



REVIEW: Maria Rentetzi, *Trafficking Materials and Gendered Research Practices: Radium Research in Early 20th Century Vienna*

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BOOK REVIEWS

Maria Rentetzi. *Trafficking Materials and Gendered Research Practices: Radium Research in Early 20th Century Vienna*.

xxiii + 279 pp. New York: Columbia University Press, 2008.*

Available online at www.gutenberg-e.org/rentetzi (2007).

Vivien Hamilton[†]

In *Trafficking Materials*, Maria Rentetzi provides a multi-layered history of the Institute for Radium Research in Vienna. Opened officially in 1910 under the direction of Stefan Meyer and Franz Exner, the Radium Institute in Vienna quickly became a leading European centre for radioactivity research. Following the life of the Institute from the 1910s into the 1930s, Rentetzi gives us the kinds of details one would expect from an institutional history but the result is far from conventional. The biographies of the primary researchers, stories of funding problems, university politics, and scientific controversy are wrapped in a rich framework that considers the role played by architecture, urban environment and national politics in shaping the local scientific culture at the Institute. This was a culture uniquely welcoming to female researchers, and one of the goals of the book is to understand why so many women successfully contributed to the intellectual life of this particular institute, while tracing the function of gender in shaping local experimental practices. Rentetzi takes inspiration from the recent attention to material culture and experiment in the history of science, and throughout her narrative emphasizes the role played by radium itself, as it moved between countries and across disciplines. The result of this ambitious project is a book that makes an important contribution to the history of radioactivity.

In Chapter 1, Rentetzi gives us a biography of radium, retelling the familiar story of the Curies' discovery, then following the new substance through chemistry, physics and medicine and out into the commercial sphere, as radium became an additive in cosmetics, cleaners, tonics and even bread. Here, she introduces the idea of "trafficking materials," which have the "ability to take on multiple identities, not because they are shared between different worlds but because they are transferred across them" (par. 6).¹ This new category is a deliberate departure from

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¹ All references refer to the electronic version of the text.

Star and Griesmer's "boundary object" (*Social Studies of Science*, 1989, p. 387), which doesn't capture for Rentetzi the key sense of movement. She uses this new concept successfully in later chapters to explain how a number of the female researchers at the Vienna Institute were able to make use of radium as a trafficking material to transfer their expertise to other institutes and often other fields in science and medicine (Chapters 6 and 7). Throughout the book, Rentetzi traces the movement of radium but leaves us curious about the finer details of changes in meaning that must have occurred as disciplinary boundaries were crossed. There is nothing in her idea of a trafficking material to preclude such a discussion and questions surrounding disciplinary differences in language and practice are left open for further exploration.

Chapters 2-4 begin Rentetzi's close look at the Radium Institute in Vienna. Her goal in these chapters is to demonstrate the ways in which the architecture of the Institute, the urban geography of Vienna and the changing political context of the city shaped the character of this particular research institution. The claims Rentetzi makes based on her study of the architectural blueprints are suggestive though sometimes unsatisfying. She argues for instance, that the bridge connecting the Radium Institute to the neighbouring Physics Institute both symbolized and facilitated the interdisciplinary exchange at the heart of radium research. But the character of this interdisciplinary contact is not explored in great detail and an analysis of what exactly is meant by 'interdisciplinary' in this context is missing. Rentetzi goes on to argue that the existence of men's and women's washrooms in the building is evidence of an institutional commitment to gender-equality. This claim is only really made convincing later in the book with further details of the actual research undertaken by the women employed by the Institute. More substantive are her claims concerning the roles played by the geography and culture of the city. The location of the Institute within walking distance of numerous scientific institutions and hospitals not only allowed for the traffic of radium across sites and disciplines, but also encouraged a network of women researchers who ran into each other daily. Rentetzi argues that this visibility of women in the intellectual heart of the city, combined with a socialist political culture that actively challenged traditional gender roles and the support of a handful of individual men at the Radium Institute created an atmosphere that enabled women to make significant contributions to radioactivity research.

The chapter that focuses most closely on local experimental practices and competing interpretations comes later in the book, in Chapter 5, where Rentetzi retells the story of a well-known scientific controversy in the 1920s. A public debate unfolded in leading journals between researchers

at Ernest Rutherford's lab in Cambridge and a team led by Hans Pettersson in Vienna over the results of experiments on the disintegration of elements. The details of this controversy allow Rentetzi to highlight gendered assumptions about the nature of particular experimental practices. When James Chadwick pays a visit to the Institute in Vienna, he sees the scintillation counting—an example of highly skilled work in the hands of Rutherford's male investigators—as mere observation when performed by the Viennese “girls.” Rentetzi argues that this interpretation has lived on in historical accounts of women's work in radioactivity and insists that we must reevaluate the widely held belief that these women were merely assistants and counters. The details of the research undertaken by the many women who are part of this story—Marietta Blau, Elizabeth Kara-Michailova, Berta Karlik, Dagmar Pettersson, Elizabeth Rona—will ensure that the contributions made by women in radioactivity research will be better represented in future histories of the field.

This work exists in both electronic and print form, but I urge the reader to access the book digitally. Rentetzi won the prestigious Gutenberg e-prize from the American History Association to turn her dissertation into a book, which was published online in 2007. Columbia University Press has since issued a print version, but it is only a partial reproduction of the electronic-book. The hard copy omits both the pictures and links to online sources that add substantially to the richness of Rentetzi's work. The web interface is well designed and the online version is free; there isn't a single reason to prefer the printed copy. Most important, though, is Rentetzi own plea for the value of open-access scholarly work, especially for researchers working far from rich academic libraries. We should show our support for a truly international academic community by embracing this new medium, not as a necessary replacement of the printed book, but as a welcome and equal option.

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