essays. Had Singer reshaped some of the essays and put a bit more effort into harmonizing the others, the result would have been a far better book. But one should still be grateful for the intelligence and judiciousness of the book we do have. One should acknowledge, too, that writers who have the temerity to write about Santayana are doomed to be outshone by their subject. We can be grateful to Singer for showing just such temerity, and thereby helping to keep Santayana's vision alive.

—Wilfred M. McClay

IN THE SHADOW OF THE BOMB: Oppenheimer, Bethe, and the Moral Responsibility of the Scientist.
By S. S. Schweber. Princeton Univ. Press. 260 pp. $24.95

To understand the overlapping but divergent careers of nuclear physicists J. Robert Oppenheimer and Hans Bethe, according to Schweber, look to Immanuel Kant and educator Felix Adler. Oppenheimer and Bethe both grew up in Jewish families that sought social and cultural assimilation, and both men found physics and secular ethics appealing substitutes for traditional religion. Oppenheimer studied at New York's Society for Ethical Culture, which Adler had founded in 1876 to impart a humanitarian philosophy that might replace traditional Judaism. Adler considered Kant's ethics "a species of physics" that impelled each individual to behave as if his actions could be a universal ideal. Bethe's parents and his German education imparted a similar Kantian moral imperative that would enrich his life, but in ways more communal and familial than Oppenheimer's.

Creating the A-bomb together at Los Alamos during World War II, Oppenheimer (director of the secret laboratory) and Bethe (head of its theoretical division) personified individual responsibility for their science: Beating Nazi Germany to the bomb became their moral imperative. Afterward they went their separate ways. Oppenheimer left theoretical physics research to head the Institute for Advanced Study in Princeton, New Jersey, while Bethe returned to Cornell University, his intellectual home since 1935 and a scholarly community that would give him moral support.

"It is one of Bethe's striking characteristics," writes Schweber, a physicist and science historian at Brandeis University, "that there is only one of him—in contrast to Oppenheimer." When Cold War anticommunism struck American college campuses in the 1940s and 1950s, a duplicitous Oppenheimer so feared his conservative critics that he could not bring himself to defend publicly a former student, University of Rochester physics professor Bernard Peters, against unsupported attacks (attacks prompted by Oppenheimer's own casual remarks). By contrast, Bethe staunchly defended Cornell physicist Philip Morrison against biased accusations by the university's alumni and board members. President Dwight Eisenhower's science adviser, James Killian, spoke of Bethe's "grave nobility of character," a quality that Oppenheimer somehow lacked.

Indeed, as Schweber argues in this engaging intellectual story, the two men's lives seem like mirror images refracted by their heady years at Los Alamos. Before World War II, Oppenheimer thrived in a circle of colleagues and talented students at Berkeley; after the war, he was nearly alone in his struggles against political enemies. Before the war, Bethe was "self-sufficient and somewhat of a loner" socially and intellectually; after the war, he created a lively physics community at Cornell and "set its moral and scientific standards."

Oppenheimer, who died in 1967, is a historical icon, remembered by many as a martyr who professed that "the physicists have known sin; and this is a knowledge they cannot lose." Bethe is a living legend. He received the 1967 Nobel Prize in physics for explaining how stars produce energy. Throughout the Cold War he publicly advocated nuclear arms control and test bans, and he recently sent a letter to President Bill Clinton opposing the development of a national missile defense system. At 94, he still studies physics at Cornell.

—William Lanouette