

of Pharmacy, from which he was graduated with the diploma of *provisor*, giving rights and privileges equal to American registered pharmacists. Entering the retail field, he owned and managed a drug store of his own, devoting considerable time to botanical studies. When Estonia won its independence, Mr. Wallner was among the first to call together the *First National Pharmacists' Convention*, which he served as secretary. In 1919, we find him in Paris as a postgraduate student at *École Supérieure de Pharmacie de Paris*, working under Perrot, Goris, Weitz and Delepine. Notable from this period is his work on *Hydrastis Canadensis*, published in *Bulletin des Sciences Pharmacologique*. In 1921, he returned to Tallinn where he founded and edited the first Estonian pharmaceutical monthly *Pharmacia*. The following year the office of the Chief of Pharmacy Department of the Public Health Administration became vacant, and he was appointed to this post. This office Mr. Wallner held until 1934, retaining at the same time the editorship of *Pharmacia*, for which he secured as contributors such pharmacists of repute as Goris, Tschirch, Thoms, etc. As the result of his ability of organization there is *The Estonian Association for Scientific Pharmacy*, and very recently there was organized *The Estonian-Finnish-Hungarian Pharmaceutical League*, the purpose of the latter being to draw together the pharmacists of these three Finno-ugric peoples for the scientific and economic improvement of pharmacy in their respective countries.

Mr. Wallner's publications of scientific and professional nature are numerous, published in Estonian, French, German and Finnish pharmaceutical periodicals. Of his books deserving attention are the *Dictionary of Drugs in Colloquial Estonian and Manuale Pharmaceuticum*, in two volumes.

Since 1934, Mr. Wallner has somewhat withdrawn from public life, devoting most of his time to his prescription pharmacy and to writing.—O. L.

APOTHECARY SHOPS OF COLONIAL TIMES.

BY MILLICENT R. LAWALL.*

FOREWORD.

The following information has been gathered from various articles published in pharmaceutical literature and other sources of the past few years, with the idea of collecting in one article all the facts instead of having them scattered through many magazines and newspapers.

If you could step with me into an apothecary shop of Colonial times, having in mind a picture of the modern drug store, you would see a great contrast between the two in many ways. You would see many things to which you are unaccustomed, and miss many things to which you are accustomed. In the front of the shop you would see no large bulk windows of plate glass, with goods tastefully arranged. You would see only a flat window in most cases, flush with the house, and consisting of a number of small panes of glass, about 8 x 10 or 10 x 12 inches; about 24 panes in a window. There were no show bottles filled with colored water; they indicated that it was an apothecary shop by placing a bottle behind each pane—24 bottles in all; there were containers of colored liquid, to be sure, but they were the real thing. As there were no pharmaceutical manufacturing houses in those days, the pharmacist had to make his own preparations. He frequently grew his own plant drugs in his garden, and he made his tinctures by macerating the drugs in the proper menstruum in containers which were placed in the window, exposed to the rays of the sun—insolation it was called. When pharmaceutical

* Section on Historical Pharmacy, Portland meeting, 1935.

manufacturing houses came into being, this process was no longer necessary, and the colored show globes were substituted for the macerating drugs, and they are the evolution products of the time when the old-time apothecaries made their own preparations. You would see no lunch counter with its sandwiches, cake and ice cream; no soda fountain, for soda water had not yet been invented; no show cases as we know them to-day; no fancy candy boxes; no shelfware with glittering glass labels; you would find no beautiful torsion balance on the counter, but the old single-beam, equal arm scales with the huge brass pans suspended at the end of each arm, and if you went back into the prescription department, you would find no finely adjusted prescription balance, but most likely a small hand scale like the one in the old Glentworth store now in the Philadelphia College of Pharmacy and Science, the pans of which are made of tortoise shell suspended by cords from a beam of brass. There would be tobacco, but no cigars or cigarettes; no toothbrushes; in 1784 there were no toothbrushes in Philadelphia; those people who cleaned their teeth did it with a rag and powdered chalk or snuff; indeed, if a man cleaned his teeth he was considered effeminate.

There were no sugar-coated pills or tablets, and no capsules; people took their medicine "as is," in those days. The shelfware was as you see it now in museums—of pottery of different shapes and sizes. The syrups were kept in containers with spouts, which spouts, having no covers offered a fine opportunity for collecting entomologic specimens. There were cosmetics and perfumes, but the principal side-lines were paints, oils, varnishes, putty, window glass and garden seeds; also some fruits, such as figs, raisins and plums; no beautiful lighting fixtures. Betton's drug store in Philadelphia first showed Argand lamps in 1795, in which probably whale oil was burned. There were drugs a-plenty, in these old shops, both plant and mineral, but as for the great variety of other articles found in our stores to-day, there were none. Occasionally an old shop would be found in which the stock was an extraordinary jumble of everything, and only the apothecary himself could find anything in it.

Dr. T. W. Dyott of Philadelphia, in 1821, came the nearest to having a department store of any of the old shops. He was the largest distributor of "secret" medicines. He ran a wholesale and retail drug and family medicine house at the northeast corner of 2nd and Race Streets. He had the largest business in "panaceas" in the United States. The announcement of his remedies, and the certificates of his cures (testimonials) took up a daily half page in the *Aurora*, the *Democratic Press* and other newspapers. He had a fleet of Conestoga wagons carrying his medicines to suffering mankind in the south and west. He bought old bottles, lime and hardwood; he had a glass factory in Kensington where he made bottles; he handled garden seeds, paints, dyers' supplies, chemical and pharmaceutical apparatus, butter pots, snuff, chewing tobacco, mustard, chocolate, lard, ham, brandy, gin, sugar plums and cowskin whips.¹ He sold to the laboring poor at half the regular price.

He did not always carry in stock, but bartered for and dealt in, rosin, turpentine, lamp-black, beeswax, cheese, rye whisky, apple whisky, peach brandy, pearlash, flaxseed, bristles, rags, logwood, mackerel and real estate. There is at the Philadelphia College of Pharmacy and Science, the old day book (waste book, it was called) of the old Christopher Marshall drug store dated 1774. The entries are in the fine meticulous handwriting of the period when people had time to write legibly, and nearly every other entry is for a sale of paints or oils, etc. This store had quite a large trade with the ships that came to the port of Philadelphia. Conditions on these ships must have been

¹ It is to be hoped Dr. Dyott knew enough to keep these various articles of merchandise separate from each other.

similar to those on our steamships to-day, where it seems to me that when a sailor has nothing else to do they give him a pot of paint and a brush and tell him to go and paint something. These ships were sailing ships, as indicated by their names, as for instance, the schooner Peggy, the sloop Hope, the ship Prosperity, the brig Nancy, the sloop Elizabeth; Capt. Long of the ship Success, the brig Morning Star.

The apothecary also seemed to be a friend in need, for there is one entry which reads: "John Dillhorn, £3 (3 pounds) lent him," and also another showing that he had lent some money to Dillhorn's wife. There is an echo of slavery in the entry: John Ross, 1 gal. boiled oil, delivered to his negro man. This store also sold drugs to the ships for their medicine chests.

The amounts were, of course, in English money, pounds, shillings and pence. Occasionally the dollar or half dollar was mentioned, but always followed by its equivalent in English money, as: "One dollar, 6.6." As mentioned before, the apothecary made his own preparations, and there being no drug millers then, he had to powder his drugs either by the use of mortars and pestles or in the crude hand mills then in existence. The mortars for powdering were usually of iron, and were called "contusion mortars." Sometimes the pestle would be nearly a yard long, so that the operator could stand upright, thus preventing an aching back. Sometimes the heavy mortar was mounted on a solid block of wood or on a post that passed through the floor and rested on the cellar floor. Sometimes a light, springy board was fastened by one end to one side of the ceiling, from where it passed across the ceiling, bringing the loose end over the mortar; this free end was then fastened to the pestle, and when the pestle was brought down on the material in the bottom of the mortar, and released, the spring of the board would help raise the pestle again, thus lessening the labor.

Commercial manufacturing really began when some proprietor of an apothecary shop made more of some preparation than he needed, and sold the surplus to his competitor. The old apothecaries also spread their own plasters, the small ones by hand. One of the specialties of the Marshall store was spread adhesive plasters. These were made in the open air, the cloth being drawn out by hand down Vidall Court to Second Street, all hands supporting the center with canes and broom handles, in lengths of about 60 or 75 yards, then cut into length of five yards and taken into the store. Later, Isaac P. Morris, one of the proprietors of the store, constructed a machine for spreading plasters, and after this the spread plaster was reeled on drums, and 150 or 200 yards could be made at one time.

In Colonial times, if a boy wanted to learn the drug business, his parents did not furnish the money to send him to a college of pharmacy, for there were none until 1821, but he was apprenticed to some well-known apothecary for a term of years, and he earned his knowledge by hard work, for the apprentice had to do the drudgery; the rules regarding apprentices were very strict; he had to live with his master's family; he was not allowed to go out nights without his master's permission, he was not allowed to marry without his master's permission, nor was he allowed to play cards, if it would cause any damage to his master's interests. It is safe to say that the drug business would not be overcrowded to-day if every pharmacy student had to conform to these regulations. The term of apprenticeship was from four to six years. There is one of these indentures at the Philadelphia College of Pharmacy and Science, dated 1782, and signed by Townsend Speakman, an apothecary, and an ancestor of Professor J. P. Remington. Probably the most laborious work the apprentices had to do was the powdering of drugs in the contusion mortar. Old Dr. Schwettmann, one of the proprietors of the Apothecaries' Hall in Charleston, S. C., said the pestle in the store where he served his apprenticeship, which was used in the contusion mortar for powdering, weighed 22 pounds.

The first drug mill was erected by Charles V. Hagner, in 1812 at the Falls of Schuylkill, Philadelphia. The first material ground in it was several tons of cream of tartar, which had been doubtfully entrusted to him by Dr. Haral, a Philadelphia druggist. Hagner had offered to do it for less than 3 cents a pound, which was the price charged for doing it by hand. Hagner hauled the material out to his mill by teams, and ground it on the millstones on which he ground his plasters and paints. The mill was run by water power. It is to be hoped he cleaned the stones well before he ground the cream of tartar. He returned the powder to the amazed and indignant druggist within 12 hours. Indignant, because he said the stuff was ruined, for it was not possible to do in 12 hours what it would have taken his men several months to do by hand. A meeting of druggists and experts was called, and the powder was examined and tested, and it was pronounced very good, unusually white and the finest powder they had ever seen. Hagner later, in 1820, erected another mill in Manayunk, and thus helped to build up that portion of the city.

So much for pharmacy in general in Colonial days. Now let us look at some of the individual shops.

The earliest record we have of an apothecary shop is in 1646, when William Davies, an apothecary of Boston asked permission to erect a picket fence around his property. This was probably the first store devoted exclusively to pharmacy in America. There is also an advertisement in the *South Carolina Gazette*, of 1734, in which John Lining of Charleston announces that he has certain medicinal preparations for sale, and he was evidently a pharmacist.

The oldest American apothecary shop still in existence and doing business is the Rau pharmacy in Bethlehem, Pa. During the first ten years of the existence of the town, the Moravians established a dispensary in one of the community houses on Church Street. From 1743 until 1750, it was in charge of Dr. Frederick Otto, and after that time his brother Dr. Matthew Otto was in charge. In 1752, a one-story stone dwelling and store was built for him at 420 Main Street. A frame second story was added in 1764. Dr. Otto's duties as a physician called him away from the store so much that a resident pharmacist was employed, Timothy Horsfeld, Jr., who acted in that capacity for 28 years—from 1761 until his death in 1789. In 1790 Dr. Eberhard Freytag then took charge, and in 1796 he bought the stock and fixtures from the Congregation, and carried on the business on his own account for 43 years, when he sold it to Simon Rau. The old building which had been built in 1752 was razed by Rau in 1862, and a larger and more convenient building erected on the same site. His brother, David Rau, was associated with him until his death in 1879. After that it was conducted by Eugene A. and Robert Rau, under the firm name of Simon Rau and Company. Robert Rau died in 1906, and C. N. Lochman purchased his share in the business. E. A. Rau retired in 1913, and was succeeded by F. P. Miller, who sold his part in the business to Robert A. Smith in 1930. The store was conducted by Lochman and Smith under the old name. Lochman died in 1930 and Smith became the sole owner. Paul Clarke then came in with Smith as registered pharmacist, still under the name of Simon Rau and Company. They are still carrying on in the same place and under the same name. Both are graduates of the Philadelphia College of Pharmacy and Science. There was quite an extensive botanical garden in the rear of the brethren house, and there the old apothecary cultivated his drugs. An occasional plant is still found growing in sheltered corners, having survived to this day. This store became famous for its beeswax Christmas candles, which are still manufactured and sent all over the country. They are made of beeswax because it burns with a smokeless flame. It is said that they are now mixed with bayberry wax, to give them the distinctive odor of bayberries. These candles were first manufactured in connection with the Christmas celebration of the Moravian Church.

This old store is said to contain enough pharmaceutical relics to start a museum. It is a pity that there is not in this country some fund or pharmaceutically in-

clined philanthropist, to preserve our old pharmaceutical relics. These things are done better in Europe, especially in Germany. When they have a particularly interesting old shop, it is put into a museum.

Another interesting old store, which has been turned over to a museum is Apothecaries' Hall in Charleston, S. C. The proprietor in 1781 was Dr. Andrew Turnbull, and it was founded prior to that time by somebody unknown. This was known as the Schwettmann Store, named after one of the well-known proprietors. Nothing in the shop is positively identified as coming from Dr. Turnbull's time, except the specimens of antique chairboard and cornice. The rest of the interior woodwork dates from the time of Dr. Jacob De LaMotta, 1816-1845, when the old shop was refitted in the pseudogothic style so popular in those times, and a specimen of which can be seen in the old Glentworth store, now in the Philadelphia College of Pharmacy and Science. Dr. John F. Huchting was one of the later proprietors, and he arranged for the remaining material to the Charleston Museum, as a memorial to his former employer and friend, Frederick William Schwettmann. The shop is now set up in the balcony of the museum. One of the best known relics of the store is, however, missing. This is the famous old golden mortar and pestle, placed out in front of the store by Dr. De LaMotta in 1838, which was kept by Dr. Huchting when he moved from the old stand to a new location further up the street. This was known to the negroes of the city and the surrounding country as "The Big Yelluh Bucket."

A great variety of antique equipment is displayed, most of them English imports—crude drugs, mineral and plant, old labels, strings of dusty antique prescriptions, carboys, crucibles, gallipots, pincers for teeth-pulling and cups for bleeding. The following is taken from *The American Druggist*:

"John Bennett, curator of the Museum, is perhaps best able to trace the history of the old shop from its opening day in 1740. 'It saw the last of the British crown,' he says, the King's Lieutenant-Governor, William Bull; Lord Cornwallis in his powdered wig, Balfour, Benjamin, Count Rumford, John Rutledge, Christopher Gadsen, the Pinckneys, Moultrie, Sumter, Marion, Gen. Nathaniel Green, President Washington and his nephew Will; Lafayette, Calhoun, the Hamptons, Robert E. Lee, and all the notable men of ante-bellum days. It has welcomed President Davis and watched President Taft ride by.' It has seen more history parade before its portals than probably any other shop in America; twice the store withstood sieges, once when the British bombarded the young Charleston, again when Federal shells crashed into the Confederate stronghold—one of them bursting in the shop itself. But perhaps its most novel thrill was a riot of superstitious ex-slaves, shortly after the Civil War, and was caused by nothing more than a toad in a jar of alcohol. It had been raining steadily in Charleston for a long time and the rumour spread that the rain was caused by a mermaid which the proprietor of the old store, Dr. Trott, had in captivity, and that it would not stop until the mermaid was released. So intense did the feeling become that a mob gathered. Stones were thrown through the windows, and finally the crowd pushed through the doors and ransacked the store, frantically searching for the cause of the trouble, and found a toad in a jar of alcohol. To this day there remains an old toad in its jar of alcohol, a mute reminder of the comic though dangerous occasion."

Another interesting old shop is the Heinitsch Pharmacy in Lancaster, which, however, was changed and remodeled in 1934. Members of the family are proud of the fact that the pharmacy has been in their possession for 147 years, and unlike many other old stores which were conducted under the names of different owners as time went on and the stores changed hands, the Heinitsch pharmacy has almost invariably had the Heinitsch name in the firm name; it has been a family affair, for when there was not a Heinitsch to run it, a relative of the family kept up the old tradition. First there was Carl Heinrich Heinitsch, the founder, who came from Leipzig, Germany, and settled in Lancaster, Pa., as a merchant; in 1780 he opened the drug store, in 1803, the firm name was August Heinitsch; in 1815, Heinitsch and Co.; in 1816, A. and J. F. Heinitsch; in 1841, J. F. Heinitsch and Son; in 1849, Charles Heinitsch, who in 1882 was President of the AMERICAN

PHARMACEUTICAL ASSOCIATION; in 1899, S. W. Heinitsch; in 1911, A. S. Heinitsch; in its later days it was under the management of E. L. Page, a relative of the family. Here in this store, among the relics, was the sheepskin of the founder, dated 1759 at Lutzen, Germany; a Bible written by hand in German script, and a copy of the first U. S. Pharmacopœia, called the Military Pharmacopœia, compiled by Dr. William Brown, for use in the Continental Army Hospital at Lititz, Pa. This, which is a second edition, is now in possession of the Philadelphia College of Pharmacy and Science, having been purchased from the Heinitsch estate. Only two other copies of this edition are in existence—one owned by the Pennsylvania Historical Society, the other one by some person unknown.

Probably the most interesting of the Colonial apothecary shops was the Mercer apothecary shop, kept by Dr. Hugh Mercer—the apothecary-patriot, as he was called at Fredericksburg, Va. Although no longer in business, this old store has been restored to its original condition, and is preserved as a museum. This shop was notable because of its connection with George Washington.

Dr. Hugh Mercer was born in Scotland, was educated in medicine in that country and came to America in the middle of the 18th century. He served in the French and Indian War, at which time the lifelong friendship between him and George Washington began. Probably because of this friendship, he came to Fredericksburg and opened an apothecary shop in 1764, and from 1764 to 1776 Washington spent a great deal of time in the store. He had a desk here, at which he figured up his accounts and attended to his correspondence; in fact, he made this shop his headquarters in Fredericksburg. Other frequenters of the shop were Chief Justice John Marshall, who also had a desk there, Madison, Monroe, George Mason, Col. Fielding Lewis, Washington's brother-in-law, and many others, who congregated there to discuss pre-Revolutionary events. When war finally came Dr. Mercer again joined the Continental Army, was made a brigadier-general, and led the van of Washington's troops on the march from Princeton to Trenton, where he was mortally wounded, died and was buried in Philadelphia in January 1777, with military honors. He was first buried in the churchyard of historic Christ Church, but his body was later removed to Laurel Hill Cemetery. Not far from the old Mercer House, Congress erected a monument with the inscription "Sacred to the Memory of Hugh Mercer, who died bravely defending the liberties of America."

Dr. Mercer's house in Fredericksburg had two rooms in front, one of which was his consulting room where he blistered and bled his patients and prescribed for them, and the other was the apothecary shop where he prepared his medicines and filled his prescriptions, for the doctor was his own apothecary. At the rear of the house was his herb garden, where he grew many of his drugs. Back of the consulting room was the small room containing Washington's desk where he spent so many hours. After Dr. Mercer's death, the little house was used as a dwelling, and gradually deteriorated, until in 1928 it was taken over by the Citizen's Guild of Washington's Boyhood Home, and has been faithfully restored to a typical apothecary shop of the Colonial period. In the course of the restoration of the shop part, the drawers and shelves, with pigeon holes and niches to hold containers of varying shapes and sizes, were found intact, having been lathed and plastered over by a later occupant. To-day they are completely equipped like an 18th century pharmacy, with pill rollers, cork pressers, mortars and pestles, brass scales and huge green glass liquor containers. There are brandy, rum and whisky containers of cherry-red porcelain, banded with white. Some of the articles on display were the personal property of Dr. Mercer, including his rosewood, ivory-tipped carrying case, each tiny bottle with its label, faded but still legible.

An interesting feature of the house was the powder closet. This was a closet on the second floor, in the door of which, near the top a round hole was cut, large enough to admit a man's head.

Here the men came and thrust their bewigged heads through the hole to have them powdered, so that the powder would not get on their clothes. This was probably the first men's beauty shop in the country.

Another interesting shop, famous also for its connection with the Washington family, is the Leadbeater Store at Alexandria, Va. The following account of it is taken from the *JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION* for November 1934.

In 1792, young Edward Stabler borrowed 120 pounds from his uncle to buy stock and fixtures for an apothecary shop which he wanted to open in Alexandria. He did not then know

that he was starting a business that would be carried on by his descendants for 141 years. The business prospered so that he was able to return the loan and double his stock within a year. The original bill for stock came from Townsend Speakman, in Philadelphia, an ancestor of Prof. J. P. Remington. There were 150 items on it. Three of these articles are still in existence—two heavy marble mortars, and a quart flint glass bottle labeled "Spt. Nitre." This bottle was in continued use since the founding of the store until 1933, when the doors were closed after the last customer and the store no longer functioned as an apothecary shop. Washington was a frequent visitor here; he bought his medical supplies here, and after his death, his family continued to deal with Mr. Stabler. There were a number of documents in this store in the handwriting of members of the Washington family, and it is a pity they were not preserved, but they were handed to different people and scattered. One reads as follows:

"Respected Friend. Here is a check for 77.9, the amount of your account, which ought much sooner to have been attended to. I will thank you to send it to me more frequently, at least once a year.

Respectfully,
Bush. Washington."

Judge Bushrod Washington was a nephew of George.

An example of the leisurely way in which things were done in those days, is the correspondence between Mr. Stabler and the London firm of Allen and Howard. In a letter dated 1801, Mr. Stabler ordered:

"One medicine chest, complete with weights, scales, bolus knives, etc. I want this to be of mahogany of good quality, as it is for the granddaughter of the widow of Gen. Washington, the cost to be about 12 guineas." It was not until the following year that the London firm billed the apothecary for a mahogany, folding-door medicine chest, complete, at 11 pounds, 11 shillings and shipped it on the sailing vessel Union, Thomas Woodhouse, Master. The name of a grandnephew of George Washington was found scrawled on one of the interior walls of the vault, and several of this generation owed their business training to a boyhood connection with this store; two of these nephews are now druggists in West Virginia.

Half a century or more passed between the days when the first President chatted with Edward Stabler, the founder, and a later day when another great general, Robert E. Lee, came to the store to discuss passing events with Edward Stabler Leadbeater, the grandson of the founder. One of these talks was abruptly interrupted one day by a messenger, afterward identified as J. E. B. Stuart, later leader of cavalry under Lee in the Civil War, who came with the news of the raid on Harper's Ferry, and the order that Lee was to go and quell the insurrection. Lee was at that time an officer in the Union Army.

Mr. Leadbeater was unwilling to take oath of allegiance to the United States. His sympathies were with the South, but his religious scruples prevented him from joining the Southern Army, and he could not submit to the edict that those business houses whose clerks did not take the oath, must close. But Mr. Lewis Mackenzie, a Union adherent and Justice of the Peace, declared that he would not trust anybody to put up his prescriptions but Ned Leadbeater, and oath or no oath the store must not be closed; and it was not closed.

In the rear of the store is a large desk, and set in on each side is a mirror, one bearing in gold leaf the figures or date "1792," and the other "1892," thus indicating a century of service. Above these mirrors, in gold leaf are the various names under which the business was conducted until 1865, as follows:

1792, Edward Stabler
1820, E. Stabler and Son
1831, Wm. Stabler
1840, Wm. Stabler and Co.
1844, Wm. Stabler and Bro.

1852, John Leadbeater
1857, Leadbeater and Son
1860, Leadbeater and Co.

The following names should be added:

1892, E. S. Leadbeater and Sons
1903, Leadbeater and Sons, Inc.
1916, Leadbeater Drug Corporation.

There is a plate on the front of the desk in honor of Robert E. Lee. There are two plaster casts on top of the desk, one at each end, of George Washington and Benjamin Franklin. A story is told of a small boy, who on being asked whom these busts represented, quickly replied: "Why, George and Martha Washington, of course." Those of you who have seen some of the pictures and casts of Franklin, can excuse the boy, for they do look rather like a placid old lady.

The interior and exterior of the building is now being restored by the Landmark Society of Alexandria, and will be kept open as a museum, the first floor as a memorial to General Lee, and on the second floor the old apothecary shop will be set up.

Now let us go back to Philadelphia, the home of so many "firsts," and of so many of the leaders in pharmacy at that time. There were upward of twenty apothecary shops in Philadelphia in Colonial days, but none of them had the reputation or held the position that Christopher Marshall's did.

"Christopher Marshall was born in Dublin, Ireland, in 1709. He came to this country and was for some years a resident of Bucks Co., Pa., and was a member of the Middletown Meeting of the Friends or Quakers. Later he came to Philadelphia and established himself in the drug business in 1729, at Front and Chestnut Streets. In 1735 he purchased a property on the south side of Chestnut Street, east of Second Street, present number 214, where he continued the business. He was a Friend, and while his principles forbade it, he favored the cause of the colonists. With other militant Friends he seceded from the Society, to build and support the Free Quaker Meeting House, still standing at the corner of Fifth and Arch Streets. He was a remarkable man in his day and occupied many positions of trust in the infant city. He was known as the 'Fighting Quaker of the Revolution,' and was an active member of the Committee of Inspection and Safety of Philadelphia. His 'Remembrancer' or Diary of the Revolution is one of the most interesting and important records of the War for independence. His two sons, Christopher, Jr., and Charles, became his partners in 1765, and succeeded to the business, and Charles later became the manager.

"Charles Marshall was an apothecary, druggist, botanist and chemist. His shop had the reputation among the doctors as a place where they could get pure drugs, good service and have their prescriptions carefully and properly compounded. He worked in his laboratory with knowledge and skill. He always had from 6 to 12 alert, capable young men working in the front of the store, and in the back room, making preparations and filling prescriptions.

"Many of the city's most notable apothecaries were trained in this store, including Charles Ellis, who later bought the store, Dillwyn Parrish, who later had a store at 8th and Arch Streets, and was one of the presidents of the Philadelphia College of Pharmacy, and the first president of Haverford College; Frederick Brown, the originator of Brown's Jamaica Ginger, and who went into business for himself at the northeast corner of 5th and Chestnut Streets. He was one of the founders of the Philadelphia College of Apothecaries, as was Charles Marshall, who was the first president of that venerable institution. Charles Marshall withdrew from active participation in the business in 1801, but unfortunately retained an interest in it, and when in 1804, the firm became insolvent, through endorsing a note, everybody connected with it was involved in bankruptcy."

Enter now Elizabeth Marshall, or "Betsey," as she was called, who became business man-

ager, and pulled the business out "of the red," and put it on a sound financial basis. She was probably the first woman pharmacist. She continued to manage it until 1825, when the store was sold to Charles Ellis and Isaac P. Morris. The Marshalls were probably the first to manufacture chemicals. As early as 1786 they made muriate of ammonia in their laboratory on North Third Street. They also manufactured Glauber's Salt, the first manufacturer of this in the country, but it is safe to say that they did not take advantage of the gullibility of the public by selling it under a coined name at a high price.

Another important pharmacy of this period was that of John Speakman, at the Southwest corner of Second and Market Streets. This shop was especially notable because it was in a room on the second story over this shop that one of Philadelphia's most famous scientific institutions was born—The Academy of Natural Sciences, now at 19th and Race Streets. John Speakman and five associates organized the Academy on January 25, 1812. One of the associates was Gerard Troost, the first professor of chemistry at the College.

John Bartram, son of old John Bartram, the famous botanist, had an apothecary shop at 2nd and Arch Streets, and his brother Isaac had one on Arch Street. One may wonder why these important stores were established so far from what is now the business center of the city. The principal reason is that this section *was* then the business center of the city. Dr. Army, in speaking of Philadelphia in 1821, says that Philadelphia was then the most important city in the United States; it had 137,000 inhabitants; New York ranked second. Southwark seemed to be the southern edge of the city. In 1826, Edward Needles, then in business at 12th and Race Streets, was called "the frontier apothecary, since across the street was a large field enclosed by a rail fence, and in 1829, when Biddle opened a store at 11th and Arch Streets, he was afraid he had made a mistake in going so far out into the suburbs. Most all of these old shops had special names usually exemplified in their signs. Among these were The Golden Ball (the Marshall Store); there was a Golden Mortar, and The Golden Spectacles was at Second Street between Black Horse Alley and Market Street. This was also the time when corn-meal mush was considered to be a delectable dish. An advertisement in a newspaper of the day states that a certain restaurant would serve corn-meal mush every Saturday night.

Four generations of Wetherills were druggists in Philadelphia. Samuel, the founder, was a Quaker of such prominence that the most eminent people of his day were attracted to him. Samuel, Jr., was the first manufacturer of chemicals on a large scale in the United States. The drug store was at 65 N. Front Street, in 1789. Samuel was succeeded in the drug business by Samuel, Jr., and John Price Wetherill, a grandson of the founder, succeeded his father.

The store of George Glentworth was opened in 1812, at the southeast corner of Sassafras (now Race) Street and Chester Street. Glentworth was one of the founders of the Philadelphia College, and his certificate of membership in the "Philadelphia College of Apothecaries," probably the only one in existence now, is in possession of the College. The family conducted this store for over 92 years without making any change in the arrangement or fixtures. It was then given to the College, and part of it is now set up in the building in a room on the second floor, much as it was in the old days. There are the old heavy brass counter scales, and the small tortoise shell hand prescription scales. Over the prescription case there was a figure of an owl, cut out of a flat board, with movable glass eyes, and a movable beak. These movable parts were attached to a string which ran down behind the counter, and could be worked by the clerk for the amusement of the children who came into the store. Underneath the counter was a bunk where the apprentice slept so he could answer the night bell.

Sometime ago there was published in a Philadelphia paper, an account of Mrs. Bok having found in the effects of her father, Mr. C. H. K. Curtis, the front of an old clock, and what interested her about it was a picture on it of an old drug store formerly at 6th and Chestnut Streets, the site of the present Ledger building. This was the store of Elias Durand, a young Frenchman who worked in a chemist's shop in France, and who was appointed a pharmaceutical aide in Napoleon's army. He served in the hundred days' campaign, came to America in 1816 and in 1825 opened this store. He imported his stock and fixtures from France. The store had mahogany drawers and marble counters and was quite the most magnificent store in the city at that time. He was a member of the Academy of Natural Sciences, and a vice-president of the College. In this store he introduced into America the business of bottling mineral waters. He wrote a series of magazine articles, mostly on pharmaceutical subjects. One of the most interesting of these was the story

of F. A. Michaux, the famous French botanist, for whom the Michaux Oak Grove in Fairmount Park is named. Durand collected a great number of herbs and plants, over 100,000 specimens, which he shipped to France. He died in 1873 at his Broad Street home in Philadelphia.

Another prominent apothecary of Philadelphia was James Cutbush. A Lyceum was built in 1812 at Chester and Race Streets opposite Glentworth's store, and Cutbush, an apothecary at 25 S. 4th Street, gave lectures here on chemistry, pharmacy and mineralogy, and demonstrations of laughing gas. Cutbush was made an assistant apothecary-general in 1814, and continued until 1820 (living in Philadelphia all the time), in which year he became professor of Chemistry at West Point.

The first free dispensary for the sick poor was established in Philadelphia in 1786, and was called the Philadelphia Dispensary. In 1922 it was merged with the Pennsylvania Hospital at 8th and Spruce Sts. The Pennsylvania Hospital had a contract with the Continental Army for the use of its "elaboratory" for the purpose of preparing and compounding the medicines for its military hospitals in 1768. The elaboratory was seized and used by the British Army during its occupation of Philadelphia.

This review of Continental pharmacy would not be complete without mention of Dr. Andrew Craigie, the first Apothecary-General of the United States. In 1775, the Congress of the Massachusetts Colony appointed him medical commissary and apothecary to the army raised by that Congress for the defense of the Colony. In 1777, the Medical Committee of the Continental Congress recommended a re-organization of the medical department, February 27th. It provided for the office of Apothecary-General, and authorized this office to appoint three assistant apothecaries in different parts of the United States. The Apothecary-General's income was fixed at three shillings a day, with six shillings a day for rations. Dr. Craigie was the first appointee to this office. Dr. Wilbert gives the following interesting account of Dr. Craigie. "He purchased the Vassall estate in Cambridge, of 150 acres. All visitors to Cambridge are familiar with this dignified English style country house. For years it was known as the Craigie House; now it is known as the Craigie-Longfellow House. This mansion has more historic interest than any other house in New England, and with the exception of Mt. Vernon, is the best known residence in the country. Mrs. Washington visited there while Washington made it his headquarters. She traveled with four black horses and postillions and servants in scarlet livery. Dr. Craigie gave magnificent entertainments there. He had a greenhouse and an icehouse on the premises. Some thought that a judgment would come upon one who would thus attempt to thwart nature and the designs of Providence by raising flowers in winter and keeping ice underground to cool the heat of summer. He was instrumental in having the bridge called Craigie or Canal Bridge built, from Lechmere Point to Boston. This bridge is said to have been the inspiration of Longfellow's poem:

"I stood on the bridge at midnight,
As the clocks were striking the hour."

Craigie died in 1819 at the age of 76, poor and friendless.

A figure of prominence in medical and pharmaceutical circles in Colonial Philadelphia was Dr. John Morgan. He was graduated from the College of Philadelphia (founded by Franklin about the middle of the 18th century), receiving his college degree and then, in 1760, went to Europe to complete his medical education. He studied in London, Edinburgh and Paris, and returned to America and founded the first medical school attached to any college or university in this country—the

Medical School of the College of Philadelphia. The Medical Department of the University of Pennsylvania was established in 1779, and in 1791 these two medical schools, by act of the Pennsylvania Legislature, were united under the University of Pennsylvania.

Morgan was an earnest advocate of the separation of medicine and pharmacy as two distinct callings. While in Europe he wrote: "I am now preparing for America to see whether, after fourteen years' devotion to medicine, I can get my living without turning apothecary or practitioner of surgery. In an address delivered at the Commencement at the College of Philadelphia, May 30, 1765, he also said:

"We must regret that the very different employment of physician, surgeon and apothecary should be promiscuously followed by any one man. They certainly require very different talents.

"The business of pharmacy is essentially different from either, free from the cares of both; the apothecary is to prepare and compound medicines as the physician shall direct. Altogether engaged in this, by length of time, he attains to that skill therein which he could never have arrived at were his attention distracted by a variety of other subjects.

"The wisdom of ages approved by experience, the most certain test of knowledge has taught us the necessity and utility of appointing different persons for these different employments, and accordingly we find them prosecuted separately in every wise and polished country.

"The paying of a physician for attendance and the apothecary for his medicines apart, is certainly the most eligible mode of practice, both to the patient and practitioner. The apothecary then, who is not obliged to spend his time in visiting patients, can afford to make up medicines at a reasonable price, and it is as desirable as just in itself that patients should allow fees for attendance—whatever it may be thought to deserve.

"They ought to know what it is they really pay for their medicine and what for medical advice and attendance."

Morgan's recommendations, however, did not meet the approval of his contemporaries. The drug store, when it existed at all, was only a warehouse from which the physician might obtain his supplies. Not until Dr. Abraham Chovet came to the city from Jamaica, was there one in town who would adopt the plan of writing prescriptions for his patients. Dr. John Jones followed, and by the end of the 18th century the custom was rather general, not only in Philadelphia, but in the other cities of the colonies. The apothecary thus came to occupy his own separate place in the community, and though as yet a man of no great standing, in such a manner were the foundations of pharmacy established.

Dr. Morgan was one of the founders of the first medical society in the province—the Philadelphia Medical Society, organized February 4, 1765. He was undoubtedly the first teacher of the theory and practice of medicine, materia medica, pharmacy and pharmaceutical chemistry in the country. He was the second apothecary at the Pennsylvania Hospital. He also had another title to fame. He was the first man in Philadelphia to carry a silk umbrella. Two of his friends, Parson Duché and Dr. Chancellor, presently joined him in the "outlandish" custom. An old account says, "they were bawled out and razzed as they walked along High Street." Even polite society poked fun at them, but they persevered, and every

time it rained, more came in out of the wet under the "new-fangled and effeminate contraption."

What incensed the Tories of that day more than anything else was the fact that Dr. Morgan, contrary to the old customs, neither carried nor compounded his own medicines. He actually had the chemist make his pills and mix his potions. And what medicines there were in those days. Most of the popular herb lore came from the Indians. Goldenrod was the specific for dysentery. Alder buds and ditany purified the blood. Boneset was the sure cure for consumption. People could understand dosage with black, horrible concoctions, but anatomy, such as Dr. Morgan and Dr. Shippen practiced, was a devilish thing. A building on North Third Street, over the Cohocksink Creek, was professedly a place for boiling oil and making hartshorn. But the town gossips and rumour mongers knew better, and told a great deal more than they knew. The neighborhood was shunned by all pedestrians at night. The grave robbers deposited their gruesome burdens there under cover of darkness, and when, two weeks later, black smoke poured from the chimneys, it was Drs. Morgan and Shippen at their nefarious work.

The soda fountain being one of the principal assets of the modern drug store, it might be interesting to know how soda water came to be. It was invented by the Rev. J. B. Priestley, the discoverer of oxygen. While preaching in a chapel at Leeds in England, he lived near a brewery, and became interested, as a chemist, in the possibility of utilizing the gas that came from the vats. He also experimented on the solubility of carbon dioxide in water. A Philadelphia physician, Dr. Philip Syng Physick, became interested in Priestley's experiments, and asked a Philadelphia pharmacist, Townsend Speakman, to prepare carbonated water for his patients. Speakman, to make the water more palatable, added fruit juices, and thus was born the popular American drink, in 1807.

Dr. Edgar Fahs Smith said "The first soda water was dispensed regularly to patients from fountains at \$1.50 per month, for one glass a day."

It is interesting to know that Benedict Arnold, the Revolutionary traitor, once kept a combined drug and book shop at New Haven, Conn., in 1762. The sign read "Benedict Arnold, Drugs and Books. *Non sibi sed toteque.*"

Pharmacy can well be proud of its heritage of its "fathers of old." They were, as a rule, staunch old gentlemen, skilled in their craft, patriotic, interested in education and science and an honor to their profession.

"None so learned, but nobly bold;
Excellent hearts had our fathers of old."

A "MEDICAL CITY" NEAR STOCKHOLM.

A complete "medical city" is being constructed near Stockholm by the Swedish government. It will cost \$10,000,000.00 and will include the latest hospital equipment as developed in all parts of the world.

The main building will be H-shaped, with a roof for sun bathing, and will be seven stories high. It will contain operating theaters, lecture halls, wards and laboratories.

In addition there will be a children's hospital, a building for psychiatric diseases, a rheumatism clinic, swimming pool, football grounds, tennis courts, church, concert halls and homes for staff doctors, students and nurses.

Plans for the project were originated in 1931 and work on roads and excavations started in 1932. The foundation stone for a special clinic on cancer has been laid by King Gustav.