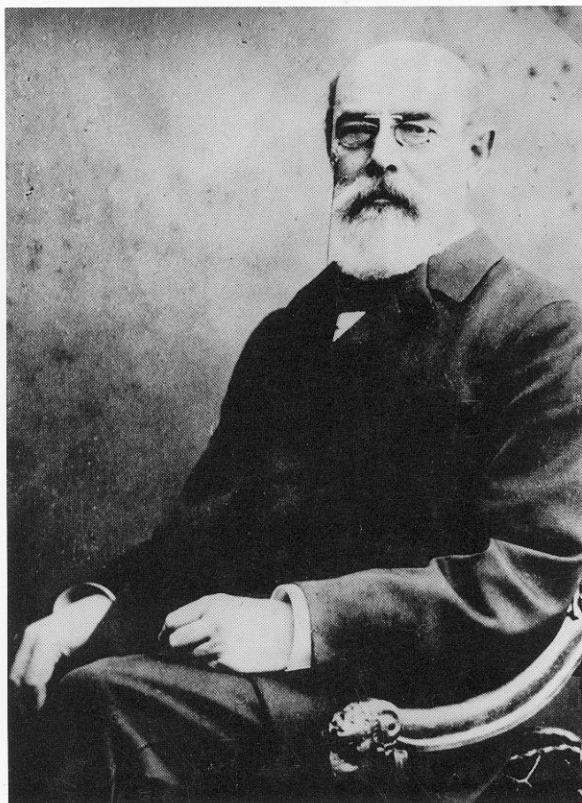


EARTH SCIENCES HISTORY

JOURNAL OF THE HISTORY
OF THE EARTH SCIENCES SOCIETY

Volume 10, Number 1, 1991



KARL HENRY ROSENBUSCH (1836–1924)
FOUNDER OF MODERN PETROLOGY
UNIVERSITY OF HEIDELBERG, GERMANY
(Photograph courtesy Leo Baeck Institute, New York)

EDITORIAL

A Double-Header

I. *EARTH SCIENCES HISTORY*: WE HAVE ARRIVED: HOLD IN YOUR HAND THE CAT'S PAJAMAS

II. MONUMENTS TO GEOLOGISTS AND GEOLOGICAL PRACTICES: AN UPDATE

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I. *EARTH SCIENCES HISTORY*: WE HAVE ARRIVED: HOLD IN YOUR HAND THE CAT'S PAJAMAS

With this issue, *Earth Sciences History* begins its tenth volume of publication. *We have arrived* means not only that we have survived and that the journal is thriving, but also that beginning in our second decade of publication a commercial printer will finally be producing *Earth Sciences History*. The quality standards of this issue should be up to the level of those journals for which commercial publishers charge many hundreds or even thousands of dollars. As I look back over the issues during the past ten years, I see a constant progression in the quality of our publication, first starting with in-house typing of the entire issue so as to keep the format consistent, then submission of "camera-ready" copy with its disadvantages in consistency of typography, and finally (through the installation of an optical scanner and laser printer) to a journal of highly professional appearance and readability. The Northeastern Science Foundation purchased this expensive set-up of scanner, printer, and computer and let *Earth Sciences History* use it at no charge. However, we have now gone even one step further. As one of my former deans said, in referring to the ultimate in perfection: "this (sic) is the cat's pajamas", a common American slang term of the 1920's and 1930's. The journal you now hold *is* (sic) the cat's pajamas. We have arrived. This issue has been printed by a commercial printer using the methods of photo-typesetting and large-scale offset printing. Dear Member and *Earth Sciences History* reader: please look carefully at this issue and compare it with the previous issue (v. 9, no.

2) edited by Albert V. Carozzi, one of my favorite HESS members. The previous issue was still prepared according to the old style. By comparing the two, I hope you will agree that you are now fondling "the cat's pajamas". Please let me hear from you.

At the beginning of this second decade of operation, the Society will change its mode of doing business. For its first ten years, the Northeastern Science Foundation advanced all operating costs for *Earth Sciences History* prior to publication, and was reimbursed after each issue was published. The Board of Directors of the Foundation now feels that the Society has reached a level of maturity sufficient to pay its own way, and wishes to delegate its scarce funds for other purposes, especially student research grants. The purpose of this announcement is not only to inform our membership, but also to take this opportunity to express our thanks to the Foundation's Board of Directors for their continuing support of *Earth Sciences History*. Let me add that the Foundation has picked up cost overruns in the preparation of this journal in the past and, as I indicated in my last editorial (v. 9, no. 2), contributed close to \$20,000 over the years to support our journal, and thereby maintain a low membership-subscription rate.

The Board of Directors of Northeastern Science Foundation has decided to hold a meeting on the History of Geology in its Rensselaer Center of Applied Geology in Troy, New York, in 1992. This meeting is scheduled to combine field trips with sessions of theme-oriented papers and posters. The meeting is scheduled July 29 through August 1, 1992 following the meeting of the British Society for the History of Science, which, jointly with its Canadian and U.S. counterparts, will meet in Toronto, Ontario, Canada, July 25-28, 1992.

Toronto and Troy are within less than a day's driving range or about one hour's flight time. I am hopeful that members will attend the meeting in Toronto and then come to Troy. The field trips return to the hallowed ground of geologic pioneers: Amos Eaton (1776–1842), James Hall (1811–1898), William W. Mather (1804–1859), Lardner Vanuxem (1792–1848), Sir Charles Lyell (1797–1875), Louis Agassiz (1807–1873), and Sir William Logan (1798–1875). We plan to visit their field locations, and even visit some of their work stations and graves. Speaking of these pioneers of geology brings me to the next topic: monuments to geologists and geological practices: an update.

II. MONUMENTS TO GEOLOGISTS AND GEOLOGICAL PRACTICES: AN UPDATE

My editorial on the subject of geologists and monuments in Volume 8, No. 1 provoked much interest. The readership swamped me with their discoveries. HESS past president Robert Dott sent me a Christmas card standing next to Adam Sedgwick's (1785–1873) monument in Dent, Cumbria, England. This monument consists of a granite block with chiseled-out horse-watering trough.

Joseph T. Hannibal and Mark T. Schmidt of the Cleveland (Ohio), Museum of Natural History submitted a recent issue of the publication *Lake View Cemetery—the Heritage* which explains that Lake View Cemetery is the final resting place of John Strong Newberry (1822–1892), a prominent 19th Century geologist, who studied outcrops of rock strata located not far from his grave. Newberry served as Professor of Geology at Columbia University and before that was state Geologist of Ohio. In 1888, he was presented the Murchison Medal by the Geological Society of London. He was the first American to be chosen for this award. Among others in our library collection we treasure his *Geological Survey of Ohio Report of Progress 1870* and his *Bericht über den Fortgang in 1870—Geologische Vermessung des Staates Ohio*. If you are fluent in English and German you will recognize that these two geological Survey Reports of Ohio are comparable, but one is in English and the other in German. In Ohio in the nineteenth century, German was as widely used as English and, in some parts of Ohio such as in Cincinnati, even more widely used. Hence state government reports, like that of the Geological Survey of Ohio, were published in German. Even in the 1950's, when I joined the faculty of the University of Cincinnati, local tradesmen, such as bakers, still spoke German. German is my mother tongue, and I found these third-generation Americans to be delighted when I communicated with them in German. My predecessor on the faculty, Professor Otto von Schlichten, kept his notes in the same German shorthand on which I was brought up. But now back to Newberry. *Lake View Cemetery—the Heritage* describes Newberry's monument in detail: "A pink Westerly granite monument

marks the Newberry graves in Lake View Cemetery. This 5'6" tall monument features an image of Newberry in bronze. The carved portrait is washed with a patina and edged with a laurel wreath carving victory of the soul over death. The monument has raised lettering, steel finish with subtle curves and scotia, all hand done. An "egg and dart" carving, the style of which dates back to the ancient Egyptians, edges the rim around the top. The Newberry family graves surround this monument and other members of the family are additionally memorialized in plaques on sides of the monument."

Gordon Winder of the University of Western Ontario sent me a photograph of Sir William Edmond Logan's (1798–1875) grave in the Church of St. Llawdog, Cilgerran, Wales, U.K. Logan served as the first director of the Geological Survey of Canada. According to Gordon Winder's labels, Logan's grave is flanked by that of his brother and his brother-in-law.

A brief history of the grave follows:

- 1875—Burial on June 29, 1875.
- 1963—Rediscovery (inscription had been completely overgrown with lichen)
- 1968—Refurbishing by Dr. S. F. Logan Dahne (deceased, 1971), St. David, Wales. At this time Geological Association of Canada (G.A.C.) members contributed to a fund for grave maintenance in perpetuity.
- 1971—Mrs. R. J. Halliday, Llandovery, Wales, established a covenant with the Church of Wales to maintain the grave for a period of seven years. She will maintain the covenant as long as she lives.
- 1972—G. A. C. Council approved funds for the installation of the plaque to read: "Sir William Edmond Logan, founder and first director Geological Survey of Canada 1824–1969, he established his reputation as a geologist by mapping the South Wales coal fields, by his research on the geological and mineral resources of Canada and leadership of the Geological Survey. He was truly the father of Canadian geology. Erected by the Geological Association of Canada on the Centennial of his death."
- 1974—September 8th installation of plaque.

A. G. Unklesby of the University of Missouri, Columbia sent me a photograph from the local cemetery in Columbia, Missouri, which pictures a boulder of red/pink granite found as a glacial erratic. The name Swallow engraved on the boulder is that of George Clinton Swallow (1817–1899), who was the first state geologist of Missouri and first geology professor on the faculty of the University of Missouri, Columbia.

Jordan D. Marché II of the North Museum of Franklin and Marshall College, Pennsylvania, writes as follows: "During the summer of 1988 while conducting research on Edward Hitchcock (1793–1864), I took time out from the Amherst College Archives to locate Hitchcock's unusual gravestone, which rests in the West

Parish Cemetery, Amherst. The stone, selected by Hitchcock himself a few years before his death, 'is a fine-grained white granite from near Montpelier, Vermont of which the new State House in that place is built.' The cost was listed as \$150."

For those who do not recall Hitchcock: he was one of the founders of American Geology. He completed the first comprehensive state survey in the United States, that of Massachusetts (1830–33). His textbook in geology (1840) passed through 30 editions. His contributions include the first systematic study of dinosaur footprints. He documented Holocene lake clays in Connecticut deposited in a lake now named after him as Lake Hitchcock. When the 28th International Geological Congress met in the United States in 1989, the field-trip guide book was titled "Boston to Buffalo, in the footsteps of Amos Eaton and Edward Hitchcock". As associate leader of this trip I was witness to geologists from Australia, France, England, and American geologists from California to New York, all following in the footsteps of Edward Hitchcock. But Hitchcock had many talents beyond geology, which his gravestone lists:

EDWARD HITCHCOCK / BORN MAY 23, 1793, /
PASTOR AT CONWAY. / PRESIDENT AND
PROF. / IN / AMHERST COLLEGE. / A LEADER-
IN SCIENCE, / A LOVER OF MEN. / A FRIEND
OF GOD: / EVER ILLUSTRATING / THE CROSS
IN NATURE / AND / NATURE IN THE CROSS; /
DIED FEB. 27, 1864

This latter expression comes from the title of a work Hitchcock published in 1861, in which he summarized his lifelong quest to unite geology with natural theology.

As I have expressed in my previous editorial on this subject (v. 8, no. 1, 1989), not all monuments to geologists are located in cemeteries. In my estimation, the finest monument in the world to a geologist is the Royal Tyrrell Museum of Palaeontology, named after J. B. Tyrrell (1858–1957) and located in Drumheller, Alberta, Canada. The symposium on the history of vertebrate paleontology in the Rocky Mountain region, which Brent H. Breithaupt organized and edited for *Earth Sciences History*, was held at the Tyrrell Museum. Tyrrell, who worked for the Geological Survey of Canada, was the first professional geologist to pick up dinosaur bones in western Canada, including the first known skull of *Albertosaurus sarcophagus*. Last year, her Majesty Queen Elizabeth II visited the museum and bestowed the title "Royal" on the museum. It is only the third museum in Canada to have the "Royal" designation; however, to most the museum is known simply as "the Tyrrell". "The exploring spirit of (J. B.) Tyrrell lives on through the work of the Tyrrell Museum. Each year new discoveries are made from the Tyrrell Museum Field Station in Dinosaur Provincial Park and Beyond to such places as Arctic Canada and China" (*Dinogramme*, 1990, v. 4, no. 3, p. 10). I met J. B. Tyrrell at the Annual Meeting of the

Geological Society of America in Toronto, Canada, in 1953, and enjoyed his reminiscences. In 1989, Canada Post issued a set of four stamps depicting Canadian explorers, including J. B. Tyrrell. His stamp shows a geological hammer, compass, vertebrate fossils, and a scenic lake and mountains. The inscription beneath the stamp says "Tyrrell has another find."

Ellis Yochelson wrote in the *Annals of Wyoming* about monuments and markers to the territorial surveys. He noted the presence of plaques and tablets commemorating John Wesley Powell (1834–1902), Ferdinand V. Hayden (1829–1887), Clarence King (1842–1901), and George Wheeler (1842–1905), who collectively from 1867–1879 investigated the geology, geography, and natural history of the American west. There seem to be quite a few of these markers dotted across the landscape of the western United States. After Yochelson's description of these markers he concludes with "being one of the few native-born Washingtonians and an easterner by up-bringing, most of the places mentioned are places I would like to visit, rather than spots I have seen."

While working in the field in Colorado, I encountered a plaque commemorating the vertebrate paleontologists Othniel Marsh (1831–1899) and Edward D. Cope (1840–1879). These two men, considered to be the fathers of American vertebrate paleontology, constantly crossed swords. Marsh, who described over 400 new kinds of fossils, mostly invertebrates, was a follower of Darwin. In contrast, Cope espoused Lamarckism, a theory of evolution stating that changes in the environment cause structural changes in an organism (increased use of organs promotes greater development, disuse causes atrophy). Shortly after my discovery in 1986 of this plaque, I was in Germany, where the University of Heidelberg awarded me an Honorary Doctorate (Doctor Rerum Naturalium Honoris Causa). On this occasion, I sat in the same old medieval Aula of the Old University where Marsh and Cope received their honorary doctorates exactly one hundred years earlier (1886).

From County Down in Northern Ireland, Harold E. Wilson sent me a copy of a £5 note bearing a picture of William Acheson Traill (1844–1933). He writes that the Banks in Scotland and Northern Ireland retain the privilege of issuing their own bank-notes, which are not strictly legal tender but are universally accepted in these areas. Last year the Northern Bank, incorporated in Belfast, and owned by The National Australian bank, issued a series valued at £5 which commemorates Traill. Traill was born in north Antrim, Ireland, in 1844, and graduated in Engineering from Trinity College, University of Dublin in 1865. He was appointed a Temporary Assistant Geologist in the Geologic Survey of Ireland in 1867 (at 7 shillings a day, about \$1.25) and worked as a field geologist until 1880, when he resigned. He had married in 1879 and presumably could not live on his pay. His geological work was largely in the east of Ireland, on Tertiary intrusives. After his retirement he and his brother formed a company to

build one of the first electric tramways in the world—the first to be powered by a hydro-electric generator—in north Antrim from Portrush to the Giants Causeway. It opened in 1883. Traill was Engineer for this project, and remained as Engineer and Chairman till

his death in 1933, at the age of 89. His eponymous fame on a bank-note owes more to his reputation as an engineer than as a geologist.

If you find any other monuments relating to geologists or geological practices, please keep me in mind.