Omar Vargas, "The Physicist and His Ghosts: the Scientific Writing of Ernesto Sabato." *Ciberletras* 44 (2020): 66-85.

How is it possible that Ernesto Sabato, well-known Latin American novelist, appears as a coauthor of physics school textbooks (67) in the 1940s? The intriguing article "The Physicist and his Ghosts: the Scientific Writing of Ernesto Sabato" by Omar Vargas unveils the lesser-known part of Sabato's life and literary production. Sabato, in fact, worked as a physicist until the age of 34 conducting research and teaching activities at several institutions.

Sabato was enrolled at the University of La Plata during the 1920s and 30s (69-70). As a graduate student, he conducted experiments on the atomic structure of krypton (73). The study of the structure of the atoms was one of the most relevant topics in physics at that time due to the revolutionary theories of quantum physics. After completing his PhD in 1936, Sabato obtained a research grant to work on artificial radioactivity with Iréne Curie and Frédéric Joliot at the Radium Institute in Paris. Sabato accessed this prestigious place thanks to the recommendation letter written by Bernardo Houssay, future Nobel Prize winner in 1971 for Physiology or Medicine (75), who believed Sabato to be a promising young physicist. However, Sabato's crisis concerning his career pattern started in Paris (76). Due to the imminent war in Europe, he was sent to finish his internship at the Massachusetts Institute of Technology in 1939. Here the young scientist published a Physics Review article on cosmic rays under the direction of Manuel Sandoval Vallarta (77).

Back in Argentina in the 1940s, Sabato worked as an instructor. Vargas demonstrates how in those years the early phase of Sabato's literary production alternates with his scientific writing, and their contents are reciprocally influenced. For example, the scientific articles published in the Annals of the Argentine Scientific Society with Enrique Loedel Palumbo (himself a physicist and poet), focus on thermodynamics (79), and Sabato's review of La invención de Morel by Adolfo Bioy Casares, published in the magazine Teseo, is full of references to thermodynamics (78-79). In 1944, Sabato coauthored with Alejandro de Bisschop the textbook *Elements of Physics* for National Schools of Commerce (79) and in 1946, a second textbook, widely used in the schools of Buenos Aires, *Elements of Physics*, was written in collaboration with Alberto P. Maiztegui (67). In between, in 1945, Uno y el Universo, the first literary book of the Argentinian writer was released. Vargas considers the publication of this book to be "motivated by the necessity of dealing with his breaking up with science" and interprets the choice of writing several science communication articles in the newspaper El Mundo under the alias Crisóstomo Ugarteche as a strategy "to avoid conflict with his literary career" (80). Some of these texts will be later incorporated into his contribution to the Jackson Encyclopedia in 1951, the last of his scientific writing (82).

As Vargas highlights, several studies have been made about science and twentieth-century Latin American literature, but few sources are easily available regarding Sabato's scientific production, even though he is "the best representative of the dialogues and intersections of science and literature" (69). Vargas fills this gap. He builds a historical and bibliographic account of Sabato's scientific production analysing writings on physics and retrieving historical documents from archives in France and (thanks to Sabato's personal acquaintances) Buenos Aires. Doing a first-hand investigation across Latin America and Europe, Vargas also provides several images of the different sources that characterize the paper. Establishing how Sabato's scientific background intertwines with his literary writings, Vargas demonstrates that "in the end, all of Ernesto Sabato's writing is scientific" (82). Vargas fully answers the opening question of this review. Furthermore, his work suggests that, probably, the right interrogative to be made about Sabato's intellectual evolution is the reverse one: how did the physicists Ernesto Sabato become one of the four Argentinian recipients of the Premio Cervantes?

To understand the figure of Sabato as a professional physicist, Vargas offers his readers brief and accessible insights into the advancements of modern physics during the first decades of the last century. This helps in locating Sabato's research in its historical and global dimension. Perhaps Vargas enhances the relevance of the scientific contributions of the writer beyond their effective impact, as, for example, happens with the description of the content of the scientific paper "On Alfvén's Hypothesis of a «Cosmic Cyclotron»" (77). However, moving between literary and scientific topics reveals a sort of mirror-matching between the author of the paper, Omar Vargas, and the topic of the paper, the physicist and writer Ernesto Sabato.

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