

interesting to know how it affected the way he saw nature's handiwork, or vice versa. For that, we would need to plough through not just the catalogues on natural history, but also those of antiquity, architecture and prints.

These volumes are a stark reminder of what is involved in understanding pre-modern 'scientific' drawings: a team of historians of art, historians of science and specialist curators working together over a period of time in order to flesh out the artistic, intellectual and social contexts in which these drawings came into existence and made sense as a way to capture and understand the natural world. The high standards of scholarship and precision, the colour reproductions, the concordances and appendix make these two volumes an invaluable basis for further research.

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SABRINA MINUZZI, *Sul filo dei segreti: Farmacopea, libri e pratiche terapeutiche a Venezia in età moderna*. Milan: Edizioni Unicopli, 2016. Pp. 349. ISBN 978-8-8400-1869-0. €25.00 (paperback) doi:10.1017/S0007087418000602

Since the publication of William Eamon's *Science and the Secrets of Nature* (1994), scholars have explored medical, chemical and technical secrets and recipe books, as well as the complex relationships between secrecy and openness in science and medicine. *Sul filo dei segreti* deals with the medical secrets in the Republic of Venice from the sixteenth century to the fall of the Venetian Republic. 'Medical secret' usually referred to recipes and remedies promising to perform extraordinary cures, which were very much sought after during the recurrent epidemics. As Minuzzi points out, historians have usually focused on the secrets sold by charlatans, yet nearly 90 per cent of those who applied to the Provveditori alla Sanità for a licence to their secrets were no charlatans, but medical practitioners, apothecaries and barbers, as well as laymen who manufactured remedies within the household – some aiming to sell them, while others (though less numerous) did not pursue profit but made their remedies available to the public. It is well known that household medicine production and consumption played a central part in early modern healthcare. Leonardo Fioravanti (*Dello Specchio di scienza universale* (1564)) stated, 'Nowadays all private houses have been turned into pharmacies' ('Al di d'hoggi tutte le case particolari sono diventate aromatarie'). Minuzzi stresses that printed receipt books and books of secrets produced by the Venetian printers were instrumental in disseminating medical, chemical and botanical knowledge among the untutored readers (pp. 36–39).

The first part of the book explores the Venetian system of medical regulation, the role of the College of Physicians, the procedures followed by the Health Office for granting licences and patents, as well as the requirements for the licence, namely the utility and originality of the secret remedies, i.e. remedies not found in apothecaries' shops.

The second part deals with pharmacopoeias, chemical experimentation and botanical research in Venice. Pharmacy in Venice was a highly developed trade, as attested by the more than one hundred pharmacies recorded at the beginning of the seventeenth century. Furthermore, given its commercial relations with Constantinople, Damascus and Cairo, the Venetian Republic was one of the largest distributive centres of exotic raw material. Some of her numerous *spezierie* housed natural-history collections and chemical laboratories, where experimental practice flourished. In the Serenissima the production and trade of chemical remedies thrived, whereas in the rest of the Italian states the medical establishment imposed severe restrictions on new medicines. As Minuzzi shows (p. 133), charlatans sold traditional Galenic medicines, whereas home remedies were often chemically prepared. A number of German chemists (such as Melichius, Behm and Tachenius) settled in Venice and played a central part in the introduction of chemical remedies. As Venice never established an official pharmacopoeia of its own, Venetian *speziali* could turn to ancient authors or to recent collections ranging from the 'moderate' Paracelsian works of Quercetanus and of Libavius to Oswald

Croll's *Basilica Chymica* – which championed spagyric remedies and opposed the Galenic ones. Minuzzi thoroughly explores the vicissitudes of the 1617 'official' *Pharmacopaea* that was immediately withdrawn from sale after the powerful Collegio degli Speziali's veto. Special attention is paid to the numerous private Venetian pharmacopoeias, including the grandiose *Nuovo, et universale teatro farmaceutico* (1667) produced by the Spezieria allo Struzzo and aiming at providing a *summa* of all medicines, both Galenic and chemical.

The chapter on botany contains fresh information about Johannes Behm (c.1640–1731) – Italianized as Giovanni Beni – a little-known German chemist and botanist who settled in Venice in 1669, practised medicine, prepared chemical remedies and corresponded with eminent botanists from many European countries, besides building up a rich natural-history collection.

The third part of the book is devoted to the domestic production of medicines, containing a number of case studies, including one on Colochi-Olivieri, a remarkably successful family who managed to sell the Health Office their medical secret to cure the plague. Making use of fresh archival evidence, Minuzzi sheds light on a number of distillers, barbers, herb sellers, dyers, artisans, clergymen, lay practitioners and women, who played a relevant part in the production and trade of 'secret medicaments'. Though the licences granted to women were predictably a small part of the number of licences, female medical practitioners were not on the margins of the Venetian medical world; they often interfaced household medicine with the emerging structures of public health.

The book ends with appendices containing inventories of pharmacies, pictures from Venetian pharmacopoeias and diagrams related to the licensing of the sellers of medical secrets. Drawing on a wide range of primary sources and on rich, largely untapped, archival resources, *Sul filo dei segreti* marks a substantial contribution to our knowledge of the medical world of early modern Venice.

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FLORIKE EGMOND, *Eye for Detail: Images of Plants and Animals in Art and Science*. London: Reaktion Books, 2017. Pp. 280. ISBN 978-1-7802-3640-7. £35.00 (hardback). doi:10.1017/S0007087418000614

As Florike Egmond explains in the introduction to this illuminating book, the scholarship on the visual culture of early modern science has for the most part dealt with the images found in printed books. *Eye for Detail* calls attention to another body of evidence, thus far largely overlooked: the thousands of original drawings made and acquired by collectors during the sixteenth and early seventeenth centuries. Gathered by figures diverse in both their interests and social standing, from highly educated naturalists such as Conrad Gessner and Felix Platter to modest autodidacts like the Dutch fish merchant Adriaen Coenen, these drawings testify to a widespread interest in making and collecting realistic depictions of plants and animals. The surviving collections, moreover, form a decidedly visual corpus, without the lengthy texts accompanying images in printed works of botany and natural history. Egmond therefore sets out to interpret this body of evidence in equally visual terms. Astutely tracing patterns of change and continuity in the application of visual strategies, from time lapses to zoomed insets, she makes an important contribution to our understanding of how putatively modern scientific forms of representation emerged.

For much of the book, Egmond challenges the idea that the sixteenth and seventeenth centuries witnessed a revolutionary transformation in the visual representation of nature. Through an exhaustive survey of surviving picture albums, she dismantles the once widespread suggestion that technological change – especially the development of printing and optical instruments such as the microscope – led to the emergence of the visual regime we now associate with scientific objectivity. She shows, for instance, that naturalists such as Otto Brunfels and Conrad Gessner used zoomed insets depicting the parts of plants deemed crucial either to identification or to figuring out their life cycles long before such images began to appear in print during the second half of