

# **Roberto Torretti: A Life Dedicated to the Philosophy of Science** <sup>[1]</sup>

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Dr. Roberto Torretti y su esposa, la Dra. Carla Cordua

A quick glance at the history of science is enough to notice its enormous progress, especially in the last 100 years. As theories, laws, hypotheses, models, data, and speculations about the

natural world are developed, revised and discarded by scientists, they have transformed into highly sub-specialized professionals.

Despite the specialization of science, there are ideas and postulates that most scientists share, consciously or otherwise, and that are the foundation of what science truly is and how it differs from other disciplines. I am talking about the philosophies of science, using the plural due to their many variants.

The philosophies of science form a branch of philosophy that critically examines the fundamentals, methods, products and implications of science activities. Science philosophers want to understand, among other things, (1) what the origin, nature and validity of scientific language are; (2) what the nature of the “scientific methods”, logical and deductive reasoning, and falsifiability are; (3) what scientific knowledge is and how it is justified and accepted; and (4) how the boundaries between science and non-science are defined.

In Puerto Rico we were fortunate in hosting Dr. Roberto Torretti, one of the world’s leading science philosophers. Born in the Republic of Chile, Dr. Torretti taught for decades at the Río Piedras Campus of the University of Puerto Rico.

Dr. Torretti was born in Santiago in 1930. In a recent interview, he explained that, as a teenager, his mind started to think critically. At 14, a friend lent him two books, one of which questioned the existence of Jesus and the postulates of the Catholic Church. The second book described Darwin’s theory of biological evolution. These publications challenged a young Roberto, motivating him to question ideas that most people near him considered truth.

Dr. Torretti attended University of Chile, where he started to study Law. Despite finishing all coursework, he never graduated. Eventually, he moved to Germany. In 1954 he completed his doctorate at Freiburg University, specializing in philosophy, psychology, and art history. Always a voracious reader, Dr. Torretti constantly studied and analyzed a variety of classical, modern, and contemporary texts in philosophy, physics, and mathematics.

In 1958, Dr. Torretti and his wife, Dr. Carla Cordua, became part of the brand-new Faculty of General Studies at UPR Río Piedras. In his book “Only Stars in the Sky: Conversations with Roberto Torretti” (Carrasco, 2006), Dr. Torretti described the original philosophical vision that guided the conceptualization of this Faculty.

“The Faculty of General Studies was invented by Dean Ángel Quintero, following the idea of ‘general studies’ as conceived by Robert M. Hutchins, president of the University of Chicago in the 1930s and 1940s. Back then the goal was to initiate students into Western culture, broadly speaking. Students would enroll in a humanities course where they would read Homer, Plato, Saint Augustine, Dante, even Dostoyevsky, a course that lasted two years. In the physics course, students were introduced to readings by Galileo, Newton, Faraday, and others. The biology course would include Darwin and Mendel among others. Students always read primary sources.”

In 1961, Dr. Torretti returned to Chile, where he occupied faculty and administrative positions at University of Concepción (1961-64) and then at University of Chile (1964-70). In 1970, he returned to University of Puerto Rico, where he worked as a faculty member and as senior editor

of “Diálogos”, a prestigious academic journal. Carrasco (2006) described how a misguided attempt at higher education reform in Chile induced Dr. Torretti and his wife to leave their country and return to Puerto Rico.

“I was always short on time ... then the higher education reform came and I was required to attend assemblies, meetings... it was a disaster! Partly because of the reform, I decided that I could no longer stay. They made you do all these other administrative duties, and they got worse by the day. Also, if you wanted to do your job the right way and make a good impression, then they recruited you into even more duties. I was drafted into a consulting board for CONICYT [National Commission for Scientific and Technological Research], a new organization then, and I was made to attend long and boring night meetings. Leaving Chile, and I want to make this clear, meant investing my time in the kind scholarship I was interested in. In Puerto Rico I was never given an administrative position, except serving as the senior editor of a journal, which was not easy, but that I accomplished at home and performed quite speedily.”

After his retirement from UPR in 1995, Dr. Torretti and his wife, Dr. Cordua, returned home, where they stay active in professional circles. In 2011, the Republic of Chile honored them with the National Award for the Humanities [4].

The prolific career of Dr. Torretti included the publication of at least 20 books [for example, Creative Understanding [5], Immanuel Kant [6], Relativity and Geometry [7], Relativity and Spacetime [8], and The Philosophy of Physics [9]], seven encyclopedia entries, and hundreds of articles, monographs, book reviews, and translations of works in German and Latin. In one of his books, Dr. Torretti talked about how the support of University of Puerto Rico was key in the quantity and quality of his scholarly work.

“University of Puerto Rico ... released me many times from some of my faculty duties so that I could work in this book. I am deeply thankful to them for constantly supporting my research. Above all, I need to thank the University and the people of Puerto Rico for twenty years of absolute academic freedom and almost complete tranquility, in a time where these prerequisites were not available in my country of origin.”

As scientific and technological progress marches on, we will surely face questions, situations, and events with deep political, social, ethical, cultural and historical implications. It is then when the philosophies of science and the idea of intellectuals like Dr. Roberto Torretti can inform and guide scientists.

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