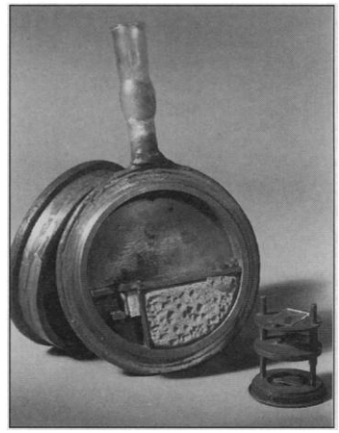
BOOK REVIEWS

Posthumous Credit

Lise Meitner. A Life in Physics. RUTH LEWIN SIME. University of California Press, Berkeley, 1996. xiv, 526 pp. + plates. $34.95 or £28. California Studies in the History of Science, vol. 13.

The history of science has often seen the construction of myths of discovery, many of which unfortunately cannot withstand careful historical analysis. For many years the Deutsches Museum in Munich, the German national museum of the history of science and technology, had an exhibit on the discovery of nuclear fission entitled the "Work Table of Otto Hahn." The oft-reproduced display of instruments and equipment (assembled with Hahn's help) gave some credit to Fritz Strassmann, Hahn's co-worker, but implied that the principal credit (and thus Hahn's undivided 1944 Nobel Prize) rightly belonged to him alone. It ignored the third member of the research team, Hahn's old friend and colleague Lise Meitner, an Austrian physicist of Jewish descent whose forced emigration from National Socialist Germany during the summer of 1938 prevented her from further direct participation in the work, which reached its culmination in December 1938 and January 1939. At the International Congress of History of Science held in 1989 in the Deutsches Museum, a petition was circulated that eventually led the museum to change its display, which now gives equal credit to Hahn, Meitner, and Strassmann. Ruth Sime, who helped launch that drive, has now produced an extensively documented biography that convincingly demonstrates why Meitner deserves the credit.

Sime has sifted through collections of unpublished documents and correspondence in several countries to track down the evidence that Hahn had continued to consult with Meitner on their radioactivity research during the fall and winter of 1938–39, had shared with her alone the results of his and Strassmann's work before publication, and had followed her recommendations in carrying out the crucial experiments that demonstrated the phenomenon Meitner and her nephew Otto Frisch were the first to explain as nuclear fission. Sime shows how Hahn, probably fearing the political consequences of revealing too great a dependence upon a Jewish colleague, minimized Meitner's actual role in the project from his first publications in 1939. Even after the war, however, Hahn and his many adherents unfairly portrayed Meitner as a conservative theorist whose departure supposedly removed the main obstacle to Hahn's correct perception of the phenomena. Meitner, meanwhile, was none too eager to dispute Hahn after her embarrassment at the initial wave of Allied postwar publicity that had incorrectly portrayed her as "Jewish mother of the atomic bomb" or the sole discoverer of fission, whose destructive impact had horrified her.



Instruments used by Lise Meitner. "The small instrument is the simple beta spectrometer first used by Meitner, Hahn, and Otto van Baeyer in 1910. Meitner used the larger instrument for her studies of beta-gamma spectra in the 1920s." [From *Lise Meitner*; Deutsches Museum, Munich]

Lise Meitner and Otto Hahn, about 1910. [From *Lise Meitner*; Archiv zur Geschichte der Max-Planck-Gesellschaft, Berlin]

Besides the story of fission and its ramifications, which rightly occupies the center of Sime's biography (and nearly half its 380 pages of text), the book portrays the often difficult life of a pioneering woman who became one of Germany's first female professors. As a physicist, an Austrian, a convert from Judaism, and a woman working largely with male chemists, Meitner could never achieve a real sense of security in the socially and politically conservative climate of German academe, even before 1933. After a first decade of scientific partnership with Hahn, she loyally gave him equal credit for the discovery of the radioelement protactinium in 1917, even though she had done most of the work while he was in the military. In the interwar era she remained institutionally in Hahn's shadow, content to become director of the physics section of the chemical institute he went on to direct, even while her independent work until 1933 accounted for a large part of the institute's international reputation. Hitler's assumption of power that year deprived Meitner of her university position, though until 1938 her Austrian citizenship and Hahn's protection enabled her to continue her scientific work and to collaborate on the project that led to fission. But once exiled in 1938, Meitner never again found a really good position to do scientific work.

Given their long working relationship, the book sheds light on Hahn as well as Meitner, correcting some of his occasionally distorted biographical recollections, a contribution that is particularly valuable because access to Hahn's unpublished papers in Berlin is still restricted. Similarly interesting is Sime's description of the revisionist intellectual climate of postwar Germany, in which the goal of promoting reintegration into the international community led Hahn as well as even stronger opponents of Nazism (like Max von Laue) to minimize German responsibility for wartime crimes. In the face of these attitudes, Meitner could not bring herself to return to a post in Germany, not even one offered by her former co-worker and admirer Fritz Strassmann. All in all, among the several recent works on Meitner (not all of which Sime cites), Sime has written the best-documented and most comprehensive study, including scientific content (without being overly technical), social context, and biographical detail. It is well worth reading.

Jeffrey A. Johnson
Department of History,
Villanova University,
Villanova, PA 19085, USA