar and Interpreter of Keplerian Astronomy

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On May 5, with profound sadness, we learned of the passing of Professor Claudemir Roque Tossato (Unifesp, Guarulhos Campus), one of the leading authorities on early modern astronomy and cosmology, and a distinguished interpreter of the works of Johannes Kepler and Tycho Brahe. Born in Jundiaí, São Paulo, on May 28, 1961, he passed away shortly after his sixty-fifth birthday.

In 1988, Tossato enrolled at the University of São Paulo (USP) where he earned his bachelor's degree in philosophy and went on to complete all stages of his academic training. The following year, he joined the second cohort of the study group coordinated by Professor Pablo Rubén Mariconda (1949–2025), who became his advisor throughout his academic training, during which he conducted two undergraduate research projects on “Kepler's laws of planetary motion” and “A preliminary investigation into Kepler's planetary theory”, completed in 1992 and 1997, respectively. His formative years in that study group gave him a solid foundation in the history and philosophy of science, allowing him to successfully continue his graduate studies.

After completing his bachelor's degree in Philosophy, he began his master's studies in 1993 and defended his dissertation “The process of formulating Kepler's first two laws of planetary motion” (1997). In that work, supported by the Coordination for the Improvement of Higher Education Personnel (CAPES), he examined the derivation of the law of elliptical planetary orbits and the law of equal areas. Focusing on the epistemological and methodological aspects involved in the formulation of those laws, he sought to emphasize Kepler's hypothetical method and its departure from the Platonic axiom according to which planetary motions are circular and uniform.

Continuing his specialization, the natural course of Tossato's research led him to deepen his studies through a doctoral dissertation on “Force and harmony in Johannes Kepler's physical astronomy” (2003), supported by a grant from the São Paulo Research

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Foundation (FAPESP). That work presents a refined analysis of the concepts of “force” and “harmony” in the development of Kepler’s physical astronomy, demonstrating the central role of both in the physical approach adopted in *Astronomia Nova* (1609) and in his broader conception of astronomy and cosmology in the context of seventeenth-century science.

Shortly after earning his doctorate, Tossato continued at the University of São Paulo (USP), undertaking a postdoctoral fellowship between 2004 and 2007, still under the supervision of Pablo Mariconda. During that period, he began working on a series of articles on the German astronomer, addressing both optical issues and the epistemological aspects involved in the dynamics of scientific theories within the scope of Kepler’s work. From that time, in particular, date texts such as “Discussão cosmológica e renovação metodológica na carta de 9 de dezembro de 1599 de Brahe a Kepler” (“Cosmological discussion and methodological renewal in Brahe’s letter of December 9, 1599, to Kepler”) (2004), “A função do olho humano na óptica do final do século XVI” (“The function of the human eye in late sixteenth-century optics”) (2005), and “O método da astronomia segundo Kepler” (“Kepler’s method in astronomy”) (2010). In 2013, he published *O conhecimento científico* (*Scientific knowledge*). The book was intended for a broad audience, presenting an account of what can be understood as scientific knowledge and analyzing some of its core concepts. The Brazilian academic community eagerly awaits the publication of his latest work – the translation of *Mysterium Cosmographicum* (1596), carried out in collaboration with Pablo Mariconda. This is the first translation into Portuguese of a seminal text by Kepler, which was the subject of Tossato’s master’s research and the topic of his first article, “*Mysterium cosmographicum*, os antecedentes das duas primeiras leis dos movimentos planetários de J. Kepler” (“*Mysterium Cosmographicum*, the antecedents of J. Kepler’s first two laws of planetary motion”) (1999). This translation represents a valuable contribution from his long career as a researcher and scholar of Kepler’s work and will certainly occupy a prominent place in the Brazilian intellectual production devoted to the study of early modern science.

Tossato’s teaching career began at the Escola Técnica Federal, where he taught philosophy in secondary and technical education programs. After holding positions at higher education institutions, he joined the Federal University of São Paulo (Unifesp) in 2009 as an assistant professor in the field of Philosophy of Science. There, he coordinated the Graduate Program in Philosophy for four years, supervising numerous master’s dissertations and doctoral theses. In addition to his activities at Unifesp, he was affiliated with the Professional Master’s Program in Astronomy Education, hosted by the Institute of Astronomy, Geophysics and Atmospheric Sciences at the University of São Paulo (USP). His career as a university professor was marked by the deep appreciation and respect of his students, supervisees, and colleagues.

Tossato served as coordinator of the Working Group on Philosophy, History, and Sociology of Science and Technology, affiliated with the “Brazilian National Association of Graduate Studies in Philosophy” (ANPOF). During that period, he co-organized *Filosofia da ciência e da natureza* (*Philosophy of science and nature*) (2015), *Filosofia da natureza, da ciência, da tecnologia e da técnica* (*Philosophy of nature, science, technology, and technique*) (2017) and, likewise, *Filosofia da natureza, da ciência, da tecnologia e da técnica* (*Philosophy of nature, science, technology, and technique*) (2019), which included papers presented at ANPOF meetings in the immediately preceding years. He was also one of the founding members of the “Associação Filosófica *Scientiae Studia*” (*Scientiae Studia* Philosophical Association) and, together with Pablo Mariconda, actively participated in the editing of *Scientiae Studia: Revista Latino-Americana de Filosofia e História da Ciência*, a journal with international recognition among researchers in the area. His work within the “Associação Filosófica *Scientiae Studia*” reveals a sustained commitment to the dissemination of academic knowledge on science and technology. In recent years, he had been dedicating himself to the Philosophy of Technology, a topic addressed in the meetings of his “Study group on the history and philosophy of science and technology”, in which he planned to publish articles.

Our friend was not only an admired professor, an attentive supervisor, and a respected researcher, but also a person of rare and remarkable kindness. Like few others, he knew how to welcome those who sought him out, sharing with them the gift of his joy. Of a reserved temperament, his good humor became more apparent as familiarity grew and conversations turned to topics beyond philosophy and science. A lifelong fan of Palmeiras football club, he laughed and made others laugh during conversations about football with colleagues and friends in the corridors of USP and Unifesp. The Brazilian academic community of history and philosophy of science deeply regrets his passing. His ideas and philosophical spirit will remain in the memory of those who knew him. In collaboration with one of the signatories of this obituary, Tossato was set to co-organize the dossier “Historical and philosophical perspectives on modern science from the sixteenth through the eighteenth centuries”, scheduled for publication in issue 22 of *Transversal*, in June 2027 – a project to which he was eagerly looking forward to contributing and which we are committed to carrying forward in his memory.

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