The Pope of Physics: Enrico Fermi and the Birth of the Atomic Age.
By Gino Segrè and Bettina Hoerlin.
New York: Henry Holt & Co., 2016.
368 pages.

This portrait of a scientific figure who has never been in the limelight as much as his contemporaries seeks to make the full scope of Enrico Fermi's remarkable life accessible both to those familiar with his scientific legacy and to anyone else interested in twentieth-century history.

This is undoubtedly a commendable ambition, although several biographies have already been published on the Italian-born physicist. Emilio Segrè's classic *Enrico Fermi, Physicist* (1970) succinctly captures his distinctive combination of theoretical and experimental skills. Giuseppe Bruzzaniti's *Enrico Fermi: Il genio obbediente* (2007) looks instead into Fermi's unassertive approach to dealing with his patrons. Gino Segrè (Emilio's nephew) and Bettina Hoerlin have covered much the same ground as Fermi's previous biographers, but the title of their book is, revealingly, more emphatic. It references the name Fermi was jokingly called in the 1930s by his students in Rome to recognize his extraordinary talent for leadership. Fermi had convinced his young graduates to join his laboratory and explore the (then esoteric) field of atomic physics; to them, Fermi was "the pope" of their exclusive world.

This new biography seeks to establish Fermi's authority over a broader realm, as "the pope of physics." But it is not clear that the book succeeds in making this ambitious case for Fermi. It is also not clear that this portrayal differs substantially from previous ones, and not simply because the book often depends on anecdotal evidence already widespread in the literature. Segrè and Hoerlin do offer novel and interesting analyses, especially when examining Fermi's life and career as a refugee in the United States, after his group of scientists and mathematicians in Rome disbanded when the Fascist regime ordered the removal of Jews and descendants of Jews (Fermi was not, but his wife Laura was) from academia and state agencies. The authors accurately detail Fermi's association with scientists in New York and convincingly describe the work that Fermi carried out at the University of Chicago to build the first prototype of a nuclear reactor. The narrative also deepens our understanding of Fermi's way of attacking specific research problems and casts light on his important role in the Manhattan Project, which developed the atomic bomb. Since Fermi could combine theoretical and practical work like few others, he played a unique role at a time when scientific enterprises had become the domain of specialists. Segrè and Hoerlin also provide a much-needed discussion of the long-overlooked role that women played in the early atomic age.

At the same time, however, they do not always adequately cover Fermi's personality and relationships outside the laboratory, a dimension of his life that remains hidden from view. In fairness, providing such dimension has always been a difficult task. This is mainly because, as Fermi's papers at the University of Chicago reveal, he was reluctant to write about nonscientific matters. He feared being labeled because of political associations and, as this volume recalls, as an Italian in the United States during wartime carrying the stigma of being an "enemy alien." Still, Fermi's personal and public life deserves a deeper treatment than the one given here.

The book is also somewhat cloudy on Fermi's ambitions about pursuing research into the peaceful uses of atomic energy, despite the fact that these interests have been documented in greater detail in Emilio Segrè's volume and, more recently, in mine on the Pontecorvo affair (Turchetti 2012). The key discoveries by Fermi's group in Rome, such as the slow neutron process, were products of a roaring innovation economy in the 1930s. Yet the book fails to discuss the key role of businessman Amadeo Giannini and other industrialists, including those from the Dutch firm Philips, that sought to exploit Fermi's process in civilian technology and medicine. Fermi's life as a brilliant, business-savvy scientist in the world economy of his time also deserves more attention.

The key role of intellectual property rights and patents in Fermi's career in Italy and the United States is overlooked too. To give one example, the book fails to deal adequately with the tensions between Fermi and other scientists of the Manhattan Project and DuPont, which was building some of the project's nuclear reactors. The fear was that the industrial giant would seek to grab the scientists' intellectual property rights. Fermi's exchanges in Los Alamos with his collaborator in the Manhattan Project Emilio Segrè are particularly telling of their concerns, but the book is somewhat reticent about their relationship too. Finally, richer coverage of Fermi's role in these patent and property issues would have provided a more useful discussion of the development, through the McMahon Act of 1946, of civilian control of atomic energy, which not only prevented a "military power grab" (251) but also made sure that no industrialist, or atomic scientist, would have overall control of atomic energy patents. The resulting legal controversies surrounding such patents, including Fermi's, embittered him in the postwar years and even undermined his standing before the American public, especially after one of his former collaborators, Bruno Pontecorvo, mysteriously disappeared and was later found to have defected to the Soviet Union.

There are other issues discussed in the book that deserve greater scrutiny. For instance, readers may wonder if in the 1930s Italy was really "the least anti-Semitic of all large European countries" (117). Mussolini and his associates had built their regime on the persecution of political adversaries (including many

Jews), and in Italy anti-Semitism was consistently practiced and preached—for instance, through state-funded research that could support racial legislation. It would have also been useful for the authors to look at archives beyond those of Fermi's papers in Chicago, especially in light of the scientist's reluctance to write about his political and other nonscientific opinions. In particular, drawing on the papers of some of his closest collaborators, such as Emilio Segrè and Edoardo Amaldi, would have helped to cast new light on Fermi's views.

To sum up, there is no doubt that this book advances our understanding of Enrico Fermi as a historic figure, allowing us to better appreciate his prominent role in the shaping of science and technology in the twentieth century. But, in spite of its "blessed" title, the volume works no miracles: The pope of physics remains a mystifying character in the history of the atomic age.

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By Anna Sergi and Anita Lavorgna.
New York: Palgrave Macmillan, 2016.
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236 pages.

The Godfather was published in 1969 and became one of the best-selling novels ever published. The subsequent film trilogy ranks among the most successful movies of all time. Millions of readers and viewers came to believe they were witnessing an accurate account of organized crime rather than masterful works of fiction. Since even a great story does not always make for good history, the