

Teaching the History of Pharmacy: The University of Cincinnati Example

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BACKGROUND

Despite my newness to the field of pharmaceutical history, I have been teaching graduate and undergraduate history courses on a regular basis for the past six years. I think some general college classroom experience is perhaps equally applicable to the teaching of pharmaceutical history in particular, and I shall try to suggest some of these applications as I proceed. Having said that, unlike many here who have been teaching a history course in pharmacy for some time and are justifiably concerned over the widespread decline of offerings elsewhere across the United States, I bring news of a more pleasant note: after a ten-year absence from the curriculum, the University of Cincinnati's College of Pharmacy plans to offer a two-hour elective to students in their first year of professional studies.

The history of pharmacy at the University of Cincinnati (UC) had its heyday under the impetus of Dr. Joseph F. Kowalewski, Dean of the College of Pharmacy from 1949 to his retirement in 1970. Specifically it began in the last two years of Dean Kowalewski's tenure when he brought Alex Berman from the University of Texas to teach a three-hour required course as Professor of Historical and Social Studies in Pharmacy in 1968. For the next six years students were exposed to a breadth of historical material taught by this Ph.D. from the University of Wisconsin, an educational experience made all the more expansive by his own pioneering research in the 19th-century botanico-medical

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movement in the United States and his seminal work in French pharmacy under a Guggenheim grant.

In 1974 Berman retired and the history course was taken over by Dr. Raymond Watson. The snapshot we have of the history of pharmacy course from Robert Buerki's ambitious study, *Survey of Instructional Resources in History of Pharmacy Undergraduate Courses* (1981), is taken from the Watson years. We see here that the course was required, had 70 students enrolled, and was offered for two credits. The course remained part of the curriculum until Watson's retirement in 1987 whereupon history gave way to more clinical, science-based offerings.

This brief description of the history of pharmacy at UC pretty much sums up the status of the course up through 1996. But in that year something interesting happened: I was invited to speak at a class taught by James B. LaValle, an adjunct instructor who was teaching "A Survey of Natural Medicine" elective at the College. Being a course devoted to phytomedicine and phyto-pharmaceuticals, I emphasized the important role played by vegetable products in the history of pharmacy. More specifically, I discussed the rich repository offered in the 200,000-volume collection at the Lloyd Library. Many of these students had never heard of the Library until I addressed them that day. A few days later some students (seniors, I believe) came to the Library and suggested that I seriously pursue offering a course in the history of pharmacy, a course they felt certain would be well received by their fellow students.

What ensued was an initial contact with the chair of the curriculum committee, Dr. Robert J. Cluxton. I suggested a lunch meeting between myself and Alex Berman, whom I knew was still very much interested in the history of pharmacy and quite interested in getting a course on the subject reintroduced at UC. It turns out that Cluxton had been a former student of Berman's who was delighted by the prospect of renewing his acquaintance with his former teacher. This meeting set into motion the preliminary steps necessary to implement an elective course, the essence of which is embodied in a prospectus submitted and approved by the College of Pharmacy Curriculum Committee in February of 1997 (see Appendix A).

THE COURSE METHODOLOGY AND DESIGN

Given the fact that I was starting from a blank slate, a survey course was obligatory. But here the question of focus enters in. Should I cover the vast expanse of pharmaceutical history marching from ancient times

to present? Having taught other history courses and fairly cognizant of the tolerance levels of most undergraduates, I frankly wondered how attentive students might be as I plodded through the Papyrus Ebers, introduced them to Maimonides, or explained the iatrochemistry of the Paracelsians. These are all important topics, but at the introductory level I want above all to engage student's interest in and appreciation of the history of their future profession in a more immediate sort of way. I want to spark their curiosity to know more and above all to enliven some sustained interest in their pharmaceutical heritage—all this in just ten weeks! I therefore opted to emphasize those things with which students could most readily identify—pharmacy in an American context.

Some would criticize this approach. George Urdang, for example, felt that it was impossible to understand American pharmaceutical development without first acquiring a knowledge of what he called, "pharmacy in the Great European countries." Indeed for Urdang, "These United States have been settled by Europeans of a rather high and stabilized culture which they tried to transfer to this, in every respect, New World." Perhaps, but historiographical advances since Urdang's writing paint a much more complex picture of American development. If America's more formal institutions have been largely shaped by European antecedents, it cannot be forgotten that society in the United States has also been mightily influenced by non-European factors. Consider, for example, the tremendous impact that indigenous cultures had upon the developing American materia medica; the interplay and influence of African-American folk remedies upon Southern therapeutics; the unique impact of Jacksonian democracy in the emergence of a botanico-medical movement in antebellum America; the rapid growth of proprietary medicines in this country; and the unique development of official pharmaceutical literature in what had been recently referred to as "a spirit of voluntarism." These special features of American pharmaceutical development can easily be overdrawn; indeed I do not for a moment suggest that a course on the history of pharmacy can be taught successfully without some reference to Europe's foundational contributions to the field. Yet history departments all across America teach two basic survey courses that are usually part of the required core curriculum: a Western Civilization course, normally divided into at least two parts, and a companion American history course, also normally divided into at least two parts. In many (if not most) of these programs the two are essentially mutually exclusive; students taking "Western Civ." need not take "American History" to satisfy their history requirements and vice versa. Despite whatever inherent weaknesses there may be in such a

widely adopted system, there is to my knowledge no reason why the same system may not be applied to the example of pharmacy. I see no reason why they must have the kind of grounding suggested by Urdang. At best, the introduction of ancient, medieval, and other European topics will provide the backdrop for a deeper understanding of technical and professional developments in the emerging modern era; at worst, it will become a somnambulist exercise that students quickly forget, confirming their preconceived notions that history is a dusty, dismal affair with little relevance to daily life.

PRESENT STATUS AND SOME CONSTRUCTIVE LESSONS

Thanks to the efforts of Dr. Daniel Acosta, newly installed Dean of the College, adjunct appointment has been approved and the course is planned for the fall quarter. The initiation of this process involved Alex Berman as well. Dan Acosta (another former Berman student) and I met shortly after the Dean's arrival at UC. Having introduced the Dean to the vast holdings available for historical studies in pharmacy at the Lloyd Library and having outlined my course proposal, his response to a history of pharmacy course was immediate and actively supportive. Dean Acosta has moved the course proposal through the appropriate channels with great speed for a large university. Decanal and administrative support is crucial to the course implementation process. My experience would also suggest that students, when properly introduced to the history of their field, will become the historian's greatest ally in promoting a course of instruction since the initial suggestion for a course really came from them. Finally, there is yet another valuable lesson: The continued interest in and devotion to the history of pharmacy by veterans in the field needs to be exploited. Emeritus professors like Berman can serve as the vital links with existing teaching and administrative faculty to rekindle not only fond memories but also an active interest in introducing history courses to a new generation of students.

HUMAN AND MATERIAL RESOURCES

Given administrative commitment, student interest, and emeritus support, who should teach such a course? The nature of the course being taught suggests that first and foremost the candidate should have some knowledge of historical methodology. This entails an understanding of

and appreciation for primary source material as well as a thorough grounding in the secondary sources of pharmaceutical history. He or she need not be a pharmacist to fulfill this requirement. Those who question this should ask themselves if military history must be taught by a general, if medical history must be taught by an M.D., if diplomatic history must be taught by a diplomat, or if political history must be taught by a politician. The answer, of course, in each case is no and it seldom is. What is needed is not pharmaceutical expertise per se but rather an ability to interpret and synthesize those factors which have impacted and appreciably influenced pharmacy through the ages—these are two quite distinct skills. This realization contains an important caveat: the history of pharmacy cannot and should not be taught just any willing subject. What the eminent historian George Sarton has said of teaching the history of science is surely true of teaching the history of pharmacy: beware of “help” from “ignorant and dangerous friends” who are scientists first and historians last. In the words of the great French historian Marc Bloch, “the elves of antiquarianism have cut capers about the cradle of more than one serious study.” In closing on the question of human resources in the history of pharmacy, I will simply say that the issue of teaching this subject is a matter of perspective and appropriate skill, not necessarily one of academic degrees. While the current field suffers from a serious paucity of trained Ph.D.s, this does not mean that competent expertise is lacking. A good historian may be suggested by his or her credentials, but it is always discernible in his or her lectures, published work, and academic writing, and the candidate should be judged on that basis. I’m always mindful that two of the finest historians I’ve had the pleasure to read, Barbara Tuchman and Bruce Catton, were essentially uncredentialed and self-taught. Yet as writers with the ability to bring the past to life they are unexcelled, and this is what is needed in the classroom.

In terms of material resources, the proximity of this collection to UC students and faculty (about a ten-minute drive) gives them access to primary and secondary historical resources equaled in only a few of the most prestigious institutions throughout the world. Nevertheless, I agree with a comment made by Alex Berman in the *American Journal of Pharmaceutical Education* back in 1969 “that every college of pharmacy library can acquire a ready reference of secondary historical literature in English suitable for the use of students and teachers.” Costs notwithstanding, it is in some ways easier to acquire and keep pace with the literature of the field than it was when Berman penned these words nearly thirty years ago. A checklist of titles in key areas is now available

in Gregory J. Higby and Elaine C. Stroud's *The History of Pharmacy: A Selected Annotated Bibliography* (1995) which include some 1,255 citations in the field. For those interested in acquiring an "instant" core collection of primary resources in the history of American pharmacy one is available through University Microfilms International as outlined in Nydia King's *A Selection of Primary Sources For the History of Pharmacy in the United States* (1987). Those contemplating proposing a course should first work with the university librarian in identifying existing strengths and weaknesses in the collection; the question of support material will undoubtedly come up in the course proposal process. Once the course is approved, it should be requested that the librarian revise the existing profile with their book vendor(s) to include history of pharmacy titles. Virtually every academic library today selects most of its books from vendor profile slips. These are order forms generated by book suppliers such as Baker & Taylor or Blackwell North America that are in the business of keeping pace with titles as they become available from hundreds of presses foreign and domestic. By expanding the university's book vendor profile to include history of pharmacy publications, book selectors are guaranteed of being alerted to virtually every new book and journal in the history of pharmacy.

CONCLUSION

Despite the many challenges ahead, there is much to recommend the teaching of pharmaceutical history. George Urdang demonstrated years ago that pharmacy is an integral part of the social, economic, political, and cultural life of the larger community in which it resides. As such, pharmacy cannot be practiced effectively as a science divorced from the society of which it is a part nor can it be seen simply as a profession which manifests itself as a series of ever-changing contemporary issues. All of these myopic visions fail to see that in its fullest sense pharmacy is a science interacting with society to produce contemporary issues all with historical roots. As such, I know of no better way to prepare students to meet the challenges of the future than by a firm grounding in the past.*

*Since this symposium, this course was delivered in the 1997 and 1998 academic years. Since 1999, the course has been given by Dennis B. Worthen, new Executive Director of the Lloyd Library.

APPENDIX A

A Prospectus for a Course in the History of Pharmacy

Title: History of Pharmacy in America

Course objective: The objective of this course is to introduce the pharmacy student to the history of the discipline. This will be accomplished by focusing upon the historical development of pharmacy in the United States through an examination of the growth and professionalization of the field, its commercial and industrial growth, its statutory regulation, and its product development as demonstrated in its changing materia medica, dosage forms, and methods of standardization.

When completed the student should understand and be familiar with the general historical development of American pharmacy, its literature, and its reference tools for historical inquiry. Moreover, the student should see clearly that pharmacy does not exist apart from the larger context of sociopolitical, socioeconomic, or sociocultural development in which it resides. The course of pharmaceutical development has been and indeed will always be informed and determined by these larger factors; these are best understood and interpreted through systematic historical analysis.

Textbook: Kremers and Urdang's History of Pharmacy, 4th ed., revised by Glenn Sonnedecker. 1976; Madison, WI: AIHP, 1986.

Readings: The readings listed by each week are to be considered required, not supplemental to the course. They will be placed on reserve at the College of Pharmacy library. While the reading list looks formidable, no single week's assigned readings exceed 100 pages.

Student evaluation: Students will be evaluated on the basis of a midterm exam; a final exam; and an 8 to 10 page "historical problem paper." Each grade will count for one-third of the final grade for the course.

Problem paper in the history of pharmacy: Each student will be given a hand-out enumerating five historical issues or problems in pharmacy. Of those problems, the student will choose one as his/her topic and will write an essay addressing that question.

The paper should be typed, double-spaced, and of 8 to 10 pages in length. The paper should demonstrate evidence of independent study beyond the material provided in the text and/or directed readings. All sources must be documented

and cited according to proper style (MLA Style Manual or Chicago Manual of Style).

Course Outline

Week #1

Lecture, pt. 1: What Do We Mean by “The History of Pharmacy” and Why Should We Study IT?

Readings: Alex Berman, “Writing in the History of Pharmacy: Sources of Material,” *American Journal of Pharmaceutical Education* 33 (December, 1969): 843-49; David A. Febo, “Liberal Arts and Pharmacy Education,” *Pharmacy in History* 22:2 (1980): 60-68; John M. Riddle, “Everybody, the Historian, and the Scientist,” *Pharmacy in History* 37:4 (1995): 159-64.

Lecture, pt. 2: A Thumbnail Sketch of the History of Medicine as It Relates to Pharmacy

Readings: James Burke, “What the Doctor Ordered,” in *The Day the Universe Changed*, rev. ed. (Boston: Little, Brown, 1995), pp. 195-237; David L. Cowen, “Pharmacists and Physicians: An Uneasy Relationship,” *Pharmacy in History* 34:1 (1992): 3-16.

Week #2

Lecture: The Colonial Period, 1492-1775

Readings: *History of Pharmacy*, chap. 9; J. Worth Estes, “The European Reception of the First Drugs from the New World,” *Pharmacy in History* 37:1 (1995): 3-23.

Lecture: The Revolutionary Period, 1775-1783

This lecture will include a presentation of 45 slides compiled by Michael B. Shannon on “Medicines in the American Revolutionary Period.”

Readings: *History of Pharmacy*, chap. 10; David L. Cowen, *The Colonial and Revolutionary Heritage of Pharmacy in America*. Madison, WI: AIHP, 1976. 24 pp.

Week #4

Lecture: The Early Republic, 1783-1860

Readings: *History of Pharmacy*, chap. 11; Alex Berman, “The Heroic Approach In 19th Century Therapeutics,” *Bulletin of the American Society of*

Hospital Pharmacists (Sept./Oct. 1954): 321-27; Berman, "The Botanic Practitioners of 19th-Century America," *American Professional Pharmacist* (October 1957): 866-70, 911-12.

Week #5

Midterm Exam

Lecture: American Pharmacy Matures: A Look at State and National Associations, APhA, NARD, ASHP, etc., and Other Factors Leading Toward a Professionalized Field.

Readings: History of Pharmacy, chap. 12; Gregory J. Higby, "Professionalism and the Nineteenth-Century American Pharmacist," *Pharmacy in History* 28:3 (1986): 115-24; David L. Cowen and William H. Helfand, "The Progressive Movement and Its Impact on Pharmacy," *Pharmaceutica Acta Helvetica* 54 (1979): 317-23.

Week #6

Lecture: Statutory Regulation

Readings: History of Pharmacy, chap. 13; Glenn Sonnedecker, "Drug Standards Become Official," in *The Early Years of Federal Food and Drug Control* (Madison, WI: AIHP, 1982), pp. 28-39; John P. Swann, "FDA and the Practice of Pharmacy: Prescription Drug Regulation Before the Durham-Humphrey Amendment of 1951," *Pharmacy in History* 36:2 (1994): 55-70; David L. Cowen, "The Development of State Pharmaceutical Law," *Pharmacy in History* 37:2 (1995): 47-58.

Week #7

Lecture: Pharmacy Education in the U.S.

Readings: History of Pharmacy, chap. 14; Henri R. Manassee, Jr., "Albert B. Prescott's Legacy to Pharmaceutical Education in America," *Pharmacy in History* 15:1 (1973): 22-28; George Urdang, "Edward Kremers (1865-1941): Reformer of American Pharmaceutical Education," *Transactions of the Wisconsin Academy of Sciences, Arts, and Letters* 37 (1945): 111-35; John Parascandola and John Swann, "Development of Pharmacology in American Schools of Pharmacy," *Pharmacy in History* 25:3 (1983): 95-115.

Week #8

Lecture: Pharmaceutical Literature in the U.S.

Readings: History of Pharmacy, chap. 15; Glenn Sonnedecker, "The Beginning of American Pharmaceutical Journalism," *Pharmacy in History* 33:2 (1991): 63-69; Gregory J. Higby, "Publication of the National Formulary: A Turning Point for American Pharmacy," in *One Hundred Years of the National Formulary* (Madison, WI AIHP, 1989), pp. 3-19.

Lecture: The Economics of American Pharmacy

Readings: History of Pharmacy, chap. 16; Norman Gevitz, "Domestic Medical Guides and the Drug Trade in Nineteenth-Century America," *Pharmacy in History* 32:2 (1990): 51-56; John P. Swann, "The Evolution of the American Pharmaceutical Industry," *Pharmacy in History* 37:2 (1995): 76-86; Jonathon Liebenau, "Scientific Ambitions: The Pharmaceutical Industry," *Pharmacy in History* 27:1 (1985): 3-11; John Parascandola, "Industrial Research Comes of Age: The American Pharmaceutical Industry, 1920-1940," *Pharmacy in History* 27:1 (1985): 12-21.

Week #10

Final Exam

APPENDIX B

Historical Issues in Pharmacy

Choose any one of the following and write an 8 to 10 page fully documented paper that covers the topic as thoroughly as this length allows.

1. Name three titles in American pharmaceutical literature that you consider of paramount historical significance. Briefly discuss the development of each, and explain precisely why you have chosen those titles. In your answer be sure to outline the significance of these titles as tools and guides for the practicing pharmacist, including the changing or static nature of each.
2. In early America so-called "office pharmacy" was commonplace. Today this is an unheard-of practice. What exactly is "office pharmacy" and what happened to it? How has this change affected pharmacy as a profession?
3. Define a patent medicine in both its technical and popular senses. Discuss the distinction between patent and proprietary medicines, and give a couple of nineteenth and early twentieth century examples. Can you characterize the pharmacology of these products? What impact did patent medicines have on the practice of pharmacy in the U.S.?

4. In 1870 there were 34 women to 17,335 men listed in the U.S. Census as “traders and dealers in drugs and medicines.” In 1991 there were 48,900 women practitioners to 114,700 men, and by 2020 the ratio of women to men in practice is predicted to be 1:1. Explain this equalization in gender and discuss the development and role of women in professional pharmacy in the U.S.
5. George Urdang, a leader in historical studies in pharmacy, wrote, “The special inspirational value of biographies lies in the fact that the men concerned serve as models and as examples for the possibilities given in and by pharmacy.” Even further, Thomas Carlyle once declared that “History is the essence of individual biographies.” The point is that good historical biography delineates not only the individual under study but the context of that person within the larger social and professional life of the period. Bearing this in mind, write a biographical sketch of any one of the following individuals: John Bartram (1699-1777); Andrew Craigie (1754-1819); Lyman Spalding (1775-1821); Constantine S. Rafinesque (1783-1840); William Procter, Jr. (1817-1874); Edward R. Squibb (1819-1900); John M. Maisch (1831-1893); Frederick Stearns (1832-1907); Eli Lilly (1838-1898); Albert Ebert (1840-1906); Charles Rice (1841-1901); Joseph P. Remington (1847-1918); John Uri Lloyd (1849-1936); F. B. Power (1853-1927); James H. Beal (1861-1945); Edward Kremers (1865-1941); Rufus A. Lyman (1875-1957); Robert P. Fischelis (1891-1981).
6. In 1994 Congress passed the Dietary Supplement Health and Education Act (often referred to as the DSHEA Act). In broad outline, the emphasis of this legislation is actually more deregulatory than regulatory. Briefly outline the DSHEA Act. Please explain by comparing and contrasting any historical parallels to the deregulation of health care practice in this country, thus placing the DSHEA Act in historical context.
7. Higby and Anderson have characterized the development of the USP as exemplifying the “spirit of voluntarism.” What do they mean by this, and do you think the historical evidence supports their assessment? Explain.
8. In a recent issue of the JAPhA, Varro E. Tyler of Purdue University noted the tremendous consumer interest in OTC herb products and called upon pharmacists to “do some homework to bring themselves up to speed as competent advisors.” With U.S. sales of OTC herbals currently estimated at \$1.5 billion, Tyler’s suggestion seems well founded, and yet the fact is that some of the most complete information on these natural products remains in the historical literature. With this in mind, take one of the following plants and summarize its history, its traditional medicinal uses, and its present use: feverfew, valerian, coneflower (both varieties), goldenseal, peppermint, garlic, ginkgo, milk thistle, rhubarb, ginseng (all varieties), scullcap, hawthorn, foxglove, belladonna, Jesuits’ or Peruvian bark, black cohosh, ephedra, ginger, barberry, licorice, gentian, saw palmetto. Be sure to give the full scientific name, its past and present USP status, and its active chemical constituents.