

*Negotiating in/visibility. Women, science, engineering and medicine in the twentieth century.* Edited by Amelia Bonea and Irina Nastasă-Matei. Manchester University Press, 2025, 359 p.

A much-needed contribution in the field of history of science, a recuperation of life histories that depict women's struggle not only to resist, but to impact and change a world that was seemingly a men-only club, and finally a global perspective on how women's research shaped irremediably current perspectives in biology, botany, medicine, engineering, psychology and self-care. Editors Amelia Bonea and Irina Nastasă-Matei managed to curate an important collection of biographies and analyses that illustrate women's conditions as agents of progress not only in their scientific fields, but also in their communities, against all odds and impediments. With case studies raging from United States, Europe, China, to India, Japan and Iraq, the volume tells women's stories across the globe. They seem to be equally different and similar. Different because of local contexts, similar because of their endless efforts to make themselves visible – to transform their disregarded voices into authoritative voices in their respective fields of work and their living and working environments.

The book comprises 14 chapters, distributed in five thematic sections, a Foreword by Mariko Ogawa, an introductory chapter written by Amelia Bonea and Irina Nastasă-Matei, a selected biography and a very useful index of names and subjects. The sections are designed according to women's work spaces and practices: confined places such as laboratories, international practices and collaborations, local communities, domestic environments, public policies.

The first section, *Laboratory cultures: Visible scientific rebels, invisible innovators*, showcases two biographies, that of Reinet Maasdorp, written by Kathryn Keeble, and that of Lynn Margulis, by Nuala Proinnséas Caomhánach. Reinet Maasdorp worked in the Cavendish Laboratory at Cambridge University in the 1930s, and she was the only woman there. In total, at Cambridge, there was a ratio of ten men to one woman, with few women studying science. The mechanisms of exclusion and the overall work environment inflicted a sensation of imposter onto Maasdorp, and she did not finish her PhD. Nevertheless, while acting as a human computer for the University, she also involved herself in students' activism, with the purpose of making women's work in science visible. Lynn Margulis on the other hand, relentlessly pursued her research, which began at Boston University in the 1960s, despite all obstacles and criticism.

Establishing herself as a reputed theoretical biologist after much ado, she was one scientist to change paradigms in the scientific world, explaining evolution through cooperation, and not competition, thus modifying the well-established Darwinian paradigm. She was also praised as an excellent communicator of science to the larger public, her charisma and popularity helping her to overcome undeserved criticism.

The second section, *In/visibilities across borders: Scientific collaborations and contestations*, focuses on careers developed across borders and continents. Savitri Preetha Nair tells the story of the fruitful collaboration of Eileen W. Erlanson and E.K. Janaki Ammal. Eileen W. Erlanson researched wild roses and pursued her PhD at the University of Michigan. Despite the interest the academic world took in her research, she found herself unemployed, so she accepted the opportunity to work with her friend E.K. Janaki Ammal in India, where not only she continued her work on botany, but started studies of anthropology on the local Jewish community in Cochin. Just like Lynn Margulis, she also believed in the importance of communicating science to the larger public and was thoroughly involved in popularising her research results.

Adéla Jůnová Macková sketches the biography of Vlasta Kálalová Di-Lotti, a Czechoslovakian doctor who wanted to strengthen her country's presence in the Middle East and obtained financial support to establish medical practice and research in Iraq. Di-Lotti took that endeavour on herself and succeeded briefly. Nevertheless, such scientific collaborations were made easier by transnational organisations. This is what Emily Rees Koerner and Graeme Gooday's chapter show: how women in practical sciences like engineering build transnational networks of collaboration in order to strengthen their presence in science and technology.

The authors of the third section, *In/visibilities in medicine and care: Treating, teaching, reforming*, show the tireless work of women in their communities, striving to obtain the positions they were trained for and were legally theirs to occupy in interwar Romania, like in Camelia Zavarache's chapter; fighting for the health and wellbeing of poor communities in China's countryside struck by hunger during the Great Leap Forward reforms, as researched by Katherine Edgerton-Tarpley, or struggling for access to education in Western medicine, with the support of missionary schools, in Republican China, as researched by Jean Corbi.

Women's grassroots scientific knowledge and practices are put under the microscope in the fourth section, *Intimate knowledge and in/visible domesticities: Science, medicine and the home*. We get a very close look at how Ayurvedic practices, combined with modern medical advice to women, helped Yashoda Devi reach Indian young women and assist them with their medical and marital problems, using her popularity to teach them hygiene, self-care and the secrets of a happy marriage, in Saurav Kumar Rai's contribution. Anne Hardgrove

explains how Domestic science in post-secondary education became a means to achieve a goal: women would pursue Lady Irwin College as an acceptable form of schooling for women in traditional societies, in order to quietly follow a career in science and education. Women would also use their skills as researchers in their very private life, as Marga Vicedo illustrates in her text, *Clara Park: a mother's intimate knowledge and child science*. Accused of being a 'refrigerator mother' at first by male psychologists, she nevertheless relentlessly observed her daughter that suffered of autism to discover her developmental patterns and communication mechanisms, an experience which she poured into a book, *The Siege*. The book became a pillar to a community of parents of autistic children, as well as autistic adults, while Clara Park advocated for a more extended framework of research of autism: experimental work in laboratory, informed by lived experiences and narrative accounts from memoirs of those impacted.

The fifth section, *Towards visible change? Publics, pedagogies and politics of science* is dedicated to present day actions of women that try to preserve not only their freedom of choice, but also the memory of their struggle to obtain that freedom. Evangelia Chordaki analyses abortion and contraception discourses in late 20<sup>th</sup> century Greece, while Bethany G. Anderson and Kristen Allen Wilson explain their innovative project of enhancing the Illinois University Museum with a collection-in-the-making of recorded lectures of women scientists. According to this project, invited lecturers give an account of their experience as women researchers to the interested public, while the recordings of their speeches become archival material for the museum, later to be completed by artefacts donated by those same lecturers. Finally, Andrea Pető's closing chapter uses a 1929 photo of Hungarian women listening to a lecture at the Pázmány Péter University in Budapest, with a happy look and a pleasant smile on their faces. The photo is of course a pretext to elegantly connect past attempts to open science to women to the current situation, and a future shaped by European Union policies of supporting women's careers in the academic world. Pető reasons that women need institutional support to this day, to secure fair evaluation and integrity in the academic world, which men tend to hinder.

But what was the framework in which women fought for their right to follow careers in science? In her *Foreword*, Mariko Ogawa points to four factors that contributed to their progress: the unfortunate consequences of the two world wars of the 20th century, which allowed women to enter scientific fields in order to replace lost colleagues; the universities that opened their PhD programmes to women, albeit at a slow rate; Nobel Prizes being awarded to extremely few women, showing how much of their work was disregarded by committees dominated by men; and finally women's international organisations and associations that provided opportunities and support for those who

lacked that in their own countries. But no progress could have been made outside the tireless work of feminists' movement for suffrage and equal opportunities, which pushed for societal change.

And still there is so much work left to do, so many stories have remained untold and so many women alienated from and within the scientific field to this day. A situation both Amelia Bonea and Irina Nastasă-Matei confronted with during their own research experience, both as academics themselves and with their research topics. Observing how women's work was as consistent and thorough in the field of palaeontology as that of men – just not spoken of, in Amelia Bonea's case – or depicting never-disclosed-before clear mechanisms of gender-based exclusion in international scholarship awards during the 20<sup>th</sup> century Romania, in Nastasă-Matei's case, the editors decided to make a contribution of their own in unveiling forgotten stories of women scientists. Thus, they managed to reclaim to the public knowledge both a global perspective on women's experience in science, covering North America, Europe and Asia and their intricate connections, and microhistories of women fighting to practice and trying to enjoy their work as scientists, doctors, educators, etc.

Such women had to resort to several strategies in order to keep themselves active and connected to the research fields of their choice, and I would like to further list some of those strategies here. 'Activism' for women inclusion in science was what kept Maasdorp linked to her interests and gave her the strength to fight her impostor syndrome. 'Rebellion' is the strategy that Margulis employed to make herself visible and promote her theories, despite all criticism. Intersecting science and health education offered Romanian women doctors the possibility to pursue their right to practice, especially when they had to legally battle their fellow men on positions rightfully belonging to them. 'Networking' allowed Eileen Whitehead to maintain a transnational career and always find work in her field. Pursuing medical studies abroad gave Chinese women opportunities to training unparalleled in their own country, during Republican China. 'Connections' allowed Czechoslovakian Di-Lotti to establish singlehandedly a medical practice in Iraq. By using 'marketing', Yahsoda Devi managed to help, educate and gain the trust of Indian women, in a cultural context in which women patients hardly received any medical assistance. Such strategies and many others were needed to fight the power and implicitly discursive relations that had established women as not worthy enough to receive a diploma, not reasonable enough to produce theory, not important enough to be publicly acknowledged.

This book's editors themselves needed to make a tactical decision in their fight with women's invisibility/marginality in the history of science. Researcher Margaret Rositter demonstrated the Matilda effect on women in science through Nobel Prize theft, lack of recognition for women in the case of marriages of academic couples, elimination of women from encyclopaedias

of science, etc., while historian Maria Bucur advocated for extracting women from the discursive cone of invisibility and marginality and allowing them to be part of History, especially since women have become important parts of the student cohorts in universities and they need to come in contact with relatable history. In such extreme cases of exclusion from public records and public recognition, instead of adapting women to the paradigm, the editors adapted the paradigm to the special situation of women. Bonea and Nastasă-Matei extended the meaning of research and science to include domestic situations and communitarian impact – thus allowing previously disregarded significant contributions to be acknowledged as such. This is how fascinating biographies such as those of Yashoda Devi or Clara Park have finally come to limelight.

This shift in paradigm opens new opportunities to further uncover yet unspoken/forgotten/marginalised/disregarded/overlooked/taken for granted, etc. work of women in science. Therefore, beyond a great read, this book has the potential of being a transformative tool in the future of history of science.

**Dalia Báthory**

The Institute for the Investigation of Communist  
Crimes and the Memory of the Romanian Exile