



# AMERICAN INSTITUTE OF THE HISTORY OF PHARMACY

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This slide presentation was compiled and produced by Robert McCarthy, Ph.D., Professor and Dean *Emeritus* at the University of Connecticut School of Pharmacy for his class “The History of American Pharmacy.” Prof. McCarthy created this version of the slide talk for his class in the Spring of 2016.

This slide presentation was downloaded from the *Teaching the History of Pharmacy* section of the website of the American Institute of the History of Pharmacy (<https://aihp.org/historical-resources/teaching-the-history-of-pharmacy/>) where a copy of the syllabus (.pdf) for Prof. McCarthy’s class is also available.

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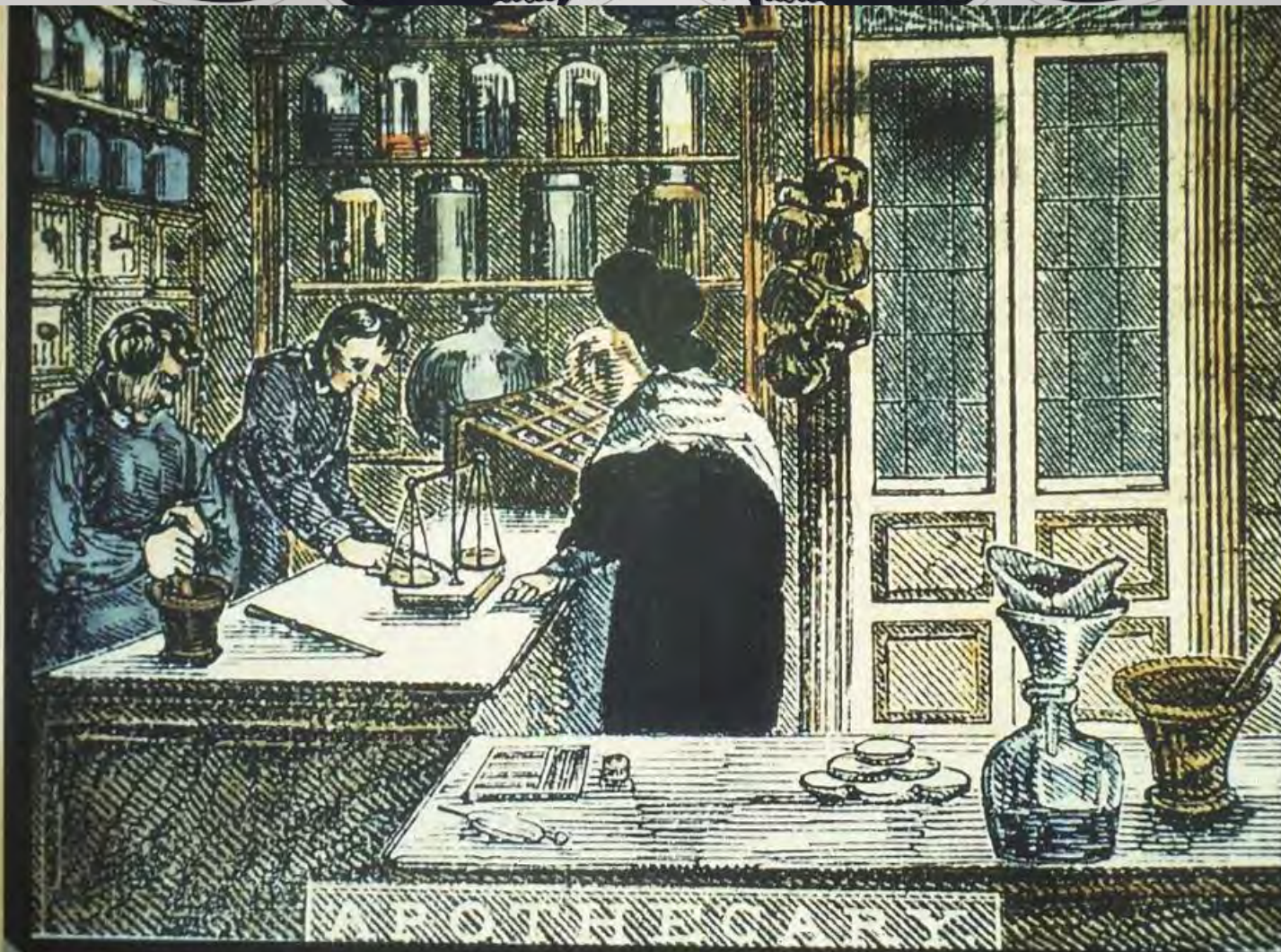
# EARLY PHARMACY IN AMERICA

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*PHRX 4001W-002*

*The History of American Pharmacy*

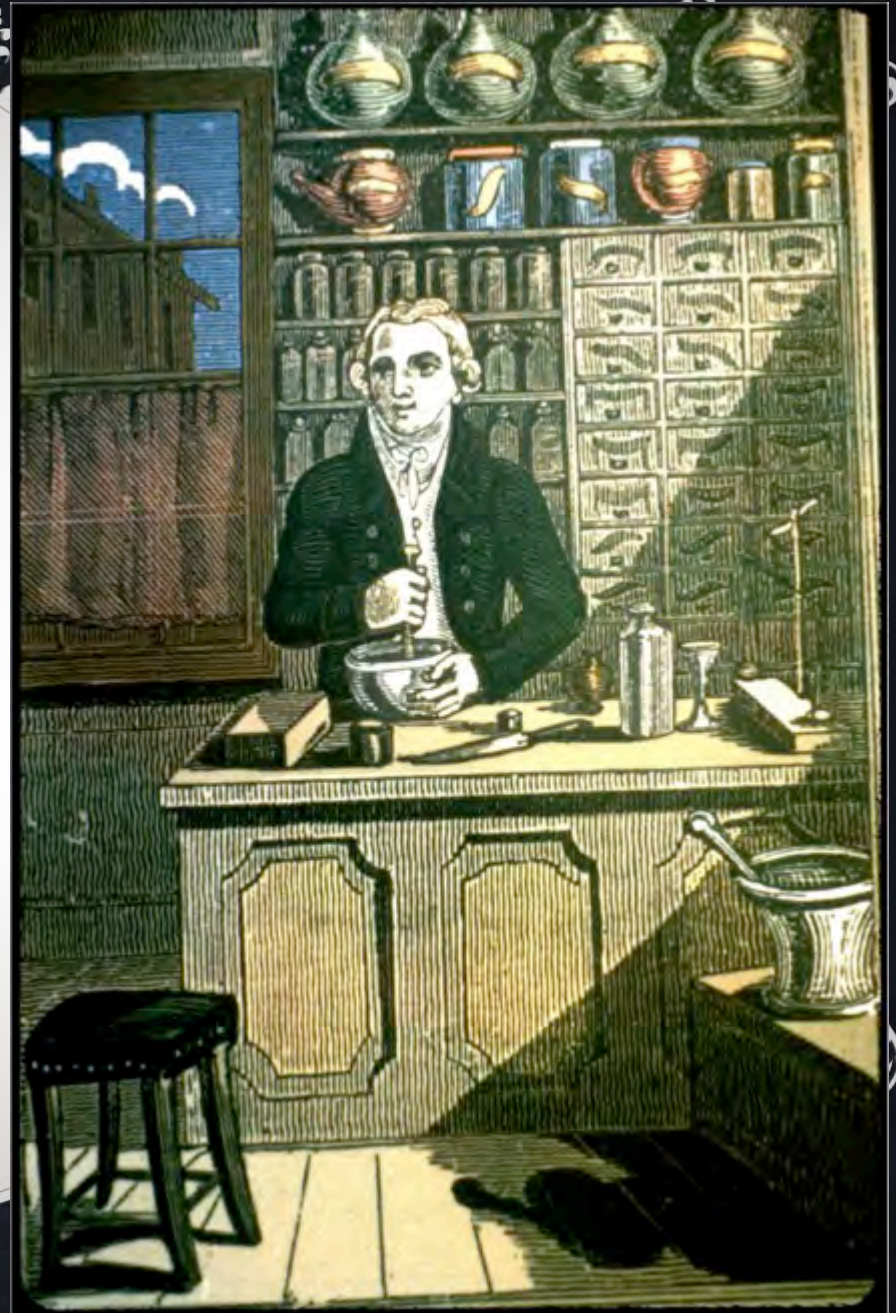
*Spring 2016*



Source: American Pharmacists Association.

**American  
pharmacy comes  
from roots in  
modest English  
shops as well as  
wholesalers  
(druggists) &  
general stores**

England, 1804





## EARLY PHARMACY IN AMERICA

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- ❖ 1638: John Johnstone (in future New Jersey), a Scottish apothecary founded a settlement there.
- ❖ 1653: Gysbert van Imbroch (in future New York), a Dutch surgeon, who practiced medicine and sold drugs in a general store; may have operated the first “drug store” in North America as part of a multi-purpose dispensary.

A decorative border with intricate scrollwork and floral patterns surrounds the text. The border is white on a dark background, with a central floral motif at the top and bottom.

## EARLY PHARMACY IN AMERICA

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### ❖ New England

- 1630: Boston is founded and Governor John Winthrop and his son took an avid interest in preparing medicines; they employed a trained British apothecary, Robert Cooke, to assist them, importing herbs from Europe; the younger Winthrop also prepared compounds from saltpeter, antimony, mercury, tartar, sulfur, and iron and became one of the first people in North America to prepare pharmaceuticals.
- 1646: The first mention of a dispensary in British North America operated by William Davis of Boston.
- Elizabeth Gooking Greenleaf (1681–1762), the first woman to practice as an apothecary during the colonial era; in 1727, she opened an apothecary shop with her husband in Boston.

Very few apothecary shops in Colonial America



Governor John Winthrop by Robert Thom, Parke-Davis series



## EARLY PHARMACY IN AMERICA

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❖ 1729: Irish immigrant Christopher Marshall established an apothecary shop in Philadelphia, which ultimately manufactured pharmaceuticals, served as a drug wholesaler (druggist) to physicians and large landholders, and trained apothecaries; during the American Revolution, he supplied medicines to the American troops under General George Washington; in 1805, his daughter Elizabeth became the first American woman apothecary; in 1821, his son Charles became the first president of the Philadelphia College of Pharmacy.





## EARLY PHARMACY IN AMERICA

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- ❖ Apothecary (Physician or Pharmacist)-a preparer and compounder of medicinal products
- ❖ Pharmacist /Druggist (Pharmacist Owner)
- ❖ Drug Clerk (Employee Pharmacist)
- ❖ *Materia Medica*-a collection of the therapeutic properties of medicine (pharmacology)



# EARLY PHARMACY IN AMERICA

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- ❖ Health practitioners were few among early settlers
- ❖ “Heroic Medicine” (Dr. Benjamin Rush)
- ❖ Home remedies, home medical books
- ❖ Physician-run apothecary shops
- ❖ Druggists
  - Wholesale medicines
  - Patent medicines (nostrums)
    - Luden’s Cough Drops, Fletcher’s Castoria (now Laxative)

# EARLY PHARMACY IN AMERICA

- ❖ Almost all medicines imported from England
- ❖ Revolutionary War led to development of domestic sources of medicine
  - Growing up in Connecticut, Benedict Arnold trained as an apothecary in Norwich; starting in 1764, he owned and operated a drugstore in New Haven.
- ❖ Most compounding occurred in physician's offices; number of non-physician pharmacy practitioners was small

Benedict Arnold,  
Apothecary,  
c. 1765, New Haven

## Benedict Arnold,

*Has just imported (via New-York) and sells  
at his Store in New-Haven,*

### A very large and fresh Assortment of DRUGS and CHYMICAL PREPARATIONS ;

<b>E</b> SSENCE Water	West and Littleton on	Berrysfreet Sermons
Dock	the Resurrection	Addison's Works
Essence Balm Gilead	Hebrew Bibles	Rambler
Bigamot	History of the late War	Guardsin
Lemons	Real Christian	Smollet's hist. England
Tincture of Valerian	New whole Duty of	Chefelden's Anatomy
Pectoral Balsam Honey	Man	Sharp's Surgery
Bateman's Pectoral	Row's Letters and	Hudibras
Drops	Miscellanies	Lady's Library
British Oil	Young's Satires and	Tom Jones
Godfrey's Cordial	Complaint	Pamela
Turlington's Balsam	Paradise Lost and Re-	Dialogues the Dead
Life	gain'd	Apophthegms of the
Balsam Health	Watts's Poems, Ser-	Ancients
Eaton's Styptick	mons, Psalms and	Doddsley's Poems
Francis's Female Elixir	Hymns	Attorney's Practice
Greenough's Tincture	Letter Writer	King's Bench and
for the Teeth	Spectator	Common Pleas
Spirits Scurvy Grafs	Female ditto	Virtue the Source of
Eau de Luce	Martin's Philosophical	Pleasure
Æther. Bateman's	Grammar, and	Chamberlain's Mid-
Cordial Elixir	Philosophia Britannia	wifery
Bollock's Elixir	Freemason's Pocket	Love's Surveying
Daffy's Elixir	Companion	Latin, Greek and
Hooper's, Locker's &	Dryden's Poems	French Grammars
Anderfon's or the	Ben Johnson's Works	Swan's Sydenham
Scotts Pills	Prior's Poems	New Duty Man
James's Fever Powder	Pope's & Swift's works	Armstrong on Health
Oil Rhodium	Locke on Human Un-	Pleasures Imagination
Lavender, Mace	derstanding	Law's Call
Cinnamon, Cloves	Mariner's Compaſs &	Francis's Horace
Rosemary, Raisins	Kallenders	Solyman & Almens
Figs, Currants, Al-	Present State Europe	Almens & Hamet
monds, Tamarinds,	Complete House-Wife	Rassela's
Spaw & pirmont waters	Ward's Mathematics	Trifram Shandy
Rose Water	Clarke's Nepos	Yorrick's Sermons
Cold Cream	Virgil's Delphos	Joseph Andrews
Pomatium	Tully's Orations	Aristotle's Works
Ladica Court Plaister	Dryden's Virgil	Lambert's Works

# EARLY PHARMACY IN AMERICA

## ❖ 18<sup>th</sup> and Early 19<sup>th</sup> Century Drugs

- **Anodynes (pain relievers):** opium and laudanum (opium, saffron, and Canary wine)
- **Anti-arthritics:** Epsom salt or cinchona
- **Anti-dysentery:** ipecac, paregoric
- **Anti-pyretics (for fever):** emetics, cinchona, laxatives, and cold baths
- **Emetics (to induce vomiting to treat food poisoning):** tartar emetic, ipecac, honey
- **Muscle spasms:** opium, wine, cinchona, and oil of amber
- **Intestinal irritation:** purgatives or cathartics including Glauber's Salts, Plummer's Pills, ipecac, jalap, calomel, salme, rhubarb, castor oil, and Epsom salts
- **Sudorifics or diaphoretics (to induce perspiration):** camphor, Dover's Powder (opium and ipecac), and rhubarb
- **Diuretics (to treat edema by increasing urine flow):** milk, extracts of dandelions, juniper berries, and lemon juice

# EARLY PHARMACY IN AMERICA

## ❖ Hospital Pharmacy

- Dr. Thomas Bond and Benjamin Franklin established Pennsylvania Hospital in 1751 in Philadelphia, North America's first hospital.
- 1752: Jonathan Roberts, America's first hospital "pharmacist"; like most early hospital pharmacists (including at the Massachusetts General Hospital) he was an apprentice physician
- Roberts' successor proposed separating pharmacy practice from medical practice.
- By 1811, the New York Hospital employed a full-time pharmaceutical practitioner.
- Most 19<sup>th</sup> century (and before) patients were treated at home, limiting the need for hospital pharmacists.



# EARLY PHARMACY IN AMERICA

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## ❖ Hospital Pharmacy

- The demand for hospital pharmacists increased during the Civil War; these individuals had expertise in drug preparation manufacturing and in buying drugs.
- With an increase in immigration to the U.S. after the Civil War, demand for hospitals also increased to meet the expanding population; the growth in the number of hospitals also led to an increased demand for hospital pharmacists as hospitals realized it was more cost-effective to fill prescription in-house rather than use community pharmacies.



## EARLY PHARMACY IN AMERICA

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- ❖ Early 1800s: formal instruction in medical schools versus apprenticeship model
- ❖ Physicians began to write prescriptions for apothecaries to compound and dispense leading to a growth in pharmacy
- ❖ 1808: Massachusetts Pharmacopoeia
- ❖ 1820: Pharmacopoeia of the United States of America



# EARLY PHARMACY IN AMERICA

- ❖ First two schools of pharmacy established
  - Philadelphia College of Pharmacy (1821)
  - Massachusetts College of Pharmacy (1823)
- ❖ In the 1830s, physicians generally supported the emergence of pharmacy and establishment of pharmacy schools.
- ❖ Establishment of the American pharmaceutical industry
- ❖ Potent drugs were added to the *materia medica*

# EARLY PHARMACY IN AMERICA

❖ Between 1820 and 1860, the practice of pharmacy emerged from the practice of medicine

- Apothecary shops became more standardized in the stock they carried; patent medicines became very profitable
  - Drugs and medicines
  - Surgical supplies
  - Artificial teeth and limbs
  - Dyestuffs
  - Essences
  - Chemicals



## EARLY PHARMACY IN AMERICA

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- ❖ By the 1840s, tensions grew between physicians and pharmacists
  - The focus of pharmacists shifted to directly caring for patients versus doing the bidding of physicians.
  - Apothecaries began to fill prescriptions without physician authorization.
  - Medical schools increased the number of graduates, many of whom wanted to practice in cities, leading to a direct conflict with pharmacists in their care of patients.



## EARLY PHARMACY IN AMERICA

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❖ Inferior drug products being shipped from Europe becomes an even more serious problem in the 1840s


- Increased regulation of the European drug market
- Alkaloidal chemistry allowed for extraction of the active ingredient from the plant (unfortunately, these plants were often sent to America absent the active drug)
- Drug Importation Act of 1848—established examiners at several points of entry to check quality, purity and fitness



## EARLY PHARMACY IN AMERICA

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❖ Although initially successful, the Drug Importation Act of 1848 eventually failed because of the appointment of incompetent inspectors (as a result of political cronyism); the failure of this law led to a convention of pharmacists in NYC in 1851, which ultimately led to calls for a national pharmacy organization (APhA).



DEDICATED TO THE  
AMERICAN PHARMACEUTICAL  
ASSOCIATION  
AT THEIR SESSION HELD IN BOSTON  
SEPT. 13. 1854.  
BY THE  
MASSACHUSETTS COLLEGE OF  
PHARMACY

Source: American Pharmacists Association.



Source: American Pharmacists Association.



Source: American Pharmacists Association.

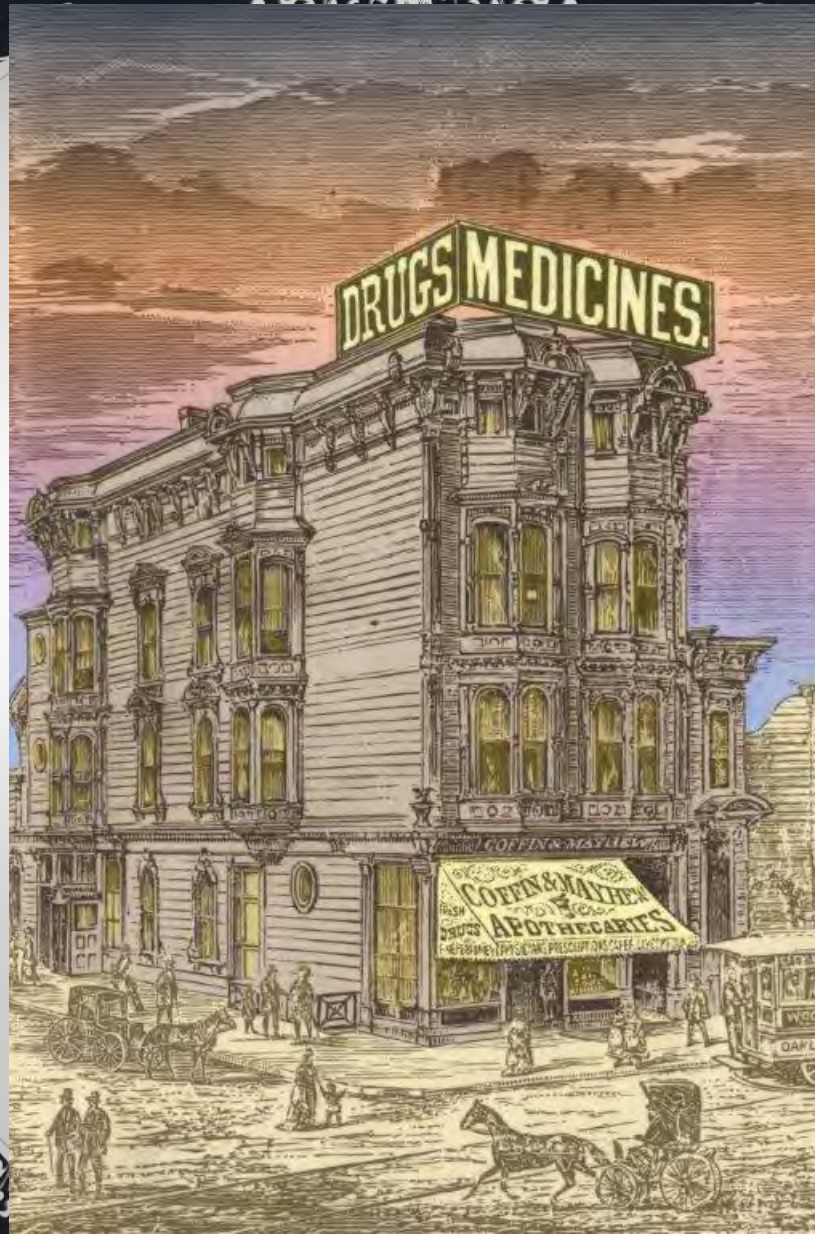




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