

# INTRODUCTION

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*Single great individuals can be found, and in fact they emerge, everywhere. It is the continuity of great men coming from pharmacy which proves this our profession to be a particularly apt ground for the development of scientific talent and of the responsibility toward mankind that marks human greatness.<sup>1</sup>*

History can be looked at in many ways. One is to focus on the great events and how they affected the subject studied. Another approach is to look at the people and how they and their actions led to great events that affected history. As Urdang notes (above), pharmacy is blessed with a continuity of great men—hence the approach used in this book.

This book comprises all 55 essays from the Heroes of Pharmacy series in the *Journal of the American Pharmaceutical Association* (now the *Journal of the American Pharmacists Association*)<sup>2</sup> Fifty-two of the essays are devoted to a single historical figure in American pharmacy. One of the essays provides information on the 20 founders of the American Pharmaceutical Association (APhA; now the American Pharmacists Association). The two end pieces to the series are the beginning essay “Who Are Your Heroes” in the January–February 2002 issue of the *Journal* and the concluding essay, “Ave atque Vale” in the November–December 2010 issue.<sup>3</sup>

The persons presented in the essays are predominately white males. Women and minorities did not enter the profession in significant numbers until relatively recently. As late as 1940, women comprised only 4 percent of the profession.<sup>4</sup> In 1932 there were only 330 African American pharmacists registered in the United States.<sup>5</sup> The fact that there are few women and minorities among the heroes does not suggest an absence of professional heroes in any group; many women and minority pharmacists who might be considered heroes are still alive and, hence, not yet eligible for inclusion in the series, given the criterion of death.

One of the earliest decisions was to limit the essays to persons who had died. This eliminated pressures and preferences for leaders still alive. More importantly, it allowed a separation between the time of writing and the activities of those selected, illuminating issues and events that, while important at the time, had limited long-term significance.

The essays on the heroes selected for the series are not intended to be full biographies, nor even comprehensive professional sketches. Personal relationships (such as families and friends), nonpharmacy struggles (such as Edward Parrish's clashes at Swarthmore), passions (such as James Beal's collection of exotic sea shells), and pursuits (such as John Uri Lloyd's successful novels) must be left for another time and place. While some may view the essays as hagiographic, reporting only the positive, space limitations and the purpose of the essays required a focus on professional achievements and contributions. The essays provide an overview of pharmacy's development from the small shopkeeper status of the Revolutionary War period to the issues and ambitions of the profession in the 21st century.

## **APhA Founders**

American pharmacy certainly did not begin with the founding of the American Pharmaceutical Association in 1852 (now the American Pharmacists Association), any more than it started with the establishment of the Philadelphia College of Pharmacy in 1821 or the publication of the first English-language pharmacy journal, the *American Journal of Pharmacy*, in 1825. The formation of the first national professional association of pharmacy, however, did establish a locus for professional aspirations and opportunities. In time it also functioned as the origin of most other pharmacy organizations. Therefore, it was appropriate to consider the founders of APhA as a whole for the Heroes of Pharmacy series.

Twenty men gathered in Philadelphia in 1852 to establish APhA. Each of the existing colleges of pharmacy—Philadelphia, New York, Maryland, Massachusetts, and Cincinnati—was represented by at least one founder of the college. Individuals from Richmond, Connecticut, and California also participated in the deliberations and formation. The founders were trained mostly through apprenticeships; six were graduates of the Philadelphia College of Pharmacy and two were graduates of the New York (City) College of Pharmacy. At least three of the founders were physicians. Although the founders were mostly easterners, Charles Bache, a graduate of the Philadelphia College of Pharmacy, was living in California and Charles Augustus Smith was from Cincinnati.

The average age of the founders was the mid-30s. Daniel B. Smith, the oldest at 60, was elected the first president of APhA and Bache, at 24,

was the youngest founder. Some, like William Procter, Jr., and Edward Parrish, were prominent in pharmacy affairs for decades after the formation of APhA. Bache died on the return trip to California and Joseph Laidley of Richmond died in an explosion in 1861 while manufacturing munitions for the Confederate army.

The group was not representative of American pharmacy. Mostly from the east and better educated than most, the group fostered a vision of what the profession might become rather than mirroring what it was. The exhortation for improved standards—educational, product, practice, and service—provided a theme that continues to reverberate in pharmacy in the 21st century.

## Individual Essays

### Time Periods

The time period covered by those featured in the individual essays stretches from Andrew Craigie, the first Apothecary General of the United States in the Revolutionary War, to the late 20th century. Thirteen heroes spent the major part of their careers between 1850 and 1900 (Table 1). This period saw the emergence of pharmaceutical manufacturing, the expansion of colleges, and the increasing importance of, and dependence on, the *United States Pharmacopoeia* for product identification and standardization.

**Table 1.** Heroes Pre-1900

Hero	Birth/Death	Contribution to Pharmacy
Coggeshall, George D.	1808–1891	First Great American Pharmacy School Graduate
Craigie, Andrew	1754–1819	America's First Apothecary General
Diehl, C. Lewis	1840–1917	APhA's Reporter on the Progress of Pharmacy
Ebert, Albert E.	1840–1906	Founder of American Pharmacy's Oldest Award
Hynson, Henry P.	1855–1921	Community Pharmacy Activist
Maisch, John M.	1831–1893	Father of Adequate Pharmaceutical Legislation
Parrish, Edward	1822–1872	Pioneer Ethicist
Prescott, Albert B.	1832–1905	Pharmacy Education's Revolutionary Spark
Procter, William, Jr.	1817–1874	Father of American Pharmacy
Remington, Joseph P.	1847–1918	Teacher of Teachers
Rice, Charles	1841–1901	Creator of the Modern Scientific Pharmacopoeia and the Father of the <i>National Formulary</i>
Smith, Daniel B.	1792–1883	Patriarch of American Pharmacy
Squibb, Edward R.	1819–1900	Advocate of Product Standards

Twenty-five heroes spent the major portion of their careers during the years of 1900—1950 (Table 2). Pharmacy schools were increasingly based in universities, educational requirements for entering a college of pharmacy were standardized, and the curriculum was expanded to a four-year course of study, making pharmacy education truly collegiate. Professional regulation and governance increased with the strengthening of state boards of pharmacy and the passage of federal regulations that mandated the purity and safety of food and drugs. Pharmacy underwent

**Table 2.** Heroes 1900–1950

<b>Hero</b>	<b>Birth/Death</b>	<b>Contribution to Pharmacy</b>
Beal, James H.	1865–1945	Educator—Statesman
Beringer, George M., Sr.	1860–1928	Practical Pharmacist
Christensen, Henry C.	1865–1947	Advocate of Reciprocal Registration in Pharmacy
Cooper, Zada M.	1875–1961	Advocate of Women in Pharmacy
Dunning, H. A. B.	1877–1962	Pharmacy Philanthropist and Father of the APHA Foundation
Durham, Carl T.	1892–1974	Pharmacy's Representative
Eberle, Eugene G.	1863–1942	Pharmacy's Chronicler
Fischelis, Robert P.	1891–1981	Pharmacy Activist
Hallberg, Carl S. N.	1856–1910	Pharmacy's Rough Diamond
Kebler, Lyman F.	1863–1955	Foe to Fakers
Kendig, H. Evert	1878–1950	Architect of the U.S. Army Pharmacy Corps
Kremers, Edward	1865–1941	Pharmaceutical Education Reformer
Lascoff, J. Leon	1867–1943	Champion of Professionalism
Little, Ernest	1888–1973	American Foundation for Pharmaceutical Education Champion
Lloyd, John U.	1849–1936	The Wizard of American Plant Pharmacy
Lyman, Rufus A.	1875–1957	Towering Figure in the Field Of Pharmaceutical Education
Newcomb, Edwin L.	1882–1950	Pharmacy's Many-Sided Man
Power, Frederick B.	1853–1927	Pioneer Pharmaceutical Scientist
Spease, Edward G.	1883–1957	Father of Hospital Pharmacy Standards
Swain, Robert L.	1887–1963	Pharmacy's Elder Statesman
Wellcome, Henry S.	1853–1936	World Citizen
Whelpley, Henry M.	1861–1926	Association Worker
Whitney, Harvey A. K.	1894–1957	Father of Organized Hospital Pharmacy
Wilbert, Martin I.	1865–1916	Bridge Builder between Pharmacy and Medicine
Wulling, Frederick J.	1866–1947	Fighter for Increased Professional Educational Standards

major changes during two world wars, including recognition as a profession by the military during World War II. New professional organizations representing the colleges, state boards, community pharmacists, and hospital pharmacists emerged. The enrollment of women in colleges of pharmacy increased steadily. Industry expanded from a cottage industry to an international force; its products progressed from non-specific remedies to the era of miracle drugs.

The 50 years of late 20th century is when 14 individuals spent the major portion of their active careers (Table 3). Pharmacy was transforming its focus from product to patient; the profession's responsibility to the public moved to the forefront. Minorities became more involved and diversity was embraced as a goal and expectation of the profession. Students began to take an active role in their future profession as their education shifted from a chemical to a clinical focus.

### ***Nationality***

Most of the persons in the heroes series were born in the United States, predominately in the East and Midwest, reflecting the national population distribution in the 19th and early 20th centuries. However, rural areas such as Harmonia, Michigan (Whelpley), Table Rock, Nebraska (Lyman), and Denton, Maryland (Dunning), were as well represented as Philadelphia (Remington and Parrish), Boston (Craigie), and Brooklyn (Schaefer

**Table 3.** Heroes 1950–2000

<b>Hero</b>	<b>Birth/Death</b>	<b>Contribution to Pharmacy</b>
Apple, William S.	1918–1983	Proponent of Pharmacy's Independence
Archambault, George F.	1909–2001	Pharmacy's Change Agent
Brodie, Donald C.	1908–1994	Pharmacy Theoretician
Cooper, Chauncey I.	1906–1983	Champion of Minority Pharmacists
Costello, Patrick H.	1897–1971	Architect of Reciprocal Standards
Francke, Donald E.	1910–1978	Reformer by Nature, Doer by Necessity
Francke, Gloria N.	1922–2008	Pharmacy's First Lady
Goyan, Jere E.	1930–2007	Proponent of Expanding Pharmacists' Roles
Latiolais, Clifton J.	1926–1995	Enthusiasm for Excellence
Parker, Paul F.	1919–1998	Visionary Innovator
Powers, Justin I.	1895–1981	Champion of Improved Medication Standards
Rubin, Irving	1916–1998	Tireless Campaigner for Pharmacy
Schaefer, Hugo H.	1891–1967	Pharmacy's Volunteer
Tice, Linwood F.	1909–1996	Champion of Students

and Rubin). Four individuals were born in Germany: Diehl, Ebert, Maisch, and Rice. Lascoff was born in Lithuania. Ebert and Diehl immigrated while still young; the others did not immigrate until early adulthood.

### ***Education***

No information was discovered about the early pharmacy education of Maisch or Rice. Maisch studied chemistry and biology in Hanau, Germany, but no information was found about his pharmacy education. Rice's pharmacy background is largely unknown before his mysterious arrival at Bellevue Hospital in New York. In addition, nothing is known about Craigie's pharmacy background or education before the beginning of the Revolutionary War. Three heroes had no pharmacy experience: Prescott and Lyman were physicians and Little was a chemist.

Most of the heroes either apprenticed or worked in a pharmacy prior to attending pharmacy school. Some, like Ebert and Diehl, served a formal apprenticeship. Ebert actually served a second apprenticeship to learn pharmacy in the German tradition. Diehl served his apprenticeship in a doctor's shop. Daniel Smith served an apprenticeship before being taken into practice. Lloyd served two apprenticeships but never attended college other than an informal chemistry course. Later, many of the persons, including Archambault, Whitney, and Goyan, worked in community pharmacies during their high school days prior to pharmacy school, but their experience could not be considered an "apprenticeship." Beal and Whelpley also "read medicine," a practical training synonymous with a pharmacy apprenticeship, in addition to their pharmacy experience. However, there is no evidence of prior store experience in the case of Chauncey Cooper, Zada Cooper, or Rubin. If they had such experience, records of it have not been found.

A number of the heroes, although not as many as might be expected, gained some pharmacy or medicine experience with a relative. Brodie worked for his father in Pearson, Iowa. Dunning worked in a community pharmacy with his uncle in Denton, Maryland. Hynson took over his father's pharmacy in Maryland before entering college. Eberle worked with his father and brothers in Watertown, WI. Francke worked in his father's pharmacy in Athens, Pennsylvania, and Parrish apprenticed with his brother, Dillwyn, in Philadelphia. Whelpley read medicine in Otsego, Michigan, with his uncle, a Civil War hospital steward and surgeon. Wellcome's first exposure to pharmacy came when he helped his physician uncle care for survivors after an Indian raid.

Three, Archambault, Beal, and Swain had JD degrees; Beal served in the Ohio state legislature. Seven (Kebler, Kendig, Lyman, Prescott, Squibb, Whelpley, and Wulling) earned an MD degree. Squibb served as a U.S.

Navy surgeon; Lyman was the physician responsible for the student health service at the University of Nebraska. Ten earned a PhD or DSc degree; four from European institutions and 6 from American universities. Most received at least one honorary doctorate in recognition of career achievements.

### ***Major Areas of Activity***

It is difficult to assign a single area of activity for most of the persons in the series; all were multitasking over-achievers. For example, Beal, the dean at Scio, taught there and at the Pittsburgh College of Pharmacy, was an attorney and state legislator, developed a model practice act, served as APhA general secretary, served as founding editor of the *Journal of the American Pharmaceutical Association* (now the *Journal of the American Pharmacists Association*) and chaired the United States Pharmacopoeia Board of Trustees, among other activities. Similarly, Fischelis was an editor and author, taught at several colleges of pharmacy, and was dean at the New Jersey College of Pharmacy. He was head of the board of pharmacy in New Jersey before joining the War Production Board as director of the Division of Chemicals, Drugs, and Health Supplies during World War II. Subsequently he became the executive secretary of APhA and, at the age of 70, once again became a dean, this time at Ohio Northern. All areas of pharmacy practice are represented by the 52 persons—education, community and institutional practice, industry, government, publishing, association leadership, and military service.

### ***Community and Institutional Practice***

Many of the heroes were practitioners in either community or institutional settings. Both Procter and Remington owned their own shops and used them as a source for insights in teaching and textbook writing. Diehl maintained his own pharmacy while working with the Louisville College of Pharmacy. Dunning was a partner in Hynson, Wescott & Dunning, which maintained a community pharmacy practice as late as 1951. Durham worked in a community pharmacy from 1917 until he was elected to the U.S. Congress in 1938. Lascoff was the quintessential community pharmacist from his location on the corner of 83rd Street and Lexington Avenue in New York City. Lascoff was a role model for a generation of pharmacists, exemplifying pharmacy as the great calling that it could be. Christensen and Costello, the first 2 full-time paid executives of the National Association of Boards of Pharmacy, each owned a successful pharmacy before becoming an association executive.

Whereas Lascoff was the model for community pharmacy, Rice was the model for institutional pharmacy. New York's Bellevue Hospital was the largest pharmacy operation in North America, and Rice served as the

director for the 20 institutions comprising the Department of Public Charities and Corrections. Whitney and Francke were at the center of modern hospital pharmacy developments. Both affiliated with the University of Michigan, they oversaw hospital pharmacy's progression through formularies, unit dose systems, and drug information centers. Spease at Western Reserve initiated the first university-based program in hospital pharmacy and built a model relationship between the college and the hospital pharmacy that still survives in many universities. Parker at Kentucky and Latiolais at Ohio State developed revolutionary residency programs that became the models for many others to emulate.

### *Education*

Most of the heroes had experience as an educator or were involved in the administration of a college. A number of individuals served as founding deans and one, Lyman, was the founding dean of colleges of pharmacy at 2 state universities (Table 4). Although they did not serve as deans, Daniel Smith was a founder of the Philadelphia College of Pharmacy and George Coggeshall served the same role at the New York (City) College of Pharmacy. Others who served as deans include Chauncey Cooper at Howard, Fischelis at New Jersey and Ohio Northern, Kremers at Wisconsin, Little at Rutgers, Spease at Western Reserve, Whelpley at St. Louis, Goyan at University of California San Francisco, and Kendig at Temple. Maisch, Remington, and Tice served as deans at the Philadelphia College of Pharmacy.

Three persons affected education in other ways. Parrish was perhaps the most entrepreneurial, starting his own school in Philadelphia in 1849 to teach physicians the rudiments of pharmacy. He was also among the group who formed Swarthmore College, serving as its first president in

**Table 4.** Founding Deans

Founder	College	Date
Beal, James H.	Scio (University of Pittsburgh)	1887
Diehl, C. Lewis	Louisville (University of Kentucky)	1870
Eberle, Eugene G.	Baylor (Closed)	1900
Kendig, H. Evert	Florida College of Pharmacy (Closed)	1906
Lyman, Rufus A.	University of Nebraska	1908
Lyman, Rufus A.	University of Arizona	1947
Power, Frederick B.	University of Wisconsin	1883
Prescott, Albert B.	University of Michigan	1868
Wulling, Frederick J.	University of Minnesota	1892



1865. Daniel B. Smith, a founder of the Philadelphia College of Pharmacy, was among the Quaker founders of Haverford College. Ebert was instrumental in rebuilding the Chicago College of Pharmacy in the wake of the Chicago fire of 1871.

### *Industry*

Manufacturing was an integral part of pharmacy. This has changed over time as innovations required different skills and resources, but the roots and relationship remain strong. The first large scale manufacturing effort was started by Craigie in Carlisle, Pennsylvania, to meet the needs of Washington's army during the Revolutionary War. Diehl, Ebert, and Hallberg were involved in manufacturing enterprises but turned to community pharmacy and education when these failed.

Squibb began manufacturing products for the military in 1857 because of the problems with adulterated and substandard products. By the time of the Civil War his name was synonymous with standardized medicines, especially ether, which was as important to the Confederacy as it was to the Union. Remington and Maisch trained with Squibb; Maisch went on to become the chief chemist at the Army Medical Laboratory in Philadelphia; Diehl worked for him when he was discharged from the army after being wounded.

Henry Solomon Wellcome, and his partner Silas Burroughs, began their partnership importing American manufactured products into England in 1880. However, it was not long until they began manufacturing their own products. Wellcome survived Burroughs and instituted an expansion of research when he hired Frederick Belding Power as the head of the laboratories that resulted in an international powerhouse of innovation.

John Uri Lloyd was characterized as a wizard of standardizing plant medicines for the company he and his brothers started in Cincinnati. Dunning was responsible for expanding the small manufacturing business of Hynson and his partner Westcott, into a successful national company. The firm discovered mercurochrome, a standard medicine cabinet product for generations, and produced the sterile shaker packet for sulfa that was an integral part of the GI first aid kit in World War II.

### *Government*

Being the first Apothecary General, Craigie is qualified to head the list of those who served pharmacy in a governmental capacity. His office disappeared from the military table of organization at the end of the War of 1812 and has never been reactivated. Parrish died at Fort Sill, Indian Territory (now Oklahoma) while serving with other Quakers on a government commission to the Indian tribes.

Durham is the embodiment of a pharmacy career paired with government service. The American military through a succession of 10 surgeons generals refused to recognize pharmacy as a profession or to grant officer’s status to those who practiced pharmacy in the military. In 1942, Congressman Durham took on the seemingly impossible task and gained legislation creating a pharmacy corps in the U.S. Army.

Wilbert joined what is today the National Institute of Health in 1908 and forged strong links between pharmacy, medicine and the USP. Kebler was appointed as the first chief of the Drug Laboratory of what is today the Food and Drug Administration. Archambault was a pharmacist at a U.S. marine hospital and subsequently was commissioned by the Public Health Service. Named the first chief of the pharmacy branch of the Public Health Service Division of Hospitals, Archambault was the face of the uniformed Public Health Service pharmacist.

Publishing

Many of the 52 heroes were authors of distinction and editors (Table 5). The following provides only a few examples of their involvement in book and journal activities. Procter wrote the first American pharmacy text, which was largely based on earlier German and English publications. Parrish wrote the second, which was uniquely American. Remington’s *Practice of Pharmacy*, first published in 1885, became a staple of pharmacy

Table 5. Editors<sup>1,2</sup>

Editor	Publication
Apple, William S.	<i>Journal of the American Pharmaceutical Association, Practical Pharmacy Edition</i>
Archambault, George F.	<i>Hospital Formulary</i>
Beal, James H.	<i>Journal of the American Pharmaceutical Association</i>
Cooper, Chauncey I.	<i>Journal of the National Pharmaceutical Association</i>
Cooper, Zada M.	<i>Bond of Kappa Epsilon</i>
Diehl, C. Lewis	Report on the Progress of Pharmacy (as part of the annual <i>Proceedings of the American Pharmaceutical Association</i> )
Eberle, Eugene G.	<i>Southern Pharmaceutical Journal</i> <i>Journal of the American Pharmaceutical Association</i>
Ebert, Albert E.	<i>The Pharmacist</i>
Fischelis, Robert P.	<i>Druggists Circular</i>
	<i>Pennsylvania Pharmacist</i>
	<i>New Jersey Journal of Pharmacy</i>
	<i>Journal of the American Pharmaceutical Association, Practical Pharmacy Edition</i>

**Table 5.** Editors<sup>1,2</sup> (Continued)

Editor	Publication
Francke, Donald E.	<i>Bulletin of the American Society of Hospital Pharmacists</i>
	<i>American Journal of Hospital Pharmacy</i>
	<i>Drug Information Bulletin</i>
	<i>Drug Intelligence</i> <i>Drug Intelligence and Clinical Pharmacy</i>
Francke, Gloria N.	<i>Bulletin of the American Society of Hospital Pharmacists</i>
	<i>American Journal of Hospital Pharmacy</i>
Hallberg, Carl S. N.	<i>Druggist</i>
	<i>Western Druggist</i>
	<i>Bulletin of the American Pharmaceutical Association</i>
Kremers, Edward	<i>Pharmaceutische Rundschau</i>
	<i>Pharmaceutical Review</i>
	<i>The Badger Pharmacist</i>
Lloyd, John U.	<i>Drugs and Medicines of North America</i>
Lyman, Rufus A.	<i>American Journal of Pharmaceutical Education</i>
Maisch, John M.	<i>American Journal of Pharmacy</i>
Newcomb, Edwin L.	<i>Northwestern Druggist</i>
Powers, Justin L.	<i>Bulletin of the National Formulary Committee</i>
	<i>Drug Standards</i>
	<i>Journal of the American Pharmaceutical Association, Scientific Edition</i>
Procter, William, Jr.	<i>American Journal of Pharmacy</i>
Rice, Charles	<i>New Remedies</i>
	<i>American Druggist</i>
Rubin, Irving	<i>American Druggist</i>
	<i>American Professional Pharmacist</i>
	<i>Pharmacy Times</i>
Smith, Daniel B.	<i>American Journal of Pharmacy</i>
Spease, Edward G.	<i>NARD Journal</i>
Squibb, Edward R.	<i>Ephemeris of Materia Medica, Therapeutics, and Collateral Information</i>
Swain, Robert L.	<i>Maryland Pharmacist</i>
	<i>Drug Topics</i>
Tice, Linwood F.	<i>American Journal of Pharmacy</i>
	<i>Pharmacy International</i>
Whelpley, Henry M.	<i>St. Louis Druggist</i>
	<i>Meyers Brothers Druggist</i>
	<i>Pharmaceutical Era</i>
	<i>Pacific Pharmacist</i>
	<i>Western Druggist</i>
Whitney, Harvey A. K.	<i>Official Bulletin of the American Society of Hospital Pharmacists</i>

1. Does not include series, multiple edition of books (e.g., *Practice of Pharmacy*), or standards (e.g., *USP, NF*).2. Title changes (e.g., *Drug Intelligence* and *Drug Intelligence and Clinical Pharmacy*) entered as separate journal editorships.

education that continues today. The first English language journal, the *American Journal of Pharmacy*, was started at the Philadelphia College of Pharmacy in 1825; Daniel Smith was a founder. Procter was the editor in 1852, when he called for the formation of a national organization of pharmacists. Maisch and Tice also served as editors of the journal.

For most of the years between 1873 and 1913, Diehl wrote the Annual Report on the Progress of Pharmacy. Published in the *Proceedings of American Pharmaceutical Association*, the report averaged 418 printed pages annually. In 1906 Hallberg became the founding editor of the first monthly APhA publication, the *Bulletin of the American Pharmaceutical Association*; he died in 1910 and James Hartley Beal took on the role of the founding editor of the *Journal of the American Pharmaceutical Association* (now the *Journal of the American Pharmacists Association*) in 1912. In 1937 Lyman founded the *American Journal of Pharmaceutical Education*, the first English language journal devoted to pharmacy education. He served as editor until 1955 and then consulting editor until his death in 1957.

Don Francke was an early editor of what became the *American Journal of Hospital Pharmacy* (now the *American Journal of Health-System Pharmacy*) and the founding editor of other publications including *American Hospital Formulary Services*, the *Drug Information Bulletin*, and *Drug Intelligence* (now *Annals of Pharmacotherapy*). Gloria Francke joined her husband in editing most of these publications. Whelpley was the editor of *National Druggist* and *Meyer Brothers Druggist* as well as a reporter for other pharmacy publications. Fischelis was the founding editor of both the Pennsylvania and New Jersey state pharmacy journals.

None of the heroes, however, focused their career on pharmacy reporting and editing to the extent Rubin did. Rubin began his reporting career with *American Druggist* in 1938 and ended it with *Pharmacy Times* at his death in 1998. Rubin used his bully pulpit to champion the eight-cent pharmacy commemorative stamp, which was issued during the 1972 APhA annual meeting. He followed with efforts to gain pharmacist oversight for dispensing prescriptions in the U.S. Congressional Dispensary and the adoption of a single symbol for pharmacy in the United States in 1992.

### *Association Leadership*

With the exception of Craigie, every one of the heroes was involved in professional association activities at the national level as well as state and local groups (Table 6). Diehl (KY), Lloyd (OH), and Maisch (PA) were among the founders of state pharmacy associations. Coggeshall, Smith, Procter and Parrish were among the founding members of APhA, the first national professional association, formed in 1852. The National Association of Retail Druggists (later NARD and now the National Commu-

**Table 6.** National and Student Association Founders

Association	Founder(s)
Academy of Pharmacy Students of the American Pharmaceutical Association (now Academy of Student Pharmacists of the American Pharmacists Association)	Linwood F. Tice
American Association of Pharmaceutical Scientists	Jere E. Goyan
American College of Apothecaries	J. Leon Lascoff
American Conference of Pharmaceutical Faculties (now American Association of Colleges of Pharmacy)	James H. Beal Henry P. Hynson Edward Kremers Albert B. Prescott Joseph P. Remington
American Foundation for Pharmaceutical Education	Ernest Little Edwin L. Newcomb
American Pharmaceutical Association (now American Pharmacists Association)	Daniel B. Smith George D. Coggeshall William Procter, Jr. Edward Parrish
American Pharmaceutical Association Foundation (now American Pharmacists Association Foundation)	H. A. B. Dunning
American Institute of the History of Pharmacy	Edward Kremers
American Society of Consultant Pharmacists	George F. Archambault
American Society of Hospital Pharmacists (now American Society of Health-System Pharmacists)	Harvey A. K. Whitney
Kappa Epsilon	Zada M. Cooper Rufus A. Lyman
National Association of Boards of Pharmacy	Henry M. Whelpley
National Association of Retail Druggists (now National Community Pharmacists Association)	Henry P. Hynson
National Pharmaceutical Association	Chauncey I. Cooper
Phi Delta Chi	Albert B. Prescott
Rho Chi	Zada M. Cooper Rufus A. Lyman

nity Pharmacists Association) was formed in 1898; Hynson was the first president of the National Association of Retail Druggists.<sup>6</sup> The American Association of Colleges of Pharmacy (AACP) was formed as the American Conference of Pharmaceutical Faculties in 1900. Beal, Hynson, Kremers and Remington were among the founding deans; Prescott was elected its first president. Whelpley instigated the formation of the National Association of Boards of Pharmacy (NABP) in 1904.

Lascoff led a group of pharmacists to form the American College of Apothecaries in 1940. Whitney was a leader in the creation of the American

Society of Hospital Pharmacists, and Archambault was influential in the formation of the American Society of Consultant Pharmacists. Kremers was the person most responsible for the establishment of the American Institute of the History of Pharmacy (AIHP). Dunning is recognized as the father of the American Pharmaceutical Association Foundation (now the American Pharmacists Association Foundation); Little and Newcomb teamed up in the formation of the American Foundation for Pharmaceutical Education. Chauncey Cooper led the formation of the National Pharmaceutical Association when the National Medical Association could not meet the needs of its pharmacist members. Tice was the champion of what is now the APhA Academy of Student Pharmacists, one of the three constituent academies of APhA.

### *Standards, Ethics, and Legislation*

The impetus for the formation of APhA in 1852 was the continuing problem with substandard and adulterated products. *The United States Pharmacopoeia (USP)* was first published in 1820. Coggeshall and the New York (City) College of Pharmacy played a major role in 1830 when competing versions emanated from New York and Philadelphia potentially challenging the survival of a national pharmacopoeia. However, it was not until the 1840 revision that pharmacy, in the person of Procter, was fully engaged with its revision. By the mid-1870s Squibb reported on the major deficiencies of the USP and looked for a way to align the publication with practice. It was under Rice's leadership, however, that the USP emerged as the preeminent source of standards. Archambault, Beal, Ebert, Little, Maisch, Procter, Rice, Tice, and Whelpley all served on the Committee on Revision or the Board of Trustees. Others, notably Prescott and Squibb, were behind the scenes contributors.

In the late 1880s it was clear that the *USP* could not provide all of the formulas of interest to prescribing physicians and compounding pharmacists. It was Rice who convinced APhA that it should develop and publish the *National Formulary* as a continuing professional resource. By the early 20th century there was again a need for formulas that was not being met by either of the two compendia. Lascoff was the force behind collecting and publishing, through APhA, the *Pharmaceutical Recipe Book* in 1929.

A code of ethics was developed as part of the formation of APhA in 1852. Parrish argued that the code would have a deleterious effect on pharmacy because it barred from membership pharmacists who were economically dependent on the sale of nonofficial (i.e., proprietary) medicines. He opined that the duties of the pharmacist should focus on public health. Over the years others would pick up on the theme of the role of pharmacy and pharmacists; in 1961 Rubin championed the idea to

have every student pharmacist take the Pharmacist's Oath as part of the graduation ceremony.

Zada Cooper was an outspoken proponent of the pharmacist's duty to educate the public about self-medication. It was Brodie who later introduced the term *pharmaceutical care*, defining the role of the pharmacist as the link between patients and the safe use of medicines. Goyan at the University of California San Francisco and Parker at the University of Kentucky finally liberated hospital pharmacists from the basement pharmacy to the patient floor to interact with other health professionals and patients.

Product purity and labeling have been longstanding issues for pharmacy. In 1848 Coggeshall and the New York (City) College of Pharmacy pressed for the passage of the first federal act protecting Americans from the importation of adulterated and counterfeit medicines. In 1879 Squibb led a group to develop legislation that would guarantee the purity of medicines and foods. The bill was enacted by New York and New Jersey in 1881, presaging the passage of the 1906 Pure Food and Drug Act. Beal, likewise involved in pharmaceutical legislation, was responsible for drafting sections of the 1906 Pure Food and Drug Act that incorporated the *USP* and *NF* as official compendia. He was also influential in the passage of the Harrison Narcotic Act of 1914. Durham was not the only person fighting for the Pharmacy Corps Act during World War II; however, his leadership while a member of the House Military Affairs Committee was critical to its successful passage. Later he was largely responsible for passage of the Durham-Humphrey Amendment to the Food, Drug, and Cosmetic Act of 1938.

### *Military Service*

Military service has been an important part of many American professions, and pharmacy is no exception. During the Revolutionary War, when Craigie was the first Apothecary General, the separation between medicine and pharmacy was recognized. Squibb served in the navy at the end of the Mexican War. A Mediterranean voyage sensitized him to the fact that substandard medicines were being purchased because price was the sole determinant of acceptability. Prescott and Diehl both served in the Civil War on the Union side. Dunning served in Cuba with the army during the Spanish American War. During World War I Durham served in the Navy, Powers and Costello served in the Army, and Fischelis served in the Army Chemical Warfare Department.

During World War II Rubin served in the army in Europe while Apple was in the Army in the Pacific. Latiolais was in the Air Force and Parker in the Navy. Archambault trained merchant marine and coast guard



pharmacist mates in pharmaceutical arithmetic and compounding. Tice, as a coast guard reservist, commanded a picket boat on anti-submarine duty in the waters of the Delaware Bay. Fischelis was a director in Donald Nelson's War Production Board. Brodie and Whitney worked on the Manhattan project, Whitney at the Hanford Engineering Works in Richland, Washington.

### ***Honors***

Many of the preeminent awards of pharmacy are named in honor of those featured in the heroes' series. Such awards acknowledge the profession's affection for the persons and recognize what each has done for individual organizations and the profession at large.

In 1874 Ebert established the first major award in American pharmacy to encourage publication of original research. In 1918 the New York branch of APhA established an award to honor lifelong or special achievement in pharmacy. Named after Remington, the first award was given to Beal in 1919. In 1964 APhA established the Hugo H. Schafer Award to recognize members making significant voluntary contributions and the Daniel B. Smith Award recognizing an outstanding community practitioner. In 1994 the APhA Academy of Student Pharmacists renamed its highest honor in memory of Tice. The Gloria Niemeyer Francke Leadership Mentor Award was established in 1995 to recognize individuals who helped guide emerging professional leaders.

Significant honors have been named after other heroes in recognition of their service to the profession. In 1950 ASHP established its signal honor for career achievement in the name of Whitney and, in 1973, instituted an award for contributions to international hospital pharmacy in the name of Don Francke.

In 1959 the Association of Military Surgeons of the United States established the Andrew Craigie Award. Given annually, it is a career achievement award for pharmacists in the federal service. The American Society of Consultant Pharmacists established the George F. Archambault award as its highest honor in 1972. In 1984 APhA established the H. A. B. Dunning Award to recognize a company for its contributions to the profession. Beal is honored with awards in his name at both the Ohio State Pharmacists Association and the West Virginia Pharmaceutical Association; the USP established the Beal Award for Public Service in 2000. The National Pharmaceutical Association named its highest award in honor of its founder, Chauncey Cooper.

Kremers' contributions to the history of American pharmacy are celebrated with the Kremers Award by AIHP. In 1943 the American College of Apothecaries named its achievement award in honor of Lascoff.



AACP honors Lyman, founding editor of the *American Journal of Pharmaceutical Education*, with an annual award for the best judged paper in the journal.

### **Legacy**

These heroes left no area of pharmacy untouched. Indeed it is difficult to choose just one enduring legacy of each. Early education certainly benefited from Procter, Parrish, Maisch, and Remington, while Lyman, Kremers, and Prescott were architects of university-based education. Lyman, Parrish, Zada Cooper, and Tice pushed to establish student organizations that would add students' voice to the profession. Coggeshall, Squibb and Beal influenced the passage of legislation for product purity and labeling. Procter, Remington, Rice, Beal, and Whelpley were among the leaders in gaining compendial standards. Craigie and Durham did much to gain recognition of pharmacy by the military. Today's pharmacists in the federal service owe their professional standing to these pioneers.

Archambault, Don Francke, Spease, Whelpley, and Whitney saw the need for professional associations and worked to establish appropriate organizations. Both Coopers, Chauncey and Zada, as well as Lyman, Tice, Gloria Francke, and Goyan were voices of conscience, advocating for inclusion of all qualified people without regard to gender or race in the practice of pharmacy. Procter, Parrish, Rubin, and Brodie among others worked to heighten society's expectation that pharmacy was a profession and pharmacists were professionals, responsible to the public and patients, not just purveyors of product.

### **Conclusion**

The heroes in this series are not representative of pharmacy. They were iconoclasts who had the courage to break with the past to build a new, better profession. It was clear from the very beginning in writing the series that risk-taking was a personal characteristic of the heroes. Each took risks, not for the sake of personal gain but for the advancement of pharmacy and its practitioners. Each saw the possibility of the new, the better, the future; each refused to be captive to the past, the easy, the status quo. Many were at odds with the philosophy of go along to get along, and many suffered personally and professionally for embracing change that others saw as too much, too soon, too strange, too dangerous. However, each was successful in recruiting others to their vision; they led pharmacy from an apprentice trained trade through advances in organizations, practice, education, and regulation to the profession of the 21st century. It is to them that pharmacy owes its present position and its knowledge that

other heroes will emerge to explore new opportunities and responsibilities long into the future.<sup>7</sup>

The heroes in this series are not the only heroes of pharmacy, however. As Urdang pointed out, pharmacy is blessed with a continuity of heroes. Many others tried to change the status quo for the better. These persons are also heroes whose contributions are waiting to be recognized and whose stories are waiting to be told.

## References

1. Urdang G. The concept of the history of pharmacy. *Am J Pharm Educ.* 1950;14:134.
2. The journal name changed from *Journal of the American Pharmaceutical Association* to *Journal of the American Pharmacists Association* with the May/June issue, 2003, volume 43.
3. The information on the heroes in this introduction is drawn from the essays in the Heroes series. Consequently, I have included no references unless the information is not given elsewhere.
4. Henderson ML. *American Women Pharmacists: Contributions to the Profession.* New York: Pharmaceutical Products Press; 2002:69.
5. Mullooney JJ. What future is there for the Negro pharmacist? *J Am Pharm Assoc.* 1932;21:1185–8. Approximately 10% of the total population was African American.
6. There were other attempts to form national associations, such as the Conference of Teaching Colleges of Pharmacy in 1870 and National Retail Druggists Association in 1883. These organizations did not last long, but the special interests were later taken on by American Association of Colleges of Pharmacy and the National Association of Retail Druggists. Founded in 1876, the Western Wholesale Druggists Association later became the National Wholesale Druggists Association; the focus of the group was on wholesale distribution rather than pharmacy practice.
7. Worthen, DB *Reflections. Pharmacy in History* (2010;52:55–69).