

of scientific research are accessed. The future is entirely unclear, but, as Baldwin shows, the past is very recent. By considering how and why the modern journal developed, we are better placed to understand what form (if any) it might take next. *Making "Nature"* will be of interest to anyone reflecting on the uncertainty of the scientific journal today.

Imogen Clarke

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**Eva Hemmungs Wirtén.** *Making Marie Curie: Intellectual Property and Celebrity Culture in an Age of Information.* (Science.Culture.) 223 pp., index. Chicago/London: University of Chicago Press, 2015. \$35 (cloth).

As extraordinary and unique as the radium she discovered, Marie Curie even today "resists abstraction," notes Eva Hemmungs Wirtén in this new study. Challenging a tendency toward "a bit too much myth and not enough *mensch* when it comes to Curie" (p. 164), Wirtén offers instead to complicate our understanding of Curie by exploring the creation of Curie's larger persona. Rather than revealing some underlying "true" Curie, Wirtén's efforts instead focus primarily on analyzing "the work that has gone into (and that continues to go into) the making of Marie Curie," from early hucksterism to contemporary EU branding schemes.

Wirtén begins provocatively enough: "Marie Curie was not a person" (p. 5). In her first chapter, Wirtén explores the intersections of gender and intellectual property in early twentieth-century France, when women were legally incapable of owning property and thus unable to do so. As Wirtén deftly shows, even slight variants of wording or changes in how Marie presented her surname in particular documents reveal how she was compelled to negotiate her relationship to both her husband and to the radium they discovered. It was through such negotiations required by "the 'sexing' mechanisms of the law" that Curie ultimately could make successful claims of authorship over radium even when ownership was denied her. According to Wirtén, gender is at the heart of Curie's "careful calibration of interest and disinterestedness" (p. 4).

This was far from the only careful calibration Curie undertook, however, as her changing roles as a wife, widow, and lover intersected in fascinatingly complex ways with the ever-increasing rise of her celebrity. In her second chapter, "Scandal, Slander, and Science," Wirtén examines how the death of Pierre in 1906, and Curie's subsequent affair with Paul Langevin, had led by 1911 to no fewer than five duels fought over her honor—even as she was awarded a remarkable second Nobel Prize for her discoveries. "Radium did remarkable things," Wirtén notes, "and if anyone could make it outperform itself even more, it was Marie Curie" (p. 82). Indeed, the rise of Curie as a celebrity scientist led to a carefully orchestrated mass campaign to collect over \$100,000 in donations from the women of America, intended to enable Curie to buy a gram of the incredibly expensive radium for her own use. In her third chapter, Wirtén carefully analyzes the significance and tremendously negotiated complexities of this "gift," both exploring the "triumphant, Capraesque moment in which the general *female* public became a major funding body of science" (p. 89) and illuminating how "science is made in the most unexpected of places" (p. 7)—and with the most remarkable of characters, such as Missy Brown Meloney, whose relationship with Curie is carefully explored.

In a final chapter, Wirtén examines the important (and today generally forgotten) role Curie took in the construction of new "infrastructures" of scientific knowledge under the auspices of the League of Nations. Even as she sought to enable the sharing of scientific knowledge through new methods of bibliography, Curie nevertheless argued for new conceptions of scientific property. In Wirtén's words, "How is it

that the woman who went to such great lengths to defend disinterested science and renounce patenting . . . ended up a decade later advocating an *expansion* of intellectual property law?" (p. 111). Wirtén explores the emergence of this "seemingly contradictory stance on intellectual property," placing it firmly in the outgrowth of Curie's own life experiences.

Beautifully written, at times delightfully witty, and exemplary throughout for its close readings, *Making Marie Curie* provides much for a new generation to read and ruminate on and reveals just how much more there may be yet to say about this celebrated scientist. *La tête tourne!*

Luis Campos

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**Michael D. Gordin.** *Scientific Babel: How Science Was Done Before and After Global English.* 415 pp., figs., bibl., index. Chicago/London: University of Chicago Press, 2015. \$30 (cloth).

This fascinating book begins essentially with a graph (p. 6) that shows the numbers of scientific papers published in various languages from 1800 to 2005. From a period of near equality of "the triumvirate" of French, German, and English at about 1910, it reveals the peak German achieved—well above English—until it began to fall just after World War I, the "ballistic ascent" of English from the 1920s onward toward its current global status, and the steady decline of French from about 1910. The graph documents the notable rise in the use of Russian after World War II until about 1970, when its use is also shown to begin to fall. Perhaps a major subtheme of the book is the complicated history of Russian as a language of and for science and its implications for the "West."

Michael Gordin is clear about what the book is intended to do and how it will do it:

The core of this book traces the story from the consolidation of the triumvirate of English, French, and German around 1850—the consolidation itself is skipped over, and must be left to another history—and then follows the graph of scientific languages forward, moving through the decades up to the present. Each chapter focuses on a principal language (Russian, Esperanto, Ido, German, English) but not exclusively so, because we cannot understand the history of an individual language without seeing how its users deploy it in dialogue with its competitors. . . . Along the way, each chapter presents a different central question in thinking about scientific languages: from translation to publishing, from computerization to emigration, from standardizing a new scientific language to attempting to preserve a venerable one from extinction. (p. 21)

The reach of the book could almost be described as epic. It ends cosmically with the linguistic implications of the twentieth-century search for extraterrestrial intelligence (the concluding chapter, "Beyond Babel") but begins its first chapter with a history of Latin and the dominance of scientific Latin a thousand years after the fall of Rome. This chapter introduces "the emergence of the idea that multilingual scientific communication *was* a Babel, a curse afflicted [*sic*] upon the scholarly community" (p. 25). It also discusses the initiatives of Leibniz and Bishop John Wilkins and others in the seventeenth century on how to construct an artificial or "philosophical" language that might replace Latin, threatened by the babel of increasingly clamorous vernaculars. The story continues through the centuries, dealing with the linguistic issues, for example, that lay behind the long-running conflict between Dimitrii Mendeleev and Lothar Meyer over priority in inventing the Periodic Table of the Elements (a conflict attributable in part to the mistranslation into German of a Russian word). Its chapters on the widespread interest in artificial