allowed them to make contributions to knowledge that reshaped how they (and their readers) related to objects of scientific study. Sagal's analysis of 'the distinct convergences between femininity, domesticity, art, literature, and science' (p. 233) presents a strong argument that women's scientific labour and productions should be seen as part of the work of natural history and included in histories of the subject.

The book's five chapters and coda relate to three themes (as laid out in the introduction) based on professional and creative undertakings. These comprise 'The naturalist as teacher' (three chapters on Eliza Haywood's and Charlotte Lennox's periodicals, Priscilla Wakefield's and Maria Jacson's textbooks, and Maria Edgeworth's curriculum); 'The naturalist as artist' (two chapters dealing with Elizabeth Blackwell's and Henrietta Maria Moriarty's illustrated reference works and Mary Delany's paper mosaics); and 'The naturalist as poet' (a coda assessing Charlotte Smith's 'Flora'). The chapter groupings are effectively used by Sagal to describe the practical standards these women encountered in their domestic and scientific communities, while the individual chapters evaluate women's interventions with respect to their recalibration of conventions.

The foregrounding of connections between women's domestic production and natural history is particularly deft in the chapters dealing with botanical artists. Sagal's discussion of Blackwell and Moriarty describes how they navigated the tensions between scientific and domestic contexts, science and art, art and craft, and, with respect to writing, creative and technical skills. Sagal credits these botanical authors and artists with developing a 'female botanical subjectivity' (p. 136). This is reflected in their curating and presenting plants for reasons of utility and curiosity versus taxonomic importance and standards of idealized specimens, as well as their reconfiguration of conventional practices to open up interpretive possibilities for women to imagine themselves in gardens, where they, like the authors, could cease 'modest witnessing' in favour of an intimate and authoritative connection with plants. Sagal's investigation of Delany's new botanical art-form – the paper mosaic – together with Delany's correspondence and poetry connects the ways in which Delany expressed her knowledge of natural history. The persuasive reading of Delany's collages demonstrates that her craftwork was an alternative empirical botanical practice.

One of the book's strengths is Sagal's ability to discern connections between and across its organizing themes while maintaining a timeline of scientific events that illuminate the intellectual undercurrents informing women's work. The physical and metaphorical implications of the sites of scientific work – from domestic gardens and household rooms turned into laboratories to botanical gardens and greenhouses – are made apparent throughout. Linnaean taxonomy, with its emphasis on a plant's sexual parts, was considered inappropriate for women by some English male intellectuals, so how female authors featured this aspect of Linnaeus's system was certainly a contributing factor to a project's reception.

Botanical entanglements unsnarls knots obscured in the records of natural history with clear, engaging prose and beautiful illustrations. The book is deeply researched and invaluable to those working on women in science.

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SATO, Ikio. *Monograph of Japanese tailed amphibians* translated by Richard Goris. Society for the Study of Amphibians and Reptiles, Ithaca, New York: 2023. lvi, 410 pp.; illustrated. Price US$68 (hardback). ISBN 9781946681003.

While preparing this review I watched *Oppenheimer*, the new film that chronicles the life of the man who led the US-based Manhattan Project during the Second World War. Tragically, the movie has a direct connection to the book reviewed here as its author was waiting for a streetcar on his way to work at Hiroshima University on the morning of 6 August 1945. He died of radiation poisoning and burns five days later, at the age of 42. Ikio Sato's *Monograph of Japanese tailed amphibians* had been published in Japanese just two years earlier. His entire collection of salamander specimens, as well as an

incomplete draft of the volume in English, were also destroyed in the bombing, and unsold publisher's copies of the first printing had been lost during earlier fire-bombing of Osaka. Now, 80 years later, the Society for the Study of Amphibians and Reptiles has published a comprehensive English translation of Sato's *Monograph*, including reproductions of the original colour illustrations by Hajime Yoshioka. A new foreword and introduction (by David Wake and Nikolay Poyarkov Jnr, respectively) put Sato's work in historical context and summarize current knowledge of the biology of East Asian salamanders.

This book will be of great value and interest to amphibian biologists. Because Sato's original volume was written in an archaic form of Japanese abandoned following the Second World War, its contents have been largely inaccessible to subsequent workers – students and professionals alike – including many native Japanese speakers. The careful translation by Richard Goris thus provides access to Sato's rich, first-hand accounts of salamander taxonomy, ecology, reproductive biology, geographic distribution and natural history. Secondly, the Japan of Sato's time – Imperial Japan – included not only the Japan of today, but also Taiwan, North and South Korea, and parts of Russia. Hence, the book's geographic and especially taxonomic scope are much greater than one might expect from its title alone. Finally, while a translation of just the original volume would have been extremely valuable on its own, the foreword and introduction make the book an essential source of up-to-date information on East Asian salamanders. The latter section updates taxonomy (Sato recognized 24 species, but subsequent studies, especially those based on recent genetic data, reveal 79, including 31 described in just the last five years) and offers comprehensive summaries of each currently recognized species.

Sato's analysis is progressive. It exemplifies the integrative approach to understanding biological diversity that emerged in several academic centres from the late 1920s and into the 1930s which came to be known as the 'Modern Evolutionary Synthesis'. In Moscow, for example, A. N. Severtsov in 1930 organized the Laboratory of Evolutionary Morphology at the USSR Academy of Sciences, while at the American Museum of Natural History in New York, G. K. Noble in 1928 prompted the naming of a new Department of Herpetology and Experimental Biology. Sato therefore devoted considerable attention to the karyotype (chromosome number and arrangement), a newly appreciated source of interspecific variation that could aid in diagnosing species and assessing phylogenetic relationships. One can only imagine what other pioneering studies this impressive scientist might have contributed had his life not been tragically cut short at a relatively young age and seemingly as he was entering the most productive phase of his career.

Sato loved his subjects, and he wrote in a compelling, personal style that in places is almost poetic: 'the karyotype generally seen in the genus *Hynobius* looks like a beautiful chrysanthemum' (p. 349–350) and the habitat of *H. nigrescens* is 'an alpine paradise' (p. 104). Fortunately, Sato's masterwork is now broadly accessible and available to inform and entertain anyone with an interest in the biology of Asian salamanders.

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WALE, Matthew. *Making entomologists, how periodicals shaped scientific communities in nineteenth-century Britain*. University of Pittsburgh Press, Pittsburgh: 2022. 252pp. Price US$55 (hardback). ISBN 9780822947516.

Using British nineteenth-century entomological journals, their subscribers, readers, editors and commentators, the author works through the practices that operated in natural history communities during the period. The nomenclature and categories that cover naturalists' activities are described and clearly contextualised in order to analyse how they developed and changed. The most obvious issue to be navigated is the loaded concept of the words 'amateur' and 'professional'. The simplistic division of whether or not they were paid to pursue their studies then had very little traction. There were so few