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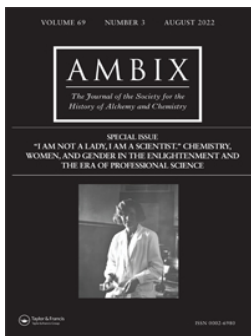
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## De chemist. De geschiedenis van een verdwenen beroepsgroep, 1600–1800

By Henk Vermande. Pp. 662, illus., index. Verloren: Hilversum. 2021. £41.00.  
ISBN: 978-9-08-704968-3.

Rina Knoeff

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such as hypochondria. Proper habituation of the aesthetic palate's embodied sensibility could ground the intersubjectivity of the new science.

A few suggestions for further development come to mind. Christian Aristotelians did not think that final causation in non-intelligent things was due to an "indwelling intelligence" (p. 40), but that God directed them to their ends as an archer does an arrow (see Laurence Carlin's recent work). Similarly, well before Ray, Galen's *De usu partium* set out in exhaustive detail how one could make the structures, actions, and uses or functions of body parts into "objects of empirical knowledge" (p. 36). Galen's texts also separated the descriptions of structures and actions from discussions of their uses (and Galenic anatomy texts often used mundane analogies for parts). Royal Society writers on anatomy almost certainly followed this genre tradition, and not treatises on navigational instruments, as claimed (pp. 93, 202 n. 48). Finally, *Aesthetic Science* could have found a productive conversation partner in Marieke Hendriksen's excellent history of the material culture, epistemology, and aesthetics of Leiden's eighteenth-century anatomical collections, *Elegant Anatomy* (2015).

In sum, this is a beautiful, concise study that will be of interest to historians of science, aesthetics, and communication. The central argument, that aesthetic sensibilities, or at least theories or discourse about them, shaped some investigative and communicative practices in the Royal Society and addressed the problem of intersubjectivity, is striking in its weaving of different sources and fields into a coherent vision.

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**De chemist. De geschiedenis van een verdwenen beroepsgroep, 1600–1800.** By HENK VERMANDE. Pp. 662, illus., index. Verloren: Hilversum. 2021. £41.00. ISBN: 978-9-08-704968-3.

Henk Vermande's *De chemist* analyses the rise and fall of the specific Dutch occupation of the *chemist* in the period roughly between the Renaissance and the French Revolution. This *chemist* should not be confused with the modern job of the (academic) chemist who does research in a (university) laboratory. On the early modern pharmaceutical market, the *chemist* positioned himself alongside the apothecary and the druggist as a practical man – a seller of chemicals and a producer of chemical remedies. He usually owned a shop and a laboratory, recognisable through the traditional emblem of the salamander.

Vermande dates the appearance of the *chemist* to the second half of the seventeenth century when (al)chemists worked in various social environments. They could be distillers, technicians in mining areas, city physicians, or itinerant gold-makers, among other things. The occupation of the *chemist* gained importance with the rise of Paracelsian chemical remedies. This naturally also brought *chemisten* into conflict with apothecaries, druggists, and others who fiercely defended their rights to sell medicines. Vermande describes these controversies in the typical context of *boundary work*, in which a particular occupation defines and demarcates its activities. In the case of the *chemist*, this was particularly important. *Chemisten* were not organised in guilds; they were not a clearly distinguishable group with their own rules and regulations. Nevertheless, their skill in manufacturing chemicals differentiated them from apothecaries, which also explains why *chemisten* started to disappear after 1785. From this time onwards, reformist apothecaries were trained in chemistry and began to sell chemically prepared drugs. Eventually, this development, combined with new French pharmaceutical legislation introduced in 1811–1812, pushed the *chemisten* out of the market. Nevertheless, the term *chemist* lived on in the nineteenth century. At first, it denoted an additional qualification of the

apothecary, indicating his trade in chemical drugs. Later, it distinguished the academically trained *chemicus* from the lower educational level of the professional chemist who worked in factories, at the same level as operators in mechanical engineering.

*De chemist* is the published version of Vermande's PhD thesis. This helps to explain the fact that the book contains many little summaries and repetitions, as well as extensive appendices typical of that genre. Vermande focuses on the occupation of the *chemist*, without paying much attention to contextualising the primary source material. For instance, he regularly cites references to *chemisten* in late seventeenth-century pamphlets, but he seems unaware of the context and rhetoric of the pamphlet wars at the time, with their extremely crude language and a predominant concern with secrecy and self-interest in the (Amsterdam) medical sector. A more contextualised analysis of these controversies could have strengthened the arguments of the thesis.

Vermande's book covers a period of 220 years, but the focus of the analysis is on the late seventeenth century and on the period 1760–1820. The first half of the eighteenth century remains underdiscussed. This is a pity, because during this period the Netherlands were known as a hotbed of chemical and medical teaching, which must have had a direct effect on the popularity of the chemist. For a start, more than ever before, anatomy and the making of anatomical preparations – for instance the work of Frederik Ruysch and Bernhard Siegfried Albinus – heavily relied on chemical techniques, whereby chemicals (presumably sold in chemical shops) and their particular properties literally and metaphorically took the place of bodily fluids and physiological processes. Similarly, Vermande does not analyse the rise of the chemist against the backdrop of the popular and influential chemistry teaching of Herman Boerhaave and his disciples. Recent historical work has shown that Boerhaave, even more than his predecessors Franciscus dele Boë Sylvius, Johann Conrad Barchusen, and Jacob LeMort, elevated chemistry to a serious academic discipline, which must have had a positive effect on the popularity and business of the chemist. Who, after all, supplied the chemicals for the students' experimental activities? In his lectures, Boerhaave also demarcated his “new” method of chemistry from the chemistry of his predecessors, thereby making a clear distinction between true and false (al)chemists. This demarcation was even stronger in the works of his disciples and must have resonated with the need of the *chemisten* to distinguish themselves as an occupational group.

Despite these shortcomings, the great merit of Vermande's study is his novel focus on the largely forgotten group of the *chemisten* in the history of chemistry and medicine. I found many interesting details that set me thinking. For example, I was struck by the number of widows of *chemisten* who took over the shops of their deceased husbands, and the apparent need, in 1813, to formulate specific regulations for these widows – stating, for example, that the women must be assisted by a licensed male assistant. Perhaps chemistry was a woman's job more often than we have thought. Moreover, the extensive appendices (over 300 pages!) offer a wealth of information for historians interested in further research on the topic.

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*Tóxicos invisibles* emerges from the present-day concern about the role that public authorities and civil society play in the regulation and control of toxins in modern industrial