

Notes from the Oesper Collections

Plagiarizing the Professor

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There was a time when university professors were required, even in introductory courses, to give original lectures which reflected their personal knowledge and understanding of the subject in question rather than simply mouthing, as is the case today, what is already in a printed textbook whose contents are largely determined by the marketing departments of the textbook publishers. Prior to the invention of printed textbooks, the professor in a typical medieval university would read his lectures out loud to the students, who would, in turn, carefully transcribe them for their own personal use, a practice reflected in the modern German word for a lecture – *Vorlesung* – which literally means “to read in front of.”

Even after the introduction of printed textbooks, the practice of literally transcribing the professor’s lectures continued at least until the start of the 20th-century and the Oesper Collections contain several examples of student lecture notes in chemistry dating from both the 18th and 19th centuries. The reason for this was that a major source of a professor’s income was derived from students who had purchased tickets which entitled them both to attend and transcribe his

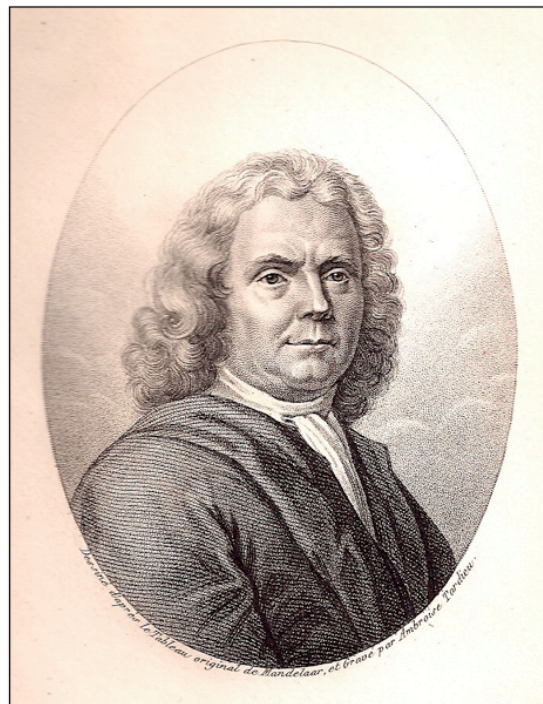


Figure 1. Hermann Boerhaave (1668-1738).

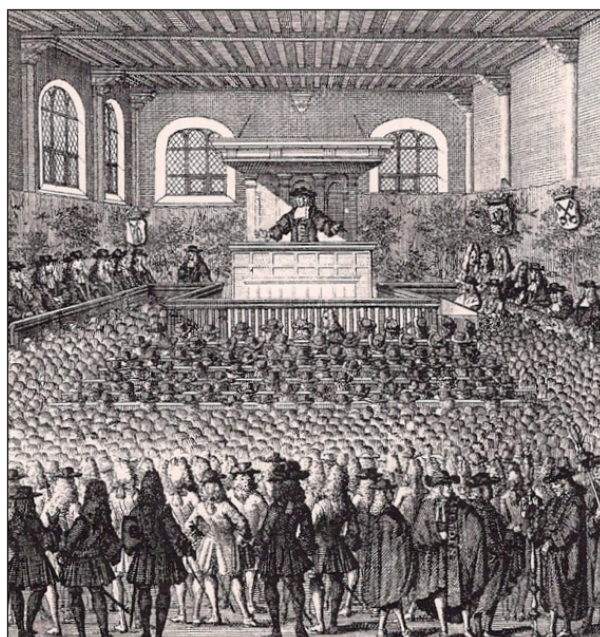


Figure 2. Boerhaave lecturing at the University of Leiden, circa 1715.

lectures. Hence it was not to his economic advantage to make the lectures available in the form of an inexpensive printed textbook or, if so, it was necessary that he derive income from the sale of the book in question.

The importance of these issues is illustrated by an incident involving the chemistry lectures of the famous early 18th-century Dutch chemist and physician, Herman Boerhaave (figure 1), who was variously professor of medicine, botany and chemistry at the University of Leiden from 1701 until his death in 1738 (1). Boerhaave was an extremely popular lecturer (figure 2), and both his textbooks and his students would have a profound effect on the teaching of chemistry and medicine at various universities throughout Europe, Russia, Great Britain and Colonial America (2). The medical schools at the Universities of Edinburgh and Glasgow were modeled on the methods used at Leiden and Boerhaave’s work was employed in the teaching of chemistry at both institutions by William Cullen and Joseph Black, both of whom would, in turn, teach Benjamin Rush, who, in turn, would teach chemistry to medical

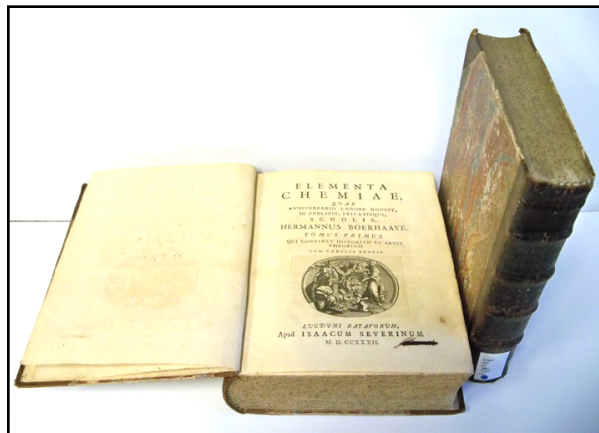


Figure 3. The Oesper Collection's copy of the two-volume first edition of Boerhaave's *Elementa chemiae* of 1734.

students at the University of Pennsylvania.

In 1724 an unauthorized edition of Boerhaave's popular chemical lectures, based on student lecture notes, was published anonymously in Paris under the title of *Institutiones et experimenta chemiae* (3, 4). As Boerhaave later complained (5):

The ingratitude of some of my hearers, whose interest I was ever studious to promote, together with the insatiate avarice of certain booksellers, who aim at lucre by the most scandalous means, have rendered my professorship of chemistry disagreeable to me. In conjunction, these people, under a false pretense of the interest of learning, have taken an unwarrantable liberty both with me and the public; and have been audacious enough to publish Institutiones et experimenta chemiae under my name, without my participation.

Not only had this unauthorized publication deprived Boerhaave of income, it had also damaged his scholarly reputation since the student lecture notes on which the book was based were filled with all sorts of mistakes and ridiculous statements. And, to add insult to injury, the book had been a best seller and some students had even had the temerity to use it when auditing Boerhaave's current lectures (5):

I will not rehearse the many false, ridiculous, and absurd things there attributed to me in every page; a detail too nauseous to entertain the reader with. Yet such is the infelicity of the age, that lest future ones should want some proof of its depraved taste, the book thus vilely published, found plenty of purchasers; to the great injury and reproach of those who were weak enough to buy and commend it. Hence I frequently lay under a necessity of seeing the detested piece, even in the

hands of my auditors; who, to my face, were daily comparing my words, as I delivered them, with the text thereof.

In response, Boerhaave initially sought recompense from the courts, but soon discovered that this led only to an infinite regress of further irritation and expense (5):

Tired out with the insult, I sued for relief from the Magistrates, and had obtained it, but that some, from whom I had deserved better, and who had promised me very different usage, were please to create delays, and even throw obstacles in my way. A lamentable instance how fond some persons are of every opportunity of affronting Men of Letters!

Frustrated and exhausted by the entire incident, Boerhaave resigned his Professorship of Chemistry in disgust, only to find that his friends continued to insist that the only way for him to preserve his reputation and prevent further sales of the spurious textbook was for him to publish an official version of his chemical lectures, which he finally did in 1732 under the title of *Elementa chemiae* (5):

On these, and other motives, I relinquished my professorship of chemistry; which I had no sooner done, than I found new fatigues prepared for me: my friends began to represent to me the necessity I was under of publishing my Chemical Institutions myself, to shew the method wherein I had taught the art, both in my public lectures and private ... They still insisted that the spurious edition had met with success; was every where applauded, much called for, and sold dear; and, unless I prevented it, would quickly come to a new impression ... At length, however, I undertook the disgusting work, which I now publish; and which I openly declare was extorted from me.

Indeed, in order to insure that there was no mistake as to which textbooks were official and which were spurious, Boerhaave undertook to individually sign and certify each copy of the new book.

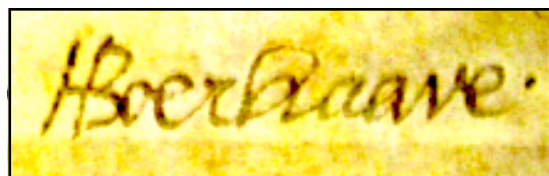


Figure 4. Boerhaave's signature as it appears on the back of the title page of the *Elementa chemiae* of 1734 certifying that it is indeed an authorized edition of his chemical lectures.

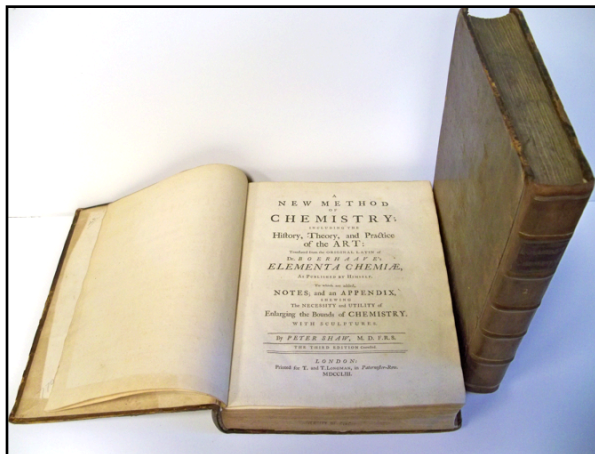


Figure 5. The Oesper Collection's copy of Peter Shaw's two-volume 1753 English translation of Boerhaave's *Elementa chemiae*.

Though the Oesper Collections do not own a copy of the spurious 1724 edition of *Institutiones et experimenta chemiae*, they do own a pristine copy of the official two-volume edition of the *Elementa chemiae* of 1734 (figure 3), complete with Boerhaave's signature (figure 4). In 1727 the British chemists, Peter Shaw and Edward Chambers, brought out an English translation of the spurious textbook under the title of *A New Method of Chemistry; Including the Theory and Practice of that Art*, which Shaw alone reissued as a second edition in 1741, sans title change, but now supposedly based instead on the official 1734 edition of the *Elementa chemiae* (4). This was reprinted in 1753 as a so-called third edition (5), of which the Oesper Collections own a superbly preserved two-volume set (figure 5).

An additional bonus of the Shaw translation is the fact that, in volume 2, Shaw included several appendices outlining his own approach to the teaching of chemistry, as well as eight foldout plates describing the various uses of a "portable furnace," which he and the British instrument maker, Francis Hawksbee the Younger, had produced in 1731, and which Hawksbee sold at his shop in Fleet Street, London, along with all of the necessary apparatus "needed to perform most chemical processes at home" (7).

Lastly, it is of interest to note that Boerhaave's textbook was a favorite of the English essayist, critic, and lexicographer, Dr. Samuel Johnson (figure 6), who was an avid amateur chemist – an interest initially sparked by the task of having to write a sketch of Boerhaave's life for the *Gentlemen's Magazine* in 1739, a mere year after the latter's death, and which, according to his own biographer, James Boswell, inspired in Johnson "that love of chymistry which never

forsook him" (8, 9). One also cannot help but wonder whether Johnson might have owned one of Shaw's portable furnaces. But, if so, Boswell failed to mention it.

References and Notes

1. For biographical details see G. A. Lindeboom, *Herman Boerhaave: The Man and his Work*, 2nd ed., Erasmus Publishing: Rotterdam, 2007; R. Knoeff, *Herman Boerhaave (1668-1738): Calvinist Chemist and Physician*, Koninklijke Nederlandse Akademie van Wetenschappen: Amsterdam, 2002; and G. A. Lindeboom, Ed., *Boerhaave and his Time*, Brill: Leiden, 1970.
2. J. C. Powers, *Herman Boerhaave and the Pedagogical Reform of Eighteenth-Century Chemistry*, Ph.D. Thesis, Indiana University, Bloomington, IN, 2001.
3. H. Boerhaave, *Institutiones et experimenta chemiae*, Paris, 1724.
4. M. Hertzberger, E. J. van der Linden, *Short-Title Catalogue of Books Written and Edited by Herman Boerhaave*, Hertzberger: Amsterdam, 1927.
5. H. Boerhaave, *A New Method of Chemistry; Including the History, Theory, and Practice of the Art*, 3rd ed., 2 Vols., Longman: London, 1753, pp. v-vi.
6. H. Boerhaave, *Elementa chemiae*, 2 Vols., Severinus: Leiden, 1732.
7. F. W. Gibbs, "Peter Shaw and the Revival of Chemistry," *Annals of Science*, **1951**, 7, 211–237.
8. D. J. Swain, "Samuel Johnson's Interest in Scientific Affairs," *J. Chem. Educ.*, **1948**, 25, 458–459.
9. E. R. Atkinson, "Samuel Johnson's 'Life of Boerhaave,'" *J. Chem. Educ.*, **1942**, 19, 103–108.

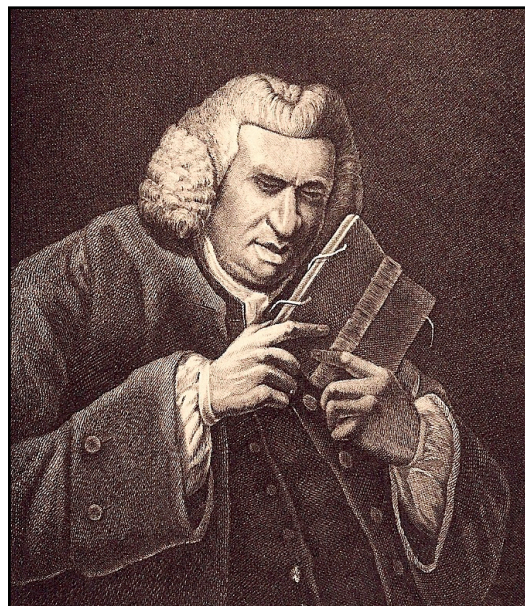


Figure 6. Dr. Samuel Johnson (1709-1784).