

JOHN URI LLOYD, Phr. M., Ph. D.
1849-1936¹

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Many readers of this journal are perhaps not aware of the origin of its former name and present subtitle *Lloydia*. It therefore seems appropriate on the occasion of this 50th anniversary issue of the journal to recall some facts about the family for whom it was named and, in particular, that pioneer in the development of the American materia medica, John Uri Lloyd.

I (V.E.T.) first saw a copy of *Lloydia* when studying pharmacognosy as an undergraduate student at the University of Nebraska and learned then that it was named for John Uri Lloyd and his two younger brothers, Nelson Ashley (1851-1925) and Curtis Gates Lloyd (1859-1926). All three were pharmacists, but John Uri was also a pharmacognosist. After becoming a pharmacognosist myself, I naturally developed a greater interest in him and have taken every opportunity throughout my life to learn more of this amazing and inspiring personality. From visits to the Lloyd Library in Cincinnati, from conversations with trustees of the library when negotiating with them concerning the assumption of the publication of *Lloydia* by the American Society of Pharmacognosy, from conversations with former librarian Corinne Simons, and from my own collection of Lloyd's books, scientific writings, and catalogs— from all these sources, I have come to appreciate thoroughly the life and accomplishments of John Uri Lloyd.

SCIENTIFIC INTERESTS.—An amazing 5000 scientific articles and editorials bear his name as author. He wrote 8 scientific books and 6 scientific treatises as well as 8 novels and 60 short stories. He was a teacher, a pharmaceutical manufacturer, an inventor; he was a civic leader, a philanthropist, and the recipient of literally dozens of awards and honorary degrees. The diversity of his gifts was remarkable.

Perhaps what impresses me above all else about John Uri Lloyd is the part he played in the development of the American materia medica. Because he was a member of the Eclectic Medical Institute, he had, in his early years, his critics. Yet he continued to study American drugs, improve them, manufacture them, and write about them. Among his writings on this subject are the *American Dispensatory* (as a co-compiler of several editions), *Drugs and Medicines of North America* (a journal published with his brother Curtis Gates from 1884-1887), *Chemistry of Medicine* (1881), and *Elixirs, Their History and Preparation* (1883). Lloyd also personally compiled and published in 1921 the *Origin and History of All The Pharmacopeial Vegetable Drugs, Chemicals and Preparations with Bibliography, Volume 1, Vegetable Drugs*. (My copy of this book has an inscription which reads "To Professor C. W. Johnson [Dean of the College of Pharmacy, University of Washington], With kind regards of John Uri Lloyd, Cincinnati, February 25th, 1926.") Indeed, John Uri Lloyd did much to promote the use of America's almost untouched botanical materia medica and is often called "The Father of American Materia Medica."

¹This article commemorates the 50th year of publication of the *Journal of Natural Products* (formerly *Lloydia*).

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Of special interest to me is his *Drug Treatise*, Number XXX, a 28-page booklet titled "A Treatise on Echinacea." Thirty-one other such treatises were also published, each dealing with the history, distribution, description, chemistry, use, and dosage of the particular plant drug. "A Treatise on Echinacea" especially interests me because of the recent indications that this plant contains useful medicinal properties. It was first introduced into medicine by a Nebraskan, Dr. H. C. F. Meyer of Pawnee City (a small town just a few miles from my hometown of Nebraska City). Having learned of the therapeutic value of the drug from the Indians about 1871, Meyer used it to prepare a "blood purifier," which he claimed was useful in treating almost any condition, including rheumatism, migraine, streptococcal infections, tumors, poisoning by herbs, and so on. In 1885, Meyer called echinacea to the attention of the Lloyds, and Curtis Gates Lloyd identified the plant for the physician. Though skeptical at first of the physician's claims for the plant's therapeutic properties, the Lloyd Brothers firm finally produced several echinacea products intended primarily as anti-infective agents. By 1920, echinacea was the firm's most popular plant drug, but with the advent of the sulfa drugs in the 1930s, it fell into disuse. Recent research has shown that it does possess bacteriostatic properties as well as antitumor, wound-healing, and insecticidal activity. In Europe, it has now acquired a considerable reputation as a nonspecific immunostimulant. More research is urgently needed on this interesting native American plant that was introduced into medicine so long ago by the Lloyds.

If he were here today, John Uri Lloyd would likely agree, for he believed that research should be carried out by pharmacists. "The question then is," Lloyd said at a research session of the A. Ph. A., "have we, as pharmacists ought to offer in the way of research opportunity? . . . Where in it all lies not a research opportunity for the pharmacist? Have not tree and shrub, life structures and inorganics from near and far been his field from days remote to the present? Would the plans for research, as explained to us tonight, be complete were the pharmacist's field to be neglected?"

Further encouraging research, he said, "Listen! Who will venture to assert that one twig, one leaf, one creature of this mighty maze, be it vegetable or animal, big or little, has as yet been disenthralled from mystery by chemist, pharmacist, physicist or biologist?"

Lloyd's prolific, individual research efforts led to the invention of the once widely utilized Lloyd Extractor, which is now unknown to pharmacy students but which was still a novel, widely used extraction apparatus just 25 years ago. It operated upon the principle of solvent evaporation in a still body from the surface rather than from the bottom of the liquid. According to Henry V. Army (Professor of Chemistry and Dean of the College of Pharmacy of Columbia University) in an article in the October 1936 issue of the *Journal of the American Pharmaceutical Association*, it was "devised to assure a more [nearly] perfect form of liquid extract of drugs, assuring a maximum degree of extraction with a minimum amount of menstruum and of heat." In other words, it made possible the continuous extraction and concentration of labile organic compounds from plant material with a minimum of decomposition. Besides his numerous "cold still" patents, other inventions for which Lloyd received patents included an apparatus for extracting nicotine, a medicine bottle, and a medicine dropper.

PRIZES AND HONORS.—The Ebert Prize has long been considered as the premier award for innovative research in the pharmaceutical sciences. Professor Lloyd won his first of three Ebert prizes in 1882 for a paper on "Precipitates in Fluidextracts." It was one of a series of articles on adsorption that was later acclaimed by Professor Wilhelm Ostwald, one of the founders of modern physical chemistry and a Nobel Prize laureate, "as the foundation of colloidal chemistry."

With a life-long interest in alkaloids, John Uri Lloyd won his second Ebert Prize in

1891 for his paper on alkaloidal assays. In 1912, he developed the well-known "Lloyd's Reagent," a kind of hydrous aluminum silicate or fuller's earth used to remove alkaloids from solution by adsorption. Alkaloids treated in this way lost their bitter properties but remained readily assimilable. Lloyd also developed and produced 379 so-called specific medicines, that is, liquid preparations each of which contained the active constituents of a single plant. "Lloyd's Specifics," as they came to be called, were much sought after and widely used as therapeutic agents for many years. ■

In 1916, for a third time, John Uri Lloyd won the Ebert Prize and in 1920 was awarded the Remington Medal, pharmacy's highest honor. The Philadelphia College of Pharmacy gave him an honorary Master of Pharmacy degree in 1897, and that same year, he was awarded an honorary Ph.D. by the Ohio University. Other honorary degrees included a Doctor of Laws from Wilberforce University in 1902, a Doctor of Science from the University of Cincinnati in 1916, a Doctor of Pharmacy from the Cincinnati College of Pharmacy in 1920, and a Doctor of Medicine from the Eclectic Medical College in 1921. Lloyd was president of the Eclectic Medical Institute, and in 1877-78 was president of the American Pharmaceutical Association. He was editor of the *Pharmaceutical Review*, the *Eclectic Medical Journal*, and the *Eclectic Medical Gleaner* and wrote continuously for other pharmaceutical and medical publications. His other honors, awards, and memberships are simply too numerous to mention.

EDUCATION.—All this was achieved by a man who had very little formal education but who, throughout his life, never ceased to advocate and support a university education for all pharmacists. His definition of a pharmacist as one who not only dispenses medicines but who continues to study and learn about them certainly prevails today and fits very well into the modern concept of professional continuing education. Perhaps it could also be said that John Uri Lloyd was one of the earliest advocates of our present-day externship/clerkship programs. He often stated his belief that a pharmacist's education should come not only from college courses but from practical experience as well.

Lloyd himself, when he was 14 years old, began his pharmacy education as an apprentice in Cincinnati. His parents had decided this was the profession for him to pursue, and consequently, in 1863, his father took him up to Cincinnati from the family home in Florence, Kentucky, to look for an apprenticeship position. They found one with Mr. W. J. M. Gordon (also a past-president of the A. Ph. A.). After two years with him, Lloyd took a second apprenticeship with Mr. George Eger. During this second apprenticeship, he attended some chemistry lectures at the Ohio Medical College and later took an anatomy course at Miami Medical College. After his apprenticeship, he went to work for H. M. Merrell & Co., a Cincinnati manufacturer of eclectic medicines. Through several changes in ownership over the years, H. M. Merrell & Co. eventually became Lloyd Brothers, Inc. (H. M. Merrell & Co. should not be confused with the better-known Wm. S. Merrell & Co., which still exists as part of Merrell Dow Pharmaceuticals, Inc.)

While still active in business, scientific research, and writing, Lloyd had a teaching schedule that many full-time professors would not care to emulate. He taught five times a week in the Eclectic Medical College and four nights a week in the Cincinnati College of Pharmacy. He was a somewhat unconventional teacher, for he used no notes for his lectures and did not allow his students to take any.

"What are your memories for?" he would ask his students at the opening lecture of the course. "Write it down when you go home. If you write now, you will miss something. Listen to me! If you want to do something besides listen, go some place else."

Lloyd was a worldwide traveler, visiting such places as the Middle East, Russia, and Japan. He also traveled extensively in Mexico and the United States. In 1906, he visited

Turkey and Arabia where he investigated such indigenous drugs as mastic, opium, coffee, licorice, attar of rose, aloe, korarima cardamom, kousso, and many other exotic plant materials.

TESTIMONIAL.—To commemorate Lloyd's 80th birthday on April 19, 1929, his colleagues and friends held a testimonial dinner in his honor at the Cincinnati Club. I have a beautiful, leather-bound program booklet printed for each guest at this gala affair. The guests are all listed; some of the more elite who are well-known even today in pharmacy circles were Indianapolis pharmaceutical manufacturer J. K. Lilly, A. Ph. A. journal editor and historian Dr. Edward G. Eberle, and Professor Edward Kremers, Dean of the College of Pharmacy, University of Wisconsin. Others included the former president of the Cincinnati Board of Education, a retired judge of the U. S. District Court, and a number of prominent physicians and businessmen. The menu is, of course, printed in the program and was outstanding. I shall not repeat it here other than to say that it included turtle soup, lobster thermidor, and "ice cream-octogenerian."

A poem, adapted for the occasion from one written by his mother, Sophia Webster Lloyd (who, incidentally, wrote much poetry), is also in the booklet and reads, in part, as follows:

A Birthday Greeting

Today is thy birthday, and we bring
Only good wishes for offering:
But our hearts are beating warm and true
John Uri, in earnest love for you.
Eighty years—a goodly way,
Have thy footsteps reached this April day,
And we turn our eyes o'er the backward years,
With pride where never a shadow appears. . . .

I am very pleased to own this extraordinary bit of memorabilia from the life of John Uri Lloyd. Underneath his picture on the first page, he has autographed it: Sincerely yours, John Uri Lloyd, Cincinnati, April 19th, 1929.

NOVELS.—Other choice pieces of "Lloydiana" on my bookshelves are seven of his eight novels, written between the years 1895-1934. Asked by Dean Henry V. Army how a man as busy as he (Lloyd) could find time to write novels, Lloyd replied, "Young man, you would find little difficulty in writing the equivalent of a printed page in one day?" Army replied, of course, in the affirmative. "Then," Lloyd retorted, "there are 365 days in the year and 365 pages make a large book."

Etidorbpa (Aphrodite spelled backwards), published in 1895, was his first novel and won him fame as a writer. It deals with the adventures of an unusual character named "I-Am-The-Man" who, because he was going to reveal the mysteries of a secret society, was kidnapped, changed in appearance, and compelled to spend his life in the pursuit of knowledge for the good of mankind. He is led into a cave in Kentucky (Mammoth?), which opens into great underworld regions where he meets unusual semihuman individuals and is introduced to peculiar natural and metaphysical phenomena. The book has been compared to those of Jules Verne, H. Rider Haggard, and Victor Hugo. Some of the passages are comparable to portions of Dante's *Inferno*.

Having spent his boyhood in northern Kentucky, Lloyd used that setting for his novels. In his second novel, *The Right Side of the Car*, and all subsequent ones, his characters spoke in the typical Kentucky dialect. It makes reading the conversational portions of them a bit difficult for the uninitiated.

Stringtown on the Pike (Lloyd's hometown of Florence, Kentucky) became a best seller. Its hero, Red Head, a member of a feuding family, is accused of poisoning an

uncle with strychnine. Professor Samuel Drew, a native of Stringtown and a distinguished chemist, is asked to be an expert witness, and performing a color test in the courtroom, testifies positively that the dead uncle's stomach did indeed contain strychnine. Red Head is thus convicted and executed. Susie, whom both the Professor and Red Head loved, proves by her own experiments that, in the proper proportion, a combination of hydrastine and morphine produces the same color reaction that strychnine does. She relates this to Drew and reminds him that the uncle, on the morning of his death, drank bitters composed of whiskey and goldenseal root, which contains hydrastine, and that morphine-containing laudanum had also been administered to him. Drew makes another test upon a part of the stomach he had preserved and this time finds no strychnine. Realizing that he caused the death of an innocent man, he takes a mysterious poison and dies after a lingering illness.

Warwick of the Knobs has some of the same characters as *Stringtown* and again takes place in the mountains of northernmost Kentucky. *Red Head*, Lloyd's next book, is a wonderful character story of this lonely mountain boy who, inured to dangers and deeds of violence, came to be the sole survivor of his feuding family. The book traces Red Head's history from the time when his family was feuding in medieval England up to the day of his conviction for murder in Stringtown's courtroom.

Scroggins, the story of a poor orphan who becomes rich, was published in 1904, and then, not until 1930, did *Felix Moses* appear. Most of the characters in Lloyd's books, except for *Etidorbpa*, were real persons whom he had known in his boyhood hometown of Florence (Stringtown), Kentucky, a hamlet in Boone County, 10 miles from Covington. Felix Moses was one such character (the only one in all of Lloyd's books to whom a rightful name is applied). Old Mose, as everyone called him, was a kind-hearted, happy peddler who was murdered and thrown overboard from a steamboat on which he had taken passage from Louisville to Cincinnati. Lloyd wrote about him, as a matter of fact, to establish a fund for the erection of a large monument over Felix's grave.

Our Willie, Lloyd's last novel, is a sequel to *Stringtown on the Pike* and was begun shortly after the latter was published, but for some reason, Lloyd set it aside for 34 years and did not finish it until 1934, when he was 85 years old. He completed it then only because his wife Emma had made him promise he would do so. It was her favorite story and is dedicated to her. A mystery and a romance, *Our Willie* is full of thrills as well as excellent characterizations of the men and women who lived in the knoblands and valleys of that picturesque region of Kentucky.

THE LIBRARY.—These eight novels, as well as all of John Uri Lloyd's writing, scientific and otherwise, are, of course, in the Lloyd Library in Cincinnati. Beginning in 1864 with only one bookcase to hold the books the three Lloyd brothers needed in their professional work, the library now houses more than 170,000 books, 120,000 pamphlets, and approximately 500 current periodicals. At first, there was no intention of creating a library of importance, but as their own personal collections grew, the three brothers purchased, in 1891, a residence at 224 W. Court Street into which they moved John's pharmacy books and Curtis's botanical ones. Professors and physicians from all over the United States donated their collections to the library. The brothers sought to acquire every printed book or pamphlet on the subject of plant medicines. Curtis traveled throughout the world, buying any book available, in any language, on the subject of botany, mycology, and American materia medica, and soon the library contained a truly excellent collection of books on these subjects.

The original building on W. Court Street was remodeled in 1902. Five years later a part of the collection had to be housed in another building, and in 1908 a new library

was built. The old building still contained the mycology collection of books and specimens and the extensive herbarium of Curtis Gates Lloyd. The Lloyd Library has one of the most complete collections of pharmacopeias of the world available in America, sizeable collections of books on all the natural sciences, chemistry, and medical botany as well as a very large number of eclectic medicine volumes. Collections of books and other material are still being received by the Lloyd Library through gifts, purchases, and exchanges.

In June of 1971, the library moved into a new four-story building at 917 Plum Street, its present location. It is open to the public Monday-Friday from 8:30-4:00 and at other times by appointment; librarians answer research questions by mail and telephone and assist visitors in securing information and bibliographical data on current research problems within the library's subject scope. No books are loaned, but photocopy services are available to scientific institutions and libraries and, through these, to individuals.

THE FAMILY.—Just as the three Lloyd brothers worked together in developing this outstanding specialized library, so, too, did they pool their talents in other cooperative ventures. Nelson Ashley two years younger than John, was treasurer of their pharmaceutical firm, Lloyd Brothers, Inc. Ashley, as he was called, was also greatly interested in civic affairs, and though recognized throughout the country as an art collector, he was especially known as an ardent supporter of baseball, being a co-owner of the Cincinnati team and, later, the New York Giants. A highly respected citizen of Cincinnati, he died of pneumonia on January 27, 1925.

Curtis Gates (1859-1926), the youngest of the Lloyd brothers, identified plant specimens for the firm and had charge of the small wholesale store. Even as a boy, he was interested in botany, but as John and Ashley had done, he became a registered pharmacist after his apprenticeship. After working several years for a wholesale drug company and then as a bookkeeper and manager of the Standard Publishing Company, he turned to mycology. Holding a one-third interest in the Lloyd Brothers pharmaceutical company and because of the generosity of his brothers, he was able to travel extensively in his search for fungal specimens and books about fungi. Setting up offices in London, Berlin, and Paris, he spent about 15 years in Europe examining the specimens of fungi in the national museums and herbaria there as well as other specimens sent to him by friends and scientists. Studies carried out during these years were incorporated into *Mycological Writings*, a seven-volume compilation of his writings from 1898 to 1925. Collecting specimens from the Samoan Islands, Egypt, Sweden, from every corner of the world, he kept expanding his herbarium until it contained 59,000 specimens. The mycological specimens, once housed in the Smithsonian, are now located in the Bureau of Plant Industry in Beltsville, Maryland.

John Thomas Lloyd (1884-1970), the only son of John Uri Lloyd and Emma Rouse Lloyd, was an entomologist and a professor at Cornell University. In 1919, however, he left Cornell and returned to Cincinnati to work with his father. Among his publications during the years at Lloyd Brothers were such titles as *Kava-Kava*; *The Genus Rhus*; *Cactus—The Drug*; *Peyote—The Divine Plant of Certain Indian Tribes*; and *Concerning Medicinal Plants*. When his father died in 1936, John Thomas became president of the company. Two years later, S.B. Penick Co. bought Lloyd Brothers, Inc., and John Thomas started his own company, the John T. Lloyd Laboratories, Inc. where "Lloydson Medicines" were manufactured until his retirement. John Thomas was an honorary member of the American Society of Pharmacognosy.

Thus, the era of the influence of John Uri Lloyd on pharmacy, and particularly pharmacognosy, would seem to have come to an end. Yet, did it? The great pharmacog-



John Uri Lloyd (center) and his two brothers, Nelson Ashley Lloyd (left) and Curtis Gates Lloyd (right).

Photographs courtesy of The Lloyd Library and Museum, Rebecca A. Perry, Librarian.

nosists of the past—Friedrich Flückiger, Alexander Tschirch, T.E. Wallace, Heber Youngken—are not forgotten nor will their influence upon one of the most fascinating, meaningful, and useful disciplines in the entire world of science ever be lost. Included in the list of pharmacognostical giants must be the name of John Uri Lloyd, scientist, educator, and author. It is indeed appropriate that our *Journal of Natural Products* by means of its subtitle, *Lloydia*, continue to recognize his outstanding contributions to the profession and the discipline he served and loved.

FURTHER READING

For those who want to know more about the life and accomplishments of John Uri Lloyd and his two brothers, the following books and articles are suggested for further reading.

1. Anon., *J. Am. Pharm. Assoc.*, **25**, 376 (1936).
2. H.V. Arny, *J. Am. Pharm. Assoc.*, **25**, 885 (1936).
3. "John Uri Lloyd Testimonial Dinner, 1849-1929," Cincinnati Club, 1929.
4. C.M. Simons, *Curtis Gates Lloyd, Mycologist*, reprinted from *The National Eclectic Medical Quarterly*, undated, 5 pp.
5. C.M. Simons, "John Uri Lloyd, His Life and His Works," privately printed by the author, Cincinnati, Ohio, 1972.

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