

"Beware of the  
man of one book."  
— Saint Thomas  
Aquinas

# Boltonia

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## Nineteenth-Century Photographic Chemistry and Light

Photo-sensitive reactions with silver salts were observed at least as early as the 16th century, although it was not until the early 18th century that light, not heat, was shown to be the cause of the observations. In 1800 Thomas Wedgwood was producing shadowgrams with silver nitrate coatings on paper, although he had no way to fix the images. The first permanent image process was demonstrated in 1826 by Joseph Nicéphore Niepce. In 1837 Louis Daguerre invented a process that produced images on a polished plate of metal. By 1835, Fox Talbot had developed the first modern photographic process, which involved first recording a negative image and then printing a positive image as many times as was wanted. Talbot went on to improve his process a few years later. In the very early 1850s came the collodion wet plate process and about 1871 dry plates were introduced. The big advance in producing photographic prints came in 1850 with development of sensitized albumen-coated paper, which was used during the remainder of the 19th century.

The development of photography in the 19th century is, in part, a story of the chemistry of photochemical processes. Spectroscopic investigations were also important for the scientific development of photographic processes, since it was recognized early—for example, Herschel's discovery of the infrared in 1800—that various parts of the sun's spectrum had different abilities to create effects. In the author's collection of publications on optics are a number of 19th-century books that are signifi-

cant for the early history of photography and its application to scientific work. A few of these are described below, and some reference books—a very small sample of the literature—are cited.

### Early Works

1. Robert Hunt, *Researches on Light*: an examination of all the phenomena connected with the chemical and molecular changes produced by the influence of the solar rays; embracing all the known photographic processes and new discoveries in the art, London: Longman, Brown, Green, and Longmans, 1844, 1st ed.; hand-colored frontispiece; erratum slip; 32-page publisher's catalog dated 1844.

Robert Hunt (1807-1887) began his professional life as a druggist but devoted himself to the study of chemistry. For many years he carried out experiments on photochemistry, which are described in his book *Researches on Light*. (A second edition appeared in 1854.) Probably his most important discovery was what became the standard developer process for wet collodion images. In this book he cites various experiments that led him to believe that color photography is possible. Hunt was a founder of the London Photographic Society, and he published numerous papers and other books on photography. The facsimile edition (Ohio University Press, 1973) of Hunt's *A Popular Treatise on the Art of Photography* contains an excellent essay on Hunt, with hundreds of literature citations.

2. Edmond Becquerel, *La Lumière ses causes et ses effets*, 2 volumes, Paris: Didot Freres, 1867-8; vol. 2 is devoted to photochemistry; vol. 1 contains numerous color lithographic plates of spectra. One of the most important publications for 19th-

century photographic science.

3. Hermann Vogel, *Die Wirkungen des Lichts und die Photographie in ihrer anwendung in kunst, wissenschaft und industrie*, Leipzig: F. A. Brockhaus, 1874; six specimen plates.

Hermann Vogel (1834-1898) was a leading researcher in spectroscopy and photochemistry. Forced by his father to enter the family business as a youth, he was finally able to attend university and obtain a Ph.D. in 1863. He is probably best known for the discovery of dyes capable of sensitizing photographic emulsions to different wavelengths. In 1884 one of his sensitizing formulas, held as a secret, became a commercial product. He wrote a multi-volume *Handbuch der Photographie* and *Practische Spectralanalyse*, editions of 1877 and 1889.

4. Hermann Vogel, *The Chemistry of Light and Photography*, New York: D. Appleton, 1875; six specimen plates; International Scientific Series XIV; the first English-language edition of item 3; a London imprint appeared in 1876.

5. H. Vogel, *La Photographie et la Chimie de la Lumière*, Paris: Gernier Baillière, 1876; one specimen plate; the first French edition of item 3; the second French edition appeared in 1878.

6. J. M. Eder (translated by W. de W. Abney), *The Chemical Effect of the Spectrum*, London: Harrison and Sons, 1883.

7. Ernst Lietze, *Modern Heliographic Processes*: a manual of instruction in the art of reproducing drawings, engravings, manuscripts, etc., by the action of light; for the use of engineers, architects, draughtsmen, artists and scientists, New York: D. Van Nostrand, 1888; ten mounted specimens.

Ernst Lietze was a mechanical engineer in Cincinnati, according to information in the book. The book had as its origin a lecture by the author to the Ohio Mechanics' Institute in 1885. The specimen plates include images printed by a number of blue print processes, a carbon print, and uranium prints.

8. H. W. Vogel, *Photochemie und Beschreibung der Photographischen Chemicalien*, Berlin: Robert Oppenheim, 1890, 13 specimen plates; in series *Handbuch der Photographie*.

9. J. M. Eder and E. Valenta, *Beitrage zur Photochemie und Spectralanalyse*, Wien: K. K. Graphischen Lehr- und Versuchsanstalt, 1904; a massive quarto of 845 text pages and 60 plates, some in color.

### Selected References

1. Josef Maria Eder, *History of Photography*, New York: Dover, 1978; reprint of 1945 ed., which was a translation of the 1932, 4th ed. of *Geschichte der Photographie*.

2. Helmut Gernsheim, *The History of Photography*, London: Oxford University Press, 1955; there are later, expanded editions.

3. Anthonny Guerronnan. *Dictionnaire Synonymique*, Paris: Gauthier-Villars et Fils, 1895; Arno Press reprint, 1979; distributed by Ayer Company Publishers, North Stratford, NH; French, German, English, Italian, and Latin equivalents for scientific photography terms.

4. Mike Ware, *Cyanotype - the history, science and art of photographic printing in Prussian blue*, London: Science Museum, 1999.

5. J. L. Ennis, "Photography at Its Genesis," *Chemical & Engineering News* 67:51, (December 18, 1989) pp. 26-42.

6. A. V. Simcock, "195 Years of Photochemical Imaging 1794-1989," *Annals of Science* 48:1 (July 1991), pp. 69-86.

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## Volumes on View

*After meeting twice a year for several years, the Bolton Society has found that the most popular and longest part of the meeting occurs after the business agenda is finished.*

*Members are encouraged to bring one or more special items from their personal collection to share with their fellow bibliophiles. Lively discussion accompanies these treasures as they are passed around the table, and many members finally leave reluctantly when they are informed that lunch is served.*

*Ronald Smeltzer often brings books with a unique theme, and an informative handout. The article on page 1 of this issue is based on his presentation at the meeting of April 21, 2003. Books 1, 3 and 7 in the Notes section were displayed.*

*What follows through page 4 are descriptions of some other items brought by other Bolton Society members to that same meeting.*  
—Ed.

□□□□□□□□

I recently purchased a copy of Dalton's *Meteorological Observations and Essays* on eBay and got much more than I expected. The book had been advertised as the second edition, published in Manchester in 1834, and bound in contemporary half leather. When I received the book, I discovered it is not only a wonderful, crisp copy, but it unexpectedly contains the engraved bookplate of William Charles Henry, a familiar name. I located my copy of Henry's *Memoirs of the Life and Scientific Researches of John Dalton*, published in London in 1854.

It quickly became apparent that Henry used my copy of Dalton's *Essays* as source material for his biography of Dalton. For example, in the preface to Dalton's 1834 *Essays*, page xv, there are vertical pencil marks around the phrase "I have been the more anxious to preserve the first edition unchanged, as I apprehend it contains the germs of most of the ideas which I have since expanded

more at large in different Essays, and which have been considered as discoveries of some importance. For instance, the idea that steam or the vapour of water is an independent elastic fluid, so largely insisted upon in the sixth Essay; and hence that all elastic fluids, whether alone or mixed, exist independently." The penciled word "Quote" also appears in the outer margin next to the marked passage.

In the Dalton 1854 biography, page 18, Henry writes, "He was induced to print a second edition of this work in 1834, verbatim from the first, with the addition of a few notes, entitled 'Appendix to the Second Edition.'" Henry goes on to include the above passage "I have been. . . independently." There are a few additional pencil notations in Henry's copy of Dalton's *Essays*.

I proudly showed the two connected books at the April 21, 2003 Bolton Society Meeting, and agreed to write up a short note for *Boltonia*.

Wishing to understand more about Henry and his 1854 *Life of Dalton*, I opened my previously unopened copy of Arnold Thackray's *John Dalton. Critical Assessments of His Life and Science*, published in 1972. I learned that W. C. Henry, who was a pupil of Dalton's, wrote it after his father William died on September 2, 1836. On page 30, he writes, "William was Dalton's contemporary, lifelong friend, and (it would seem) intending biographer. Unfortunately, William predeceased his subject. The task therefore devolved on W. C. Henry."

Thackray critically accessed the shortcomings of Henry's biography and failure to use much rich manuscript material available to Henry at the time. Thackray best sums up his feelings on page 127 with "The slipshod volume he reluctantly and hurriedly produced concealed rather than displayed the nature and meaning of provincial science."

I now see my discovery in a somewhat diminished light. I own a copy of a wonderful Dalton book that was owned by his hack biographer.  
—Steven D. Beare

A subtle acceptance? In 1995, I bought a 309-page, hard-bound book, *Chemistry for Young People*, published in 1909 by Tudor Jenks. The most striking thing about this book is its embossed binding. Two adolescents, a boy and a girl of apparently the same age and size, are working side by side at a laboratory bench. Each one is distilling a liquid from a glass retort into a large glass bottle flanked by three reagent bottles on either side. My initial reaction was "mirror image." To me, the cover's subtle message is that girls are fully equal to boys both in intellect, ability, and interest in chemistry, a theme not well appreciated in 1909. There is no hint throughout the text that the gender of the reader makes any difference. In fact, the text appears to be gender free, with the exception of a few statements, such as, "... the story of chemistry might begin with man's use of fire. . ." But, even then, if I use "man" in the generic sense, that problem disappears.

A further curiosity appears on the cover. A circular, stylized 3/8-inch artist's logo, GTW (or variation thereof), appears at the lower left of the cover. So far, I have not been able to identify the artist. The book, published by Frederick A. Stokes of New York, contains 16 full-plate half-tones and 27 line drawings. The frontispiece features Dimitri Mendeleeff.

From the internet, I found that Jenks was a lawyer, poet, and writer of children's stories who lived in an artists' colony in Bronxville, New York. Between 1893 and 1907, he published 14 books for teenagers on a variety of topics, such as Shakespeare, the World's Columbian Exposition, and a brief history of the United States Army. In his last work, completed in 1917, Jenks teamed up with Amabell Jenks (relationship unknown) to write, "Amabell, Dinner at Seven Sharp," a comedy in one act.

If anyone can identify that logo on the cover, I would be most grateful.  
—Herbert T. Pratt

An occupational dictionary in the Othmer Library is Christoph Weigel's *Abbildung der gemeinnützlichen Haupt-Stände*. Published 1698 in Regensburg, this volume is an important cultural as well as historical publication. This work is not readily accessible in its original format. Throughout the United States there are only seven libraries (DC, LA, NY, OH, PA, RI, and VA), and only one library in Europe, which claim ownership of this work. Additionally, there have been several variants of this work either in a microform format or as a full facsimile of the original work. Even with these other formats, ownership numbers of these remain low at twenty-two libraries.

This work has detailed descriptions of conditions of all occupations such as lawyers, physicians, artists and craftsmen of 17th century Germany. In addition to the occupational descriptions, there are 212 engraved illustrations, including the frontispiece, depicting an occupation and the tools of the trade. While gathering information on this book, I discovered a piece on the internet in which this book was helpful in identifying the existence in the 16th century of a "Soprano Trombone." Written by Howard Weiner, *The Soprano Trombone Swindle (The Trombonist Online)*, <http://www.trombone-society.org.uk/soprano.htm>) uses Weigel's monograph as one of three authenticated sources in establishing the existence of the soprano trombone.

A further note of interest to bibliophiles is that the Othmer Library's copy of this work is bound with another work. This work by Christian Benit, *Neueröffnete mathematische und mechanische real-schule, or whelcher*, was printed in 1709; one other library in Europe has this title cataloged separately within their collection. The lack of any bibliographies outside of the chemical arena hampered any further investigation into this "found" piece within

Weigel's volume.

The provenance of Othmer Library's copy of this rare book is significant. The book originally belonged to Charles F. Chandler, who was the first president of the Chemist's Club. He in turn gave his copy to that organizations distinguished library until, in turn, the Chemist's Club Library was donated to the Othmer Library. Thanks to Ronald Smeltzer for asking about this work. Ronald mentioned that he was familiar with this work only through the use of the frontispiece on one of the Chemical Heritage Foundation's note cards. The rediscovery of this work and its wonderful engravings will provide exceptional illustrative material for future publicity materials.  
— Elsa B. Atson, Othmer Library

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At the meeting I identified at least six members of the Bolton Society who are philatelists, specializing in chemists and chemistry as depicted on postage stamps. In order to share with fellow members the type of material that is collectible in this area, the following items from my collection were shown at the meeting:

1. A cover issued by the Pittsburgh Conference dated March 12, 1982, showing the NASA space shuttle *Columbia* entering earth orbit after booster separation.
2. A cover issued by the Division of Analytical Chemistry of the ACS dated September 26, 1988 in celebration of the Division's 50th anniversary.
3. A cover issued by the ACS New York Section in celebration of its 100th anniversary, dated August 29, 1991, and autographed by keynote speaker Isaac Asimov shortly before his death.
4. A brochure issued by the Gmelin Company with a first day of issue cancellation dated July 7, 1988, on the German postage stamp celebrating the 200th anniversary of the birth of German chemist Leopold Gmelin.

5. A cover issued by the Division of the History of Chemistry of the ACS honoring past presidents of the Society, dated March 16, 1994, and autographed by Glenn Seaborg. This was the date that it was announced at the ACS meeting that element 106 would be named in his honor. This is a one of a kind item.

—John B. Sharkey

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While not specifically related to chemistry, the little monograph *The Independence Square Neighborhood* is full of historical notes and pictures of the area from the time it was published in 1928 by The Penn Mutual Life Insurance Company. My copy, Number 530, was given to Edward Wilber Berry, a noted geologist who never went to a university but was still elected to the National Academy of Sciences in 1922 and later became dean and provost at Johns Hopkins University.

Of particular interest to Boltonites is its description of the current location of the Chemical Heritage Foundation:

“The First National Bank of Philadelphia, at 315 Chestnut, was the first bank chartered under the National Banking Act of 1863. Its building is on the site of the Benezet House, the home of Anthony Benezet, a Friend celebrated in his day as an anti-slavery pamphleteer; he once leased his house to the governor of Barbadoes, who use to come up Dock Street by boat. The Benezet House had formerly been a public house under the name of the Hen and Chickens, and was eventually torn down to build the Franklin House.”

The current building at 315 Chestnut Street was designed by noted architect John MacArthur, Jr., and built in 1865. By this time, MacArthur had already won the competition to design Philadelphia's City Hall, but its construction didn't begin until 1871 and wouldn't be completed until 11 years after MacArthur's death in 1890. Three extra stories were added to the

original MacArthur bank building in the 1940s and Keystone Shipping added an office wing on the east side in the 1950s. The Chemical Heritage Foundation extensively remodeled the property for its own purposes after purchasing it in 1995.

—J.J. Bohning

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A common bond connects these extroverted souls who display bibliophilia at the Bolton Society meetings. They possess a monomaniacal enthusiasm for wallowing in books but also a compulsion to share this satisfaction with others.

There are no requirements for membership other than a deep and abiding pleasure in being surrounded by books. Such may involve a serious specialization or simply the collection of exotic, off-beat, and humorous science items, considered in the broadest sense, of which the undersigned is Exhibit A.

One of my most treasured books is a simple, slender, soft-covered one entitled “The Space Child's Mother Goose,” with verse by Frederick Winsor and engaging art work by Marian Parry, Simon & Schuster, NY, 1963. When that printing was exhausted, the book remained out of print for more than 35 years, but a new printing is now available at a price increase from \$1.25 to \$18.00!

This is a thoroughly remarkable book and cannot be sufficiently praised. It is recommended without reservation. The illustrations include many humanoid figures with beaklike faces that are delicate, pertinent and delightful. But ah! The poetry!

Peter Pater  
Astrogator  
Lost his Orbit Calculator  
Out among the asteroids

—————  
They rang the Lutine Bell at Lloyds.  
“Poems of Science” by William Pollister (Playford Press, 1931) is basically a history of science book, abundantly interspersed with poetry by the author, both rhyming and

prose. While the history aspects are rarely in depth and the poetry mediocre, it is still a lovely book. A brief quote from “In Egypt” will illustrate:

We smile at old, absurd, antique belief,

In Isis and Osiris, Ptah, Amen.

But our own culture ends in final grief

If fixed philosophy makes slaves of men.

Each former ruling race has failed and passed;

Can science make ours wise enough to last?

—Jack Stocker

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## Eventual Events

**September 8, 2003:** 226th National Meeting of the American Chemical Society, New York. **Chemical Bibliophiles—V: Notable Chemistry Collectors and Their Public Collections** (A symposium organized by Herbert T. Pratt and sponsored by the Bolton Society). Papers will be presented by Jonathan A. Hill (Beware of Greeks bearing gifts), Charles E. Miller (Chemistry relating to early patent law), Dominick B. Attanasio (Scripophily in the chemical and molecular sciences), Ronald K. Smeltzer (Milestones of early spectroscopy), Herbert T. Pratt (Four classic histories of industrial chemistry: 1898-1948), and Zvi C. Koren (Chromatographic analyses of ancient Middle Eastern dyes).

**November 10, 2003:** Bolton Society Biannual Meeting, Chemical Heritage Foundation, Philadelphia, PA. A brief business meeting will be followed by “Volumes on View.” See pp. 2–4.

**November 19, 2003:** Bolton Society pilgrimage to the grave of Henry Carrington Bolton, Sleepy Hollow Cemetery, Tarrytown, NY, followed by a program at the Westchester Sub-Section of the ACS New York Section. See page 7.

## Antiquarian Chemistry Book Collectors and Their Public Collections — IV

The latest Bolton Society symposium was again co-hosted by the History of Chemistry Division at the American Chemical Society National Meeting on March 24, 2003 in New Orleans.

Robin E. Rider spoke about the Duveen and Cole Collections at the University of Wisconsin-Madison. Denis Duveen, a chemist and chemical manufacturer, erred on the side of inclusion in his collecting habits, buying three books per day in Paris. During World War II Duveen moved his collection 100 miles outside of Paris for safety. Duveen published his renowned catalog, *Bibliotheca Alchemica et Chemica*, in 1949 after moving to New York. In 1951 Regents at the University of Wisconsin proposed to purchase Duveen's collection of some 3,000 titles for \$50,000 to complement existing collections and further support history of science courses that had begun in 1921. Their proposal received diverse and contested responses, but succeeded by stating that ideas in books will outlast equipment.

In 1975 William A. and Nora Cole visited Madison and two years later Madison purchased 700 titles from the Cole Collection. Titles duplicated between the Cole and Madison collections were sent to The Huntington Library. Following William Cole's death in 2002 a bequest of rare books and manuscripts were shipped to University of Wisconsin-Madison in spring 2003. The University plans to digitize both the Duveen bibliography and Cole catalog entitled *Chemical Literature, 1700-1860*.

Dan Lewis described the William A. Cole Collection at The Huntington Library. During the 1980s the Huntington purchased some 500 titles from the Cole Collection, consisting of works published in the 18th and 19th centuries. Some unusual works

from the Cole Collection include an illustrated "paste paper" cover using wheat starch paste with hand stenciling. Another extraordinary binding features tree-calf with a cat's paw design created using an acid wash. Many volumes have fine marbled end papers, produced as an apprentice trade to learn the chemical secrets in the late 16th century in Europe.

Complementing the Cole Collection is the Arensberg Collection featuring mystical fine art and alchemy through the Rosicrucians who tried to integrate chemical tools and society.

The Huntington also houses the rare Alchemical Scroll, an English alchemy manuscript attributed to George Ripley. This vellum scroll is over ten feet long and consists of 196 lines of text plus four illustrations. The Huntington Library offers 130 one- to three-month fellowships for researchers to use the collections.

Herbert T. Pratt, a book collector since 1943, presented highlights of James Young and John Ferguson, alchemy collectors extraordinaire. Ferguson was very scholarly, whereas Young was self-taught. Young's successful use of paraffin led to his filing a patent in the 1850s that resulted in the development of the first oil refinery. Founding a technical chair at Glasgow University, Young had wide-ranging interests and ideas in many fields of chemistry. Nicknamed "Paraffin Young" by David Livingstone, a lifelong friend, Young supported Livingstone's missionary travels.

In the mid-1800s, Young began to collect chemistry books, including alchemy, as he considered this essential to understanding chemistry. Young's collection of eight alchemical manuscripts plus 1,050 books dating from the 17th and 18th centuries is now housed at Strathclyde University in Glasgow.

James Young hired John Ferguson to create a catalog to make his collection usable. This "labor of love" took 25 years to complete. Ferguson was active in many learned societies, in-

cluding Fellow of the Royal Society of Edinburgh and President of the Royal Philosophical Society of Glasgow. Ferguson's nickname "soda," was supposedly a reference to his caustic nature. Ferguson's bibliography is renowned for extensive biographical sketches, some of which extend to more than a page. Although best known for publishing Young's bibliography *Bibliotheca Chemica* in 1906, Ferguson, somewhat ironically, had accumulated a greater collection than that of Young in both size and scope. Ferguson's collection comprised a higher proportion of earlier published works than Young's, including 230 volumes of Paracelsus, complemented by 338 alchemical manuscripts dating from the thirteenth to nineteenth centuries. Only 41 copies of Ferguson's *Bibliotheca Chemica* were published and distributed to libraries, but not available for sale. Fortunately, this classic work has been reprinted and thus remains accessible to librarians, researchers, and bibliophiles.

Katherine Kominis spoke about Lyman C. Newell, a pioneer in chemical education. Newell was attracted to teaching at an early age. In addition to teaching chemistry in Massachusetts, Newell also planned and equipped chemistry labs at two high schools and Boston University. His textbooks incorporated history of chemistry as an integral part of the text, and he published many biographies of chemists in the *Journal of Chemical Education*.

Of modest means, Newell tried to make the history of chemistry vivid and accessible for his students by personalizing examples from his own collection. Newell shared his collection with students, colleagues, and at ACS meetings, and sought an academic home for his collection for preservation and to promote broader access. A colleague described Newell as "sensible to the value of the unessential," where unessential and essential combine to form a new compound of "enlightenment." Newell's collect-

ion of portraits and papers reveal both scientists in their labs and in the world, such as photos of Marie Curie in her lab, in private, and in public. Tracing the history and influence of Lavoisier's work on the chemical discipline incorporates such documents as governmental support of Lavoisier's theory of phlogiston in Europe.

Laird G.L. Ward described beginning his chemical career at age seven, reading a book entitled *100 Harmless Chemical Experiments* at his local Library in Wellington, New Zealand. One year later, Laird and his brothers had progressed in their experimental work to creating explosions that scared off the dustmen (garbage collectors). Judging by the smiles and reminiscences of the audience, I suspect other young chemists' experiments created similarly satisfactory results. When he discovered Spon's 1879 edition of *Workshop Receipts for Manufacturers, Mechanics and Scientific Amateurs* in 1944, Laird recreated Sutton's wet colloidal process developed in 1851 for photography. During wartime a vacant Quonset hut was pressed into service as a workshop, lab, and darkroom, together with Laird's grandfather's apothecary balance. Laird earned pocket money by employing Sutton's process to develop film for student teachers at a nearby college. Laird vividly described the major disadvantages of the process as being messy and reeking of ether. Fascinated by the photographic process, Laird arranged a visit during the 1940s to one of the few photographic operations still making their own large lithographic plates to create advertisements. Gelatin plates were more commonly used, having been introduced in 1871. Arriving in the United States from New Zealand in 1957, Laird went on to become a Ph.D. student of Alex McDiarmid at the University of Pennsylvania.

Elizabeth Swan concluded the session discussing provenance issues. Provenance is a record of previous

ownership, and may be apparent through a variety of visible or documented sources. The most common forms of provenance are provided by bookplates, inscriptions, signatures, manuscript notations, and archival documents regarding the acquisition of the volume. Examples from the Othmer Library's rare book collection provided a virtual tour of various bookplates, rubber stamps, signatures, and other documentation.

While some volumes provide easily identifiable and authenticated provenance, many association copies offer a bibliographic puzzle that requires considerable detective work. One example of documentation that provided authentication of a signature was Bernard Eckstein's copy of an Albert Einstein book bearing an "A. Einstein" signature. Thanks to a manuscript note from the owner, fortunately kept with the volume, it was clear that the signature was indeed that of the author, Albert Einstein. As the book was published in the 1940s, but the owner's note was written on a post-it note, the explanation was apparently written later, perhaps upon the occasion of donating the volume to a library.

A second example of related documentation was from Donald F. Othmer's personal library, in which the original receipt was inserted in a volume purchased in 1936, showing that Don Othmer paid the princely sum of 18.10 to D. M. Beach of Salisbury. As the receipt included neither a state nor currency symbol, and Don Othmer was a frequent traveler, it is unclear whether Beach was located in the U.S. or U.K.

Swan urged the audience to maintain records of their collection and provenance authentication, wherever possible. If donating or bequeathing a collection, all documentation should be transferred together with the materials. Future librarians will greatly appreciate the forethought in providing clues to help unravel such bibliographic puzzles.

—Elizabeth Swan

## Page Markers and Other Stuff

For a long while, I have been fascinated with the various ways that readers locate and identify pages in books they are reading. During a visit to Linda Hall Library in Kansas City many years ago, I was given free reign to examine many of the rare books in the vault.

Although I don't recall its title, a volume once owned by Sir Isaac Newton stands out. To identify a particular page or a line, Sir Isaac folded over the page such that its corner pointed exactly to a word or sentence that had caught his fancy. In this volume standing upright, so many corners had been turned down that its boards formed perhaps a 130-degree angle. I was told by the librarian that he hoped someone would, someday, analyze the ideas in Newton's chosen passages.

Some of the items that I have seen used as page markers include pieces of folded toilet and tissue paper, short lengths of narrow ribbon, printed advertisements, paper clips, "Post-It" notes, strips of torn newspaper, newspaper clippings, personal letters, a block of four postage stamps, a paper marker printed with seven hearts and "LOVE MY LIBRARY," and a textile school's masterpiece woven calendar that covers a full year. The most unusual item was a woven-silk hair net my mother used as a Bible marker.

Though they are not page markers, all of us have, at one time or another, found reminders of events, pressed flowers, and long dead persons. I recently found, randomly interleaved, eight or ten four-leaf clovers. As a sentimentalist, I usually leave such mementos undisturbed. I often wonder about the persons who used them and what they were like.

—Herbert T. Pratt





# HENRY C. BOLTON DEAD

Chemist, Author, and Lecturer  
Passes Away at Washington

Funeral to be Held This Evening  
at  
National Capitol Church—  
Internment  
in Tarrytown, N. Y.

*Special to The New York Times*  
WASHINGTON, Nov. 19.—Henry Carrington Bolton, the celebrated chemist, author, and lecturer, died to-day at his home, 1,519 E Street, this city. For nearly thirty years he had been regarded as among the leading scientists of America, and his writings on various topics included a dozen books and more than 300 monographs.



(Courtesy John Sharkey)

## Call for Papers

The adjacent excerpt from *The New York Times* is a reminder that this year marks the centennial of the death of Henry Carrington Bolton, the patron saint of the Bolton Society. As part of the commemoration of this event, issue Number 6 of *Boltonia*, to be published in December 2003, will be devoted to articles on Bolton.

Bolton was part renaissance man, part chemist, part lecturer, and the consummate bibliophile. He “studied” with Dumas, Bunsen, Kirchhoff, Kopp and Hoffman, but obtained his Ph.D. with Wöhler. Independently wealthy, he retired at the age of 44 to pursue “subjects that interested him.” According to Wyndham Miles, “Bolton was bald, bearded and chubby,” the result in part by Bolton’s own admission that he was “blessed with a hearty appetite.” When he died at the age of 60, his wife, Henrietta Irving Bolton, had his body placed in the Sleepy Hollow Cemetery in Tarrytown, NY. Henrietta outlived Henry by 27 years and is buried with him in a plot almost adjacent to that of her famous ancestor Washington Irving.

We are indebted to Bolton for his bibliographic works. He was even a “professor of bibliography and bibliography” at George Washington University for a few years. But Bolton was much more than a bibliographer; indeed, he was a complex individual. He “belonged to more learned societies than any other living American,” and was the founder of the American Folklore Society, the Lunar Club in New York and the Oology Society in Hartford. In the absence of a Bolton biography, my intent is to try and capture the true essence of the man in *Boltonia* Number 6.

Please contact the editor if you would like to submit an article on Bolton, or if you would like to write an article but need suggestions for a topic. Let’s make Bolton “come alive” on the centennial of his death! I am indebted to Reuben Girling for calling this centennial to my attention.

—J. J. Bohning

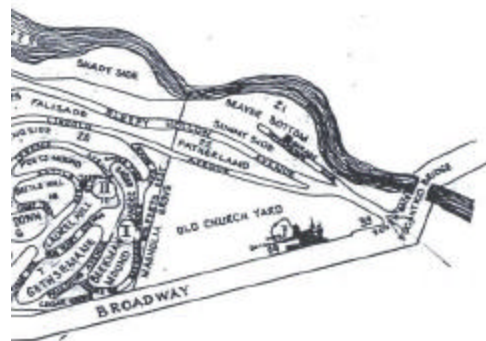
## Pilgrimage to Bolton’s Grave

A number of Boltonites will be visiting the Bolton Grave site on the centennial of the exact date of his death, November 19, 2003. A brief ceremony will be held at 2 p.m. and a suitable memento of our visit will be left at the grave site. That evening, a program on Bolton will be held as part of the monthly meeting series of the Westchester County Sub-Section of the New York Section of the American Chemical Society. Please join us for a day of Boltonia. More details will be sent at a later date.

The Sleepy Hollow Cemetery is a short distance from the Tappan Zee Bridge and is easily reached on New York Route 9. In addition to the graves of Bolton and Irving, the cemetery also contains the last resting places of Samuel Gompers, Andrew Carnegie, William Rockefeller, Walter Chrysler, Marc Hellinger, and Major Bowes.

Other attractions in the immediate area include Sunnyside (Washington Irving’s home), Philipsburg Manor (18th-century farm and grist mill), Lyndhurst (Jay Gould’s summer retreat), and Kykuit, (the Rockefeller Estate). Headless horseman sightings are not guaranteed.

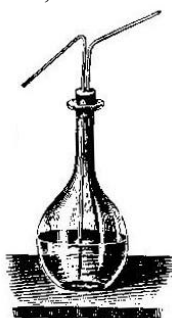
—J. J. Bohning



## Collecting Collections: Chemurgy

The following list is the appendix to the article by Peter Morris in *Boltonia* No. 4, page 7 (Dec. 2002). —Ed.

1. William J. Hale, *Chemistry Triumphant; the Rise and Reign of Chemistry in a Chemical World*, Baltimore: Williams & Wilkins Co. in co-operation with the Century of Progress Exposition, 1932; I have a copy with its dust jacket.
2. William J. Hale, *The Farm Chemurgic; Farmward the Star of Destiny Lights Our Way*, Boston: The Stratford Company, 1934; I have a paperback copy presented by the Chemical Foundation.
3. William J. Hale, *Prosperity Beckons; Dawn of the Alcohol Era*, Boston: The Stratford Company, 1936; I have a copy without its dust jacket.
4. William J. Hale, *Farmward March; Chemurgy Takes Command*, New York: Coward-McCann, 1939; I have a copy signed by the author, but without its dust jacket.
5. William J. Hale, *Farmer Victorious; Money, Mart, and Mother Earth*, New York: Coward-McCann, 1949; No luck so far. For some reason, available copies tend to be expensive).
6. William J. Hale, *Chemivision: From Farm to Factory and Fortune*, Haverhill, Mass: Destiny, 1952; I have a copy signed by the author, with its interesting dust jacket, which is rather ragged (partly because I cut it slightly when opening the parcel).
7. Christy Borth, *Pioneers of Plenty; the Story of Chemurgy*, New York: The Bobbs-Merrill Company, 1939; I do not have this one, but see next book.
8. Christy Borth, *Modern Chemists and Their Work*, New enl. ed., New York: The New Home Library, 1943; I have a copy, with its (slightly tatty) dust jacket.
9. Wheeler McMillen, *New Riches From the Soil; the Progress of Chemurgy*, New York: D. Van Nostrand Co., Inc., 1946; I have a copy, but without its dust jacket.
10. Wheeler McMillen, *The Green Frontier; Stories of Chemurgy*, New York: Putnam, 1969; I have an ex-school library copy that is in good condition but it doesn't have a dust jacket.
11. Williams Haynes, *Southern Horizons*, New York: D. Van Nostrand Co., Inc., 1946; I have a copy, but without its dust jacket, boards rather foxed.
12. Williams Haynes, *Cellulose: The Chemical that Grows*; I have a copy, with its dust jacket, and a bookplate that states it was presented by the Celanese Corporation of America.
13. David H. Killeffer, *Two Ears of Corn, Two Blades of Grass*, New York: D. Van Nostrand Co., Inc., 1955; I have a copy with its dust jacket (ex-Franklin Institute, but purchased through a bookseller).
14. J. Frederick Richardson, ed., *A Digest of Farm Chemurgy; Industrialization of Farm Products, the Way Out for American Agriculture*, Washington, 1938; No luck so far.
15. United States Dept. of Agriculture, *Crops in Peace and War*, 1951; I have a copy which didn't have a dust jacket, stamped "From Sen. Hubert H. Humphrey Minnesota."
16. O. R. Sweeney and L. K. Arnold, *Plastics from Agricultural Materials*, Ames, Iowa: State College of Agriculture and Mechanic Arts, 1942; Don't have this one.
17. *Chemurgy, Progress and Promise*, by twenty-seven distinguished Americans, New York: The National Farm Chemurgic Council Inc., 1946.



*BOLTONIA* is the newsletter of the Bolton Society, an organization of chemical bibliophiles. As a subsidiary of the Chemical Heritage Foundation, the Bolton Society promotes the individual love for and collection of all types of material related to the history and development of the chemical sciences and related technologies. It also advances the cause of the Donald F. and Mildred Topp Othmer Library of the Chemical Heritage Foundation. For more information on the Bolton Society, contact the Secretary.

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