

Syracuse University

SURFACE

The Courier

Libraries

Fall 1987

William Martin Smallwood and the Smallwood Collection in Natural History at the Syracuse University Library

Eileen Snyder

Follow this and additional works at: <https://surface.syr.edu/libassoc>



Part of the [History of Science, Technology, and Medicine Commons](#)

Recommended Citation

Snyder, Eileen. "William Martin Smallwood and the Smallwood Collection in Natural History at the Syracuse University Library." *The Courier* 22.2 (1987): 67-94.

This Article is brought to you for free and open access by the Libraries at SURFACE. It has been accepted for inclusion in *The Courier* by an authorized administrator of SURFACE. For more information, please contact surface@syr.edu.

SYRACUSE UNIVERSITY
LIBRARY ASSOCIATES
C O U R I E R



VOLUME XXII, NUMBER 2, FALL 1987

SYRACUSE UNIVERSITY
LIBRARY ASSOCIATES
COURIER

VOLUME XXII

NUMBER TWO

FALL 1987

- Benjamin Spock and the Spock Papers at
Syracuse University
By Robert S. Pickett, Professor of Child and
Family Studies, Syracuse University 3
- Alistair Cooke: A Response to Granville Hicks'
I Like America
By Kathleen Manwaring, Syracuse University Library 23
- "A Citizen of No Mean City": Jermain W. Loguen and
the Antislavery Reputation of Syracuse
By Milton C. Sernett, Associate Professor
of Afro-American Studies, Syracuse University 33
- Jan Maria Novotný and His Collection of Books
on Economics
By Michael Markowski, Syracuse University 57
- William Martin Smallwood and the Smallwood Collection
in Natural History at the Syracuse University Library
By Eileen Snyder, Physics and Geology Librarian,
Syracuse University 67
- News of the Syracuse University Library and the
Library Associates 95

William Martin Smallwood and the Smallwood Collection in Natural History at the Syracuse University Library

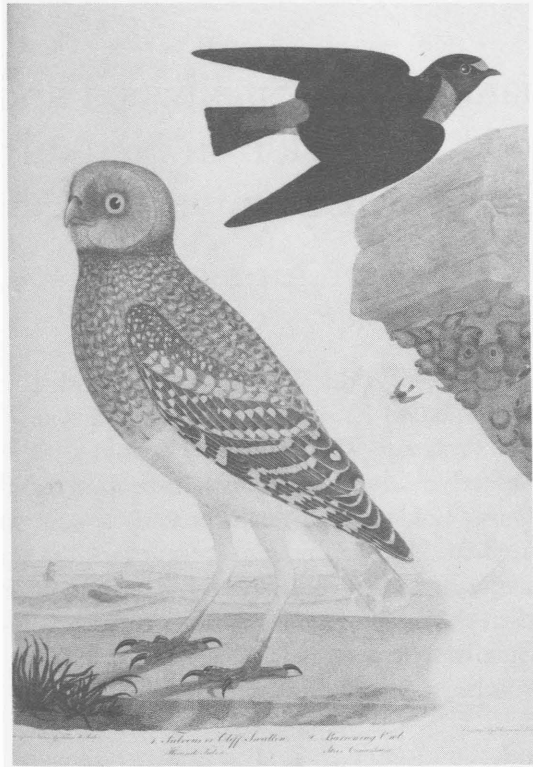
BY EILEEN SNYDER

When, shortly after World War II, it was decided that Syracuse University should add to its science curriculum a course on the history of science, Professor William Park Hotchkiss became the program's most effective advocate. In his inspection of the Syracuse University Library's holdings that might properly sustain such a course, he was delighted to discover materials of outstanding interest. Over the years Syracuse had been receiving the quiet attentions of several able collectors in this area of study. Among them was Professor William Martin Smallwood.

Professor Hotchkiss wrote:

Dr. Smallwood in biology had amassed a small but finely chosen private library in the history of biology at his home. But his fine Italian hand was revealed in that he grabbed many rare books through regular purchase channels and had them processed and put on the stacks in Lyman. [The science library was in Lyman Hall at that time, about 1939.] A risky procedure, true; but the students in Lyman knew almost as little Latin in 1933 as they do in 1973. A simple solution to the theft problem would be to have everything translated into Latin—nobody would steal it. Anyway, Dr. Smallwood willed his fine library to the University. It is the biggest stock of the old acquisitions.

William Martin Smallwood graduated from Syracuse University in 1897. After receiving his Ph.D. from Harvard University in 1902, he joined the faculty at Syracuse as an associate professor of zoology. In 1932 he was chairman of the Department of Biology. That sum-



Strix cunicularia. Drawn from Nature by Titian R. Peale, from Charles Lucian Bonaparte, *American Ornithology; or, The Natural History of Birds Inhabiting the United States, Not Given by Wilson*, volume I (Philadelphia: Carey, Lea and Carey, 1825), opposite page 62.

mer, he and his wife, Mabel Sarah Coon Smallwood, toured Europe and acquired, while in Vienna, the complete works of Cuvier and Oken (which they subsequently donated to Syracuse University).

Inspired by their find, the Smallwoods decided to build a collection of works in natural history and especially in American natural history. Concerning a year's leave of absence in 1936, Professor Smallwood states in the preface to his book, *Natural History and the American Mind*,¹ "Mrs. Smallwood and I decided to investigate early natural history in the United States. She took over the historical

1. William Martin Smallwood, *Natural History and the American Mind* (New York: Columbia Univ. Press, 1941), vii.

background, the early letters, and the development of scientific illustrations, while I assumed responsibility for dealing with scientific and educational programs.”

That year was spent primarily in the eastern United States. In the summer of 1937, they traveled to Great Britain in order to study the collection of eighteenth-century lectures in natural history at the University of Edinburgh and the collection of manuscripts associated with naturalists of colonial America at the British Museum of Natural History, where there was “much material on early explorers”.

During these travels in America and Great Britain, they collected sixteenth-, seventeenth-, eighteenth-, and nineteenth-century material in the fields of botany, zoology, and geology. While studying the early naturalists, they also endeavored to acquire a number of valuable books from the duplicate collections of American colleges.

Professor Smallwood further undertook to secure gifts from alumni, faculty members, and friends, as well as to arrange gifts and purchases from a variety of institutional sources. As a result of his efforts, generous donations were received from the Smithsonian Institution; the Library of Congress; the Carnegie Institute of Washington, D.C.; the American Antiquarian Society at Worcester, Massachusetts; and the American Museum of Natural History in New York City.

The Smallwood Collection, as it has come to be known, eventually reached over eight hundred books and manuscripts, each selected to be typical of a period and to demonstrate the historical development of the natural sciences. Subsequently, the University itself solicited acquisitions to supplement the collection. In its description of the collection in a 1939 press release, the University stated:

This collection is far from complete, and the University is hoping that friends will recognize that here is a working library on the early growth of Natural History, which is being used by students in all of the sciences and is an educational asset which merits contributions.

On the bookplate of the Smallwood Collection is the inscription, “Assembled . . . with great industry and good judgment”. Professor Smallwood’s careful selection and broad knowledge are demonstrated

in the Smallwood Collection by the range of important works in all areas of natural history. Although space precludes a detailed description, there are many items that merit mention. The following list of books under subject headings by dates, with the early American natural sciences separately noted, comprises representatives of some of the more interesting.

MICROSCOPY

Leeuwenhoek, Antony van (1632–1723)

Anatomia seu interiora rerum.

Leyden, 1687.

Dutch microscopist and lens grinder. Sent letters announcing his many discoveries to the Royal Society of London. These letters were subsequently published in the *Philosophical Transactions*.

PHYSIOLOGY AND MEDICINE

Whytt, Robert (1714–1766)

An essay on the vital and other involuntary motions of animals.

Edinburgh, 1758.

Smellie, William (1697–1763)

A set of anatomical tables, with explanations, and an abridgment of the practice of midwifery.

Worcester, Mass., 1793.

Carey, Mathew (1760–1839)

A short account of the malignant fever, lately prevalent in Philadelphia. To which are added, accounts of the plague in London and Marseilles; and a list of the dead, from August 1 to the middle of December, 1793. Fourth edition.

Philadelphia, 1794.

Bichat, Xavier (1771–1802)

A treatise on the membranes in general, and on different membranes in particular. New edition.

Boston, 1813.

French physiologist and anatomist. With the publication of the *Treatise* in 1800, he conclusively demonstrated that organs were

composed of tissues, and revolutionized the concept of the structure of the body.

Orfila, Matthieu Joseph Bonaventure (1787–1853)

A popular treatise on the remedies to be employed in cases of poisoning and apparent death including the means of detecting poisons, of distinguishing real from apparent death, and of ascertaining the adulteration of wines.

Philadelphia, 1818.

Macculloch, John (1773–1835)

Malaria; an essay on the production and propagation of this poison, and on the nature and localities of the places by which it is produced.

Philadelphia, 1829.

Lister, Joseph (1827–1912)

A contribution to the germ theory of putrefaction and other fermentative changes, and to the natural history of torulae and bacteria.

(*Transactions of the Royal Society of Edinburgh*, v. 27, pt. 3)

Edinburgh, 1873.

English physician and surgeon. Developed the aseptic method of surgery.

BOTANY

Grew, Nehemiah (1641–1712)

The anatomy of plants.

London, 1682.

With Marcello Malpighi, he laid the foundations of plant anatomy. Their observations were not superseded for a century and a half.

Linnaeus, Carl (1707–1778)

Systema vegetabilium secundum classes ordines genera species. Editio decima quinta.

Göttingen, 1797.

Swedish systematic botanist and naturalist. He devised the binomial nomenclature (*genus*, *species*) system of classifying plants and animals.



Cenaurea americana. Drawn from Nature by W. P. C. Barton, from his *A Flora of North America*, volume II (Philadelphia: H. C. Carey and I. Lea, 1822), table 50.

Brongniart, Adolphe Théodore (1801–1876)

Mémoire sur la génération et le développement de l'embryon dans les végétaux phanérogames.

Paris, 1827.

French botanist. The *Mémoire* concerns his important work on the structure and development of pollen. Called the “Father of Paleobotany” for his great *Histoire des végétaux fossiles* (1828), which compared fossil with living plant forms.

Du Trochet, Henri (1776–1847)

Mémoires pour servir à l'histoire anatomique et physiologique des végétaux et des animaux.

Paris, 1837.

French botanist. Described and named the process of osmosis. The *Mémoires* was the culmination of thirty years of work in physiological research.

Schleiden, Matthias Jacob (1804–1881)

Principles of scientific botany; or, Botany as an inductive science.

Translated by Edwin Lankester.

London, 1849.

German botanist. The first modern textbook in botany, the *Grundzüge* (1842) had a profound effect in stimulating new directions in botany both in method and philosophy. He and Theodor Schwann were considered the founders of the Cell Theory.

AMERICAN BOTANY

Barton, Benjamin Smith (1766–1815)

Elements of botany; or Outlines of the natural history of vegetables.

Philadelphia, 1803.

The first American textbook on botany. Carried by Meriwether Lewis on the Lewis and Clarke Expedition. Plates engraved by William Bartram, American naturalist and friend of Thomas Jefferson.

Waterhouse, Benjamin (1754–1846)

The botanist. Being the botanical part of a course of lectures on natural history, delivered in the university of Cambridge, together with a discourse on the principle of vitality.

Boston, 1811.

Torrey, John (1796–1873)

A catalogue of plants, growing spontaneously within thirty miles of the city of New York.

Albany, 1819.

American botanist. Inspired to botanical studies by Amos Eaton,

he eventually, in 1836, became botanist to the State of New York. Asa Gray was his pupil and then close associate.

Nuttall, Thomas (1786–1859)

An introduction to systematic and physiological botany. Second edition.

Cambridge, Mass., 1830.

English botanist and ornithologist, he worked almost exclusively in America. The *Introduction* was written as a textbook for his courses at Harvard.

Beck, Lewis Caleb (1798–1853)

Botany of the northern and middle states; or, A description of the plants found in the United States north of Virginia.

Albany, 1833.

Botanist, geologist, physician. Mineralogist for the New York State geological survey of 1836. On the faculty of the Rensselaer School when Amos Eaton was senior professor.

Gray, Asa (1810–1888)

The botanical text-book.

New York, 1842.

In his time the foremost botanist in America. His *Manual of the Botany of the Northern United States* (1848) was a landmark in systematic botany.

ZOOLOGY

Bewick, Thomas (1753–1828)

A history of British birds. Volume 1: History and description of land birds. Volume 2: History and description of water birds.

Newcastle, 1816.

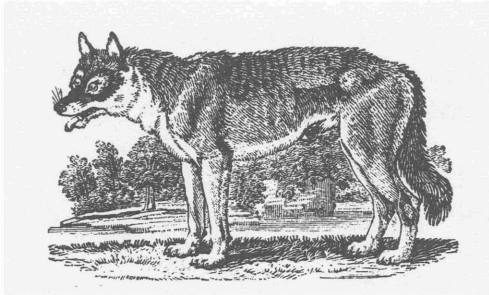
English wood engraver. The *British Birds* (1797 and 1804) and the *Quadrupeds* (1790), which he wrote and illustrated, were his great achievements.

Lamarck, Jean Baptiste Pierre (1744–1829)

Philosophie zoologique. Two volumes.

Paris, 1830.

French naturalist. Proposed a theory of evolution based on acquired characteristics.



The Wolf. Engraved on wood by Thomas Bewick, from his *A General History of Quadrupeds* (Newcastle upon Tyne: Printed by and for S. Hodgson, R. Beilby, and T. Bewick, 1790), page 275.

Owen, Sir Richard (1804–1892)

On the archetype and homologies of the vertebrate skeleton.

London, 1848.

English biologist. Made major contributions in comparative anatomy of animals, both living and extinct.

Huxley, Thomas Henry (1825–1895)

The oceanic *Hydrozoa*; a description of the *Calycophoridae* and *Physophoridae* observed during the voyage of H.M.S. *Rattlesnake*, in the years 1846–1850.

London, 1859.

Appointed as ship's surgeon on the *Rattlesnake* at the age of 21, his researches on the voyage began a revolution in the zoological sciences.

Huxley, Thomas Henry (1825–1895)

An introduction to the classification of animals.

London, 1869.

Equally brilliant in zoological and paleontological research, Huxley became an ardent champion of evolution and was known as "Darwin's bulldog".

AMERICAN ZOOLOGY

Catesby, Mark (1679–1749)

The natural history of Carolina, Florida and the Bahama Islands.

London, 1754.

English naturalist. His extensive travels and collecting in North America resulted in the *Natural History*. Illustrating the work himself, he also made his own engravings and colored the plates.

Wilson, Alexander (1766–1813)

American ornithology; or, The natural history of the birds of the United States.

Philadelphia, 1808–1814.

Scottish naturalist. *American Ornithology*, in nine volumes, was his great work in which he set out to draw and describe as accurately as possible all the birds of America.

Bonaparte, Charles Lucien Jules Laurent (1803–1857)

American ornithology; or, The natural history of birds inhabiting the United States, not given by Wilson.

Philadelphia, 1825–1833.

French naturalist, Napoleon's nephew. Alexander Wilson's great friend, who attempted to finish Wilson's work after his death. Most of the birds are painted by Titian R. Peale; but one, the Great Crow-Blackbird, is by John James Audubon. The engravings are by Alexander Lawson.

Nuttall, Thomas (1786–1859)

A manual of the ornithology of the United States and of Canada. The land birds.

Cambridge, Mass., 1832.

Nuttall, Thomas (1786–1859)

A manual of the ornithology of the United States and of Canada. The water birds.

Boston, 1834.

His most popular work, the *Manual* remained in print into the twentieth century.

Holbrook, John Edwards (1794–1871)

North American herpetology; or, A description of the reptiles inhabiting the United States.

Philadelphia, 1836–38.

He states in his preface, "The colouring of the plates may be fully relied on, as almost every one was done from life". Holbrook made

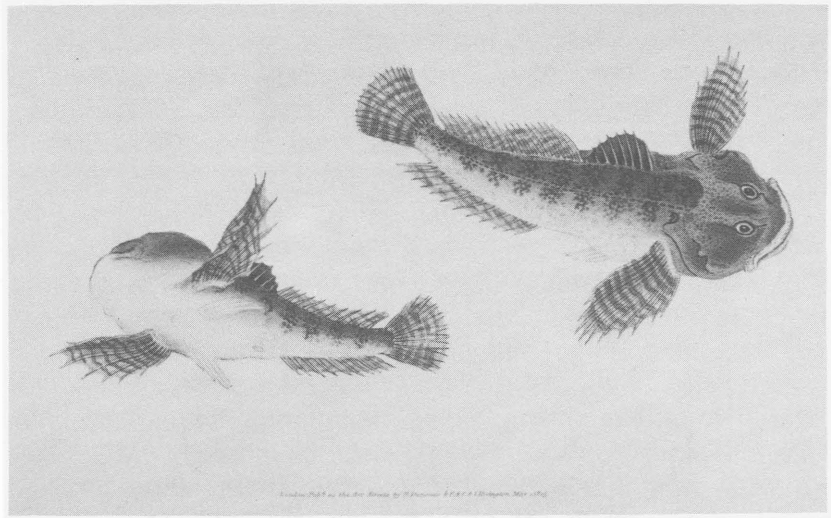


Harengus minor and *Populi nigrae foliis*. Illustrated by Mark Catesby, from his *The Natural History of Carolina, Florida, and the Bahama Islands*, volume II (London: C. Marsh, 1754), page 24.

every effort to be scrupulously accurate both in plates and description.

Holbrook, John Edwards (1794–1871)
Ichthyology of South Carolina.
Charleston, 1860

Dana, James Dwight (1813–1895)
Structure and classification of zoophytes . . . during the years 1838, 1840, 1841, 1842.
Philadelphia, 1846.
American geologist and zoologist. In the years 1838–42, he was geologist and mineralogist of the Wilkes Exploring Expedition to



Cottus gobbio. Drawn by Edward Donovan, from his *The Natural History of British Fishes*, volume IV (London: Printed for the author and F. and C. Rivington, 1806), plate 80.

the Pacific. His report on the zoophytes—corals and anemones—summarized his work and included many species new to science.

Agassiz, Louis Jean Rodolphe (1807–1873)

Contributions to the natural history of the United States of America. Four volumes.

Boston and London, 1857–1862.

Swiss naturalist and geologist. Researched and published prolifically in many areas of science including work on the fishes of Europe, fossil fishes, glaciers, and the ice ages. He accepted a position at Harvard in 1847 and remained in America the rest of his life.

PALEONTOLOGY AND EVOLUTION

Parkinson, James

Organic remains of a former world. An examination of the mineralized remains of the vegetables and animals of the Antediluvian world. Second edition.

London, 1833.

Mantell, Gideon Algernon (1790–1852)

The medals of creation; or, First lessons in geology, and in the study of organic remains.

London, 1844.

English geologist and paleontologist. He discovered remarkable Dinosaurian reptiles in the Wealdon formation of Sussex, including the *Iguanodon* in 1825.

Chambers, Robert (1802–1871)

Vestiges of the natural history of creation.

London, 1844.

Scottish author, publisher, and amateur geologist. The *Vestiges* was a work on evolution which he published anonymously because of the furor he was sure it would arouse.

Owen, Sir Richard (1804–1892)

Palaeontology, or A systematic summary of extinct animals and their geological relations. Second edition.

Edinburgh, 1861.

GEOLOGY

Cuvier, Georges, Baron (1769–1832)

Essay on the theory of the earth. To which are now added, Observations on the geology of North America, by Samuel L. Mitchill. New York, 1818.

French naturalist and comparative anatomist. One of the most eminent and revered paleontologists of his day. His Catastrophic Theory and his belief in the fixity of species held back for years the use of paleontology in the development of evolutionary theory.

Lyell, Sir Charles (1797–1875)

Principles of geology, being an attempt to explain the former changes of the earth's surface, by reference to causes now in operation. Three volumes.

London, 1830–1833.

British geologist. The *Principles of Geology* was his chief work and greatly influenced Darwin.

Murchison, Sir Roderick Impey (1792–1871)

Siluria. A history of the oldest rocks in the British Isles and other countries. Fifth edition.

London, 1872.

British geologist and geographer. He described and established the Silurian and Devonian systems along with the fossils that defined them. With the fifth edition, he extended the classification into other countries.

AMERICAN GEOLOGY

Cleaveland, Parker (1780–1858)

Elementary treatise on mineralogy and geology.

Boston, 1816.

Mineralogist and chemist. One of the foremost geologists of the time, his *Treatise* was the first work on systematic mineralogy and one of the most important of the early publications in geology.

Eaton, Amos (1776–1842)

An index to the geology of the northern states, with a transverse section from Catskill mountain to the Atlantic.

Leicester, Mass., 1818.

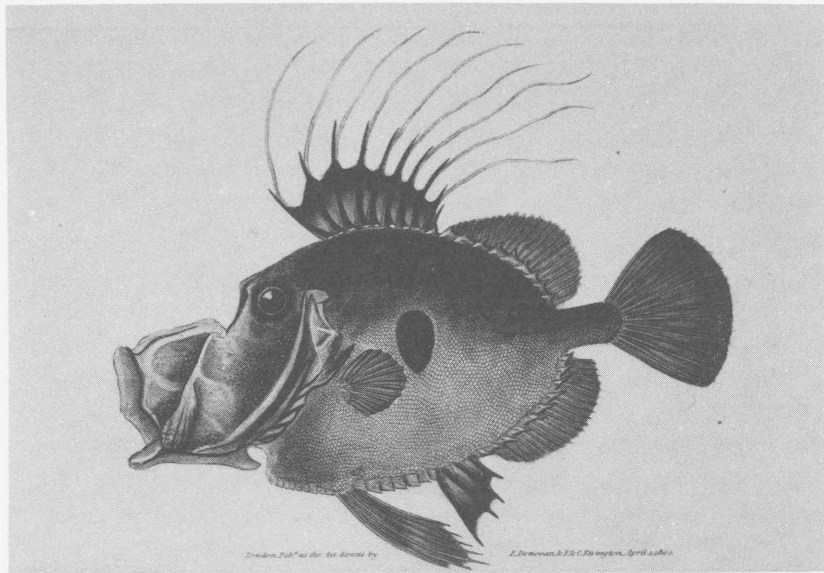
Lawyer, botanist, geologist. One of the founders of American geology. The period between 1818 and 1836 is known as the “Eatonian Era”. The *Index* was his first important publication in geology.

Eaton, Amos (1776–1842)

A geological and agricultural survey of Rensselaer county in the state of New York. To which is annexed, A geological profile, extending from Onondaga Salt Springs, across said county, to Williams College in Massachusetts.

Albany, 1822.

The *Survey* was commissioned by Stephen Van Rensselaer, who also provided financial support for the Rensselaer School, founded by Eaton in 1824. Geology was a required course at the school, which later became Rensselaer Polytechnic Institute.



Zeus faber. Drawn by Edward Donovan, from his *The Natural History of British Fishes*, volume I (London: Printed for the author and F. and C. Rivington, 1802), plate 8.

Eaton, Amos (1776–1842)

A geological and agricultural survey of the district adjoining the Erie Canal in the state of New York.

Albany, 1824.

His best known work in which he devised a classification system for the rocks of North America.

Silliman, Benjamin (1779–1864)

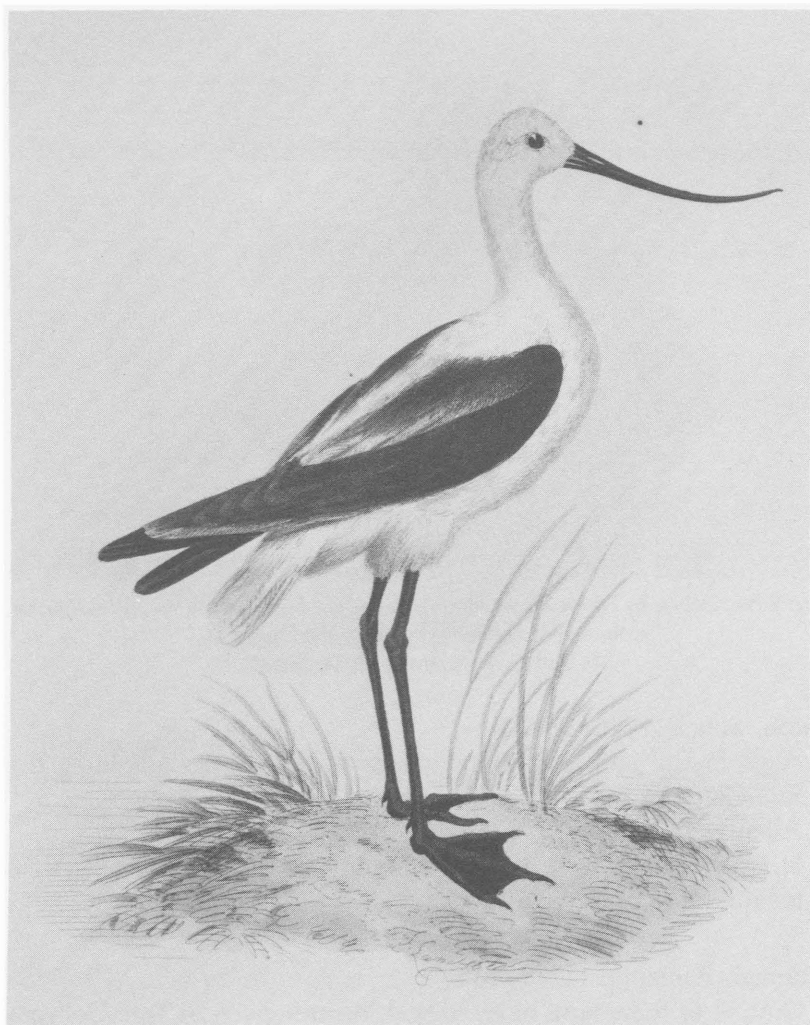
Outline of the course of geological lectures given in Yale College. New Haven, 1829.

Chemist and geologist. Founder of the *American Journal of Science and Arts* (called “Silliman’s Journal”) in 1818, which he also edited. Famous as a teacher, Amos Eaton and James Dwight Dana were among his students at Yale.

Dana, James Dwight (1813–1895)

A system of mineralogy.

New Haven, 1837.



Recurvirostra occidentalis. Edward Lear, artist, from J. Richardson et al., *The Zoology of Captain Beechey's Voyage* (London: Henry G. Bohn, 1839), plate 12.

Dana's first work, published while he was an assistant to Benjamin Silliman, was a landmark in the description and classification of minerals.

Owen, David Dale (1807–1860)

Report of a geological exploration of part of Iowa, Wisconsin, and Illinois.

Washington, 1844.

In the Smallwood Collection there are a number of geologic surveys of the states done at about this time—Maine (1838), Massachusetts (1841), New Hampshire (1841), Pennsylvania (1858), Ohio (1838), Kentucky (1857), Illinois (1837), Indiana (1839).

Agassiz, Louis Jean Rodolphe (1807–1873)

Geological sketches.

Boston, 1866.

A work that interpreted geological concepts for the public.

Winchell, Alexander (1824–1891)

Walks and talks in the geological field.

New York, 1886.

State geologist of Michigan; director of the geologic survey, which he did much to establish in 1859. First chancellor of Syracuse University (1873–75).

TRAVEL AND EXPLORATION

Weld, Isaac (1774–1856)

Travels through the states of North America, and the provinces of Upper and Lower Canada during the years 1795, 1796, and 1797. Fourth edition.

London, 1807.

Ross, Sir John (1777–1856)

Narrative of a second voyage in search of a north-west passage, and of a residence in the Arctic regions, during the years 1829, 1831, 1832, 1833.

Philadelphia, 1835.

In which he discovers the north magnetic pole.

Beechey, Frederick William (1796–1856)

The zoology of Captain Beechey's voyage . . . during a voyage to the Pacific and Behring's straits performed in His Majesty's ship *Blossom* . . . in the years 1825, 1826, 1827, 1828.

London, 1839.

Contributions by Richard Owen, William Buckland, and G. B.

Sowerby among others. Illustrated with “upwards of fifty finely coloured plates” by J. D. C. Sowerby, Edward Lear (birds), and Zeiter (fish).

Frémont, John Charles (1813–1890)

Narrative of the exploring expedition to the Rocky mountains in the year 1842, and to Oregon and north California in the years 1843–44.

New York, 1846.

Lyell, Sir Charles (1797–1875)

A second visit to the United States of North America.

New York and London, 1849.

Lyell’s first visit to North America was in 1841 with three subsequent visits. He traveled extensively throughout the northeast, including a trip to Niagara Falls, of which the geology greatly impressed him.

THE SMALLWOOD COLLECTION OF MANUSCRIPTS

In the Manuscript Division of the George Arents Research Library there is a group of thirty letters and manuscripts also assembled by Professor Smallwood. These are primarily associated with Amos Eaton, but include in addition letters of other prominent naturalists of the nineteenth century. The following is a complete list of the items with subject descriptions and, where available, Professor Smallwood’s annotations, which have been copied exactly as they appear.

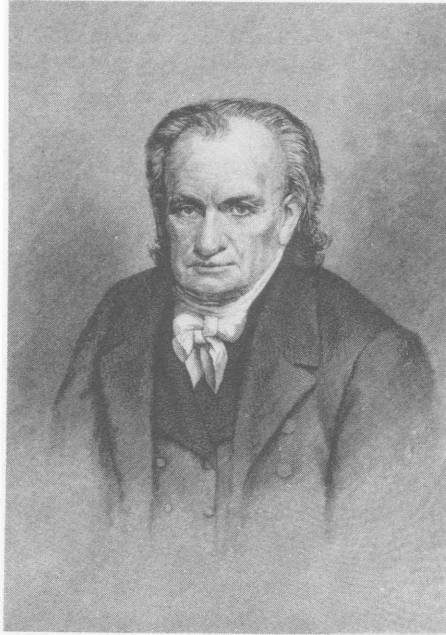
Arnold, Benedict. Amsterdam, New York. To Amos Eaton, Principal of Rensselaer School, Troy, New York. 21 November 1826.

SMALLWOOD ANNOTATION: *A typical letter from a parent desiring information on the school (Rensselaer) prior to placing his son in it.*

Beck, Lewis C. Albany, New York. To Orville L. Holley, Troy, New York. 23 June 1829.

Resignation of Lewis C. Beck from the Rensselaer School.

SMALLWOOD ANNOTATION: *First-hand accounts of an academic quarrel*



Amos Eaton, Professor of Natural Sciences, Rensselaer Polytechnic Institute,
from George P. Merrill, *Contributions to the History of American Geology*
(Washington, D.C.: Government Printing Office, 1906), plate 6.

over 110 years old! The Beck brothers, Lewis C. and T. Romeyn Beck, were former students of Eaton's and faculty members of the Rensselaer School. What the Sentiments and Opinions of Eaton's were with which the Brothers Beck disagreed, we cannot know. We have the letters of resignation and the first draft of Amos Eaton's reply.

Beck, T. Romeyn. Albany, New York. To Amos Eaton, Rensselaer School, Troy, New York. 27 September 1828.

Resignation of T. Romeyn Beck as vice-president of Rensselaer School, in which he protests against Eaton's methods and indicates unfriendly relations between them.

Booth, James Curtis. *Memoir of the geological survey of the State of Delaware including the application of the geological observations to agriculture.* Dover [Delaware], 1841. 188 pages.

Inscribed on the front cover by the author: "Prof. Amos Eaton. From his friend and pupil. The author."

Brongniart, Adolphe Théodore. *Histoire des Végétaux, ou Recherches Botaniques et Géologiques sur les Végétaux Renfermés dans les Diverses Couches du Globe*. Paris, n.d. Pages 1–11, 136–288. Prospectus.

Amos Eaton's copy with glosses by him. His signature is on the cover.

Cleaveland, Parker. Bowdoin College, Brunswick, Maine. To Amos Eaton, Troy, New York. 31 December 1827.

Cleaveland is preparing a new edition of his *Mineralogy and Geology* and asks Eaton for information about certain minerals in various locations which are known to Eaton. He also requests Eaton to send him some books and pamphlets written by Eaton and other geologists.

Clinton, DeWitt. Albany, New York. To Amos Eaton, Troy, New York. 18 July 1824.

Governor Clinton's letter of introduction for A. T. Goodrich, a "respectable bookseller", to Amos Eaton. On the lower portion is an undated letter from A. T. Goodrich to Amos Eaton.

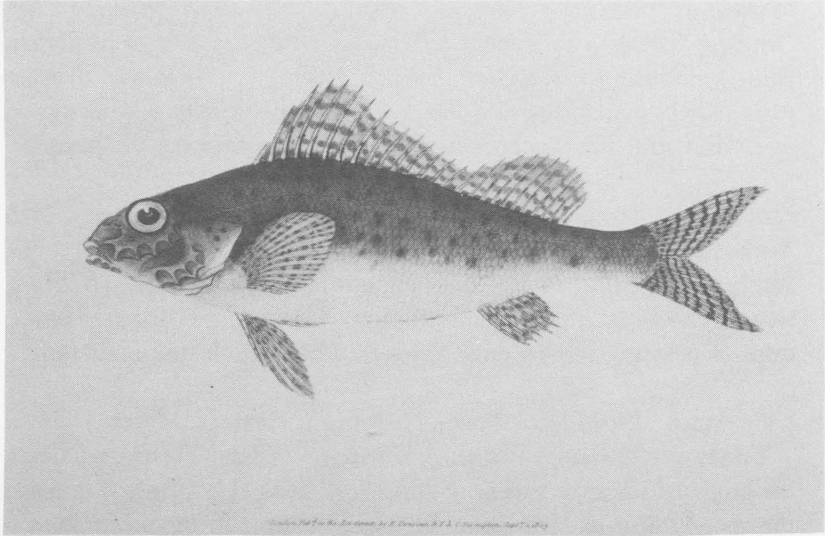
SMALLWOOD ANNOTATION: A letter of introduction from Dewitt Clinton, at that time (1824) Governor of the State of New York and one of the most important figures in the country. Besides bearing the Clinton autograph, the letter is of interest in showing the manner in which the booksellers of the day contracted with the author directly for the privilege of selling his books.

Clinton, George W. Albany, New York. To Amos Eaton, Troy, New York. 23 June 1827.

A printer's assurance to Eaton of the publication of certain pamphlets and newspaper articles.

Deed. 16 July 1801. Jacob and Mary Vanderheyden convey four lots of property in the town of Troy, New York, to the officers and trustees of the Farmer's Bank for the sum of two hundred dollars.

SMALLWOOD ANNOTATION: While this old deed (16 July 1801) has



Perca cernua. Drawn by Edward Donovan, from his *The Natural History of British Fishes*, volume I (London: Printed for the author and for F. and C. Rivington, 1802), plate 34.

no known connection with Eaton, it was found among other papers of the period and is indicative of the kind of deed which Eaton doubtless drew up during his brief career as a lawyer, and to which, no doubt, he was a part in his various land transactions.

Eaton, Amos. Notes on Animal Physiology. Williams College, Williamstown, Massachusetts. August 1817. Manuscript.

Manuscript notes of Amos Eaton's last lecture, delivered at Williams College. Contains an appendix which shows "the apparent connection with his difficulties which resulted in his giving up the practice of the law".

SMALLWOOD ANNOTATION: *The rarest and most valuable of the Amos Eaton manuscripts: Notes on Animal Physiology, dated August 1817, at Williams College. This is the only mss of his lectures known. In this lecture he discussed the "Facial Angle" at some length as a means of estimating mental capacities. At the beginning of his conclusion, in speaking of his lectures before the class, he says: I have exhibited more than 200 kinds of minerals and 600 species of plants, besides the exhibition of various parts. . . . This is in accordance with one of his strongest*

teaching theories: that botany (and other sciences) should never be taught "without having each student hold in his hand a system of plants and living specimens for perpetual demonstration. . . . It is true that pictures may be studied; so may the picture of a blacksmith shoeing a horse be studied. But can you become a blacksmith by studying this picture?"

Eaton, Amos. Troy, New York. To T. Romeyn Beck, Albany, New York. 29 September 1828.

Reply to T. Romeyn Beck's resignation (27 September 1828), in which Eaton attempts reconciliation. He accounts for the procedure of printing school catalogues to which Beck had objected.

Eaton, Amos. Troy, New York. To John Torrey. 26 March 1836.

SMALLWOOD ANNOTATION: *Amos Eaton to John Torrey, relative to the proposed scientific survey of New York State. He (Torrey) accepted the appointment as state botanist, which resulted in the preparation of "A flora of the state of New York", published in two volumes in 1843.*

Eaton, Amos. Translation of extracts from Adolphe Théodore Brongniart's *Histoire des végétaux fossiles*, 1828–37, with Eaton's instructions to the anonymous translator. N.d. 31 pages.

SMALLWOOD ANNOTATION: *Amos Eaton kept abreast of scientific research being carried on elsewhere in this country and others. Here is a note in his handwriting indicating that he wants a literal translation from a work on Fossil Flora by Adolphe Brongniart. Who did make the neatly written translation we do not know; it is nevertheless indicative of Eaton's scholarship that he knew of and wanted the material. The other part of the translation is in Eaton's own hand.*

Hooker, Joseph D. The Royal Society, Burlington House, London, England. To William Crookes. N.d.

Hooker informs Crookes that he has been awarded the Royal Medal for "thallium and radiation labors" (1875). [Accompanied by an engraving of Hooker by C. Jeens.]

Humboldt, Friedrich Heinrich Alexander von. Berlin, Germany. To Lorin Blodget, Washington, D.C. 7 September 1856. (In French) In 1851, Lorin Blodget (1823–1901) was appointed "assistant professor" in charge of researches on climatology at the Smithsonian

Institution. In 1857 he had published his *Climatology of the United States*, in which he compared the climate of America with that of Europe and Asia at the same latitudes. "This first work of importance on the climatology of any portion of America was so carefully and thoroughly done that the subsequent myriads of observations have essentially but confirmed Blodget's major conclusions." (*Dictionary of American Biography*)

Humboldt had delineated "isothermal lines" in 1817, and with their use had devised the means of comparing climates of various countries.

Huxley, Thomas Henry. 4 Marlborough Place, London, England. To William Crookes. 8 May 1887.

Huxley discusses whether a Greek word in a work by Aristotle in the original language should be translated as "form" or "matter". [Accompanied by an engraving of Huxley by C. Jeens.]

Moore, Zephaniah Swift. President of Williams College, Williams-town, Massachusetts, and two faculty members. To whom it may concern. 1 September 1817.

Statement from the President and faculty of Williams College, recommending Amos Eaton as free-lance lecturer and as teacher of natural history.

SMALLWOOD ANNOTATION: When Amos Eaton completed his lectures at Williams College, he was given the letter of high recommendation here shown. On the back is a similar endorsement dated a few months later (Nov. 24, 1817), the final paragraph of which is interesting: "As his class consisted chiefly of ladies, and as these branches of learning have not hitherto generally engaged the attention of that sex, we take the liberty to state, that from this experiment we feel authorized to recommend these branches as a very useful part of female education". It bears the signatures of a county clerk, a governor of Massachusetts, a minister, a Congressman and two physicians.

Morton, Samuel George. Philadelphia, Pennsylvania. To Amos Eaton, Troy, New York. 7 December 1829.

SMALLWOOD ANNOTATION: A letter informing Eaton of his appointment as a member of the Academy of Natural Sciences of Philadelphia. It is written and signed by Samuel George Morton (1799–1851) a

doctor and scientist of importance and sound reputation. He [Morton] greatly influenced the mind and scientific opinion of Louis Agassiz.

Oken, Lorenz. Munich, Germany. To Professor Johannes Ny. Friese, Innsbruck, Austria. 14 August 1831.

Professor Friese was the son-in-law of the founder and first head of the Prague Polytechnic Institute, Dr. Franz Ritter von Gerstner. Oken is sending him copies of the journal *Hamburg Bericht* and hopes to see him at the meeting in Vienna which will take place the following year.

Pendleton, Nathaniel. New York, New York. To John Livingston. 24 March 1803.

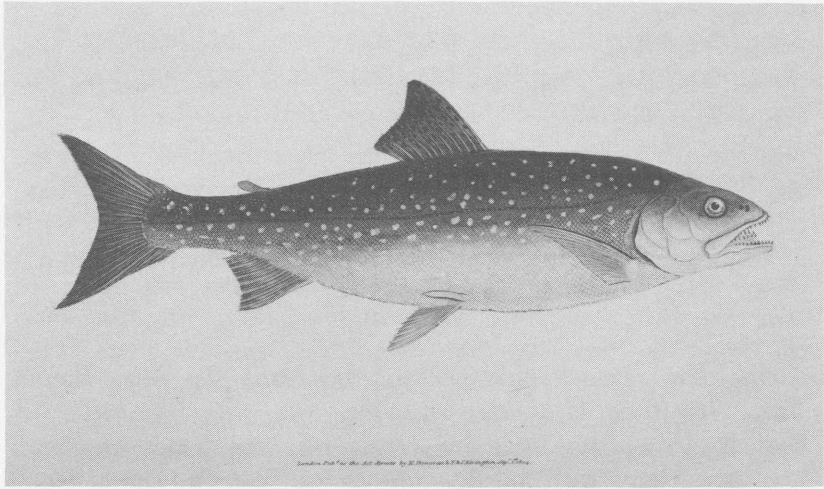
SMALLWOOD ANNOTATION: *In the first decade of the nineteenth century, Eaton became engaged and involved in land speculation. Though unquestionably of unimpeachable character he none the less was very impractical. Unwise dealings resulted in his imprisonment early in 1811; but the important bill passed by the New York legislature in that year making it lawful for an imprisoned insolvent to go through bankruptcy and be discharged, made possible his release July 13, 1811. This letter, from Nathaniel Pendleton, dated some years earlier, is important in showing the sort of contract in which Amos Eaton became involved. Most of Eaton's biographers have glossed over the fact and period of his imprisonment.*

Phelps, Almira Hart Lincoln. Mount Cervus, Guilford, Vermont. To Amos Eaton, Troy, New York. 2 November 1832.

Mrs. Almira (Hart) Lincoln Phelps requests Eaton's critical evaluation of her most recent publication on geology.

SMALLWOOD ANNOTATION: *Almira Hart Lincoln Phelps (1793–1884) was one of Eaton's most distinguished pupils and was greatly influenced by him. She was famous as a teacher and an author, among other things of a series of text books on the natural sciences which popularized them as fit subjects for girls' education. The letter here shown is à propos of one of these text books, whose reception at Eaton's hands she doubts. She was the sister of the even more famous Emma Willard.*

Phelps, Almira Hart Lincoln. Troy Female Seminary, Troy, New York. To Amos Eaton, Rensselaer Institute, Troy, New York. 21 June 1838.



Salmo alpinus. Drawn by Edward Donovan, from his *The Natural History of British Fishes*, volume I (London: Printed for the author and for F. and C. Rivington, 1802), plate 61.

The objections of Mrs. Phelps to the proposed marriage of her sister, Emma (Hart) Willard (founder of the Troy Female Seminary) to Dr. Christopher Yates, whom Eaton was apparently recommending. The marriage took place on 17 September 1838 and lasted only a year. In 1843 Emma Willard got her divorce through an act of the Connecticut legislature.

SMALLWOOD ANNOTATION: *Another letter from Almira Hart Lincoln Phelps, this time concerning the private life of her brilliant and deservedly famous sister, Emma Willard. Mrs. Phelps feels that it would be most unwise for her sister (to whom she refers as "Aunt Willard") to marry again. Never the less, on September 17, 1838 (three months after this letter) she did marry the Dr. Yates here mentioned. The marriage was unhappy from the start, and she was divorced in 1843—a very daring step for her day.*

"Emma Willard was one of the great educators of her day. She was the first woman publicly to take her stand for the higher education of women and the first to make definite experiments to prove that women were capable of comprehending higher subjects." (*Dictionary of American Biography*)

Rafinesque, Constantine Samuel. Valley Forge, Pennsylvania. To Amos Eaton, Rensselaer School, Troy, New York. 30 July 1826.

Rafinesque was an eccentric genius who excelled in many areas of natural history. On a trip to Rochester, he met Amos Eaton, who invited him to join him and his students on a cruise down the Erie Canal. Eaton later wrote, "He is a curious Frenchman. I am much pleased with him though he has many queer notions." In this letter, Rafinesque discusses with Eaton some of the geology of Pennsylvania. There is also a reference to Eaton's "laboratory school" in connection with a tour up the Erie Canal to study natural science.

Riddell, John Leonard. New Orleans, Louisiana. To Amos Eaton, Troy, New York. 10 November 1838.

Riddell, an alumnus of the Rensselaer School, sends species of Louisiana plants with full descriptions for Torrey's *Flora of North America*.

SMALLWOOD ANNOTATION: A letter to Amos Eaton from John Leonard Riddell (1807–1865), physician, botanist and inventor. He graduated from the Rensselaer School (Rensselaer Polytechnic Institute) in 1829 and was thus a student of Eaton's. He apparently held both Eaton and the School in deep regard, as evidenced by the letter. Through a long and valuable career he engaged in various governmental scientific enterprises, and made contributions to the development and use of the microscope.

Silliman, Benjamin. New Haven, Connecticut. To Amos Eaton? 28 September 1829.

SMALLWOOD ANNOTATION: Benjamin Silliman (1779–1864), professor of chemistry and natural history in Yale College from 1802 to 1853, was the most prominent and influential scientific man in America during the first half of the 19th century. Among other achievements of a long and distinguished career may be mentioned the establishment of what has become the Sheffield Scientific School, and the founding of the "American Journal of Science and Arts", of which he was the founder, proprietor and first editor. Under his skillful management it became one of the world's great scientific journals. This entire long letter to Amos Eaton concerns the "American Journal" and some criticisms of it which Eaton had forwarded to Silliman. At the latter's request, Eaton forwarded the letter to Van Rensselaer and Cortlandt, as well as to the

author of the criticisms. The explanatory note by Eaton is on the back of the last page of Silliman's letter.

Torrey, John. College of Physicians and Surgeons, New York, New York. To Amos Eaton, Troy, New York. 13/16 September 1828. A request that Amos Eaton assist a "zealous amateur naturalist", Mr. Ianin from Geneva, in his inspection tour of the Rensselaer School.

SMALLWOOD ANNOTATION: A letter from John Torrey (1796–1873) to Amos Eaton. Torrey as a boy came under the influence of Eaton when the latter was imprisoned for debt at the state prison at Greenwich. Eaton inspired him with an interest in science which directed him in his life work. The letter, which begins as a letter of introduction for a friend of Torrey's, ends chattily with several items of mutual interest. We wonder what became of the "expedition which is preparing by government for the South Pole".

Van Rensselaer, Stephen. Washington, D.C. To Amos Eaton, Troy, New York. 27 January 1825.

Quotation of the remarks of Francis Jeffrey (editor of the Edinburgh Review) and William Buckland of Edinburgh University on Eaton's geology (in his 1824 survey of the Erie Canal), submitted by Van Rensselaer to them. Also Eaton's comments on the remarks in his own handwriting.

SMALLWOOD ANNOTATION: Stephen Van Rensselaer (1764–1839) was an important figure in early New York State. Rensselaer Polytechnic Institute was founded by him and he early engaged Amos Eaton on its faculty. His intimacy with Eaton is shown in this letter in which he indicated that he has sent a copy of Eaton's Mineralogy to England and is somewhat disappointed in the verdict. The letter is written from Washington, where he was a member of Congress from 1825 to 1829.

On the verso of the letter Eaton has written: "Buckland remarks on my geology. I like the remarks, but the Patroon seems to think they should have been better."

Woodward, Theodore. Castleton Medical College, Castleton, Vermont. To Amos Eaton, Troy, New York. 10 April 1822.

Woodward, Theodore. Castleton Medical College, Castleton, Vermont. To Amos Eaton, Troy, New York. 1 January 1823.

Woodward, Theodore. Castleton Medical College, Castleton, Vermont. To Amos Eaton, Troy, New York. 10 June 1824.

SMALLWOOD ANNOTATION: From 1820 to 1826 Eaton was professor of chemistry and natural philosophy and lecturer on mineralogy and zoology at Castleton Medical Academy, Castleton, Vermont. These three [Woodward] letters are to Eaton from a fellow faculty member at that time.