

VALERIA P. BABINI and RAFFAELLA SIMILI (eds), *More Than Pupils: Italian Women in Science at the Turn of the 20th Century*, Firenze: Leo S. Olschki, 2007, xviii + 213 pp., € 24,00.

The subtitle of this collection amply summarizes its aim. It promises new research perspectives by focusing on Italian women in science and by narrating their achievements at the turn of the 20th century. This collection is an exploration of career patterns of Italian women contributing to science through the lens of their relationships to their mentors. Most of the women portrayed in this volume experienced the transition from the domestic to the professional world at the end of the 19th century, a transition that caused anxiety to the majority of university professors and offered a role in science to their female pupils.

Already the visibility of learned women in Enlightenment Italy such as Laura Bassi, professor of Newtonian physics and mathematics in Bologna, the physicist Christina Roccati of Rovigno, and the mathematician Maria Gaetana Agnesi in Milan, stands in marked contrast to the image of women as consumers of natural philosophy in the rest of Europe. Rather than creating a salon culture similar to the French one or constraining the role of women in science to that of its noble patrons as it appeared in England, Italian women chose to carve a niche for themselves in the scientific community and participate in university life. Derived from this tradition, science became a legitimate pursuit for women in late 19th and early 20th centuries Italy. Valeria Babini and Raffaella Simili have brought together some fine essays that seek to illuminate the stories of outstanding disciples who, thanks to extraordinary professors, gained professional maturity, university positions, and even achieved a great ambition, the Nobel Prize.

For Giuseppe Peano, the mathematician whose work had an exceptional philosophical value and was internationally acknowledged, admitting women students or assistants was not a matter of question. Silvia Roero favorably speaks about Peano's generosity and the welcoming atmosphere he created thanks to a whole "female universe" surrounded him as students and assistants. Cornelia Fabri, the first woman to graduate in mathematics at Pisa University, was significantly benefited by yet another prominent mathematician, Vito Volterra. Playing an essential role to her education, Volterra took a keen interest in the studies of his pupil, kept her updated on recent publications, and encouraged her to continue her scientific work (Miriam Focaccia). A welcoming mentor, Volterra was linked also to Elena Freda's work on functional analysis. Even though her contributions in mathematics appear marginal at first, Enrico Giannetto claims that Freda's lengthy correspondence with Volterra reveals a significant dependence of his work on her readings, judgments, and frequent corrections.

By exercising their scientific authority, mentors, however, can equally constrain the trajectories of women's careers. Despite her great abilities in science Giuseppina Gattani, the first woman in Italy to graduate in medicine, lagged behind men of comparable even worse potential and accomplishments in securing a university position. Using her as an assistant in his pathology laboratory, her mentor Guido Tizzoni moved by selfish motives, failed to champion his former student when she applied for the chair of general pathology at the University of Pisa (Roberta Passione).

Other essays in the collection, in their different ways, suggest that there have been women who ventured in high stakes domains, holding some kind of scientific authority, and being able to conduct their own research. Anna Foà's independent status as a researcher derived from both her great talent and determination and from the progressive and liberal attitude of the illustrious malariologist Giovanni Battista Grassi. Sandra Linguetti's essay explores Grassi's fundamental role in Foà's education,

her extensive research at his entomological laboratory in Rome as an assistant in comparative anatomy, her independent research at the same lab, as well as her direction and supervision of other students. Functioning as a positive model, Foà's extraordinary scientific career attracted a number of other women to Grassi's laboratory. In addition, Rita Brunetti's story undermines the stereotypical idea that traditionally men did the research and women were their assistants, carrying out the ancillary tasks. Working with the physicist Antonio Garbasso, Brunetti contributed to the introduction and development of quantum theories in Italy in the 1920s and to the application of physics to biomedical research (Sonia Camprini and Giovanni Gottardi). The most successful story is that of Rita Levi-Montalcini, who began her career as a student of the famous Italian histologist, Giuseppe Levi. Indebted to him for a superb training in biological science, and for having learned to approach scientific problems in a most rigorous way, Levi reached the apogee of her scientific career when she received the Nobel Prize in Physiology or Medicine in 1986 (Raffaella Simili).

The essay which stands out is that of Ariane Droscher on the biologist Rina Monti-Stella. This well-written and important contribution describes Monti's maneuverings in a world of male scientific authority to obtain a university chair, bringing issues of gender and power upfront. All in all, the collection would have benefited from a tighter editorial structuring, placing alongside contributions with common themes. The editors missed the chance to provide editorial comments which would have pulled out the links between the different essays, their significant points, and moreover would have situated Italian women in science into the broader field of women's and gender studies. Moreover, many of the contributors, although having excellent historical cases at hand, conceal their more theoretical arguments behind chronological lists and mere descriptions of historical events. Nonetheless, it is difficult to read this collection and not come away with a sense of the significance of women in Italian science. For that reason alone, this is an important volume.

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ERLING NIELSEN, *An Ocean Too Wide: Columbus's Proposal for a Westward Voyage to the Riches of Asia*, Salt Lake City: American University and Colleges Press, 2003, 243 pp., illus., \$19.95 (paperback).

In *An Ocean Too Wide*, Erling Nielsen sets out the direct evidence Christopher Columbus used and circumstantial evidence Columbus almost certainly did use, to justify his proposed voyage westward to reach China's riches. Nielsen seeks to explain why Columbus was so confident he would be able to reach China by going west, despite scientific evidence that the world was so large that any voyager attempting to cross the Atlantic to China would perish long before reaching land. Nielsen is not an historian. Rather, he has a doctorate in "Space Physics," and works for the European Space Agency, and is keen to draw parallels between space exploration and Columbus's gamble that China could be reached across the Atlantic. While he alludes to these parallels only in the introduction and near the book's end, this is not a conventional history and Nielsen uses some expository devices alien to historians. Despite its uneven quality and a best ignored forward by someone who knows no history of science, the book rewards reading: its strength lies in his treatment of sailors' esoteric and yet tacit understanding of the ocean.