

trials, Principe argues that one cannot simply discount these texts out of hand, even if the deciphered recipes seem odd from the perspective of modern chemistry. Take, for example, Valentine's third key, which coded a process to make "volatile" gold, a substance that Valentine described as "the rose of our masters ... and the red dragon's blood." Principe's deciphered recipe called for dissolving a quantity of gold in acid, which was then distilled off and used again to re-dissolve the gold dregs. This process, called cohobation by 17th century chemists, was repeated over and over. As Principe points out, this process seems pointless at first, but after several cycles, ruby red crystals of gold chloride, which is normally unstable, begin to form in the distillation apparatus due to a buildup of chlorine gas (149-52).

Overall, this is an excellent introduction to the history of alchemy that corrects popular misconceptions,

makes the case for the current scholarly interpretations of the field, and also gives glimpses into the kind of contextualized work that historians of chemistry do. Principe's book provides solid and accessible ground for the novice, who seeks to navigate the labyrinthine literature on alchemy, but I must confess, it also provides a useful framework for scholars as well. As such, Principe aims for both audiences. He clearly explains technical terms and presents English translations for all titles and texts discussed, but also references all original source material in thorough footnotes and an excellent bibliography. Thus, I recommend this book for anyone with an interest in the history of alchemy or chemistry before 1800, tyro or adept.

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Dictionnaire de chimie: Une approche étymologique et historique, P. de Menten, De Boeck, Brussels, 2013, 395 pp, ISBN 978-2-8041-8175-8, \$45.88.

The reason for bringing this new foreign language chemical dictionary to the attention of historians of chemistry lies in its subtitle, since its author, Pierre de Menten, not only provides the usual definition of each chemical term but also attempts to trace both its linguistic etymology and, more importantly for historians of chemistry, the approximate date of its first appearance in the chemical literature. I can testify to the author's familiarity with early European chemical literature as I often corresponded with him concerning my bimonthly column "Ask the Historian" in the *Journal of Chemical Education*, and for which he would often provide highly relevant references I had overlooked.

The dictionary is richly illustrated with period woodcuts and historical diagrams, and also contains ap-

pendices devoted to synoptic historical charts and a list of chemical synonyms for the various entries. Though the formal entries themselves deal strictly with chemical terminology and apparatus and not with individual chemists, there is also an extensive index cross-referencing the names of important chemists with the various entries in which they are mentioned in passing.

About the only drawback to this ambitious project is the fact that de Menten's extensive historical footnotes, presumably referencing the various papers and books in which the terms are first used, are not included in the book itself but rather must be accessed via a supplementary website.

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