Memorial to Nevin M. Fenneman

JOHN L. RICH

NEVIN MELANCTHON FENNEMAN, 1865-1945

Photo by Nancy Ford Cone
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On July 4th, 1945, one of America's great geographers and teachers, Dr. Nevin M. Fenneman, Professor Emeritus of Geology at the University of Cincinnati, died at the age of 79, after an illness of about six weeks.

Until late in May, Dr. Fenneman had retained his usual physical and mental vigor and was busily engaged in the preparation of the essays on educational and philosophical subjects to which he had devoted much of his time in the later years since completing his major geographical works.

Nevin M. Fenneman was born at Lima, Ohio, on December 26, 1865, son of William Henry and Rebecca Oldfather Fenneman. His father was a minister of the Reformed Church in America, whose family came from the low countries somewhere near the Westphalia-Holland border. In 1883, before reaching the age of 18, Fenneman graduated with the A.B. degree from Heidelberg College at Tiffin, Ohio, and in 1901 received the Ph.D. from the University of Chicago. In the meantime he taught in high schools for a few years, then served from 1892 to 1900 as Professor of Physical Sciences at Colorado State Normal School, where Geography was one of his principal subjects. We have record that the summer of 1895 was spent in study with Professor W. M. Davis' summer class at Harvard. This was the beginning of a life-long friendship with Davis.

After receiving his Doctor's degree from Chicago, Fenneman became the first Professor of Geology at the University of Colorado, in which position he remained for three semesters in 1902 and 1903. He then accepted a professorship at the University of Wisconsin, which he held for four years before being called, in 1907, to the University of Cincinnati to found a Department of Geology and Geography. At the beginning, Dr. Fenneman was the only member of the Department. The next year J. Ernest Carman was employed as an instructor, and subsequently others were added as the Department grew in numbers and influence. In 1937 he became Professor Emeritus, but continued to give his advanced course on the Physiography of the United States until a year before his death.

During the years from 1901 through 1924 Fenneman worked at various times as Assistant Geologist, Associate Geologist, and Geologist on the United States Geological Survey; and as Geologist on the Wisconsin Geological and Natural History Survey, the Illinois State Geological Survey, and the Ohio Geological Survey. Many of his earlier publications record the results of summers spent in the field for these organizations.
It happened that his return to Colorado as Professor of Geology followed by only a few months the beginning of development of oil in the Boulder district only a short distance from the University. Fenneman was asked by the United States Geological Survey to make a study of the new field. This assignment apparently occupied the summers of 1902 and 1903. The summer of 1904 was spent under the auspices of the U. S. Geological Survey in a study of oil fields on the Gulf Coast, that of 1905 in the Yampa coal field of Colorado, and that of 1906 under the combined auspices of the United States and the Illinois State geological surveys on the geology and physiography of the St. Louis quadrangle.

After he moved to Cincinnati, field work was continued under the auspices of the United States Geological Survey during the summers of 1909–1911, 1913, and part of 1914, in mapping the Pleistocene and economic geology of the four adjoining quadrangles centering near Cincinnati. This work was originally planned for publication as part of the projected U. S. Geological Survey folios covering the Cincinnati region. Though these folios never appeared, the principal results of the work were published in 1916 as a Bulletin of the Ohio Geological Survey under the title “Geology of Cincinnati and Vicinity.” That report covered the bedrock geology, physiography, glacial geology, and the economic resources of the region, but the physiography received the most detailed treatment, and the report still remains the best account of the physiography of the Cincinnati area.

All this field experience in diverse and widely separated areas helped to lay a broad foundation for Fenneman’s future work and resulted in several Survey bulletins and other publications, mainly of a geological nature, which appeared in the period 1903–1911. In these earlier years, however, we find several analytical papers of a physiographic nature as well as others foreshadowing his future interest in more strictly geographical and in educational problems.

At about the time of the completion of the field work in the Cincinnati region, events began to shape so as to direct Fenneman’s energies into what was to become his principal life work—the regional physiography of the United States. The interest in regional geography was not, however, a new acquisition. In a paper prepared in 1938, when he was awarded a gold medal by the Geographical Society of Chicago, Fenneman says of his going to Chicago in 1900 for graduate study:

Though classed as a student of geology, I came to this University by way of geography, having been for some years a teacher of that branch in the State Normal School of Colorado. Geography was my calling and my goal. . . . When, after taking my doctorate in geology, I went back to teaching . . . I was disturbed by the half-conscious feeling that to explain processes and type forms, even with stock illustrations,
was not quite enough to meet the needs of the case. Everywhere in that great and diversified state, topographic forms seem to stand up and shout,—How do you classify me? Where do I belong and what do I illustrate?—In other words, the obligation to explain the actual spot seemed quite equal to that of elucidating and illustrating the principles.

The event leading to the transition from dominantly geologic and physiographic work to the study of physiographic regions, and to regional geography in general, is well described by Fenneman later in the same paper:

In the years following 1911 the growing tendency among geographers to show the connection between human activities and their physical basis caused the Association of American Geographers to take an active interest in the critical systematizing of divisions and subdivisions and in delineating their boundaries as accurately as possible, even when they must be arbitrary.

At the Chicago meeting of the Association in December, 1914, it was decided to appoint a committee of five to study the subject and prepare a new map. It fell to my lot to be chairman of that committee . . . I obtained leave of absence from my professorship for the year 1915–1916, went to Washington, and devoted the year to the work of the committee.

This was the turning point. It led to the preparation of the map and papers on “Physiographic Divisions of the United States,” and thence directly to his major work, the two volumes, “Physiography of the Western United States” and “Physiography of the Eastern United States.”

The two papers, “Physiographic Boundaries within the United States,” published in 1915, and “Physiographic Divisions of the United States,” published first in 1917 and twice re-printed (the last time in revised form in 1928), were the results of painstaking work on the part of the chairman and his committee working in closest cooperation with the United States Geological Survey. As Fenneman writes:

The committee's map and classification of divisions and subdivisions were at once issued as a public document and adopted as the frame of reference to which physiographic chapters in the Survey's publications should conform and by which editing should be guided.

From the first, Fenneman had in mind the correlation of physical environment with human and economic distributions, and he realized that for this purpose it would be necessary to substitute for the actual physical boundaries the nearest political boundaries used by the census.

“In order that these substitute boundaries may approximate the physical lines as closely as possible, they should be traced on a map showing the smallest political units in use,” i.e., the township or other smallest divisions used by the census. Having the physiographic boundaries so outlined, he envisioned the tabulation of census material by natural divisions instead of by states and counties alone.
The two volumes of the Physiography of the United States, which undoubtedly constitute Fenneman's crowning achievement, are much more than a compilation of pre-existing knowledge. For each physiographic region the author drew upon all available topographical and geological maps and written material. All of this was then analyzed and synthesized into a carefully-prepared word picture of the region, but in instances where differences in interpretation could not readily be reconciled on the basis of present knowledge, Fenneman was careful to present the divergent views for the benefit of future students—generally without himself taking a definite stand on the question at issue.

In undertaking the work, Fenneman seems to have had in mind summarizing and analyzing the existing scattered information and putting it into such shape that future students would be spared, to a considerable degree, the tremendous labor of bibliographic research, analysis, and synthesis which he devoted to the task. By doing that job, he not only produced a monumental synthesis of the regional geography of the United States—he also established a starting point from which future studies can proceed.

As the arduous work on the two regional volumes of the physiography of the United States was drawing to its close, Fenneman's attention again turned to some of the theoretical principles of geomorphology—stirred, no doubt, by several papers appearing at about that time, the authors of which invoked the existence of an imposing array of peneplains and partial peneplains in explaining the physiography of regions with which they were concerned. The result of Fenneman's thought on the problem of multiple peneplains appeared in 1936 in his paper entitled "Cyclic and Non-cyclic Aspects of Erosion." This was a much-needed analysis of the peneplain concept pointing out ways in which land forms that, in current practice, would commonly be interpreted as evidences of former peneplanation might be produced by normal erosive agencies without reference to baselevel and without anything of a cyclic nature being involved.

During the period when his interest was centered mainly on the regional physiography of the United States, Fenneman found time for other important activities. At the close of the first World War, he was a member of a group of geographers organized at President Wilson's request to gather information preparatory to the work of the Paris Peace Conference, his particular charge being the science work on Africa. During the 1920's he directed the Cincinnati Resource Survey, a project sponsored by the Commercial Club of Cincinnati for a survey of the natural and industrial resources of the Cincinnati area. That project was essentially geographical in its nature and was carried out mainly by an augmented staff of the De-
partment of Geology and Geography of the University. In 1922–1923 he served as chairman of the Division of Geology and Geography of the National Research Council, and in 1926 represented the United States at the Pan-Pacific Science Congress at Tokyo.

During the decade of the 1930's Fenneman was active in the Geological Society of America, serving on several important committees and as vice-president in 1932 and president in 1935. Of several short papers associated with this activity, a historical-philosophical essay, "The Rise of Physiography," will be of most interest to geographers.

In reviewing Fenneman's work and his broader concept of geography as a science, we find that he always looked upon Regional Geography as the fundamental basis of all geography. This concept of regional geography as the core around which all other phases of the subject are grouped, and as the common and essential bond uniting all of them into one science, seems to have been always present in Fenneman's geographic thinking. Under the title "The Circumference of Geography" this concept found clear and adequate expression in his presidential address before the Association of American Geographers at its fourteenth annual meeting in 1918.

Fenneman's contributions to learning were not confined to the fields of geography and geology. A sketch of his life work would omit an essential element if mention were not made of five educational papers published in School and Society and in the Scientific Monthly, and a sixth which it is hoped will yet be published. Written half-humorously, yet in serious vein, these essays give expression to his belief in the value of training in initiative and responsibility, and in the power to think and analyze, in contrast to the coddling, memory-work, and superficiality of much that now passes for "Education."

Nor would the sketch be complete without mention of an avocation which absorbed much time and thought during his later years—the writing of essays on a wide variety of topics, generally of a historical or philosophical nature and always full of a delightful humor. The occasion for the delivery of these essays was generally a meeting of the Literary Club of Cincinnati, of which he was an enthusiastic member, but occasionally also, a student or departmental gathering on the campus. Those who are familiar with the essays can only regret that they could not have had a wider audience.

Fenneman's achievements were given generous recognition by his fellow scientists. He was elected president of the Association of American Geographers in 1918; Chairman of the Division of Geology and Geography of the National Research Council in 1922; vice president and chairman of the Geology Section of the American Association for the Advancement of Science in 1923; President of the Geological Society of America in 1935; and
President of the Yellowstone-Bighorn Research Association in 1936. In 1935 he was elected Corresponding Member of the American Geographical Society. In 1938 he was awarded the gold medal of the Geographical Society of Chicago "For eminent achievements in the Physiography of the United States," and he was awarded the honorary degree of Doctor of Laws by the University of Cincinnati in 1940. Fenneman was also a member of Sigma Xi, an honorary member of Phi Beta Kappa, a member of the American Society of Naturalists, of the Cosmos Club of Washington, and of the Literary Club of Cincinnati.

The long list of scientific achievements and honors recited above indicates only part of what constituted Fenneman's greatness. Throughout his career he was also a teacher. His example, and his high regard for intellectual honesty and achievement and his demand for those qualities in his students exerted a profound influence on many men and women, not a few of whom have attained distinction, and all of whom look back to the contact with Dr. Fenneman as among the most significant events of their lives.

Students in his elementary classes were likely to be not a little frightened, at first, by a certain assumed gruffness of manner, perhaps an inheritance from R. D. Salisbury's well-known teaching method, and by a deep resonant voice which, it must be admitted, could become rather terrifying when occasion warranted. Those whose aims did not include serious attention to the subject at hand were, perhaps, justified in their fright, but the others, as they came to know him better discovered a warmth of heart and a willingness to help which they will always remember with gratitude.

Fenneman's advanced course in the Physiography of the United States was the one course that no advanced student in the Department would ever think of missing. It was there that his influence as a teacher was most effective, and many an active geologist today can testify to the debt he owes in the development of his intellectual powers to the training he received in that course.

On his twenty-eighth birthday, in 1893, Fenneman was married to Sarah Alice Glisan of Fredonia, N. Y., who died in 1920. They had no children. Fortunately, he had many devoted friends in Cincinnati to temper what might otherwise have been a lonely life after his wife's death. He was an active member and attendant at the Mount Auburn Presbyterian church. He had an active interest in national and international problems and in civic affairs in Cincinnati where he was widely known and his judgment highly respected. His interest in serious students was never-failing. He often proffered a helping hand, and at his death he bequeathed a substantial sum to Heidelberg College and an equal amount to the University of Cincinnati for the endowment of research aid and scholarship grants to students in Geology and Geography.
About two years before his death, Dr. Fenneman’s former students and other friends arranged for the painting of a portrait which they then presented to the University of Cincinnati, where it will serve as a lasting memorial to the man who built up its Department of Geology and Geography, and to a great teacher who still lives in the work and in the affections of his many former students and of his colleagues.

NEVIN M. FENNEMAN

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