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JOHN CAMPBELL MERRIAM

1869—1945

A Biographical Memoir by
CHESTER STOCK

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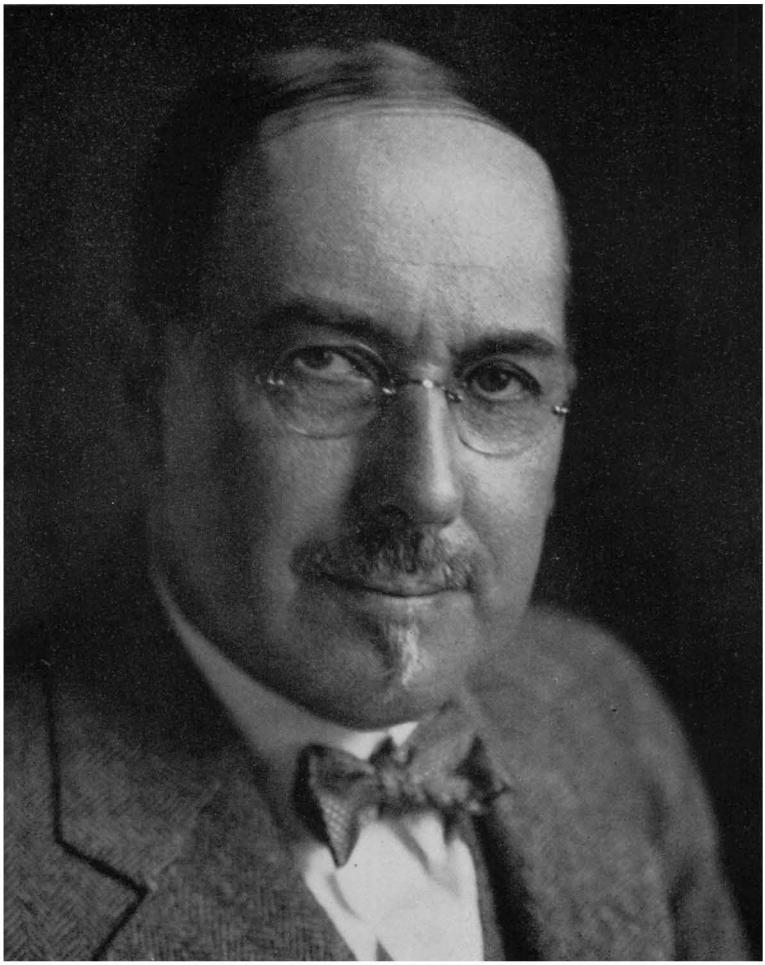
Biographical Memoir



John L. Merriam

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1869–1945

BY CHESTER STOCK

The subject of this memoir was born in Hopkinton, Iowa, on October 20, 1869, and died in Oakland, California, on October 30, 1945.

The parents of John C. Merriam were Charles Edward Merriam and Margaret Campbell Kirkwood. He was one of three children. His mother, from whom he received his lasting interest in natural history, was born in Pennsylvania but was brought up in Scotland. His forebears on his father's side were early settlers in America, who in the 50's moved from Massachusetts to Iowa. Charles, his father, entered the Union army before he was sixteen and fought for his country for four years, except for 9 months that he was forced to spend as a prisoner of war in Libbey Prison. In the aftermath of the Civil War, with all of its demoralization, emerged this young man of humble beginnings and high ideals, to become a leader in church and civic affairs, and a trustee of the community college.

This was the environment in which John Campbell Merriam spent his early life. As a boy he came under the influence of Hugh McBride, a botanist and teacher in the local college, for a time President of the University of Iowa. His botanical interests were stimulated by this contact, as were likewise his studies in geological subjects by an acquaintance with Professor Samuel Calvin.

After taking the degree of Bachelor of Science at Lenox College, Iowa, at the age of 16, John C. Merriam with his

[1] Several biographical accounts of the life of Dr. John Campbell Merriam have already appeared:

Stock, C. (1938) John Campbell Merriam as scientist and philosopher, in Cooperation in Research. Carnegie Inst. Wash. Publ. no. 501, pp. 765-778.

Chaney, R. W. (1945) John Campbell Merriam (1869-1945). Amer. Phil. Soc. Yearbook, pp. 381-387.

Stock, C. (1947) Memorial to John Campbell Merriam. Geol. Soc. Amer. Proc. Vol. for 1946, pp. 183-198.

family moved to Berkeley, California, and it was there that most of his later life was spent. He attended the University of California to study geology under Joseph Le Conte and botany under E. L. Greene, and served as an assistant in mineralogy. As was customary in those days, Merriam went to Europe for advanced study, receiving his doctorate at the University of Munich under Karl von Zittel. His dissertation "Ueber die Pythonomorphen der Kansas-Kreide" proved to be a very fortunate choice, for it gave Merriam opportunity to acquaint himself with the structural characters of living and fossil reptiles—information on which he was to draw in his later studies of Mesozoic marine reptiles of western North America.

Although his doctorate was in vertebrate paleontology, Merriam had acquired a very broad training in the geological sciences. On his return to America in 1894 and to an appointment as instructor at the University of California, he was for some years occupied with both the invertebrate and vertebrate branches of paleontology. Between 1896 and 1899 he published papers describing Tertiary molluscan faunas from Vancouver Island and discussing the geologic relations of the Martinez group of California. His papers on the Tertiary echinoids of California remain perhaps his most significant contribution to invertebrate paleontology, for they laid the foundation on which important phylogenetic and stratigraphic studies were based by later investigators. Merriam was among the first to appreciate the significance of evolutionary changes in Tertiary echinoids, and especially the utilization of these organisms as horizon markers of value in an age determination and correlation of deposits in which they are found.

In the course of these studies Merriam was frequently called upon to make identifications of invertebrate fossils collected in Tertiary deposits exposed in the vicinity of San Francisco Bay. He actively cooperated with Andrew C. Lawson in the study of the fossiliferous formations of the Concord quadrangle and in the unraveling of the geological history of that area. His first description of a fossil mammal from the California Tertiary was a result of this geological study. Prior to this description

he had already noted in print the occurrence of ichthyosaur remains in northern California, brought to his attention by James Perrin Smith. This resulted six years later in the publication of several reports of his investigations, and culminated in his memoir on the Triassic Ichthyosauria which appeared in 1908. Later, he came to recognize a new order of marine reptiles, namely the Thalattosauria, known for the first time from the Triassic of California.

Vertebrate paleontology continued to claim his major interest, and there followed published accounts by him and by his students of saurian investigations, cave explorations in California, and the geology of the John Day Basin, Oregon. Although these projects had been touched upon by earlier workers—Cope's description, for example, of specimens of the Pleistocene short-faced bear from a limestone cave in Shasta County, Leidy's brief notes on ichthyosaur remains from Nevada, and the work of Cope, Marsh, Wortman, and Scott on the John Day region and its faunas during the period from the sixties to the eighties —Merriam greatly expanded the studies. The projects became with him major explorations, fruitful not only paleontologically, but also geologically and anthropologically. Thus, although much basic paleontological research had been done in the John Day Basin, particularly by eastern workers, it was Merriam who first clearly determined, as a result of his field work, the important sequential stratigraphical events of the region, later published in his classic paper of 1901. Again, the extended studies on the limestone caves of Shasta County and of their Pleistocene fossils, conducted for the most part by his students, but fostered by his interest, led to stimulation of anthropological research at the University of California.

During this period the University was still in its early growth, and departmental budgets for research were small. The struggling paleontologist fortunately made at that time the acquaintance of Miss Annie M. Alexander and enlisted her aid in his research. The generous response of this fine and steadfast patroness of paleontology and zoology, who not only gave so liberally of her possessions but also of her effort and time as field collector, was an important factor in bringing

success to Merriam in the principal direction of his interest.

Even before completion of the work on fossil reptiles, his attention turned more strongly toward the study of fossil mammals, western Tertiary mammalian faunas, and early human history. There followed many papers which relate to these fossil assemblages, correlation studies, and to the deposits and faunas of Rancho La Brea. They were published for the most part during the greatest productive period of his research career at the University from 1900 to 1919 and may be regarded as his most significant contributions to paleontology and historical geology. As his extra-paleontological interests gradually enlarged he found less opportunity to engage in actual field studies in geology and paleontology. Thus, where previously he had pursued such investigations as the fossil saurian occurrences in California and Nevada, the geology of the John Day Basin, and the geology and paleontology of the Virgin Valley and Thousand Creek areas of Nevada, later field work was largely accomplished by his graduate students and assistants. These were the years when he exercised his greatest influence on students, and many men receiving instruction from him were subsequently to find responsible posts in science and industry.

Because of previous training and breadth of view, he clearly saw in the conduct of his correlation studies the need of information furnished by stratigraphy, invertebrate paleontology, the various divisions of vertebrate paleontology, and by paleobotany. As a result, when opportunity presented itself, he did not hesitate to enlist the services of others in the development of new or latent fields of research. The wisdom of this has been demonstrated by the marked contributions of Ralph W. Chaney and his associates in Tertiary paleobotany and of Remington Kellogg in his penetrating research on the fossil marine mammals of western America.

During this time he became increasingly active in the affairs of the University and of the community. He was particularly interested in promoting research and in furthering the publication of original investigations. In 1912 President Benjamin Ide Wheeler appointed him chairman of a newly formed Department of Paleontology. At the time of World War I he

saw the urgency of a national defense program. He became chairman of the Research Committee, California State Council of Defense, which office he held from 1917 to 1920. In 1919 he was chairman of the National Research Council. Later, in 1920, he became dean of the faculties at the University.

Although considered a candidate for the presidency of the University of California during the period which followed the retirement of Doctor Wheeler, Merriam accepted the presidency of the Carnegie Institution of Washington (the third president in the history of that Institution). It was his belief that, rather than continue his career as paleontologist, he should serve science broadly and more effectively by becoming head of a great research foundation.

During the next eighteen years he was occupied with the innumerable tasks which face an executive of a large organization. This period of service is perhaps most noteworthy because of a certain centralization of the activities of the Carnegie Institution of Washington. Shortly after his appointment to the presidency, he proposed a plan for the establishment of fellowships in the Institution. This type of appointment, however, was not energetically pursued in subsequent years. Rather, an enlargement continued in the group of research associates who were affiliated with other institutions of learning. He gave stimulus to publication of scientific results and to a dissemination of knowledge gained by eminent scholars of the Institution's staff and associates through popular articles, lectures, conferences and demonstrations. He became more and more impressed with the need for cooperation among men of science in the solution of many of their problems. This may be exemplified by his establishment of a committee in 1925 for the study of the surface features of the moon. The committee, under the able chairmanship of Dr. Fred. E. Wright, sought to examine the problem from all feasible points of view, and according to Merriam, "illustrates in an extremely interesting way the possibilities of study by groups of investigators approaching a problem from different positions, and with quite different objectives." The committee included in its membership not only the astronomer, but also the volcanologist, the

physiographer, the geologist, the physicist, and the mathematician, and represented the cooperation of many institutions.

Merriam was responsible for the establishment of a program of research in regional seismology on the Pacific Coast under the auspices of the Institution and administered by an Advisory Committee of which Dr. Arthur L. Day was chairman. Out of this program grew the development of the Seismological Laboratory on a cooperative plan of the Institution, the California Institute of Technology, and others. He was also much interested in the program of archeological research in southern Mexico and Guatemala, and on occasion found time to visit the localities where the fascinating records of early civilizations in the New World were being uncovered. Later, these investigations in human history included studies of early man in America and in Asia. It was natural that paleontology and paleobotany received added support during his period of incumbency as President of the Carnegie Institution. Thus it was possible for Chaney to widely extend his studies of recent and fossil plants not only over the North American continent, but also in Asia and South America, and for Stock and his associates to explore extensively the later Cenozoic formations and faunas of western North America.

However, by no means were all of Merriam's activities confined to the Carnegie Institution of Washington. Doctor Merriam served for a time as a Regent of the Smithsonian Institution. He fostered the unique educational features of some of the national parks. He was President of the Executive Committee of the Pan-American Institute of Geography and History from 1935 to 1938. As pointed out by Dr. Chaney:

"Perhaps the most timely activity of this most productive life was his founding of the Save-the-Redwoods League, with Henry Fairfield Osborn and Madison Grant in 1917. Not a single coast redwood along the highway was then publicly owned, and the finest forests were being cut for lumber. During the nearly thirty years ensuing more than 45,000 acres of redwood forest have been set aside as State parks, at a cost of $7,500,000. For thirty miles along the Redwood Highway these trees rise to stimulate the imagination of the visitor who sees in Sequoias the oldest living things, who comes to recognize

in them a kind of beauty associated only with antiquity. Bull Creek Flat, a thousand-acre forest of giant redwoods maintained in its natural state, represents the high achievement of a man who, as President of the League for nearly a quarter of a century, guided this major project of conservation. . . ."

These were the years when Merriam brought to publication most of the articles and essays of a more general and philosophical nature. His interest in the human values derived from education and research led to the publication of his book, *The Living Past.* On his retirement in 1938, the Carnegie Institution reprinted all his papers and addresses and published likewise an appreciation volume entitled: *Cooperation in Research by Staff Members and Research Associates.*

Throughout his later busy yet contemplative years Doctor Merriam was an ardent student of poetry, finding communion and kinship of thought with his favored English poets—Shelley, Wordsworth, Tennyson, and Keats—as well as with such American poets as William Cullen Bryant and Alfred Noyes. He drew frequently from their works in his discussions, conversation, and writings. After his retirement he published a series of articles of general scope and philosophical import in his second book called: *The Garment of God.* He continued to concern himself with the national parks of the West and with the State parks of Oregon. Largely through his activity, the group known as the John Day Associates was established with the purpose of conserving the famous fossil beds of the John Day Basin, and of developing public interest in the geological story so clearly told by the rocks and fossils of the region.

Doctor Merriam's eminence in science was recognized and acknowledged in several ways. Honorary degrees were awarded him by many universities. In addition to fellowship in The Geological Society of America (he held the presidency in 1919), he was a member of the Society of Vertebrate Paleontology, President of the Paleontological Society in 1910, President of the American Society of Naturalists in 1936. He was a member of the National Academy of Sciences and likewise a councilor and vice-president, a member of the American Philosophical Society, the American Academy of Arts and Sciences, the

Academia Nacional de Ciencias Antonio Alzate de Mexico, and Sociedad de Geografia e Historia de Guatemala. A gold medal was awarded him by the American Institute, New York.

In the span of his life Doctor Merriam became engrossed with many problems, and it is safe to say that in the solution of some of these, perhaps not all, he found some of his happiest moments. Beginning with a central interest in geological science, he became in the course of time an educator, conservationist, administrator, and philosopher. He will be known to future geologists particularly for his careful, painstaking researches in stratigraphical geology and vertebrate paleontology. It was Merriam who first developed the latter subject in the western half of North America from its pioneering stage to an established discipline.

The last years of his life were spent for the most part on the Pacific coast. He continued to serve on the Advisory Committee of the California Institute of Technology and occupied offices in its Division of the Geological Sciences.

Not a robust person, but rather one of medium stature and slender build, Merriam presented the demeanor of the professional man. At the height of his administrative powers he found relaxation in summer visits to the field camps of his paleontological associates. During the early years of his career at the University, his favorite sports were shooting ducks in the tule lands of the San Francisco Bay region and fishing for trout in the streams of northern California. He was by nature not genial, but rather grave and distant; his conversation was usually in a serious vein. As a lecturer in the classroom Merriam became a polished speaker, capable of holding and enthralling the audience with his subject matter. These qualities were likewise evident in his public addresses.

Ada Gertrude Little, whom he married in 1896, was his devoted wife for more than twoscore years and gave him care, comfort, and stimulus, asking only the joy of accomplishment with him. He never quite found solace in his own activities after her death. They are survived by three sons, a forestry engineer now with the U. S. Park Service as a regional director, a geologist, and an economist. Surviving Doctor Merriam

likewise are a sister, Susan Merriam Gearhart, and a brother, Charles Edward Merriam, Professor emeritus of political science at the University of Chicago, and at one time a mayorality candidate of the city of Chicago.

Doctor John Campbell Merriam left the impress of his thoughts and deeds on students and men and women in many walks of life. By them he will be long remembered.

KEY TO ABBREVIATIONS USED IN BIBLIOGRAPHY

Amer. Anthrop. = American Anthropologist
Amer. Civic Ann. = American Civic Annual
Amer. Found. Mental Hygiene = American Foundation for Mental Hygiene
Amer. Journ. Sci. = American Journal of Science
Amer. Mag. Art = American Magazine of Art
Amer. Phil. Soc. Trans., n.s. = American Philosophical Society, Transactions, new series
Ann. Conv. Middle States Assn. Coll. & Secondary Schools = Annual Convention Middle States Association of Colleges and Secondary Schools.
Assn. Amer. Univ. Proc. = Association of American Universities, Proceedings.
Buffalo Soc. Nat. Hist. = Buffalo Society of Natural History
Calif. Acad. Sci. Mem. = California Academy of Sciences, Memoirs
Calif. Acad. Sci. Proc. = California Academy of Sciences, Proceedings
Carn. Inst. Wash. N. S. Bull. = Carnegie Institution of Washington, News Service Bulletin
Carn. Inst. Wash. Publ. = Carnegie Institution of Washington, Publication
Commonwealth Club Calif. Trans. = Commonwealth Club of California Transactions
Educ. Rec. (Wash.) = Educational Record (Washington)
Elect. Eng. (N.Y.) = Electrical Engineering (New York)
Geol. Soc. Amer. Bull. = Geological Society of America, Bulletin
Geol. Surv. Fla. Rpt. = Geological Survey of Florida, Report
Geo. Wash. Univ. Bull. = George Washington University Bulletin
Harper's Mo. Mag. = Harper's Monthly Magazine
Inaug. Bull. Univ. Ariz. = Inaugural Bulletin, University of Arizona
Inter. Geol. Cong. = International Geologic Congress
Journ. Adult Educ. = Journal of Adult Education
Journ. Geol. = Journal of Geology
L. A. Daily Journ. = Los Angeles Daily Journal
Nat. Acad. Sci. Proc. = National Academy of Sciences, Proceedings
Nat. Conf. Outdoor Rec. = National Conference on Outdoor Recreation
Nat. Hist. Bull. = Natural History Bulletin
Nat. Parks Bull. = National Parks Bulletin
Nat. Res. Prod. Dept. = Natural Resources Production Department
Pan-Amer. Geol. = Pan-American Geologist
Pan-Amer. Inst. Geol. & Hist. Proc. = Pan-American Institute of Geology and History Proceedings
Pop. Sci. Mo. = Popular Science Monthly
Rice Inst. Pamph. = Rice Institute Pamphlet

Sci. Assn. Univ. Calif., Proc. = Science Association of University of California, Proceedings
Sci. N. L. = Science News Letter
Sci., n.s. = Science, new series
Sci. Amer. = Scientific American
Sci. Mo. = Scientific Monthly
So. Calif. Acad. Sci. Bull. = Southern California Academy of Science, Bulletin
Sunset Mag. = Sunset Magazine
Univ. Calif. Publ., Bull. Dept. Geol. = University of California Publications, Bulletin, Department of Geology
Univ. Calif. Mag. = University of California Magazine
Univ. Calif. Mem. = University of California Memoirs
Univ. Va. Alumni Bull. = University of Virginia Alumni Bulletin
U. S. Geol. Surv. = United States Geological Survey

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