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(*b*. Beverly, Massachusetts, 11 February 1854; *d*. Cambridge, Massachusetts, 14 January 1914)

mathematics, physics.

Peirce's father, who bore the same names, was by 1849 a merchant in the South African trade, having previously been professor of chemistry and natural philosophy at Mercer University, Macon, Georgia. His mother was Mehetable Osgood Seccomb of Salem, Massachusetts. Peirce and his father were close companions, and in 1864 they traveled together to the Cape of Good Hope. They shared a love of music; Peirce's father played the flute adn Peirce himself frequently sang in Oratorio and Choral Society performances. Later in his professional career at Harvard, Peirce served as a member of the committee on honors and higher degrees in music.

In 1872, after a two-year apprenticeship as a carpenter (during which he read extensively and perfected the Latin his father had taught him) Peirce was admitted of Harvard College. He became the first research student of John Trowbridge and published, during his junior year, a paper that revealed a "remarkable knowledge of Becquerel, Rowland, Maxwell, and Thomson; a remarkable use of electromagnetic equipment; a remarkable use of electromagnetic equipment; a remarkable application of mathematics." Under Trowbridge's influence he investigated mangnetization; he later developed an interest in problems in heat conduction, and wrote a number of papers on those subjects.

Peirce was graduated in 1876 with highest honors in physics. During the next year, he served as laboratory assistant to Trowbridge and then studied under Wiedeman in Leipzig, where he took the Ph.D. (1879). In 1880 he worked in Helmholtz' laboratory in Berlin, where he met Karl Pearson, who became his lifelong friend. He also met Isabella Turnbull Landreth, a student in the conservatory of music, and they were married in her native Scotland in 1882. They had two daughters.

Peirce's research efforts in Germany were in a sense unrewarding. Edwin Hall wrote of the "unhappy turn of fate" that led Peirce to devote "a year or more of intense labor on gas batteries at a time when physical chemistry was floundering through a bog of experimentation . . . misdirected by the false proposition that the electromotive force of a battery should be calculable from the heat yielded by the chemical operations occuring in it," Peirce exercised the greatest care in testing some 400 batteries, of six different types, and found no data to support this principle, which had been advocated by Wiedemann and by William Thomson. Although he regretfully recorded his findings, he did not openly challenge such authorities, and Wiedeman and Thomson's theorem was only later disproved by J. Willard Gibbs and Helmholtz.

In 1880 Peirce returned to the United States and taught for one year at the Boston Latin School. He began his teaching career at Harvard University as an instructor in 1881, and in 1888, following Lovering's retirement, was appointed Hollis professor of mathematics and natural philosophy. He soon established himself as an able administrator.

In 1883 Peirce was one of the first scientists to study retinal sensitivity by means of the spectrum instead of revolving discs. But his 1889 work, "Perception of Horizontal and of Vertical Lines," was essentially psychological. The full extent of his mathematical talent was first revealed in 1891, in a paper entitled "On Some Theorems Which Connect Together Certain Line and Surface Integrals." His *Short Table of Integrals*, which eventually became an indispensable reference tool for scientists and mathematicians, was first published as a pamphlet in 1889.

Peirce was a member of various American and foreign societies. In 1913 he served as president of the American Physical Society, which he had helped to organize, and as vice-president of the American Mathematical Society. He also served as an editor of the *Physical Review*. He was a cousin, at several removes, of Charles Sanders Peirce.

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I. Original Works. Poggendorff, III, col. 1013; IV, cols. 1128–1129; and V, cols. 952–953, gives a detailed bibliography. Peirce's major works are *Elements of the Theory of the Newtonian Potential Function* (Boston, 1888), *A short Table of Integrals*, issued as a pamphlet in 1889, but subsequently published in Byerly, ed., *Elements of the Integral Calculus* (Boston, 1889) and enlarged in many later eds.; and *Mathematical and Physical Papers, 1903–1913* (Cambridge, Mass., 1926), which contains 56 papers. Peirce's papers and correspondence are preserved in the archives of Harvard College.

II. Secondary Literature. For works on Peirce and his work, see *American Men of Science*, 2nd ed. (Lancaster, Pa., 1910), p. 364; R. Archibald, in *Dictionary of American Biography*, XIV, 397–398; *Boston Transcript* (14 Jan. 1914); Edwin Hall, *et al*., "Harvard University Minute on the Life and Services of Professor Benjamin Osgood Peirce," in the university archives, repr. from *Harvard University Gazette* (21 Feb. 1914); Edwin Hall, "Biographical Memoir of Benjamin Osgood Peirce," in *Biographical Memoirs*. *National Academy of Sciences*, **8** (1919), 437–466, which also contains a complete bibliography of his mathematical and physical papers; *Lamb's Biographical Dictionary of the United States*, VI (Boston, 1903), 198; J. Trowbridge, "Benjamin Osgood Peirce," in *Harvard Grads's Magazine* (Mar. 1914); A. G. Webster, "Benjamin Osgood Peirce," in *Science* (1914), repr. in *Nation* (23 Apr. 1914); and *Who's Who in America*, 1912–1913.

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