WHERE *WAS* EBENEZER EMMONS' HOUSE?

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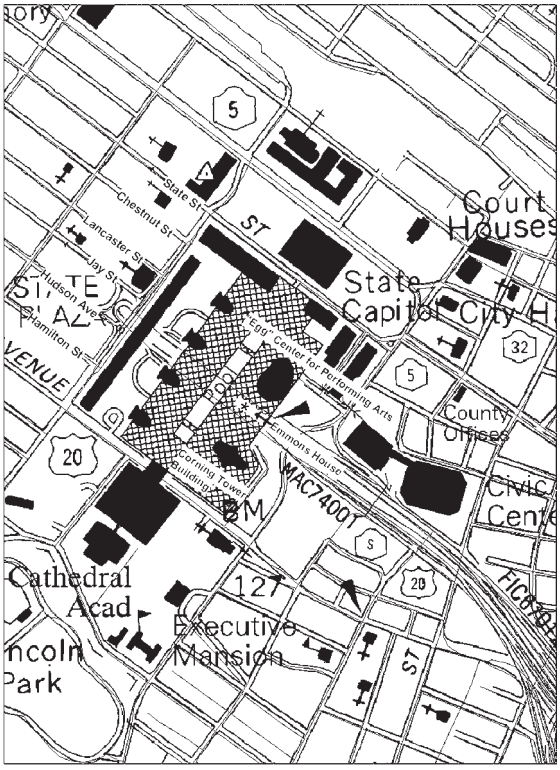
In Gerald Friedman's recent paper on Ebenezer Emmons in Volume 25, Number 2, 2006 of *Earth Sciences History*, the location of Emmons' house is erroneously assigned to the site of the present Erastus Corning Tower ("44-story office building") in Albany's Empire State Plaza. A 1981 paper of Fisher is cited as the source of this information. Friedman's choice of a rather cartoonish tourist map to illustrate the location gives the *illusion* that Hudson Street (Avenue) aligns with Corning Tower.

Emmons' address was 159 Hudson Street and the house was situated on the corner of Hudson and High streets (High Street was obliterated by the building of the plaza). If Corning Tower is taken as the site his house would have been located on the corner of *Hamilton* and High streets (Figure 1). Indeed, when one stands on Hamilton Street the tower is in nearly direct alignment with the street (Figure 2). Ebenezer Emmons' house was *actually* located mid-way between Corning Tower and the "The Egg" performing arts center on the Empire State Plaza.



Erastus Corning Tower is the highest building in Albany and an icon of the Empire StatePlaza. Connecting the site of Emmons' house with this building causes the error to be indelibly sustained. One can imagine a plaque being attached to the tower in the future by some dedicated geology historian; once set in bronze the error stands in perpetuity.

Figure 1. New York State Department of Transportation map showing Empire State Plaza and its relationship to the adjacent block of old city streets.

Figure 2. View of Erastus Corning Tower looking east from Hamilton Street.

LETTER

TO THE EDITOR

To the Editor:

Having read the informative and delightful essay by Robert Dott on the geologists Emily Hahn and Katharine Fowler in the current issue of *Earth Sciences History* (2006: 197–214), I would like to comment on statements and a question there concerning Fowler and Florence Bascom. Fowler was one of the last of Bascom's undergraduate majors in geology at Bryn Mawr College. She was 63 and had been teaching there for 30 years when Fowler graduated in 1925. [Bascom retired in 1928.] She was a tough taskmaster for her students but that had always been the case, as a much earlier major, Eleanora Bliss Knopf, testified in her Memorial to Bascom (1946. *American Mineralogist* 31: 168–172). I suspect that Bascom and Fowler rubbed each other the wrong way and that, in any case, both knew that Bascom would not be around long enough to see Fowler through graduate degrees at Bryn Mawr even if she had wanted to obtain them there. It is noteworthy, however, that both women took Master's degrees at Wisconsin, as Dott points out, and both then went to other Universities for the Doctorate. Fowler probably learned about Bascom's undergraduate and graduate work at Wisconsin and its Geology Department's strong reputation during her own undergraduate years. One thing is certain: Bascom was proud of Fowler's accomplishments and those of other women in the earth sciences at that time. In a letter written to Herman Fairchild on May 4, 1931, she cites several women Fellows of the Geological Society of London as well as European women and credits several of her own students' work in the field. After mentioning a fine paleontologist from Bryn Mawr who was "lost at present to the science by marriage," she says "Mrs. Katharine Fowler Lunn, who is engaged in geological work in Africa and who evidently does not intend that her activities shall be swallowed up in marriage, was a student at Bryn Mawr, taking her doctorate later at Columbia, and marrying a British geologist" (printed in Fairchild 1932. *The Geological Society of America, 1888–1930.* New York: GSA, 110–111).

Now to the history of women Fellows of the Geological Society of America: Florence Bascom was not the first. She was the second, in 1894. As this misstatement has appeared elsewhere too, I would like to set the record straight and acquaint readers of this Journal with Mary Emilée Holmes (1850–1906), who became a Fellow on May 20, 1889. Her name is listed among Officers and Fellows in Volume 1of the *GSA Bulletin* (1890, 584). Holmes taught at the Rockford Female Seminary in Illinois but left in 1885 to pursue graduate work at the University of Michigan. Under the guidance and instruction of Alexander Winchell, she received an M.A. and Ph.D. in geology and paleontology there in 1887. She returned to live in Rockford but not to the Seminary for which she had become overqualified and a misfit—no teachers there held a Ph.D. or engaged in research.

However, it is significant that Bascom served as her replacement at the Seminary and would have encountered Holmes, whose family home in Rockford was a private natural history museum with collections of minerals and fossils as well as geological, botanical and histological slides that Holmes used in lectures during her travels. The likely encounter with her may have contributed to Bascom's own decision to seek the doctorate. Holmes was eventually "lost to the field" too but not by marriage. Further information about her can be found in "Becoming a Geologist: Florence Bascom and Johns Hopkins, 1888–1895" *Earth Sciences History* 19: 2–5 and 21.

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BOOK REVIEWS

Vic Baker, Book Review Editor

THE WORST HARD TIME. THE UNTOLD STORY OF THOSE WHO SURVIVED THE GREAT AMERICAN DUST BOWL.

Timothy Egan, 2006. Houghton Mifflin Company, New York, 340 p. Hardcover, $28.00.

Despite being labeled the Great American Desert, the grasslands of the western High Plains of the United States for several millennia supported herds of buffalo and later a viable cattle industry. The grasslands had withstood lengthy droughts, frost and snow, hailstorms, gales, fire, plagues of grasshoppers and rabbits, and the grazing and trampling hooves of bison and cattle. Yet, in a single decade beginning in the late 'twenties and extending into the 'thirties of the last century, the region was devastated. More than 600 million tonnes of soil were lost from what became known as the Dust Bowl, covering substantial parts of Kansas, Colorado, Texas and Oklahoma, and lesser areas of Nebraska and New Mexico. Hundreds of farmers and their families, and dozens of rural communities, were ruined. What caused this catastrophe, and why was it allowed to happen?

Timothy Egan explains how farmers and their families, both from the US and immigrants from overseas, seeking a new and better life in 'the last frontier of agriculture', were misled by government agencies that ignored sound scientific advice, by avaricious shysters and conmen who invited tragedy for their own immediate benefit. These events are recorded in distressing detail.

Following the First World War and the Russian Revolution (which temporarily took the Ukraine out of the export market), wheat was in short supply and commanded high prices. Despite a low average rainfall of less the 200 mm per annum, the high plains were perceived as potential arable areas that could take advantage of the demand for wheat and offer an opportunity to thousands seeking a new life out West. The scientifically based warnings of such as Aldo Leopold and Hugh Bennett were ignored. Dry land farming practices would, it was stated, overcome the low rainfall. Dust would act as mulch. Underground water was available in plenty. Rain would follow the plough. Most reassuring was an official statement that: "The soil is the one indestructible, immutable asset that the nation possesses." Would-be farmers flocked to the area in the hundreds. All were eager and optimistic, as well as gullible. Cattle ranches were disbanded and subdivided, and millions of acres were put under the plough. Hundreds of farms were taken up, water was drawn from newly drilled wells, and railways were extended. Old settlements were developed and new townships established. Harvests were good and prices high. Agriculture flourished. Soon, some farmers were able to build real houses and move out of their original squalid dugouts with sod walls and subject to invasion by snakes, scorpions and tarantulas. They acquired tractors and cars and other appurtenances of civilization. The townships flourished as the range of services and amenities grew.

But it could not last. Droughts came and with them dust storms, the like of which had not been seen before. The sun disappeared and darkness replaced daylight. On January 21 1932 a 'black blizzard' descended on Amarillo, Texas. Some 300,000 tonnes of dust were airborne over the Oklahoma Panhandle one day in April 1935. Dust was everywhere. It buried houses and roads. Travelers became disorientated. One small boy was lost and died from suffocation in such a storm. The dust penetrated throat and lungs, causing sinusitis, laryngitis and bronchitis. Exposure over as few as three years caused dust pneumonia or the brown plague. It was a killer. The aquifer that was the source of underground water became depleted and wells had to be deepened or abandoned as the water table was lowered. The wheat plants that did grow were cut down by the wind armed with sand. At other times the new shoots were flattened by hailstorms. Meantime there was a glut of wheat in Europe, and the price of wheat plummeted: in 1930 the price of wheat in the US was one tenth of what it had been in 1921. The economic depression that began with the Wall Street Crash of October 29, 1929, and lasted through the 'thirties, did not leave the Dust Bowl untouched.

But the basic cause of the tragedy that befell the farmers was self-inflicted, albeit with official approval and encouragement. It was the plough and what it was used for. The Great Plains short grass, buffalo, and blue grama suffered from drought and other depredations, but their root systems, which formed a dense web weaving through and binding the soil, remained untouched and intact. Until, that is, it was ripped up by the plough. Lacking that protective stitching, the soil was vulnerable to wind erosion, to deflation. The wind duly did its terrible work.

Eventually but too late for the farmers of the 'thirties, government as well as local attitudes changed. President Roosevelt funded restoration work led by Hugh Bennett and a program of replanting of the natural protective grasses - with dense root systems - began. The plough was abandoned and the cowboy returned. Droughts and other difficulties are still experienced but the soil is stabilized.

Egan has done a great service by bringing home in disturbing detail the vital importance of understanding the environment and showing how ignorance and avarice can cause ruin at the personal, community, and regional levels. Fortunately, in this instance, the situation was redeemable and the grassland has been restored. Unfortunately, the lesson that no-one can with impunity play fast and loose with the environment has still not been absorbed by some of the rich and powerful the world over.

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INVENTING THE EARTH: IDEAS ON LANDSCAPE DEVELOPMENT SINCE 1740. *Barbara A Kennedy, 2006. Blackwell Publishing, Oxford, U.K. 160 p. Softcover, $41.95.*

Inventing the Earth is a series of linked essays focusing on key episodes in the development of ideas about landscapes. As Kennedy notes in the preface, the book does not attempt to provide a comprehensive history of geomorphology, but rather traces the broad outlines of thinking about landscapes from the 18th century up to the present through

examination of important controversies, as well as conceptual and methodological shifts in the earth sciences. After a very brief introduction, Kennedy devotes 30 pages in chapters two and three to early thinkers, with the most attention given to the ideas of Buffon, James Hutton, and Charles Lyell. Succeeding chapters focus on Louis Agassiz and continental ice sheets (14 pages), Charles Darwin (19 pages), J.W. Powell, G.K. Gilbert and the 19th-century exploration of the American West (14 pages), W.M. Davis and the Cycle of Erosion (10 pages), process geomorphology in the latter half of the 20th century (13 pages), and trends in geomorphology during the past two decades (14 pages).

The essays in this book were developed from a series of undergraduate lectures given by Kennedy at the universities of Manchester and Oxford during the last three decades of the 20th century, and the book retains the feel of an idiosyncratic, personal view of historical trends in geomorphic thinking. Besides being written in the first person, the use of colloquial expressions, informal sentence structure, and personal opinions creates the impression of a lecturer chatting with an audience, rather than giving a formal presentation. This style helps to make the book interesting and accessible, and the quotes and anecdotes personalize famous thinkers who can sometimes seem very distant. One of my favourite examples is on p. 69, where Kennedy quotes Charles Darwin's written response to a newly published explanation of a landscape which Darwin had also described: "I am smashed to atoms about Glen Roy. My paper was one long gigantic blunder from beginning to end."

Kennedy is particularly skilful at not over-simplifying history. It is only too easy to look back with amusement or even scorn at ideas now thoroughly discredited by subsequent research, but Kennedy explores the contradictions inherent in most broad conceptual approaches to landscapes, as well as the strengths and weaknesses of individual scientists and schools of thought.

If the strengths of this book are its informality and nuanced exploration of past thinkers, the weaknesses lie in some aspects of the production of the book, and in the idiosyncratic coverage of topics. Although the book is generously illustrated with photographs and line drawings, there are several examples of multiple photos spread over a few pages that receive only a single figure caption on the first page. Typographical errors are present throughout the text, and in at least one case the wrong font was used for the main text following a long quotation. The book seems to me to be overpriced, given its relatively short length and soft cover format. These are relatively minor issues, however, and do not seriously detract from the book itself. What may be of more concern to some readers is the relative coverage of diverse thinkers and ideas. I would like to have seen much more coverage given to the latter half of the 20th century, for example, and less to the 18th and early 19th centuries. This partly reflects the fact that an extensive literature already exists on the early history of geomorphology, whereas relatively little has been written about the highly important conceptual and methodological changes that have occurred during the past few decades. It is of course more difficult to effectively evaluate the relative importance of recent ideas and individuals, but this is a worthwhile exercise to attempt. In parallel with the scope of work of most individual scientists during the past two centuries, this book starts broadly, examining early ideas about the entire history of the Earth, as well as the history of topography, and then grows increasingly narrow in focus as the latter essays dealing with the 20th century consider mainly fluvial geomorphology.

In summary, *Inventing the Earth* is a readable account of a very personal view of selected episodes in the history of thinking about landscape processes and Earth history.

The text will appeal to professionals, as well as graduate and undergraduate students, seeking to learn more about the events that created the context in which scientists presently think about landscapes.

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BUSHELS OF FOSSILS: THE INFLUENTIAL LIFE OF LOWELL ROBERT LAUDON (1905-91). *James M. Parks assisted by F. D. Holland, Jr., 2005. University of Wisconsin: Distributed by the Department of Geology and Geophysics, xii+338 p. Hardcover, $29.95.*

Lowell Laudon was first and foremost a charismatic teacher. However, he also made his mark in systematic paleontology and petroleum exploration. Beginning in the Geology Department at the University of Tulsa in 1930 and ending with his retirement as a Professor of Geology from the University of Wisconsin in 1975, Laudon's professional career occurred during the "glory years" when the study of paleontology, stratigraphy and field geology was driven by an insatiable demand for trained geologists in the American oil industry. This book is a witness to the history of geology, both academic and applied, during a critical era in the evolution of geologic science.

Laudon came to Tulsa at the beginning of the Great Depression. According to his wife Florence, he was the last Ph.D. from Iowa to get an academic job in geology until after the Second World War. He established his reputation as an investigator and collector by immediately setting to work publishing his thesis research and projects in camerate crinoid biostratigraphy—all of which he financed all of it out of his meager income as a beginning professor. This attracted the attention of Raymond C. Moore who sought him out as a collaborator in compiling the crinoid section in Shimer and Shrock's *Index Fossils of North America*. Moore brought Laudon to Kansas in 1941; actually, according to some, as part of an endeavor to acquire Loudon's fossil collection for Moore's growing paleontological empire at Lawrence.

Loudon's more prominent research accomplishments include collaboration with the eccentric amateur, Burnice Beane, describing and publicizing the famous Gilmore City crinoid fauna and his work with Art Bowsher on the Mississippian of New Mexico which culminated in the discovery, description and interpretation of the famous bioherms or mud mounds in the Sacramento Mountains near Alamogordo. Additional significant research contributions deal with Mississippian crinoids and the biostratigraphy in the northern Rocky Mountains.

As I remember him from my own childhood, and from my introductory course with him as a freshman at Tulsa, Laudon was a paladin of pure academic science who believed that significant ideas and research were accomplished only by professors and museum personnel. This contrasted with the relatively pedestrian, applied work carried out by oil companies and government surveys. Nevertheless, during the Second World War, Laudon himself became part of the Canol Project, a governmentally subsidized attempt to develop petroleum production in the Mackenzie River drainage of Arctic Canada. Some production was developed, and, with arduous effort, a pipeline and road into the far north was constructed. But, the project had little effect other than to greatly advance

knowledge of Paleozoic stratigraphy in northern Canada. As a consequence of this experience, Laudon began operating a summer research field course with his graduate students in the Northern Rockies and supported his efforts with the purchase of an amphibious aircraft to enable his group to operate in the remote road-less wilderness area. He also apparently acquired a respect and an affinity for the work of applied petroleum geologists and "signed on" for regional studies in the Pacific Northwest for Humble oil Co. between 1953 and 1959. This work, along with his academic studies and field course operations, became the basis for an AAPG Distinguished lecture series on the northern Rockies and Pacific Margin. The lectures were well attended and popular, but his monograph on the work failed to be published, most probably because it was organized according to the Stille-Kay geosynclinal synthesis and was not presented in the context of new tectonic syntheses of continental accretion. This was a streak of conservatism that he had not shown in the 1930s when he enthusiastically entertained the radical theory of Continental Drift.

Although they are certainly significant, Loudon's paleontologic and regional stratigraphic efforts are not the root of his fame and the reason why he remains a memorable figure. Arguably, the man was simply the most effective and prolific promoter of geology and geologists in twentieth-century America. His elementary courses at Tulsa, Kansas and Wisconsin attracted large and enthusiastic enrollments. Indeed, according to James M. Parks, his cumulative enrollments numbered more than 25,000. His lectures on evolution and earth history regularly provoked wide campus debate. ºFor example, his evolution lectures at Tulsa regularly brought fundamentalist objectors to the administrative offices of the university. All but the dullards got a penetrating exposure to the philosophy of science and man's place in the universe. Many were inspired to pursue geological careers. In all, Laudon advised 78 graduate thesis projects. Thirty-seven of his former students are listed as having become college or university professors. In short, Laudon very well may have been the most effective pied piper of geology to date.

James M. Parks was a student of Laudon's and undertook *Bushels of Fossils* as "as a labor of love to memorialize [his] college mentor," but soon expanded his scope to provide "a model for better mentoring and guidance of college students." Sadly, after five years of gathering information and writing a near final draft, Parks died accidentally. The book was completed by F. D. Holland, Jr., Parks' close colleague and collaborator. Many former Laudon students and colleagues have contributed a plethora of amusing and instructive anecdotes revealing Loudon's interactions with fellow geologists and with the changing concepts of geology during his active life. In addition to memorializing the subject, the book provides significant insight into the history of our science.

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INTERESTING PUBLICATIONS

Gerald M. Friedman, CONTRIBUTING EDITOR

Since the start of this journal, Founding Editor Gerald M. Friedman has prepared this column. Contributors wishing to list recent books and papers of interest to our membership are requested to send them to Professor Gerald M. Friedman, Northeastern Science Foundation, P.O. Box 746, Troy, NY 12181-0746, U.S.A.; Fax: 518-273-3249; E-mail: gmfriedman@thesciencefoundation.com

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