

# HISTORY OF PHARMACY SIG NEWSLETTER

## *Pharmacy Chronicles: Past, Present, and Future*

### *Welcome Message from the Chair, History of Pharmacy Special Interest Group*

On behalf of the officers of the History of Pharmacy Special Interest Group (SIG), I would like to welcome you to the second issue of Pharmacy Chronicles: Past, Present, and Future, our SIG's newsletter. First, I extend a special thanks to Ettie Rosenberg and Cathy Taglieri for their efforts in producing this newsletter. I would also like to sincerely thank all who have contributed material for this issue. Without all of you, this issue would not be possible.

As my term as Chair comes to an end, I am encouraged by the energy and enthusiasm of the SIG membership. Together, we have accomplished a great deal over the past year.

At the 2014 AACP SIG

meeting, our program: *Historic Milestones and Symbols of Pharmacy* was extremely well attended, with over 100 audience members, and the session was standing room only. Another "historic" moment occurred during a session hosted by ACPE to collect feedback on the ACPE Draft Standards 2016. Representing the American Institute of the History of Pharmacy (AIHP), Greg Higby offered strong and impassioned argument to ACPE staff members for the reinstatement of the "history of pharmacy" domain as a curricular requirement in ACPE Standards 2016. To share with you the sentiments articulated by Greg Higby, here is a pivotal quote from his speech:

**"A profession without a history ... is merely an occupation with pretensions."**

That mantra quickly became the slogan for a successful grassroots movement lead by immediate past Chair Dave Baker across both the SIG and Academy. When ACPE published the final Standards this past January, we were delighted to see that the "history of pharmacy" domain requirement remained. Thank you and congratulations to Greg, Dave and all SIG members who helped in this effort.

The American Institute of

the History of Pharmacy (AIHP) and the SIG continue to work together to promote history of pharmacy education across the academy. Through a partnership with AIHP's Historical Studies Committee, key members of the SIG are at work developing materials that schools can use to meet the ACPE pharmacy history education requirements. This working group will be reaching out to faculty that provide history of pharmacy education throughout the Academy to determine what pedagogical approaches are currently in use and what resources can be created to assist them. For the benefit of all involved in history of pharmacy education, as materials are developed, they will be made available through both AIHP and the SIG. Please also remember that we continue to seek course syllabi and pedagogical approaches for presenting the history of pharmacy in our curricula. If you have any of these items to share, please submit them to SIG officers for posting on the SIG's webpage.

**Many exciting things are planned for the 2015 Annual AACP meeting in Washington D.C. Please note that this year's SIG business meeting is being held on Tuesday, July 14th**

**from 6:45 to 7:45 am. Hopefully, the coffee will be ready before we get started!**

At the July 14th meeting, we will install 2015-2016 officers: David Baker, Chair-Elect; Catherine Taglieri, Secretary; and Michael Hegener, Chair. Please join me in congratulating the newly elected board and wishing the members a very productive year. Our SIG programming will follow at 8:00 am with a panel presentation on *Historical Milestones in Federal Pharmacy Law*. John Swann, an FDA historian, will be our special guest for this session. His presentation will be on the 1962 Kefauver-Harris Amendment and its historical implication for the pharmacy profession. The SIG will also be hosting a tour of the Stabler-Leadbeater Apothecary in Alexandria on Monday July 13th. We will be able to accommodate up to 30 SIG members. More information will be sent via the SIG listserve about how to sign up for this event.

Thank you present and past SIG officers for your advice and assistance throughout the year. It has been greatly appreciated. I look forward to serve the SIG and hope to see you at the 2015 Annual Meeting!

**—James Culhane, SIG Chair**

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## Message from the Editor

**Welcome:** The 2014 inaugural issue of Pharmacy Chronicles: Past, Present, and Future, announced that each issue of the newsletter is designed to reflect the evolution of our profession from its past, into its present, and building on those to also anticipate its future as it continues to evolve with the times and needs of our society. You will find that continuing on that theme, this issue also features articles on a variety of past and present topics on history of pharmacy teaching pearls, photos, an apothecary quiz, reflections, and news items, among other

**Students:** We are especially proud this issue features 2 articles involving original pharmacy student contribution and student collaboration with pharmacy faculty. We highly value, encourage and solicit pharmacy student contribution or collaboration in future issues since we view pharmacy student input as vital to the continuity of our profession.

**Faculty:** Tremendous resources for history of pharmacy topics continue to be available to pharmacy faculty through the American Institute of the History of Pharmacy (AIHP). For

more information email: [Teaching@AIHP.ORG](mailto:Teaching@AIHP.ORG).

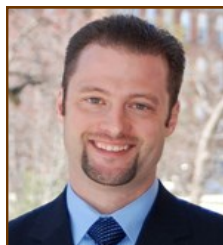
**Reflections:** Looking back, the classic drugstores with soda fountains were needed historically to provide social support in our communities. Today, community pharmacies provide immunizations to fill a modern societal need—advancing the public's health. Technology and human innovation in that context are more about permitting more opportunities for pharmacists to fill a void, and less about simply reducing the pharmacist's workload. As the

scope of pharmacy practice continues to evolve, we must recognize that these changes are due to a societal need for pharmacists to become more directly involved with patient care and medication outcomes.

**Annual Meeting:** While in DC, visit our pharmacy *past* and stay in touch with our *present* and *future* — Tour the “home of pharmacy” dedicated in 1934: the American Institute of Pharmacy Building, See you soon!

— Ettie Rosenberg, PharmD, JD,  
Founding Editor, West Coast University  
School of Pharmacy

## SIG OFFICERS



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Secretary

## NEWS: AIHP Building on ACPE Decision Vis a Vis “History of Pharmacy” Domain

The recent decision of ACPE to restore the “history of pharmacy” as a required domain in the 2016 Standards is a great victory for the History SIG and AIHP. There is no doubt that concerted efforts of concerned educators and pharmacists petitioning ACPE, and speaking at open forums had an impact on that decision.

*Excerpted below at the end of this message are relevant sections from the 2016 Standards.*

In response to ACPE’s decision, the Institute’s Historical Studies Committee has begun work to pull together a menu of resources to aid teachers of the history of pharmacy meet the 2016 requirements. Chaired by David Baker, the Committee also plans to survey schools to identify

faculty across the Academy engaged in history of pharmacy instruction, and their particular needs.

Information about this project will be added soon to the web site of the American Institute of the History of Pharmacy ([www.aihp.org](http://www.aihp.org)). As always, the input of History SIG members concerning this and other AIHP programming is always welcome via email directed to:

Teaching@AIHP.ORG

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**Appendix 1, Required Elements of the Didactic Doctor of Pharmacy Curriculum:** “The following didactic content areas and associated learning expectations are viewed as central to a contemporary, high-quality pharmacy education and are incorporated

at an appropriate breadth and depth in the required didactic Doctor of Pharmacy curriculum. Where noted, content areas may be addressed in the pre-professional curriculum (i.e., as requirements for admission). Required content areas may be delivered within individual or integrated courses, and may involve multiple disciplines...”

**“History of Pharmacy...”** Exploration of the evolution of pharmacy as a distinct profession, the transition from a focus on the drug to a focus on the patient and the drug (including pharmacist-provided patient care), and major milestones and contributors in the evolution of pharmacy.”

[Page 21 in <https://www.acpe-accredit.org/pdf/Standards2016FINAL.pdf>]

— Greg Higby, Executive Director, AIHP

## Apothecary Challenge

### Question:

Pharmacists used this tool in the 1800s? What is it? What was this tool used for?



### A pill silverer.

A pill silverer, as the name implies, was used to coat pills with a fine layer of silver. To prepare pills, drugs were incorporated into an inert substance to form a workable mass, and then divided into individual, round dosage forms. Although pills may be prepared on a tile or in a mortar, the compounding process was greatly expedited via use of a pill machine (pill roller). Common substances used to provide mass included powdered tragacanth, glucose syrup, and decoction of aloe compound. Although these substances were useful for creating a workable mass, the resultant pills were often sticky. To overcome this issue, and to mask unpalatable tastes, pills were often coated in a dry powder such as starch, sugar or licorice.



In the 17<sup>th</sup> century, pharmacists began coating pills in gold or silver leaf to appeal to their customers, as this was regarded as a luxury. To coat pills in gold or silver leaf, the pharmacist would first slightly moisten the pills with a substance such as an acacia mucilage, and then place them in a pill silverer, often made out of boxwood, which was lined with silver or gold leaf. Once the lid was in place, the pill silverer was rotated for several minutes to evenly coat all of the pills. Generally, one thin leaf of silver would coat one dozen pills.

We now know that this process, primarily done as a status symbol, often delayed the release and absorption of the contained drugs. In essence, customers who chose to pay extra for this “luxurious” coating were likely purchasing pretty “placebos.”



### References:

Pills and Pill-Making. Museum of the Royal Pharmaceutical Society, Information Sheet: 7. Available at: <http://www.rpharms.com/museum-pdfs/07-pills-and-pill-making.pdf>

Lucas E. Practical Pharmacy: An Account of the Methods of Manufacturing and Dispensing Pharmaceutical Preparations. London. J & A Churchill; 1898.

—Michael A. Hegener, PharmD, University of Cincinnati James L. Winkle College of Pharmacy



## Cyclical History of U.S. Pharmacy School Openings and Closings

Pharmacy schools have been educating the future practitioners of the pharmacy profession in the United States for almost two centuries. Since the founding of the first pharmacy school, the Philadelphia College of Apothecaries in 1821, there have been many changes to the roster of schools.<sup>1</sup> Both significant increases and decreases in the number of pharmacy schools occurred in the intervening years (See Pg5 Bar Graph entitled: “*Pharmacy School Openings, Closings and Mergers*”).

The first significant increase in number of pharmacy schools arose during the three decade period from 1880 to 1910. From 1821 till 1880, only 19 schools of pharmacy were founded.<sup>2</sup> However, from 1880 to 1910, at least as many schools were formed each decade, resulting in a sum total of 62 new pharmacy schools over the 30 year period, ... almost quadrupling the total number of schools in 3 decades.<sup>3</sup> Possible explanations for this dramatic increase (1) the rise of professionalism nationally with the establishment of the American Pharmaceutical Association in 1852, and establishment of 44 state associations from 1867 till 1910; and (2) by 1910, passage of “modern” state pharmacy practice acts in 46 states established minimum competencies for pharmacist licensure.<sup>2</sup> As a direct result, to meet these developing professional and regulatory standards, pharmacy schools were opened to supplement or replace apprenticeships and to provide more standardized education.

Interestingly, beginning during the last decade of that same tremendous growth cycle, the largest number of pharmacy school closings would begin to occur. Starting in 1900 and continuing until 1930, 15 pharmacy schools would close, and 11 others would merge either with other schools or state universities.<sup>2,3</sup> Quite possibly, the supply of student applicants or need for pharmacy graduates decreased because of: stabilization of the pharmacy workforce, more stringent educational requirements prior to and during pharmacy school, or World War I’s impact on the available pharmacy workforce.

Between 1910 and until 1960, the rate of pharmacy school openings declined. During this 50-year span, only about 5.6 pharmacy school openings occurred per decade.<sup>3</sup> In that same time period, the number of school closures and mergers increased, averaging 5.8 per decade, resulting in a net decline in the total number of pharmacy schools.<sup>3</sup> Undoubtedly, contributing factors to this net decline was the impact of three major events: World War I, the Great Depression and World War II. The two world wars likely decreased the available applicant pool and the depression would have made a college education financially unobtainable for many.

Two other factors created

by the pharmacy schools may also have contributed to the decline: (1) A gradual increase in entry-level pharmacy school requirements from one year of high school in 1908, to four years of high school by 1922; and (2) A gradual increase in pharmacy school curricular requirements from a historical 2-year program in 1907, to a 4-year program by 1932.<sup>2</sup>

The period between 1960 to 1990 was very stagnant — only two new pharmacy schools were opened, while four more would close.<sup>3</sup> This was despite the increase in higher education enrollment from: the GI Bill assisting World War II, Korean War and Vietnam War veterans; and the development of federal and state programs that provided financial aid to the less fortunate. In addition, the volume of prescriptions dispensed dramatically increased, the number of prescriptions covered by third party programs expanded, and the computerization of pharmacy services enabled larger volume dispensing — all contributing to a larger demand for pharmacists.<sup>4</sup> Adding further to the demand was the appearance of clinical pharmacy within the profession in the 1960s, which eventually created new roles and positions for pharmacists primarily in institutional settings.

The only negative feature that can be ascribed to this period beginning in 1960 was the adoption of the 5-year pharmacy curriculum, which added time and expense to prospective students, and may have directly affected the applicant pool.<sup>4</sup> However, with the transition from 4-year to 5-year programs, most schools experienced a graduate-free year, which would have further increased the market demand for pharmacists. The cumulative increased market demand for pharmacists, and concomitant lack of growth in the number of pharmacy graduates finally began to demonstrate its impact in the late 1980s and 1990s, and did so in the form of dramatic increases in pharmacist salaries. The combined influence of a high market demand and high entry level salaries both interested and motivated higher education institutions to respond.

After the dirge in the 1960s and 1970s, higher education responded with two new pharmacy schools in the 1980s and eight new pharmacy schools in the 1990s, without any closures or mergers.<sup>3</sup> Yet further adding to the market demand for pharmacists was the adoption of the 6-year PharmD curriculum in 2000, which again created a graduate-free year for most pharmacy schools.<sup>5</sup> The end result: the second most significant increase in pharmacy school starts occurred from 2000 to 2010, during which time 44 new pharmacy schools were founded, (*continued on next page*)

## Cyclical History of U.S. Pharmacy School Openings and Closings (*continued from page 4*)

(*continued from page 4*)

increasing the total number of schools by almost 50%.<sup>3</sup> This trend has begun to slow down, as only 9 pharmacy school starts have occurred from 2010 till 2015.<sup>3</sup>

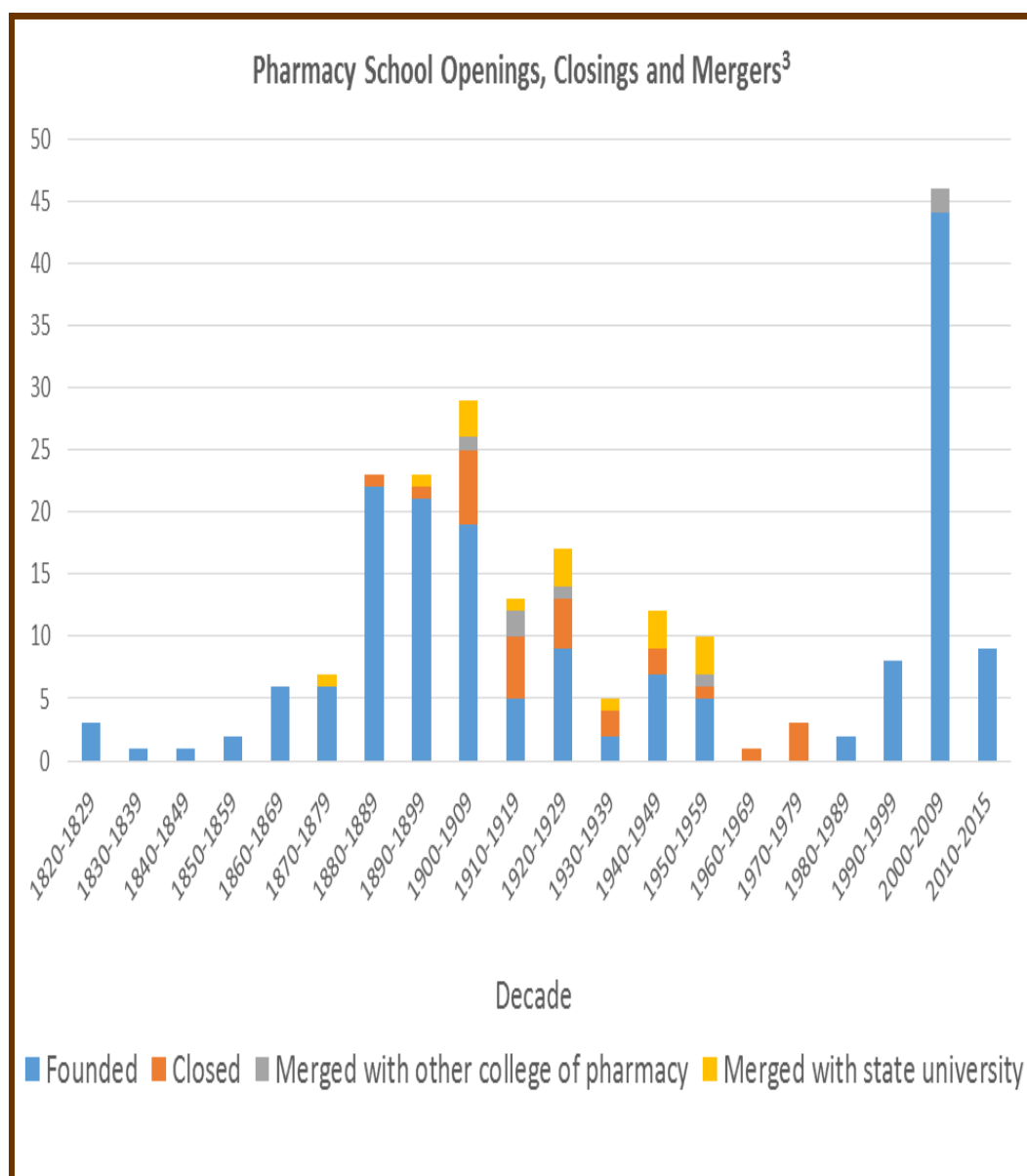
After reviewing the past history of U.S. pharmacy schools, peering forward into the “crystal ball,” raises many questions. Will the expanded roles of the pharmacy profession or the aging of the baby boom generation be able to provide employment for the increased number of graduates? Will a rash of pharmacy school mergers and closures occur again, similar to that which occurred after the first significant surge in pharmacy schools? Will the profession adopt a more proactive approach to balancing the needs of the profession with the available supply of pharmacy schools? Only time will tell what the next few decades holds for pharmacy schools, and whether history will repeat itself.

— David M. Baker, BS Pharm., MBA, JD; Uyen Nguyen, PharmD candidate 2016,

Western New England University College of Pharmacy.

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- England JW, editor. The First Century of the Philadelphia College of Pharmacy 1821-1921. Philadelphia, PA: Philadelphia College of Pharmacy and Science; 1922. p. 43-80.
- Sonnedecker G. Kremers and Urdang, History of Pharmacy. 4th ed. Madison, WI: American Institute of the History of Pharmacy; 1976. p. 200, 216-7, 237, 240, 379-82, 383-6.
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- Higby GJ and Stroud EC, editors. American Pharmacy. Madison, WI: American Institute of the History of Pharmacy; 2005. p. 11-17, 49-53.
- Accreditation Council for Pharmacy Education. Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree. Chicago, IL: Accreditation Council for Pharmacy Education, Adopted January 15, 2006. p. i.



## The George Urdang Chair

### *First Endowed Chair in History of Pharmacy*



**Joseph M. Gabriel, PhD**  
*George Urdang Chair*

The first endowed chair in the United States dedicated to the history of pharmacy has been established at the University of Wisconsin-Madison School of Pharmacy. Through the efforts of Robert and Leslie Buerki and friends of historical pharmacy, funds have been raised to endow the George Urdang Chair in the History of Pharmacy. The first holder of the chair will be historian Joseph M. Gabriel, author of *Medical Monopoly: Intellectual Property Rights and the Origins of the Modern Pharmaceutical Industry* (University of Chicago Press, 2014). Prof. Gabriel received his Ph.D. from Rutgers University in 2006. His dissertation, “Gods and Monsters: Drugs, Addiction, and the Origins of Narcotic Control in the Nineteenth-Century Urban North,” earned

the 2009 Jack D. Pressman-Burroughs Wellcome Award.

As George Urdang Chair, Prof. Gabriel will also join the leadership team of the American Institute of the History of Pharmacy with the title of Historian.

— Greg Higby, Executive Director, AIHP

For more information on Dr. Gabriel go to:

<http://med.fsu.edu/?fuseaction=directory.full&usemenu=&directoryID=13363>.

## Christ an Apothecary...

In the 16th, 17th, and 18th centuries, a minor genre of artwork flourished in continental Europe and that artwork tells us today much about the history of pharmacy: — though its depiction of Christ as an apothecary.

Most of these illustrations, usually paintings or drawings, show Jesus behind a pharmacy counter acting as the “Apothecary of the Soul” compounding a healing remedy often using a hand balance to weigh out Christian virtues from labeled containers. Some paintings show the furnishings and equipment of apothecary shops in fine detail. Above all else, the artwork is indicative of the high social standing and reputation of apothecaries in

most of Europe during the period. How else could Jesus be pictured as a pharmacist at a time when blasphemy was severely punished?

The esteemed German historian of pharmacy, Wolfgang-Hagen Hein wrote a small illustrated booklet on the topic, *Christus als Apotheke* (Govi Verlag, 1974), which lists nearly 100 examples of the genre. American pharmacist-historians Edward Kremers (<http://opensiuc.lib.siu.edu/cgi/viewcontent.cgi?article=2477&context=ocj>) and Charles LaWall (<http://pubs.acs.org/doi/pdf/10.1021/ed011p77>) wrote on the subject as well. Several excellent examples can be found via a simple Google image search.

— Greg Higby, Executive Director, AIHP

## FAREWELL TO

### Ernst W. Stieb (1929 – 2015)

#### A Friend of the History of Pharmacy

Pharmacy historian Ernst Stieb died February 2, 2015 in Oakville, Ontario, Canada. Stieb earned his doctorate in the history of pharmacy and history of science from the University of Wisconsin in 1959.

For the next eight years he served the UW School of Pharmacy and the American Institute of the History of Pharmacy in various capacities before returning to his native Canada and the University of Toronto. At Toronto, Stieb held several administrative positions, including Interim Dean, in addition to teaching and research. In 1968, he helped found the Canadian Academy of the History of Pharmacy and was the founding curator of the Niagara Apothecary Museum. An authority on the historical pursuit of drug quality, he received the Edward Kremers Award for his book, *Drug Adulteration—Detection and Control in Nineteenth-Century Britain* (1966).

— Greg Higby, Executive Director, AIHP



## ANNOUNCEMENTS



### **Any More Pharmacy Museums or Collections Out There?**

As some of you may know, David Baker and Lauren Tesh are engaged in the production of an updated online guide to North American pharmacy museums and collections. Should you be aware of one that does not appear in The Guide to Pharmacy Museums and Historical Collections in the United States and Canada (available at <https://pharmacy.wisc.edu/sites/default/files/content/american-institute-history-pharmacy/historical-sources-pharmacy-faq/museumguide.pdf>), please inform them via an email sent to [pharmacy.history@wne.edu](mailto:pharmacy.history@wne.edu).

### **AIHP's Historical Studies Committee Project**

Following in the steps of the 2016 ACPE Accreditation Standards which require history of pharmacy domain content as one of the required elements of the didactic PharmD curriculum, the Historical Studies Committee of the American Institute of the History of Pharmacy ("AIHP"), in conjunction with the History of Pharmacy SIG of AACP, plan to assist pharmacy schools and their respective faculty in developing and providing quality history of pharmacy education to student pharmacists. Currently, the Committee is researching what history of pharmacy educators currently use, and want/ or need as far as assistance with teaching history of pharmacy content. The goal of the project is to develop desired or needed history of pharmacy educational materials to facilitate delivery of such content and assist history of pharmacy educators.

### **WANTED: Seeking Pharmacy Student Newsletter Articles**

As this second edition of the AACP History of Pharmacy SIG Newsletter goes to press, preparations are already in process for the next issue. A new feature to this issue of the newsletter is the publication of an article written collaboratively by a faculty member and a student. Can you think of a better way to engage pharmacy students in the study or research of pharmacy history? This issue also features for the first time a article exclusively written by a current pharmacy student. Accordingly, the Editors welcome any articles on pharmacy history topics composed by pharmacy students, whether written exclusively by one or more students, or in collaboration with a faculty member.



## THE MEDICINE GARDEN: REMINISCENT OF PHARMACOGNOSY DAYS

Twenty-first century medicine has moved away from utilizing whole plants as medicine, and the art of pharmacognosy has all but disappeared from the pharmacist's repertoire. The term "herbal medicine" has become synonymous with "pseudoscience" – often grouped with homeopathy, naturopathy, and other alternative medicines. But plants are still a crucially important source of medicine for much of the world. In fact, an estimated 25% of modern pharmaceuticals are derived from plants.<sup>1</sup> There is still much to be learned from the botanical origins of medicine, and the University of Saint Joseph School of Pharmacy has established an evidence-based medicine garden to highlight just that.

Working under a community outreach grant, student and faculty volunteers from the USJ School of Pharmacy revived an unused space in the historic Elizabeth Park in Hartford, CT. The first year of the garden featured 14 plants, each with a tag explaining its historical and modern uses.

Our inaugural tour event was "Rose Sunday" – an annual event that attracts thousands of visitors to the park. Friends from local pharmacies donated examples of plant-derived medications for a display table, and each of 12 student volunteers were assigned a single plant in the garden to become our "resident expert" on. Students were responsible for researching the history, traditional use, modern use, active components, and evidence behind the medicinal use of their botanical.

Students stationed themselves near their assigned plant during scheduled garden tours and engaged with the public throughout the day.

The medicine garden has been a innovative way to both engage with the public and build meaningful relationships within the community while fostering students' growth as professionals, leaders, and community members. Medicinal plant displays can be an eye-catching and relatively inexpensive way to interact with the community and promote education about the origins of modern medicine.

### References:

Bagozzi, Daniela. "Traditional Medicine". *World Health Organization*. May 2003. Web. Accessed April, 2015.

— Dayne Laskey, PharmD  
University of Saint Joseph School of Pharmacy





## A RICH HISTORY OF PHARMACY IN THE PALMETTO STATE

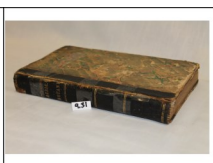
With the blessing of the deans at the South Carolina (USC) College of Pharmacy in Columbia, in the summer of 2014 I undertook a project with Ms. Kathy-Quarles Moore, an Assistant Professor at the USC Campus, and pharmacy student, Caroline Arnette to renovate the school's Pharmacy Museum. For the past thirty years, the museum – a room on the first floor of the pharmacy school in the Coker Life Sciences Building – was largely untouched and used only on rare occasions for visitors of the college or interested students to peek inside. All three of us had a passion for investigating and preserving the history of pharmacy in South Carolina and thus set out on our goal to learn more about the museum's origins and the many items it housed.

Digging into the college's past, we discovered that it all began in 1865, when the South Carolina Legislature established the "School of Chemistry, Pharmacy, Mineralogy and Geology." Since that time, the University of South Carolina has had a pharmacy program under many different names (department, college, and school) and exists today as the South Carolina College of Pharmacy, with students and faculty at three different campuses in the state. The museum came into existence due to the dedication of one of our past deans. In 1972, Julian Fincher was appointed Dean of the College of Pharmacy, and in 1978, the Pharmacy Wing of Coker Life Sciences Building was completed. In this wing, Dean Fincher created the SC Pharmacy Museum that exists today. The museum now exists as one of over 110 pharmacy museums/exhibits in the United States and it houses over 2,000 items donated over the past thirty-five years.

To begin the project, we consulted with the South Carolina State Museum and visited other pharmacy museums/exhibits in North Carolina, South Carolina, and Georgia in order to understand proper procedures and ideas for developing a museum. We then began work on an online catalog system to include catalog numbers, historical and donor information,

descriptions, and a reference picture for every item in the museum, as shown in the catalog example of one of our oldest items, Catalog Item 9.31, donated by Dean Julian Fincher.

Item Number: 9.31  
Old Catalog Number: N/A  
Catalog Date: 11/02/2014  
Description: Agricultural Botany and Enumeration and Description of Useful Plants and Weeds, By William Darlington, MD; Mark H Newman & Co.  
Age: Published 1847  
Donor: Julian Fincher  
Drug name: N/A  
Damage: None  
Location: Pharmacy Museum



As of March 2015, we have completely cataloged over 1,600 items from at least 35 different donors. These include vials/bottles, ampoules, jars, and canisters labeled with over 700 different chemical substances or drug names as well as many books, prints, photographs and other pharmacy-related mementos.

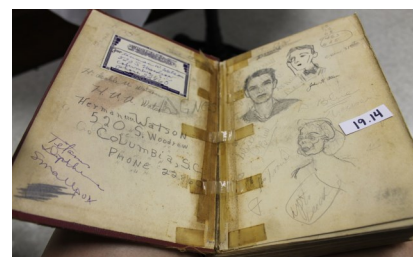
The most memorable items are also those which have a uniqueness about them that makes me recall them even now after months of sifting through various items. One of these is actually on the back of an old label dispenser for Rhem's Pharmacy in Florence, South Carolina. There we found an excerpt from the daily newspaper column, the



*Everyday Counselor* by Herbert Spaugh, a Moravian bishop, author, and newspaper columnist who started contributing the column to many papers in the South beginning in 1933. We suspect that the pharmacist must have enjoyed the article – which contained ten Biblical references to "point the way" to a more Christian life -- so much that he cut it out and taped it to the back of the large wooden dispenser for some daily inspiration while he worked.

Another favored item is *A Textbook of Pharmacognosy, Fourth Edition* owned by Herman W. Watson. Opening the book, one will find doodles on the faces of various men and women, assumedly drawn by the previous owner, Mr. Wat-

son. He has one humorous picture of a man with a monocle and underneath it is written "John K. Allen". In the left corner on the back of the front cover is written a list of diseases "Tetanus, Diphtheria, Smallpox" -- ones that we hardly encounter in the United States today. The repetitive nature in which Mr. Watson's name is rewritten on the back cover or that the word "blue" is written in



cursive multiple times on the first page makes one wonder what ran through his thoughts as he doodled throughout his textbook so many years ago.

One last item of interest is the book *Dr. Chase's Recipes or Information for Everybody* (Copyright 1872) which we found to contain a newspaper clipping with a poem, *My Schooldays*, inside. After some research on the internet, I discovered the poem had been published in *Good Housekeeping, Volume 12, page 110* back in 1891. Perhaps this poem was of some significance to the original owner, and he preserved it by keeping it tucked in the pages of this book (See photos below).



... (A Rich History of Pharmacy in the Palmetto State is continued on page 10)

## French Pharmacy Tools at the Beginning of the 20th Century, PART II of II

—Prof. Jean-Marc Aiache, Clermont-Ferand, France

**NOTE:** Part I of this Article appeared in the Spring 2014 Inaugural Issue, and is available at —

<http://www.aacp.org/governance/SIGS/history/Pages/HistoryofPharmacyNewletters.aspx>

The development of new drug products and medicaments at the beginning of the 20th century was responsible for transforming the old “apothecary” (Latin) into what was thereafter became known as a “pharmacy” (Greek).

Inside the pharmacy, many interesting tools were available to the pharmacist. A pharmacist could prepare solutions delivered in transparent glass



(Figure 1)

bottle and sealed by cork which is adjusted with a bronze crocodile seen in Fig. 1, a replica of the original crocodile found in old apothecaries! Some solutions which must be administered by drops from a special glass bottle, are closed by a specific stopper, as seen in Fig. 2.

Early 20th Century French pharmacies also sold well-known “Raymond Company” baby bottles to young mothers as seen in Fig. 3.



(Figure 2)



(Figure 3)

Other dosage forms were prepared in the pharmacy using devices specific for use in both preparation and administration:

- ◆ Rectal solution administered by rectal cannula and clyster or «irrigator» (the famous irrigator of Doctor Ecluser with whistle in the top!)
- ◆ Pill covered by silver
- ◆ Eye drops sterilized in a miniature autoclave and stored in small glass bottle with integrated dropper
- ◆ Suppositories in copper mold

## A RICH HISTORY OF PHARMACY IN THE PALMETTO STATE (CONTINUED FROM PAGE 7)

(continued from page 9)

### From Past to Present

Aside from cataloging and exploring the history behind the museum's many items, a submission process is being developed for new donations and Material Safety Data Sheets are being collected to accompany chemical substances by Joshua Agbunag, another student researcher recruited for this extensive project.

The next steps are to finish the cataloging process and make it accessible online for allow anyone interested in the history of pharmacy throughout the country to look up item descriptions and pictures.

Our next project goal will be to renovate the museum space. It is being redesigned to include more space for visitors to walk around, additional displays with item descriptions, a timeline of the history of pharmacy, interactive components, and a monitor with images and information that could be seen from the outside of the museum. Ultimately, we would like for the museum to provide a broad learning experience for students and visitors to the college while preserving and maintaining the rich history of pharmacy in the Palmetto State.

— Amy Joy Yanicak, 2016 PharmD/MPH Candidate, South Carolina College of Pharmacy Columbia Campus



## Vitamin A: A historical poison in the most unlikely of places

Vitamin products consistently rank among the most common calls to poison centers. In 2013 alone, US poison centers received calls for over 66,000 exposures to vitamin preparations, over 47,000 of which were for children under the age of 6. And, this comes as no surprise. Unlike many of the other yucky, instantly-spit-out substances that kids get into on a daily basis, vitamins are often formulated into tasty candies that allow for large ingestions. In 2013, there were 0 deaths reported, and only 9 cases with “major” effects reported, indicating a wide margin of safety. But it didn’t always used to be this way. In 1992, iron-containing products were the leading cause of death by poisoning in children under 6, years of age which sparked sweeping regulatory changes. Today, children’s vitamin products do not exceed 18 mg of elemental iron per dose and gummy formulations do not contain iron at all.

*Though less toxic than iron, there are still other vitamins that can be dangerous to children. One of these is vitamin A.*

The effects of hypervitaminosis A are nothing new to the Inuits. *Pibloktoq*, or “Arctic Hysteria,” is the Inuit term for the psychiatric changes, insensitivity to extreme cold, and seizures that were believed to follow ingestion of polar bear liver and other organ meats. Though the effects have long been known, it wasn’t until the 1940s that they were identified as being related to vitamin A. Polar bear livers contain so much vitamin A because of a diet high in fish and marine animals. Vitamin A requirements are increased in Arctic animals, due to a need for rapid growth and survival in the hostile environment. Other arctic animals such as seals and huskies are known to have similarly high Vitamin A concentrations.

There is no better way to illustrate this than story of Antarctic explorer Douglas Mawson:

During the height of Antarctic summer in December 1912, 30 year old Mawson embarked on one of the most notorious Antarctic missions of all time. Armed with 16 huskies, three sleds, 1700 pounds of food, and two colleagues, Mawson set out on a scientific expedition onto the frozen continent. When one of the three sleds and its supplies were lost in a deep crevasse, Mawson and his remaining partner Mertz were forced to eat their remaining sled dogs. Their physical and mental conditions rapidly deteriorated, and Mertz suffered seizures and coma before passing away. Mawson, who had eaten more muscle and less of the husky livers than his partner, continued 100 miles back to base camp and went on to survive, but not without the hair loss, nausea, and skin fissures - all classic symptoms of hypervitaminosis A.

This story serves as a reminder of two important points. First, vitamins – products that we often consider benign – can have serious impacts on health if consumed in inappropriate quantities. Second, if you ever find yourself starving in the arctic, don’t eat any livers!!!

— **Dayne Laskey, PharmD**  
**University of Saint Joseph School of Pharmacy**



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“We cannot know where we’re going if we don’t know where we’ve come from.”

Roy C. Owens (1899—1979)  
Excerpt: speech to the  
‘Vancouver Club’, September  
1958.



## TEACHING PEARLS

### An Exercise to Engage Students in: *The History of Pharmacy*

A difficulty faculty commonly encounter in didactic courses is *how* to engage students in the course subject matter. This issue is probably more frequently encountered in courses which pharmacy students, having decidedly elected a career track in the sciences, view as boring or irrelevant, e.g., *history*, in particular – the *history of pharmacy*. Previously at another institution, I taught the required pharmacy history content each year, and must admit I struggled with various techniques of active learning: group projects, Socratic discussion, student presentations, etc. I *genuinely* wanted not only to engage students, but also to facilitate learning by having students submerge themselves into the historic periods we were studying. Unfortunately, I didn't appear to find the right strategy or one that worked... *at least not then*.

At my current institution, I encountered an opportunity to offer an elective history of pharmacy course, entitled, "Evolution of Pharmacy," I once again faced a familiar dilemma. That is when I recalled a conversation I had with Robert Buerki, Professor Emeritus at Ohio State University College of Pharmacy, a year or two earlier. In that conversation, he described to me a pharmacy history course he had designed over 20 years hence in which there was a laboratory component, using 19<sup>th</sup> century pharmaceutical equipment and techniques. I reached out to him, but he was unfortunately unable to find his original course materials... so I was left to my own devices. Nonetheless, I didn't give up on the idea. Instead, I just modified *who* would create the laboratory exercises for the course, and... elected to have the *students* do just that!

Here is *how* I did it... I incorporated three written assignments into the course spread over the semester. Each assignment specifically related to developing a pharmaceutical compounding laboratory exercise that "could have been taught" in pharmacy schools between 1850 to 1920. Each week, one hour (of the three hour per week course) was devoted to working on these assignments in class, allowing for

group work, classroom discussion, and assistance from the instructor.

The *first* assignment was to choose the type of compounded *product* (from a list provided) and the specific active ingredient, and then, research the product's method of compounding. The *second* assignment was to identify the necessary period-specific *compounding equipment* and *pharmaceutical supplies*, and research directions on how to use those to compound the product. The *third* assignment was to incorporate all the research and learning into creating a pharmaceuticals laboratory exercise, using a standard format that could in fact have been used in teaching students how to make the product, circa 1850 to 1920.

As the instructor, what I provided were the ideas, the assignments, and the research materials. That entailed actually performing the initial research to enable me to provide the listing of possible compounded drugs and dosage forms available during the applicable time period. In addition, I prepared various instructional sheets regarding Roman numeral usage, and historical measures and calculations. Further, I had to design a standard compounding laboratory exercise form, which the students would complete in stages as they engaged in the assignments.

Using Internet Archive (accessible at: <https://archive.org/>), I made available to students period-specific reference texts such as: A Treatise on Pharmacy, 3rd Edition (1864), The Practice of Pharmacy, 1st Edition (1887) and the Dispensatory of the United States of America, 13th Edition (1870). Finally, to physically engage the students each week, I brought with me to class a variety of antique pharmaceutical compounding equipment, allowing the students to actually see and manipulate "hands-on" a variety of period-relevant pharmacy equipment.

So....what were the results of these efforts in a history of pharmacy course?

Students were actually interested in their one hour per week research sessions and attendance at each was... almost perfect! Students enthusiastically engaged in creating late 19th century pharmaceuticals laboratory exercises, while surreptitiously learning about 19th century pharmacy practice. And lastly, the efforts also allowed for compilation of a draft laboratory manual with all the laboratory exercises which can be used in future course offerings of the Evolution of Pharmacy... should the budget for the necessary supplies and equipment become available.

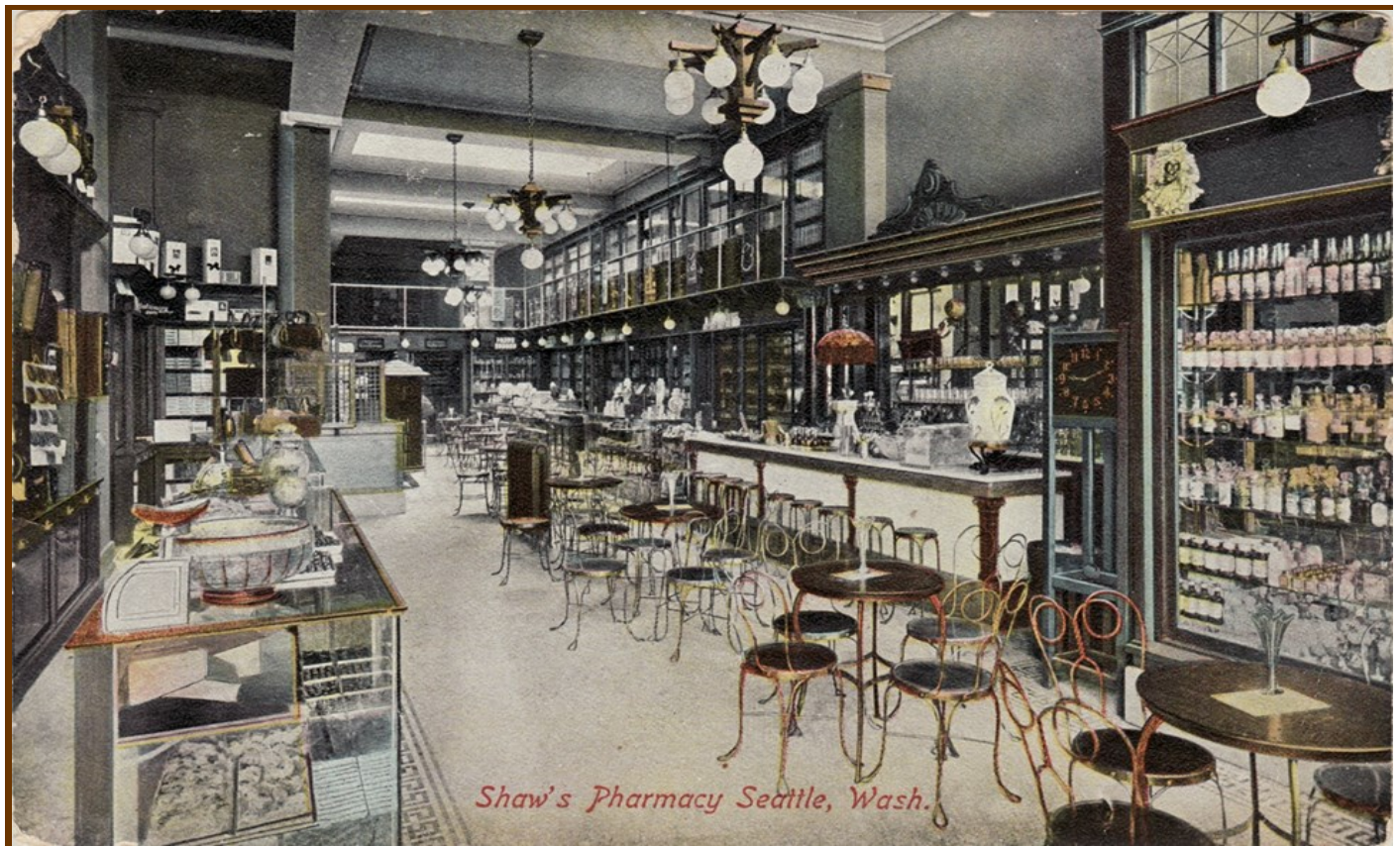
Next on the agenda... budget development!

— David M. Baker, Western New England University College of Pharmacy



Victorian Mahogany & Brass  
Pill Roller

## HISTORY OF PHARMACY REFLECTIONS



"The history of pharmacy... is a curious and interesting study, even to the non-professional inquirer..."

The records of the past are full of teaching to those who consult them earnestly."

— William Procter, Jr

"Father of American Pharmacy"

(quoted from the AIHP website)





## Pharmacy Chronicles



### HISTORY OF PHARMACY SIG NEWSLETTER

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1727 King Street Alexandria, VA 22314

**"THE HISTORY OF PHARMACY LIVES  
HERE..."**

**...THE FUTURE OF PHARMACY BEGINS  
HERE."**

—UNIVERSITY OF KANSAS, AT LAWRENCE, SCHOOL OF  
PHARMACY MUSEUM

### About the History of Pharmacy SIG

The upcoming academic year (2015 – 2016) marks the eighth year since the History of Pharmacy Special Interest Group (SIG) was formalized as an AACP SIG.

Founded in 2008, the History of Pharmacy SIG began with Bob Buerki and Greg Higby, as Chair and Vice-Chair, respectively, with a stated objective to provide meaningful programming related to the history of pharmacy.

As an open academic forum, the SIG strives to facilitate the exchange of ideas and innovation among pharmacy faculty across disciplines; to serve broadly as an accurate information resource for teaching, learning, and scholarship pertaining to the evolution and history of the pharmacy profession; to develop and maintain historical collections of artifacts and school or college museums; and to ensure the lessons, the message, and the legacy of the pharmacy profession is preserved to educate future generations of pharmacy students.

The SIG's mission rests on the premise that the history and legacy of the pharmacy profession will always be relevant to all pharmacy practice areas, including current and future scopes of practice. The History of Pharmacy SIG is relevant to you too! Join the History of Pharmacy SIG!!

## Comical Anecdotes in Pharmacy History



Does history repeat itself? "Seems anti-vaccination sentiments are hardly new at all... from 'Health in Pictures (1930)'"