

William Emerson Ritter Biography

Deborah Day, Scripps Institution of Oceanography Archives. 2006



William Emerson Ritter (1856–1944), was born on a pioneer farm in Hampden, Wisconsin on November 19, 1856, the son of Horatio Ritter (1822-1896) and Leonora Eason Ritter (1827-1896).

Horatio's father and William Emerson Ritter's grandfather was Ezra Ritter (1793-1876), a property owner residing with his wife Mary Church Ritter (1793-1877) in Syracuse, New York. They had five children, Seneca Dwight, Horatio, George Nelson, Nelson and William Ezra. George Nelson Ritter (1825-1827) and William Ezra Ritter (1830-1854) died while still young. Two sons, Seneca Dwight Ritter (1820-1886) and Horatio Ritter (1822-1896), moved west to Hampden, Wisconsin, and established adjoining farms prior to 1850. During the 1860's and 1870's, the families of Seneca Dwight Ritter and Horatio Ritter struggled to establish the farms during and following the Civil War. Seneca Dwight Ritter and his wife Damaris Winslow Ritter had three children (Dwight, Jane and Elizabeth). Horatio and Leonora Eason Ritter (1827-1896) had five children, Mary Emaline, Ella Louisa, William Emerson, Frank Leslie and Flora Orilla. Though William Emerson Ritter was referred to as William Ezra Ritter by his grandmother, his middle name is recorded as Emerson throughout his life. This can be found in Mary Church Ritter's letter to her son Nelson Ritter and his wife on November 21, 1856. Births were not registered in Hampden Township at the time, so there is no official record of his middle name. William Ritter registered at Harvard as William Emerson Ritter and published under that name throughout his career.

William E. Ritter was raised on the farm and developed a lifelong interest in nature. He taught school from 1877 to 1880 in Wisconsin and graduated from the State Normal School at Oshkosh in 1884. Ritter had used a geology text by Joseph LeConte at Oshkosh, and he decided to continue his studies under LeConte at the University of California. His interest in going west was encouraged by his uncle Nelson Ritter who had been a '49er. Ritter was admitted to the University of California as a special student in 1886 and became a public school teacher in Fresno, California to raise the funds to continue his education. Ritter received his B.S. degree in 1888. He also studied anatomy at Cooper Medical School. He continued as a graduate student and teaching assistant in chemistry under Professor Edmund O'Neill for another year. In 1889, Ritter received a fellowship from the Harvard Club of San Francisco and became a student of E.L. Mark at Harvard. He studied zoology and received an M.A. in 1891 and a Ph.D. in 1893. Ritter's master's thesis was on the median or pineal eye of some California lizards, and his doctoral dissertation was entitled, "On the eyes, the integumentary sense papillae, and the integument of the San Diego blind fish, *Typhogobius californiensis*, Steindachner." While at Harvard, Ritter met Alexander Agassiz, and studied in Agassiz's marine laboratory in Newport, Rhode Island. He also met a fellow graduate student, Charles Atwood Kofoid, whom he would eventually recruit for the University of California.

Ritter married Mary Elizabeth Bennett on June 23, 1891. They met at a Christmas party in Fresno, California in 1885, and courted while Miss Bennett completed her medical degree at Cooper Medical College in San Francisco. While on their honeymoon in Coronado, Dr. Ritter introduced her husband to a medical couple, Dr. Fred Baker, physician and amateur conchologist and Dr. Charlotte Baker, an obstetrician who shared the Ritters' interests in marine biology and medicine.

Ritter was appointed instructor in biology at the University of California in 1891. He served as assistant professor from 1893 to 1898 and advanced to associate professor and then full professor in 1902. In 1899 he was elected president of the California Academy of Sciences, and that same year took part in the famed Harriman Expedition to Alaska. Ritter succeeded Joseph LeConte as chair of the Zoology Department in 1901. He founded and edited the University of California Publications in Zoology series. He had a number of students who had successful university careers including Loye H. Miller and Edna Watson Bailey. His summer seaside laboratories attracted many students including the architect Julia Morgan who had briefly considered a career in science. His wider circle of university colleagues included Seth Benson, Joseph Grinnell, Samuel Jackson Holmes, George M. Stratton and Harry B. Torrey.

The Ritters were active in university affairs and progressive causes. Ritter's wife Dr. Mary Ritter met University of California Regent and philanthropist Phoebe Hearst with whom she shared an interest in women students at the university. In 1891, a group of women students approached Dr. Ritter to ask her to give them medical examinations, a prerequisite set by the university for use by women of the gymnasium. Dr. Ritter agreed to do so and took an interest in women at the university. It was at the Ritter residence in 1900 that a

group of women students founded the Prytanean Society, an organization of women students in their junior and senior years established to create cooperative residences. The University of California acknowledged Dr. Ritter's work as unofficial first dean of women when it conferred an honorary doctorate upon her on May 18, 1935.

William Ritter's earliest research was in taxonomy and morphology, but his interest in fishes shifted to research in tunicates. He became a lifelong advocate for studying animals in nature, a viewpoint that contrasted dramatically that of Jacques Loeb, a University of California colleague who advocated experimental science in the laboratory. In 1892, Ritter led a summer class in marine biology at Pacific Grove. In 1893, Ritter set up a summer laboratory at Catalina Island. In 1894, Ritter spent a postgraduate year in Europe studying tunicates at the Stazione Zoologica in Naples and at the University of Berlin. When he returned to California, he spent almost every summer studying marine organisms at various places along the coast, looking for a suitable site for a permanent laboratory. He also sought patronage. In 1899, he was invited by E.H. Harriman to join the Harriman Expedition to Alaska. Ritter shared a tent with John Muir on that expedition, and almost succeeded in persuading Harriman to fund his laboratory.

In 1900 Ritter prepared an essay "On the Nature of Heredity and Acquired Characters, and the Question of the Transmissibility of these Characters" for presentation at the Berkeley Club. It was later published in the University of California Chronicle. This was a controversial topic among academic scientists at the time and signaled the broadening of Ritter's writings on biology, evolution and the philosophy of science. While his earliest publications addressed an audience of scientists, this essay signaled Ritter's interest in engaging the general public on science.

Ritter discussed his plans for a permanent marine laboratory with Phoebe Hearst, and wealthy university alumni in the Bay area and Los Angeles. While some offered sums to keep the summer laboratories going, none contributed the substantial patronage necessary to fund a permanent laboratory. In 1903, Fred Baker persuaded Ritter to come to San Diego and introduced him to E.W. Scripps, a wealthy newspaper publisher and his sister, Ellen Browning Scripps. Together, they formed the Marine Biological Association of San Diego in 1903 and began plans to build a permanent laboratory. Ritter served as Scientific Director beginning in 1903.

By 1904 Ritter had begun working in San Diego on what he hoped would be an exhaustive study of marine life focused on a limited area, using the vessel Albatross for deep water investigation. He was hence for many years to divide his time between Berkeley and La Jolla where he spent his summers. It was on his return from a trip to Hawaii, Japan and the Philippines in 1906 that Ritter actively sought to interest Andrew Carnegie, Edward Harriman and others in the financing of a biological station at La Jolla.

In 1909, Miss Scripps endowed the station with sufficient income to ensure its future, and the renamed Scripps Institution for Biological Research became part of the University of California. It was renamed the Scripps Institution of Oceanography in 1925.

E.W. Scripps' biographer has described William Ritter as Scripps' only close personal friend. The two men shared a history as sons of Midwestern farmers and met weekly at the laboratory to discuss science and public affairs. Scripps was interested in science as a means of understanding men. This dovetailed with Ritter's growing interest in the philosophy of science and biology in its broadest aspects. The two men were both interested in science education for the public, with Scripps focused on the need for science features for his newspapers. He later founded Science Service with this in mind. Ellen Scripps was also interested in biology and education. She hoped to support a scientific endeavor with funds left to her by her bachelor brother George H. Scripps, and Ritter's laboratory seemed a good fit. Both the Scrippses felt that the laboratory should include a public aquarium. All three contributed ideas to the program of the laboratory, and both Scrippses encouraged Ritter to publish his ideas on philosophy, education and science. It was with their encouragement that he began to publish articles on science in journals such as Popular Science Monthly and monographs on philosophical

topics beginning with *War, Science and Civilization* (1915) and *Unity of the Organism: The Organismal Conception of Life* (1919).

The Scripps patronage gave Ritter opportunities to travel. In 1906 the Ritters traveled to Hawaii, Japan and the Philippines. They were in Japan when the news of the San Francisco earthquake reached them. Ritter took part in the 1923 Pan-Pacific Scientific Congress held in Australia, and went to England for the International Congress of Science and Technology in 1931.

Ritter's philosophical work has been studied by historians Eric Mills and Philip Pauly who find Ritter's concept of the organismal conception of life unique among biologists. Mills sees a strong influence of LeConte in Ritter's work and finds it rooted in European philosophy. LeConte was a Lamarckist, and Ritter invited Francis Sumner to the Scripps Institution of Oceanography to investigate inherited characteristics in a population of field mice. Sumner's work eventually disproved Lamarck in favor of natural selection. Pauly sees Ritter as more of a pragmatist, interested in surveying the ecology of the sea, but also a scientist interested in the foundations and implications of biology for human society especially in America. Pauly agrees that LeConte influenced Ritter, but also finds influences from George Howison, Josiah Royce and other American thinkers.

E.W. Scripps persuaded the Ritters to move permanently to La Jolla, California in 1909 to oversee the operation of the station. This involved some sacrifice for Dr. Mary Ritter who resigned her university position, closed her private practice in Berkeley, and shelved the plans drawn up by Julia Morgan for a small house in Berkeley. Dr. Mary Ritter oversaw the construction of buildings on the La Jolla campus. The Ritters lived on the second floor of the laboratory building until a small cottage was constructed for their use in December 1913. William Ritter retained his faculty position, but resigned chairmanship of the zoology department, and was succeeded in that position by his friend and colleague Charles Kofoid. Only in 1912, after much negotiation, were final arrangements between benefactor Edward Wyllis Scripps and the University of California completed, and Ritter named first scientific director of the new Scripps Institution of Oceanography, a position he held until 1922. The Institution soon attracted many young men to work under Ritter's supervision, namely Harry B. Torrey, Loye Holmes Miller, Samuel Jackson Holmes, Joseph Grinnell, Charles Atwood Kofoid, and others who would later attain prominence in the world of science.



Ritter, vitally concerned at the lack of wide-spread dissemination of accurate but intelligible reports on scientific developments and discoveries, as early as 1915 discussed the possibility of training professional scientists to write on scientific subjects in a popular vein. This idea, by 1920, germinated into a full-fledged proposal for a news service known as Science Service, which was financially backed by E. W. Scripps, and officially commenced in February 1921.

A man of varied interests, and a strong believer in the humanity of science, Ritter was fascinated by the relationship of science to religion, and of biology to social question. Numerous published works reflecting his philosophy include *War, Science and Civilization*; *The Higher Usefulness of Science and Other Essays*; *The Probable Infinity of Nature and Life*; *The Scientific Method of Reaching Truth*; *The Natural History of Our Conduct* (with Edna W. Bailey); and *The Organismal Theory of Conception* (with Edna W. Bailey). As a result of his study of the activities of animals under natural conditions, he evolved his concept of "organism as a whole" which was published as *The Unity of the Organism*, or the *Organismal Theory of Consciousness* in 1918. A second part to this work was planned, and though written in large part and revised, it was never completed.

Ritter spent the majority of his time between 1909 and 1923, directing and writing about the station. During his directorship, the institution was broadly biological, including studies of marine and land organisms in their

natural habitat. The institution grew in strength but did not achieve the prestige of the great laboratories in Europe and the east coast of the United States. This was due to a number of factors. The institution was young and only moderately endowed, it struggled to sustain seagoing operations. It tried with only moderate success to develop a relationship with the U.S. Navy. Its scientific vision which focused on field work appeared to be somewhat old fashioned as laboratory science grew to dominate biological research. Ritter was aware of this, and worked hard to build east coast alliances and participate in high profile scientific endeavors. He invited Alexander Agassiz and his assistant Henry Bryant Bigelow to visit Scripps in 1905 when the oceanographers embarked on their expedition to the Eastern Tropical Pacific in the USFS ALBATROSS. He and Kofoid served as chief scientists on Pacific legs of the ALBATROSS cruises. Ritter traveled frequently to the east coast and discussed research plans with scientists including Alfred Goldsboro Mayor, whom he particularly admired. When his University of California colleague John Campbell Merriam became president of the Carnegie Institution of Washington in 1921, Ritter drew him into discussions of the future of the Scripps Institution. Ritter retired from the Scripps Institution of Oceanography in 1923 after recruiting Thomas Wayland Vaughan to succeed him. In 1925 he went to Washington, D.C., and worked at Science Service directing it to work publicly against the Tennessee anti-evolution law at the root of the Scopes Trial.

The Ritters retired to Berkeley, and William Ritter received an honorary LL.D. degree from the University of California in 1932. He continued writing with the assistance of his student and literary executor Dr. Edna Watson Bailey. His last monograph, *The California Woodpecker and I: A Study in Comparative Zoölogy* was published in 1938 by the University of California Press. Ritter, had also partially written a work tentatively entitled "The Ocean and its Life", which he never finished. Over a period of years he collaborated with Edna Watson Bailey on his *Charles Darwin and the Golden Rule*, a distillation of his many writings on the subject, completed by Mrs. Bailey only after Ritter's death. Ritter also contributed many articles on a variety of subjects to learned journals.



A member of the California Academy of Sciences, the American Association for the Advancement of Science and many other scientific organizations, Ritter took part in the 1923 Pan-Pacific Scientific Congress held in Australia, and went to England for the International Congress of Science and Technology in 1931. Emeritus in 1924, Ritter was to continue his scientific work and writing for many years. Although childless, he was much interested in children and in their education, and at times supported the Berkeley Children's Community School where he taught natural science. He also was a strong advocate for the teaching of evolution in the California public schools.

William E. Ritter died of heart failure on January 10, 1944 and was survived by his wife. The couple had no children. In May his widow launched the liberty ship SS William E. Ritter named in his honor.

Dr. Ritter appointed his student and colleague Mrs. Edna Watson Bailey as his literary executor in his will. Mrs. Bailey gathered Dr. Ritter's personal papers together after his death and spent several years editing manuscripts for publication. On May 2, 1956, Mrs. Bailey transferred reprints of a number of Dr. Ritter's scientific papers to the Scripps Institution of Oceanography. These were bound and cataloged.

On April 22, 1963, Mrs. Helen Hill Raitt, when working on her history of Scripps, visited Mrs. Bailey in Berkeley. Mrs. Bailey showed her the Ritter manuscript and Dr. Ritter's personal library. Mrs. Raitt mentioned that the Scripps Library would like to acquire these collections. Mrs. Bailey gave Scripps the library, including some eight hundred books, and some manuscript material related to Ritter's activities as advocate and director of the Scripps Institution of Oceanography.

In 1970 and 1971, Mrs. Bailey gave the Bancroft Library, University of California, Berkeley, the remaining Ritter Papers in her possession.

FAMILY



Ezra Ritter and Mary Church Ritter, William Emerson Ritter's grandparents

Ezra Ritter (1793-1876), a property owner, and his wife Mary Church Ritter (1793-1877) resided in Syracuse, New York. They had five children, Seneca Dwight, Horatio, George Nelson, Nelson and William Ezra. George Nelson Ritter (1825-1827) and William Ezra Ritter (1830-1854) died while still young.

Two other sons, Seneca Dwight Ritter (1820-1886) and Horatio Ritter (1822-1896, father of William Emerson Ritter), moved west to Hampden, Wisconsin, and established adjoining farms prior to 1850. During the 1860's and 1870's, the families of Seneca Dwight Ritter and Horatio Ritter struggled to establish the farms during and following the Civil War.

Horatio and Leonora Eason Ritter, William Emerson Ritter's parents



Horatio and Leonora Eason Ritter (1827-1896) had five children, Mary Emaline, Ella Louisa, William Emerson, Frank Leslie and Flora Orilla.

Seneca Dwight (William Emerson Ritter's uncle) and Damaris Winslow Ritter had three children, Dwight, Jane and Elizabeth.

References:

Eakin, Richard M. "History of Zoology at the University of California, Berkeley." *BIOS*, 27 (May 1956): 67-92.

Holmes, S.J. , G. M. Stratton and H.B. Torrey. William Emerson Ritter 1856-1944, Professor of Zoology, Emeritus. *University of California In Memoriam*, 1944: 75-77.

Mills, Eric L. *The Scripps Institution; Origin of a Habitat for Ocean Science*. La Jolla: Scripps Institution of Oceanography UCSD, June 1993.

Pauly, Philip J. *Biologists and the Promise of American Life: From Meriwether Lewis to Alfred Kinsey*. Princeton and Oxford: Princeton University Press, 2000.

Presentation and Acceptance of a Portrait of Dr. William Emerson Ritter First Director of the Scripps Institution presented by Miss Ellen Browning Scripps to the Scripps Institution of Oceanography, University of California. La Jolla: Bulletin 15 (Non-Technical) of the Scripps Institution of Oceanography, issued January 28, 1928.

Raitt, Helen and Beatrice Moulton. *Scripps Institution of Oceanography: First Fifty Years*. San Diego: Ward Ritchie Press, 1967.

Shor, Elizabeth N. William E. Ritter. *Dictionary of Scientific Biography* 18, Supplement 2, 1990, 745-747.

Sumner, Francis B. William Emerson Ritter; Naturalist and Philosopher. *Science* 99, no. 2574 (April 28, 1944): 335-338.

Thone, Frank E.A. and Edna Watson Bailey. William Emerson Ritter: Builder. *The Scientific Monthly* 24 (March 1927): 256-262.