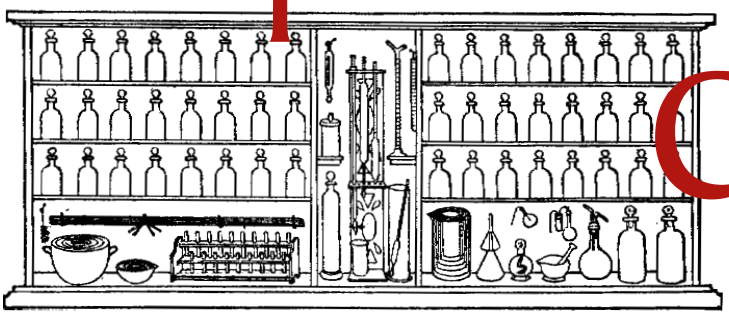
Apothecary's Cabinet



No. 8, Fall 2004

News and Notes from the American Institute of the History of Pharmacy

Headline:

Lewis & Clark Bought Imported Drugs!!

by Gregory J. Higby

Yes, the famed Corps of Discovery led by Meriwether Lewis and William Clark traversed 8,000 miles of North American wilderness with two chests full of *imported* drugs. In contrast with current debates about the cost of prescription medicines, the decision was simple in 1803—almost all drugs were imported into the United States because of sheer necessity. Most items of the materia medica were derived from plants grown only in far-off lands. And many of the chemicals used as medicines were not mass produced yet by the nascent American industry.

In May 1803, Army purveyor Israel Whelan went to the establishment of Gillaspy and Strong, Druggists, of Philadelphia and bought medical supplies for the Corps of Discovery. Thirty-odd drugs and medicines were purchased, as well as bottles, surgical supplies, and a few other necessities. Table 1 lists the items that appeared on the bill sent to Meriwether Lewis. A glance over the list reveals much about what medical challenges the captains expected on their journey: malaria, wounds, gastro-intestinal disorders, and venereal disease. The list also shows what limited resources were available two hundred years ago to treat acute illnesses.

As part of his preparation to lead the expedition west, Lewis had spent time consulting with Philadelphia's scientific elite, including the famed physician Benjamin Rush. Lewis received a set of medical instructions from Rush—which he and Clark largely ignored—and no doubt guidance to bring along a plentiful supply of "Rush's Pills." The chests of medicines had the basics of the day: cinchona bark, opium, tonics, laxatives, emetics, and diaphoretics, plus ointments and other external remedies for the inevitable scrapes and sprains. The most important medical decision made by Lewis and Clark was choosing a group of healthy young men toughened by frontier or military experience. Only one man was lost during the 28-month journey.

Cinchona Bark (South America)

It was no accident that the largest single medicine purchased by Whelan for the Corps was fifteen pounds of "Pulv. Cort. Peru" otherwise known as cinchona bark or simply Bark. One of the great panaceas of the era, cinchona bark arrived in Europe from South America in the early 1600s as a specific cure for intermittent fevers (malaria). As a specific it rocked traditional medical theories, which maintained that disease came from humoral imbalances within the body. As one of the few drugs that actually cured a disease, cinchona was soon tried against other fevers and constitutional ail-

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ments even though it had little if any effect. For the Corps, however, fifteen pounds of Peruvian Bark was no foolish extravagance. The center of the North American continent was full of mosquitoes, some of which carried malaria.

Quinine, the main active ingredient of cinchona, was not isolated until 1820 by French pharmacists Pelletier and Caventou. Only ten or twelve ounces of this alkaloid would have equaled the medicinal power of a bulky container of powdered Bark. Like most of the other drugs carried by the Corps, the cinchona probably arrived in Philadelphia via London merchants, rather than directly from the countries of origin.

Opium and Laudanum (Middle East)

From the list of drugs, opium and its tincture (laudanum) appear to fill a niche still required in today's therapeutics—opiate pain reliever. (Five of the top 100 drugs prescribed in 2003 were derived in part from opium.) And while opium and its preparations were used for the relief of pain, they were also the sedatives and hypnotics of choice two hundred years ago. About the same time as the Lewis and Clark Expedition, German pharmacist Friedrich Sertürner was developing the method to extract morphine from crude opium, thereby opening the era of alkaloidal chemistry. As in the case of cinchona and quinine, however, this discovery would come too late for the Corps, which was required to take the bulkier crude drug along for the 8,000 mile journey.

Lewis, as Jefferson's private secretary, may have read the following from the *Edinburgh New Dispensatory* (1791), a book in the president's library: "Egypt, Persia, and some other provinces of Asia, have hitherto supplied us with this commonly: in those countries, large quantities of poppies are cultivated for this purpose. . . . Opium, when taken into the stomach . . . gives rise to a pleasant serenity of mind, in general proceeding to a certain degree of languor and drowsiness. . . . no substance can have a better title to the appellation of sedative than opium. . . . Indeed there is hardly any affection, in which it may not, from circumstances, be proper; and in all desperate cases, it is the most powerful means of alleviating the miseries of patients." (pp. 240-243.)

Hypodermic syringes were a half-century in the future, so physicians of the early 19th century administered opium orally, often in the form of a simple rolled pill. Because it was a valuable drug, opium was often adulterated, therefore druggists like Gillaspy and Strong carefully examined each shipment that arrived. Their reputation as dealers in quality drugs depended largely on the potency of their opium.

Ipecac (Brazil)

A drug sometimes combined with opium, ipecac was one of the most versatile medicines of the early modern period. Introduced into Western medicine in the late 1600s from South America, ipecacuanha quickly gained stature as a treatment for dysentery and as a reliable emetic and diaphoretic. Intentionally inducing vomiting or sweating was viewed at the time as a good way to alter the body's balance and encourage the restoration of health. Ipecac remains an official drug, although its status as an emergency emetic has declined in recent years. In 1803, most ipecac roots were dug in Brazil for exportation.

Camphor (Sumatra)

Another exotic carried along by Lewis and Clark that is still official is camphor. One contemporary author described it as "a very peculiar substance . . . chiefly extracted from the wood and roots of a tree growing in Sumatra." The collection of camphor was described by Marco Polo and in the *Arabian Nights*. Considered a concrete essential oil, the drug was administered orally to combat fevers through inducing perspiration.

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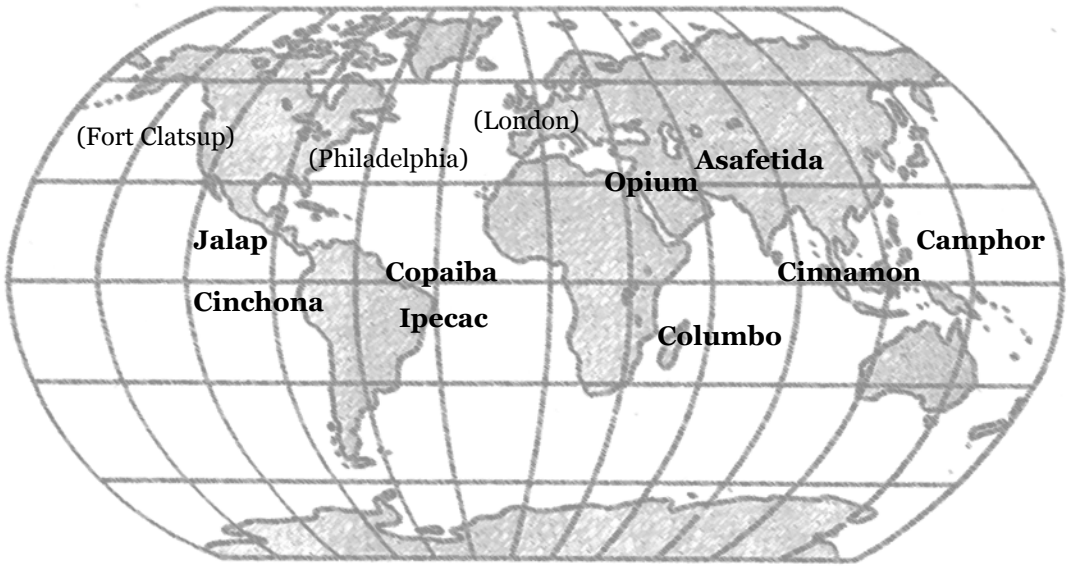


Copaiba (Brazil and Venezuela)

Buried in the usual lists of medicines carried by the Corps of Discovery is "Balsam of Copaiba." This soothing liquid came trees tapped in the Amazon basin. Although it had other applications, copaiba was mainly used for the treatment of gonorrhea. When consumed internally, it produced a characteristic odor to a patient's urine and was thought to soothe inflammation caused by venereal disease. As experienced army officers, Lewis and Clark knew they needed to be prepared to treat VD, so they brought along copaiba, calomel, and penile irrigation syringes.

Asafetida (Iran and Afghanistan)

Of all the imported drugs, perhaps the most notorious was asafetida also known as "devil's dung." This nasty smelling drug from Persia was known since ancient times. Widely consumed on the theory that anything that smelled that bad had to be good for something, asafetida's serious use by 1800 had declined to the treatment of nervous complaints and flatulence. Its folk use to ward off colds and flu continued into the twentieth century. Why the Corps took an entire pound of this smelly substance is unclear.

Columbo Root (Mozambique)

When Gillaspy and Strong packed up half a pound of columbo root for the Corps, they probably thought the drug came from Ceylon (modern Sri Lanka). For decades, Portuguese traders had a monopoly on this drug and hid its origins. Portuguese ships would stop on the East coast of Africa, purchase the roots from local gatherers, and then carry them along to India on their journeys before returning home to Europe. At first called kalumb, the drug's name shifted to variations of "Colombo," the capital city of Ceylon. In the 1820s, its origins were clarified. No matter what its name, columbo was never an important drug and was probably included by Lewis and Clark as a tonic and restorative.

Cinnamon (Sri Lanka), Nutmegs and Cloves (Moluccas)

For centuries there has been a fine line between spices and drugs. Gathered from similar exotic localities, spices and drugs were carried by the same ships, exchanged by the same merchants, and sold by apothecaries. In early America, this was still the case. As druggists in Philadelphia, Gillaspy and Strong handled large quantities of these precious goods. In both regular and folk medicines, pungent spices were taken to improve digestion. Some authors have speculated that they were purchased by Lewis and Clark to flavor their drug preparations. It is more likely that the captains bought them for culinary purposes.

Rush's Pills (USA from Imported Ingredients)

One significant medicine was not imported—the famous Bilious Pills of Benjamin Rush. (They were actually anti-bilious pills. A patient was said to be "bilious" when supposed poor flow of bile in the body caused a complex of symptoms including constipation, headache, and lassitude.)

Dr. Rush had expressly indicated to Lewis that when one of his men showed the "sign of an approaching disease . . . take one or two of the opening pills." Nicknamed "Rush's Thunderbolts," the pills were reputed to contain 10 grains of calomel and 10 to 15 grains of jalap, both potent laxatives. By opening up the bowels, Rush believed that the body would then expel the excess bile or other matter causing illness.

(With active ingredients weighing well over a gram, these would have been large pills indeed. A common aspirin tablet weighs 5 grains or 1/4 the weight of the "thunderbolts.")

The two active ingredients had widely different sources and histories. Calomel (mercurous chloride) had entered medical practice in the 1600s as a milder and more palatable mercury compound. The liquid metal mercury had been applied externally in different forms since ancient times to treat skin lesions. A confluence of factors led to its rise as an internal medicine: the appearance of syphilis in Europe and the increasing influence of alchemy and chemistry on medical theories. Paracelsus (1493-1541) and his followers argued that some of the new chemicals coming out of laboratories could better treat the diseases of a new age. The apparent success of mercury compounds against syphilis helped to spur the growing reputation of chemical medicines.

Mercurous chloride appeared in European medicine at the beginning of the 1600s and its reputation soon grew as a "softer" and better tolerated mercury compound. By 1800, calomel was widely accepted for its general powers as an "alterative," i. e., medicine that altered the overall constitution of the body. In large doses, calomel acted quickly as a laxative; in small doses over time, it produced what we today would characterize as mercury poisoning—abundant salivation, loosening of teeth, metallic halitosis, and discolored stool. At this level, the drug was obviously "working" and had the power, in theory, to eliminate syphilis from the body. Because of its dual activity, calomel was included in both Rush's Pills—eliminating excess bile through purging—and by itself in powder form, where it could be given in small doses over time to combat syphilis.

Jalap came from the vegetable kingdom—the appropriately named plant *Exogonium Purga*. The *Edinburgh New Dispensatory*, a book known well by Rush, calls jalap "a safe purgative, performing its office mildly; seldom occasioning nausea or gripes." It came to the attention of European physicians in the early 1600s. Two hundred years later when Rush used it liberally, the exact source of the root was not yet determined. It would be Rush's student, John Redman Coxe, who in 1829 reported that jalap came from a Mexican plant. Jalap remained a standard drug in the United States until 1965. Like calomel, powdered jalap was included in the medicine chest of the Corps as a separate drug.

Both Lewis and Clark were free with their use of Rush's pills. Traveling down the Ohio on his way to St. Louis to start the expedition, Lewis came down with an attack of ague (malarial fever) and dosed himself with the remedy. He believed it helped. Along the way up and down the Missouri, the captains gave the pills to themselves, their men, and to Indians who presented themselves for treatment. On almost any occasion where a gastro-intestinal ailment arose, the captains freely administered these cathartic pills or other laxatives such as Glauber's Salts.

The captains used the pills as almost a panacea, which is not too surprising since so many of the complaints they faced had gastro-intestinal sequelae. The uneven and impure food supply, the back and forth switching from foods without fiber to high fiber and (other factors), no doubt contributed to a significant amount of constipation throughout the Corps. In addition, some fevers and other complaints were associated with theories of excess bile or blood in the body. A good purging helped with that problem! Fortunately, Lewis and Clark had chosen their men well. Hardy frontiersmen, they were able to survive both the severe conditions of the long journey and the strong medicines imported from around the globe!

Table 1. Medical Supplies Purchased for Corps of Discovery in Philadelphia, May 1803.

Peruvian Bark (cinchona), powdered, 15 pounds
Jalap, powdered, 1/2 pound
Rhei (rhubarb), powdered, 1/2 pound
Ipecac, powdered, 4 ounces
Cream of Tartar (potassium bitartrate), 2 pounds
Camphor, 2 ounces
Asafetida, powdered, 1 pound
Opium, powdered, 1/2 pound
Tragacanth, powdered, 1/4 pound
Glauber's Salts (sodium sulfate), 6 pounds
Saltpeter (potassium nitrate), 2 pounds
Copperas (ferrous sulfate), 2 pounds
Sugar of Lead (lead acetate), 6 ounces
Calomel (mercurous chloride), 4 ounces
Tartar Emetic (antimony potassium tartrate), 1 ounce
White Vitriol (zinc sulfate), 4 ounces
Columbo Root, 1/2 pound
Elixir Vitriol (aromatic dilute sulfuric acid), 1/4 pound
Essence of Peppermint, 1/4 pound
Balsam Copaiba, 1/4 pound
Balsam Traumaticum (compound benzoin tincture), 1/4 pound
Magnesia (magnesium oxide), 2 ounces
Laudanum (tincture of opium), 4 ounces
Basilicon Ointment (cerate of rosin), 2 pounds
Calamine Ointment, 1 pound
Unguent Epispastric (Blistering Ointment), 1 pound
Mercury Ointment, 1 pound
Plaster of Diachylon Simple (lead oleate), one piece
Pocket Surgical Kit
Pocket Dental Kit
Enema Syringe
Penile Syringes, 4
Lancets, 3
Tourniquet
Lint, 2 ounces
Rush's (Anti-) Bilious Pills, 600
Tin Canisters, 6
8 ounce Ground Stoppered Bottles, 3
4 ounce Tincture bottles, 5
4-ounce Salt Mouth bottles, 6
1 Walnut Chest
1 Pine Chest
India Ink, 1/4 pound
Gum Elastic, 2 ounces
Nutmegs, 2 ounces
Cloves, 2 ounces
Cinnamon, 4 ounces
Total expense = $90.69

Evolution of Drug Containers

by George Griffenhagen
2501 Drexel St. • Vienna, VA 22180

FROM earliest times, those who prepared and dispensed medicines were faced with the need of preserving and storing them. The most common types of containers in ancient Egypt were unglazed earthenware, stone, and alabaster pots. Pedanius Dioscorides provided precise instructions for drug containers in his monumental work *De Materia Medica* (A.D. 50-70), recommending that most medicines be kept in thick vessels of glass, horn, or silver. The discovery of glass blowing took place around 300 B.C., and glass manufacture flourished in Alexandria and Sidon. The Roman green glass flask was the most widespread of all shapes of Roman glass during the first through the sixth century A.D. One such glass container is depicted on a stamp of Israel (1974/Scott 266), as well as glass containers used to preserve myrrh and frankincense (Canada, 1965/Scott 443).

1st-5th Century Glass Flask, Israel (Scott 266)

Samurai "Inro" Drug Container, Ryukyu (Scott 168)

A unique drug container (called inro) was used by the samurai, a feudal military caste in Japan from the 12th to the 19th century to carry their medication. Such an example is seen on a stamp of the Ryukyu Islands (1968/Scott 168).

The actual development of the specialized drug jar had its origin in the Middle East during the period of Islamic conquest. Potters in Persia developed a new type of ceramic and a unique style of jar that has been intimately associated with medicines. The innovation in the ceramic art was the use of a tin-glaze to produce a non-porous earthenware, which was much more suitable for storing liquid and semi-liquid medicaments. The unique shaped jar was the albarello, a cylindrical container with concave sides curving inward toward the middle of the jar. Among the earliest ascribed as drug jars are those made at Rakka, Mesopotamia, situated on the Euphrates. A typical Rakka albarello, dating from the 12th-13th century can be seen on a stamp issued by Portugal (2003/Scott 2590).

Persian 12th Century Albarello, Portugal (2003/Scott 2590)

The armies of Islam subsequently conquered Spain carrying with them the Islamic culture, and the first potteries in Spain to produce the glazed earthenware were established in Malaga. The art of lustre painting was perfected in Valencia, and the term Hispano-Moresque lusterware was given to this pottery decorated with a golden copper lustre on a tin oxide glazed background, as represented by the albarello shown on a stamp of Spain (1987/Scott 2513).

Hispano-Moresque Lusterware, Spain (Scott 2513)

Until the 14th century, the production of pottery in Italy remained a crude art, but with the influence of the Islamic art which penetrated Italy simultaneously with an expansion in the commerce of drugs, new centers for the manufacture of glazed earthenware were established. The term majolica for this ware originated because the art reached Italy by way of Majorca, while the term faience became popular since some of the finest tin-glazed pottery was produced in Faenza, Italy. Italian majolica can be seen on stamps of Malta (1970/Scott 414) and Portugal (2003/Scott 2591). A symbolic albarello drug container was used on three stamps of Portugal (1964/Scott 922-934) to commemo-

Albarello Represents D'Orta, Portugal (Scott 922)

rate the fourth century of the publication of Garcia D'Orta's *Dissertation of Simples and Drugs of India* published in Goa in 1563, and Talavara was still producing attractive albarello-shaped drug jars in the 17th century (Spain, 1991/Scott 2647).

The earliest apothecary jars were generally unlabeled so that they could be used and reused for a

17th Century Talavara Ware, Spain (Scott 2647)

variety of drugs. The contents were indicated by a label tied to the vessel. The practice of firing the name of the contents into the decoration of Spanish and Italian apothecary jars commenced in the 15th century. Among the earliest labeled apothecary jars pictured on stamps include the 16th-century majolica orza (urn) from Ulm inscribed SEBASTIAN (Portugal, 1990/Scott 1795), and the majolica chevrette labeled ROSAR, circa

Portuguese Majolica Labeled Urn, Portugal (Scott 1795)

1652-1677 (Portugal, 2003/Scott 2591).

Italian Chevrette For Roses, Portugal (Scott 2591)

The skill of the Italian potters spread into France by the 16th century. In 1543, a Rouen potter made "a large number of drug pots for a local apothecary which were decorated in the Italian style." While not yet seen on a stamp, a 16th century ewer (jar with spout) appears on a 1991 pictorial cancel from Rouen.

The art of tin-enameling earthenware was introduced into The Netherlands in the 16th century by Italian potters who settled in Antwerp. By 1654, the Dutch town of Delft became famous for the manufacture of tin-glazed earthenware decorated in blue and white in imita-

Delftware Apothecary Jars, Belgium (Scott B116)

tion of the Chinese porcelain, then being imported by the Dutch East India Company. Due to the overwhelming success of the Dutch potters, the general term Delftware eventually replaced the terms majolica and faience for the tin-glazed earthenware of Holland. The most typical of Delft apothecary jars is the peacock motif consisting of two peacocks standing on either side of a basket of fruit with an angel's head below. Three examples can be seen on a stamp of Belgium (1994/Scott B116). The ewer is labeled MERCURIAL for Oxymel of Mercury; the Delft pot with metal cover is labeled GENTAINE for Extract of Gentian; and the third pot is inscribed PHILO(N) ROM(ANUM), a name given to a widely used confection of opium.

Best known of the early German potteries producing tin-glazed earthenware were those of Ansbach, Bayreuth, Creussen, and Nuremberg. One such example is an 18th-century ceramic drug jar from Dalovice labeled CONSERVO ROSAR (Conserves of Rose) depicted on a stamp of Czechoslovakia (1971/Scott 1773). But the more widely employed drug containers in central Europe during this period were made of wood. Commencing in the 17th century, tall cylindrical containers of boxwood or linden wood were used for storing dried botanical drugs. Three 18th-century boxwood drug containers

German Boxwood Drug Containers, Czechoslovakia (Scott 1772)

from the Kuks Castle Pharmacy can be seen on a stamp of Czechoslovakia (1971/Scott 1772). They feature hand-painted labels for BITUM ASPHALT (Rock Oil); SANG DRAC (powdered Dragon's Blood which is a resin of Pterocarpus); and CONTRA JERV (a powdered root used for an unspecified disease)

Porcelain, as distinguished from tin-glazed earthenware, was in use in China for hundreds of years before its introduction into the Western world. Potters and chemists experimented in vain to discover the Chinese formula for making porcelain, but it was not until 1709 that one succeeded. He was pharmacist Johann Frederick Boettger, and the secret was found to lie in the use of two essential ingredients: kaolin (feldspar) and petuntse (China

stone). Boettger's discovery led to the establishment of a porcelain manufactory at Meissen, and their earliest products are shown on stamps of Germany (1982/Scott 1365) and the German Democratic Republic (1982/Scott 2233).

Boettger's 1714 Meissen Porcelain, Germany (Scott 1365)

In spite of an effort to prevent the secret from becoming known, a workman carried the secret to Vienna in 1720 where a factory was established. It was not long before similar factories were established throughout Europe. A 19th-century Vienna porcelain apothecary jar labeled UNG JUNIPERI (Ointment of Juniper Berries) is featured on a 2002 postal card from Romania commemorating the Museum of Pharmacy in Cluj Napoca.

By the beginning of the nineteenth century, the French porcelain drug jars with porcelain covers became common in both Europe and Latin America. They were produced in both Limoge and Paris in numerous factories. Examples can be seen on several stamps including a 19th-century canopy-top porcelain drug jar labeled EXT ALTHOE (Extract of Althea) on a stamp of New Caledonia (1986/Scott 542); and a 19th century porcelain drug jar labeled AMYDAL DULC (Sweet Almonds) on a stamp of Mexico (2001/Scott 2237). After each Latin America country won independence from Spain and Portugal, cultural and commercial ties with France became very close. Since Spain was not a major producer of porcelain drug jars, France became the exclusive supplier. In addition to being practical for storing medicines, these porcelain containers gave distinction to a pharmacy.

19th Century French Porcelain, New Caledonia (Scott 542)

Traditional Porcelain Drug Jar, Mexico (Scott 2237)

Return to Glass Vessels

The use of glass vessels declined after the fall of the Roman Empire. It was nearly a thousand years before there was a renaissance in the art of glass blowing. By the middle of the 13th century, a guild of glassblowers had been established in Venice, and by the 16th century, centers were established by the Germans in the mountainous sections of Bohemia and Silesia.

In time, glass drug bottles were produced from pulverized quartz of crystalline silicon dioxide. The labels were baked-on enamel often displaying alchemical symbols in place of the more common Latinized drug names. An 18th-century Bohemian glass bottle with alchemical symbols for Sweet Spirit of Nitre is included on a stamp of Czechoslovakia (1971/Scott 1773).

Alchemical Symbols On Label, Czechoslovakia (Scott 1773)

Apothecary glass containers slowly evolved into a variety of unique shapes and forms for specific uses. An elaborate 18th-century glass bottle labeled AQ AROMAT (Aromatic Water) is pictured on a stamp of Finland (1989/Scott 799), while several 18th- to 19th-century apothecary jars can be seen on the top shelf of a pharmacy in Norway (1995/Scott 1091). A 19th-century clear glass bottle with glass-ground stopper appears on a stamp of Portugal (1978/ Scott 1360).

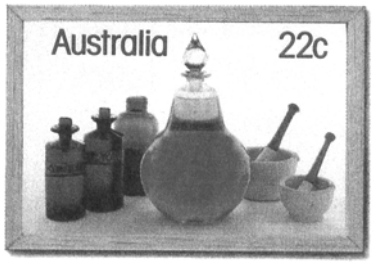
18th Century Glass Drug Bottle, Finland (Scott 799)

Apothecary Jars On Top Shelf, Norway (Scott 1091)

By the end of the 18th century, many of these bottles were made of opal (milk) glass produced by adding zinc oxide to the molten glass. One such milk glass drug container produced in Transylvania is labeled EXTR CICHOR (Extract of Chicory), and illustrated on a 2002 Romanian postal card commemorating the Museum of Pharmacy in Cluj Napoca.

Drug bottles of flint glass were produced by using lead oxide and calcined flint as a source of silica. Less expensive green glass was made of natural potash producing bottles ranging in color from green to amber. The addition of cobalt produced blue glass, while copper created ruby red glass. Two 19th-century cobalt blue glass tincture bottles, and an amber salt-mouth glass bottle, are shown on a 1981 Australia pre-stamped envelope (#035). An elegant cobalt blue

glass, salt-mouth bottle with ground glass stopper, circa 1890, appears on a Portugal stamp (2003/Scott 2593).



Cobalt Blue Tincture Bottles, Australia (1981 pre-stamped envelope)

The use of the glass drug container in the U.S.A. predominated over all types of ceramic drug containers that were so popular in Europe. New terms were established: Salt-mouths were bottles with wide mouths for keeping herbs and salts, while Tinctures were bottles with narrow mouths for holding tinctures and other liquid preparations. A typical 19th-century glass tincture bottle with mushroom stopper and cologne bottle appear on a U.S.A. stamp (1972/Scott 1473). There are readable letters on the labels, but the stamp designer Ken Davies confirmed to me at the first day ceremonies that he made the name illegible "so that there could be no specific mention of any one drug or potion."

Cobalt Blue Salt-Mouth Bottle, Portugal (Scott 2593)

Tincture With Mushroom Stopper, U.S.A. (Scott 1473)

The American patent medicine industry required glass bottles in huge quantities. Green glass tinctures used by Pharmacist Candido Fontoura (1885-1974), pioneer in the pharmaceutical industry, can be found on a stamp of Brazil (1985/Scott 1997). A 19th-century glass mold-blown chestnut amber bitter bottle appears on a stamp of the U.S.A. (1999/Scott 3328). This bitters is almost identical with the "patent log-cabin bottles" used by P. H. Drake & Co. of New York City to market their Plantation Bitters which is pictured on their U.S. private-die proprietary (Scott RS82-R83) that was employed from 1869 to 1875.

Green Glass Tincture Bottles Brazil (Scott 1997)

P. H. Drake's Plantation Bitters, U.S.A. (Scott RS83)

Amber Mold-Blown Bitters Bottle, U.S.A. (Scott 3328)

There are several stamps that depict modern medicine bottles that are labeled with the name of their contents. They include: Aspirin on drug containers (Central African Republic, 1972/Scott 158); Daraprim, Burroughs Wellcome brand of the anti-malarial, pyrimethamine (Nicaragua, 1973/Scott CB8); and Vitamins on the salt-mouth bottle beside the Hummel "Little Pharmacist" figurine (St. Vincent, 1990/Scott 1395).

Little Pharmacist Offers Vitamins, St. Vincent (Scott 1395)

Emerson Drug Company's Bromo-Seltzer bottle with complete label is pictured on 1900-1901 U.S. private-die proprietaries (Scott RS280-RS283). Baltimore pharmacist Edward Emerson trademarked his effervescent product in 1889.

Emerson's Bromo-Seltzer Bottle, U.S.A. (Scott RS282)

Glass containers for eye drops can be found on stamps of Iran (1987/Scott 2266), and Swaziland (1976/Scott 264). Other drug containers to be found on stamps include Brazil (1977 (Scott 1504); Hungary (1963/Scott 1532); Pitcairn Islands (1968/Scott 96); Romania (1962/Scott 1519); Turkey (1988/Scott2400); and Uruguay (1998/Scott 1748). Even though these are mostly symbolic, perhaps they represent the plastic drug containers introduced in the 1950s as a result of research conducted during World War II to find light-weight and unbreakable polystyrene pharmaceutical vials.

Boom and Bust: Sassafras

by David L. Cowen

The search for, cultivation of, and trade in drugs must take their place among the economic motives behind the building of the British empire in America. Sassafras was one of the most important drugs involved in this process of empire building.

Sassafras gained popularity after Monardes described it in his *Historia Medicinali* in 1574. In 1585, Thomas Hariot, man of learning and navigational planner of Sir Walter Raleight's expeditions, proclaimed sassafras a "sovereign" remedy that possessed "manifold virtues" and that was esteemed in "the French Poxe [syphilis] . . . the Plague, and many other Maladies."

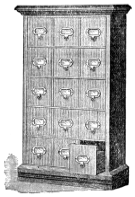
Sassafras attained a phenomenal repute and Sir Walter Raleigh became active in its trade and obtained a monopoly in it. Sir Walter was selling sassafras for £1,000 to £2,000 a ton and he estimated his return as from 800% to 1,000%. In one voyage in 1602 he made enough to outfit two more ships, and he fought, unsuccessfully apparently, to stop incursions on his patent.

The colony of Jamestown almost floundered because seamen, and perhaps the colonists themselves, stampeded into what must be called a sassafras rush. Their eagerness for sassafras, it was reported, reacted to the "prejudice" of the colony. Yet sassafras was the fist article to be furnished by Virginia to the mother country, and between 1616 and 1619 it and tobacco were the only commodities shipped from Virginia.

But the bubble had burst. In 1620, Sir Edwyn Sandys, head of the Virginia Company, reported that sassafras was worth very little and recommended that its production be curtailed. Its medical reputation persisted, however, and it continued to be exported from the American colonies throughout the colonial period. In 1770 alone England imported 76.5 tons of sassafras worth £2,142. The came to £28 per ton, a far cry from Sir Walter's figures, no matter how the pound may have changed in value.

Description of Sassafras Tree from Monardes, *Joyfull Newes Out of the Newfound Worlde,* London, 1596.

"The Tree from whence they cut this Wood, whiche they newly brought from the Florida, called Sassafras, is a Tree that groweth to bee very great. . . . The tree and bowes are very light, the rinde being tasted, hath an excellent sweete smell, and it is somewhat like to the smell of Fenell, with muche sweetenesse of taste, and of pleasaunt smell insomuch that a little quantity of this Wood being in a chamber, filleth the ayre conteined in it, and the rinde hath some sharpnesse of taste the inner part hath little smel, the hogher part that containeth the bowes hath leaves: the which be greene after the manner of a Figge tree, with three poyntes. . . . They bee of collour a sadde Greene, and of a sweet smell, and muche more when they be dry. The Indians use to lay them beaten or stamped upon bruises, or when any man is beaten with dry blowes: and being dried they are used in medicinall thinges."



COLLECTOR'S CORNER

WANTED: Philatelic items (U.S. and worldwide) related to pharmacy, drugs or medicinal plants. Interested in a wide range of philatelic items including postage stamps, advertising stamps, envelopes, postmarks/ cancellations, philatelic literature relating to pharmacy. Contact Jack Chen, 7854 Calmcrest Drive, Downey, CA 90240; (909) 469-5602 or via email jackchen@msn.com.

WANTED: Surgical related items from the 18th and 19th century. Instruments, books, etchings, photos and anything of interest. Contact Dr. Alan Koslow at koslow@mchsi.com or (515) 267-1821.

FOR SALE: Extensive antique collection: Queen Anne balance with City of New York seals, pill roller, assorted pill bottles, stone mortar believed to be 15th or 16th century. A bronze mortar, as pictured in the *Pill Rollers* (p. 65), and 20 additional brass mortars of various ages. Pictures available or may be viewed in person at Boynton Beach, FL. Contact Herb Leonard (561) 364-8967.

FOR SALE: One-hundred-year-old historical pharmacy documents containing historical signatures. A Doctor In Pharmacy certificate issued to Ephraim Shaw Tyler in 1902 and signed by Joseph P. Remington and Henry Kraemer and others and issued to Ephraim Shaw Tyler by the Alumni Association of the Philadelphia College of Pharmacy in 1902. Both are well framed. Contact Charles R. Weiss at (330) 633-4342 or CWEISS6@juno.com.

FOR SALE: Own a piece of the financial history of drug, chemical, pharmaceutical, and health care companies. Stock/Bond certificates (cancelled) are both history and an artform. Most priced under $7.00 each. Send SASE for list. Interested in buying similar items. Wayne Segal, Box 181, Runnemede, NJ 08078. e-mail WaynePharm@aol.com

GOOD HEALTH TO ALL FROM REXALL! I collect anything made for the Rexall Store. Especially want early consumer products and pharmacy items manufactured by the United Drug Company (1903-46, Boston). Also Rexall AD-VANTAGES magazines, calendars, almanacs, photos, and other franchise and advertising materials. United Drug brands: Puretest, Firstaid, Elkay, Kantleek, Jonteel, Liggett's, Fenway, Harmony (cosmetics), Electrex (appliances), Old Colony (inks), Klenzo, etc. What have you? Frank Sternad, P.O. Box 560, Fulton, CA 95439; (707) 546-3106, e-mail fasternad@iscweb.com

ANTIQUE TOY MUSEUM: Located in Baltimore, North of the Inner Harbor. Museum contains apothecary shop with hundreds of pharmaceutical antiques. Anne Smith, Director. Open Thurs., Fri. and Sat., 11:00-4:00. Call for special appointments. (410) 230-0580, 222 West Read Street, Baltimore, MD.

FOR SALE: Apothecary Antiques including drug jars, apothecary bottles, manufacturing tools, medical instruments including leech jar and various dental items; books dealing with the above subjects available, catalogues issued. Always buying similar items or collections. John S. Gimesh, MD., 202 Stedman St., Fayetteville, NC 28305; (910) 484-2219.

WANTED: Show globes, fancy apothecary bottles, porcelain jars, trade catalogs, window pieces, patent medicines, and advertising. Contact Mart James, 487 Oakridge Rd., Dyersburg, TN 38024; (731) 286-2025; e-mail: kjames@cableone.net

WANTED: Books & journals on Pharmacy (pre-1920), Pharmacognosy, Herbal/ Botanic Medicine, Eclectic & Thomsonian Medicine, Phytochemistry, and Ethnobotany. I will purchase one title or entire libraries. David Winston, Herbalist & Alchemist Books, P.O. Box 553, Broadway, NJ 08808, (908) 835-0822, fax: (908) 835-0824, e-mail: dwherbal@nac.net

THE SNAKE-OIL SYNDROME, by A. Walker Bingham; 196 pages oversized, more than 500 illustrations, 60 pages in full color. An in-depth reference work on patent medicine advertising in the context of efficacy and the selling images used. Cross-indexed by subject and product names, with notes, bibliography, and list of public collections. Hardcover, $44.00 postpaid from the Christopher Publishing House, 24 Roackland Street, Hanover, MA 12339.

FOR SALE: CD on Dr. Hatchett's Drug Store Museum (small town drugstore, SW Georgia). Consisting of almost 200 pages it describes many off-the-counter medicines and patent medicines as well as other mainly early- and mid-twentieth-century products. Includes product composition, period advertising, prices, manufacturers, history, dosage, etc. Includes index by product and manufacturer. Available through Stewart County Historical Commission, P.O. Box 818, Lumpkin, Georgia 31815 for $12 a CD. Questions may be sent to Allen Vegotsky (a.vegotsky@worldnet. att.net).

FOR SALE: *The Pill Rollers* 3rd Edition is an extensive revision from cover to cover. Practically all artifacts in previous edition have been retained, with over 100 new items, and the historical monographs have been greatly expanded. The price includes a separate 8-page Price Guide—shipping is $37.50. Pay with personal check or money order and send to Charles G. Richardson, 1176 South Dogwood Drive, Harrisonburg, VA 22801. For additional information e-mail dcknlill@gte.net

The AIHP brings together those who wish to buy, sell, or trade artifacts or books related to the history of pharmacy. Free classified advertising is available to members ($5.00 a line to non-members). Send copy to Apothecary's Cabinet, AIHP, 777 Highland Ave, Madison, WI 53705, or NOTES@aihp.org.

Pharmacy in the Museum World

Pioneer Village Apothecary Shop

Spring Mill State Park, Mitchell, Indiana

by Mark Zacharias

Volunteer Mark Zacharias dresses in period costume in the apothecary shop.

THE Spring Mill pioneer village apothecary shop, along with the mill, mill office, mercantile, nursery school, inn, and carriage house, is original to the village, founded in the early years of the nineteenth century. When the village flourished—especially during the years leading up to the Civil War—the huge stone mill was the centerpiece of the economic life of the village and surrounding countryside. Added to this were other businesses including a two-story inn, distillery, leatherworker, woodworker, cooper, cobbler, blacksmith, a lime-making industry, and several thriving cottage industries (i.e., weaving, hat-making, and candle-making).

Prior to the coming of the railroad in the 1850s, goods were transported to Louisville and beyond by ox-cart and by flatboat down the White River to the Ohio River. During the Civil War years and following, the village began to die, primarily because the railroad lines had to bypass the rugged valley where the village is located, and because it became possible to operate grist mills virtually anywhere using steam power.

Spring Mill village continued to exist until 1898 when the last of the villagers left. Not long after the turn of the century, concerned citizens in Lawrence and the surrounding counties appealed to the state to restore the village and open it as part of a state park. The state agreed, and during the 1920s the mill itself was restored, many of the homes and buildings rebuilt, while other log homes and buildings contemporary to the original village, were brought in from nearby townships.

In 1930, Spring Mill State Park, including the Pioneer Village, was opened to visitors. The Park and village have been in continuous operation since that time.

For 72 years, the village was interpreted in the context of the year 1832, but in 2003, the date was changed to 1863. In this way, visitors can experience many of the realities of early pioneer life, while at the same time, become acquainted with the history of South Central Indiana during the Civil War.

The Apothecary Shop has stood side-by-side with the Mercantile for more than 170 years. Many artifacts from the nineteenth century are on display including seventy-one antique hand-blown bottles filled with medicines from aconite to yarrow; a thirty-two-drawer apothecary cabinet with labels such as "*amylum,*" "*camwood,*" "*humulus,*" "*madder,*" "*senega,*" "*spigelia,*" and "*whiting*"; two sets of antique mortars, one set made of stone, the other of cast iron; two very old plant/seed grinder/separators; several types of scales; a set of old glass funnels; various old medical bags and pouches; examples of nineteenth-century splints made of leather, wood, and metal; several sets of medical science and surgical books, mostly from the 1870s, as well as an early edition of *The Homeopathic Domestic Physician* (1854).

From the early 1820s till his death in 1856, Dr. Jacob Lemon was the physician, dentist, and apothecary for the Spring Mill village proper and surrounding area. He was "self-trained" and villagers of the time counted themselves fortunate to have their own doctor. During the 1830s and 1840s, at the height of its activity, the village was inhabited by 70 families, with 300 families living in Marion Township.

The old dentist chair survives and is now housed in the mill museum. There is evidence that Dr. Lemon not only kept the shop, prepared medicines, performed surgeries, and practiced dentistry, he also spent a great deal of his time treating the sick in their homes.

During his early years, he, along with many physicians at that time, practiced "heroic medicine," but there are signs that he began studying homeopathic treatments and methods, and began using these more and more in the 1840s and early 1850s.

****

My wife, Pat Robertson, and I have visited the pioneer village many times over the years, and were always interested in the old Apothecary Shop. In 2002, we decided to become volunteers with the Indiana Department of Natural Resources, specifically to volunteer in the Apothecary Shop. Along with the

full-time staff and other volunteers, we dress in period costume, and do our best to bring to life nineteenth century medicine and pharmacy for visitors.

Pat will normally set up a rocking chair over by the back door, and will work on sewing projects while answering questions about the shop, the village, plant and herbal remedies, midwifery, and folk medicine, as well as answering numerous questions about the period garments she is sewing.

I am usually stationed behind the counter, visiting with folks about the shop, nineteenth-century medical practices, the various remedies prescribed at the time and how they were made, as well as how things had changed in the village between the very early days and 1863. Visitors are always curious about the old bottles and what they contain, and it is always a joy to describe the various medicines and how they were used during the pioneer days—also how most are still being used even today.

Invariably this leads to reminiscences of home remedies and medical treatments visitors experienced growing up. We notice nostalgia for the "good old days," but also a profound sense of gratitude for all the progress that has made in medical science since those days.

We would like to invite everyone to visit the Pioneer Village at Spring Mill State Park (Indiana's best kept secret) at your earliest opportunity. Come by the Apothecary Shop, stay awhile, and enjoy going back in time to those early days of pharmacy.

Spring Mill State Park
State 60 E
Mitchell, IN 47446
(812-849-4129)

What Is It?

See page 14 for the answer.

AIHP Student Membership

Students can join the American Institute of the History of Pharmacy at the special rate of $20, instead of the regular $50. Even though the rates are reduced, the benefits are the same:

- subscription to *Pharmacy in History,* with research articles placing pharmacy in historical perspective
- *Apothecary's Cabinet*, with information for collectors as well as compact articles covering broad historical topics, and interesting anecdotes
- 40% discount on materials in our publications catalog--some of which are books used in pharmacy courses
- the benefits of understanding the long and respected history of your profession

Join today by sending a check to: AIHP, 777 Highland Ave., Madison, WI 53705, or calling to place a credit card order (608)262-5378. Don't forget to include your shipping address and year of graduation.

Historians Come to Madison

At the end of April, over three hundred historians came to Madison for the annual meeting of the American Association for the History of Medicine. Several of the historians received travel support from the Sonnedecker Visiting Scholar fund established in the University of Wisconsin School of Pharmacy. (The Sonnedecker Fund provides grants to researchers traveling to Madison to utilize its pharmaco-historical resources. For more information about the program go to: www.pharmacy.wisc.edu/aihp/sonnedecker.htm)

These visitors (and their topics) included Caroline Acker of Carnegie Mellon (hypodermic syringe); Ellen Dwyer of Indiana University (treatments of epilepsy up to Dilantin); Nathan Moon of Georgia Tech ("pre-history" of Ritalin); Nicolas Rasmussen of MIT & University of New South Wales (amphetamines); Karen-Beth Scholthof of Texas A & M (ergot); and Carolyn Shapiro-Shapin of Grand Valley College (pertussis treatments). All these researchers worked mainly in the Kremers Reference Files with some lesser time spent in the University of Wisconsin Pharmacy, Medical, or Memorial Libraries.

Other researchers who visited the Institute at this time included Julia Sheppard of the Wellcome Library of London, Toby Appel of Yale, Ernest Hook of the University of California, and Jeremy Greene of Harvard, plus stalwart pharmacy historians John Swann, William Helfand, and Dennis Worthen.

In addition to hosting researchers, the Institute had an informational table in the book exhibit of the AAHM and sponsored a luncheon session on pharmaceutical history. Over thirty historians at the session listened to five panelists describe various resources of value to the field. Last but not least, AIHP Assistant Director Elaine Stroud did the layout and co-ordinated the production of the program for the AAHM meeting, which received high praise for its design.—Greg Higby

CALL FOR PAPERS

AIHP Section on Contributed Papers
at the APhA Annual Meeting
2-5 April 2005
Orlando, Florida

•Titles and 200-word abstracts for 15-minute podium presentation must be received by **October 1, 2004**. With your abstract please include name, affiliation, address, phone number, and email address if available.

•Send abstracts to Anthony Palmieri III, AIHP Section Chair Contributed Papers:
email: ap3@ufl.edu (*prefererred)
phone: 352-392-4903
mailing address (hardcopies): University of Florida-Gainsville, Office of Technology Licensing, Walker Hall, Box 115500, Gainesville, FL 32666

•For additional information, contact the AIHP office (608-262-5378); email (abstracts@aihp.org).

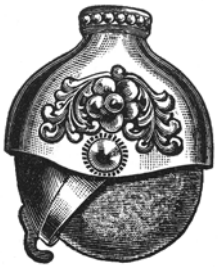
Drachms & Scruples

Terms according to the Encyclopedia of Pharmaceutical Technology, Dekker, 2001*

Moxa: Moxa are cones of combustible matter used for cauterization by burning (see *Cones*). Moxibustion, the burning of moxa, was an ancient method of counter-irritation or cautery arising out of China. Small cones of combustible organic material (originally *Artimesia moxa* or common mugwort) were placed on certain areas of the skin, ignited, and allowed to burn down, leaving a blister. Moxa entered Western medicine in the seventeenth century as a treatment for gout but fell into disuse a century later along with other forms of cautery.

Cones, medicated: Cones are light, porous hemispherical masses of sucrose and egg albumin, used as a vehicle for homeopathic medications. The cones, also called disks, are designated (in millimeters) according to size by the diameter of the base. The common size (No. 6) should abssorb about 2 drops of dispensing alcohol. Cones are medicated by adding a sufficient quantity of the dilution to saturate them and pouring off the excess liquid.

Confections: Confections are saccarine, soft solids, in which one or more medicinal substances are incorporated to provide an agreeable form of administration and a convenient method for preservation. In the thirteenth century, some apothecaries were called *confectionarii* from *confectio* meaning "a composition." Confections are made by adding medicinal ingredients in either the form of a smooth paste, a fine powder, or a liquid to a basis of finely powdered sugar. Confection of Rose and Confection of Senna were official in the *National Formulary* through the 5th edition (1926).



Inhaler showing the menthol cone, from Sharp & Dohme, 1897.

*Robert A. Buerki and Gregory J. Higby, "History of Dosage Forms and Basic Preparations," *Encyclopedia of Pharmaceutical Technology*, Dekker, 2001.

What Is It?

"A correspondent in Smyrna has kindly furnished a sketch, showing the primitive manner in which opium is weighed there. . . . It shows the form of the "*Cantar,*" or steelyards, which is suspended from a pole, resing on the shoulders of two porters.

Any movement of either of these porters, at the moment of weighing, will alter it and, therefore, the greatest care is necessary. The "*Cantar*" is divided by notches on the upper angle, into Okes and fractions of Okes of Constantinople.

Regarding the weight of a Chequi, I have to inform you that there is no such actual weight; it is only a nominal weight arrived at by calculation. [Note—In quoting Opium, say for example—130 Piasters per Chequi, of Current quality Opium.] Formerly the Smyrna *kintal* was used—for buying and selling merchanise—divided into 45 okes. One kintal weighted 120 pound avoir-dupois, consequently 1 oke weighed 2 2/3 pounds. An oke was considered to be 400 drams (although the Smyrna Oke was only 380 drams) and 250 drams were considered at 1 chequi.

At present Opium and other merchandise is *weighed* by the Constantinople oke, but opium is *sold* by the chequi.

. . .

In almost every town in Turkey, weights and measures vary. The turkish government passed a law established all weights and measures throughout the Empire obligatory, in accordance with the decimal system in France. This law was to take effect some two years since, but up to this time nothing more has been heard of it—a dead letter, like most all attempts of Turkish reforms."—*Circular No. 31 Philadelphia Drug Exchange. (Am. Jour. Pharm.* Oct., 1875*)*

A Backward Glance at American Pharmacy

Edited by Greg Higby

100 Years Ago

"Two very sedate, middle-aged women came into a Boston drug store and in a somewhat confused manner asked for the proprietor, with whom they had a confidential talk regarding their needs. It appeared that they were about to go to a summer residence in the country where they had two maids—no man about the place. Fearing possible visits from burglars, the ladies wished the druggist would fix them up something in the form of a harmless yet efficacious drug which they were to use to 'doctor' a decanter of whiskey. (They had decided that this would be a tempting bait.) And this when drugged was to be left where burglars would find it the first thing, and in the hope that they could not resist a first drink, before beginning their 'burgling,' the maiden ladies expected . . . that the men would be paralyzed and remain so until discovered the next morning. The druggist feared serious results might follow. Whether or not some other pharmacist satisfied their wants is not known. The ladies had such faith in their idea that they were almost willing to have a burglar break in, merely to see how the scheme would work." (*Pharmaceutical Era*, August 18, 1904, p. 164.)

75 Years Ago

"Permits for the manufacture of 2,000,000 gallons of medicinal whisky during 1930 will be issued by the Bureau of Prohibition to concentration warehousemen who were engaged in distilling before the passage of the national prohibition law . . . . The actual supply of whisky now on hand is 9,549,017 gallons . . . and this is a supply for five years, based on the average withdrawals of from 1,500,000 to 1,650,000 gallons per year. The whisky must age four years before being prescribed, and it is estimated that the 2,000,000 gallons to be manufacured next year will by evaporation and soakage be reduced to between 1,600,000 gallons and 1,700,000 gallons. The output of ensuing years will be determined by the bureau on the basis of trends in stocks and withdrawals. A margin of one year's supply of aged whisky is deemed sufficient for normal conditions." (*Druggists Circular*, August 1929, p. 14)

50 Years Ago

A September 1954 issue the New York *Daily Mirror* contained a bit of doggerel by columnist Nick Kenny praising his local pharmacist:

The Druggist

His place is on the corner
And it's open day and night;
When sickness comes how glad we are
To see his shining light.

We jest about his sandwiches
When everything is calm
But with his drugs and mortar
He's the doctor's good right arm.

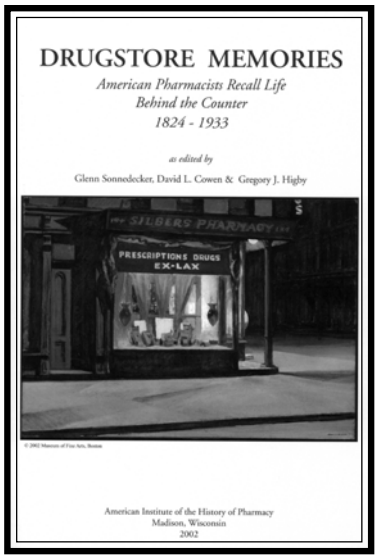
So toast this friendly fellow
And give credit where it's due . . .
To the druggist on the corner
Just around the block from you.

(*American Druggist*, September 27, 1954, p. 6)

25 Years Ago

"Drug stores in suburban shopping malls where shoppers depend heavily on the automobile experienced sharp sales declines due to gasoline shortages in some regions of the country. On the other hand, stores situated closer to residential and urban areas of the gas-starved regions felt little impact. In fact, some drug store operators reported sales gains directly related to the shortage. . . . A spokesman for the National Association of Retail Druggists described the situation as 'an absolute mess' for some drug stores and predicted that sales would continue to fall for the rest of the summer unless the shortages were remedied soon. . . . Although prescription sales have been normal for the most part, drug supply deliveries have been spotty. . . . Drug wholesalers complained of difficulty making routine deliveries of goods to drug stores in gasoline-deficient areas." (*American Druggist*, August 1979, p. 10)

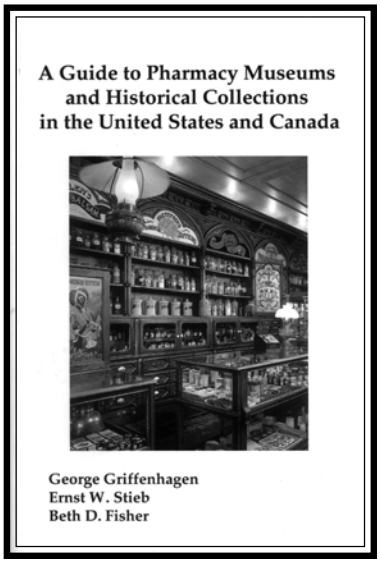
Gift Offer



LOOKING for that perfect gift for a mentor or colleague? Purchase the special package of *Drugstore Memories* and *A Guide to Pharmacy Museums* for $30, and we will include a FREE TRIAL MEMBERSHIP! (A $50 value.) A letter will be included with the package informing the recipient of your generous gift.

Membership includes 4 issues of *Pharmacy in History*, 2 issues of *Apothecary's Cabinet*, and the satisfaction in knowing that you are helping **preserve the heritage of American Pharmacy.**

Order these two books today—call 608-262-5378 or mail in your $30 check to: AIHP, 777 Highland Ave., Madison, WI 53705.



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