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## Henry Bryant Bigelow

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## Henry Bryant Bigelow

(October 3, 1879 – December 11, 1967)

Henry Bryant Bigelow, zoologist and oceanographer, was born in Boston, Massachusetts, the son of Joseph Smith Bigelow, a banker, and Mary Cleveland Bryant. Bigelow graduated from the Milton Academy at age sixteen. A year later he enrolled in Harvard College, from which he graduated cum laude with an A.B. in 1901, going on to earn an A.M. (1904) and a Ph.D. (1906). In 1906 he also married Elizabeth Perkins Shattuck; they had four children.

Bigelow had an early interest in birds and published his first papers, while still in school, on the American eider and the birds of Labrador. He had the opportunity to work with the noted naturalist Alexander Agassiz from 1901 until Agassiz's death in 1910. Their studies of marine life took them to the Indian Ocean, the eastern Pacific, and the West Indies. During their first venture, to the Maldivian Islands, Bigelow was responsible for caring for the jellyfish and other medusoid animals that were collected. This led to his longstanding interest in siphonophores, which are marine invertebrates that live in colonies and are in the same class as jellyfish. Bigelow's dissertation, on the hydrozoan *Gonionemus vertens* reflected his particular interest in marine invertebrates.

Throughout his life Bigelow was an avid sportsman. After completing work on the trip to the Maldives, he stayed behind to hunt game in Ceylon. In his *Memories of a Long and Active Life* (1964) he recalled, "During the ten days or so that we were in 'game' country, my bag was two wild water buffaloes, a sambhar stag, two axis deer, one wild boar, an eight-foot crocodile, and a large python" (p. 11).

Bigelow was appointed in 1906 to the position of assistant at Harvard's Museum of Comparative Zoology. Over his career there he was promoted to curator of coelenterates (1913), research curator (1925), and eventually curator of oceanography (1927-1962). In 1921 he was appointed lecturer in zoology at Harvard, rising to associate professor in 1927 and full professor in 1931. He retired as professor emeritus in 1950.

Bigelow began one of his seminal works in 1912, conducting a series of studies on the Gulf of Maine and continuing through 1928. Little was known about the Gulf before these studies. His methods were groundbreaking because he covered the entire body of water and made a nearly comprehensive study of its fishes, plankton, and physical oceanography.

These investigations displayed Bigelow's recognition of the value of synthesizing the disciplines that comprise the marine sciences. In "A Developing View-point in Oceanography" (*Science* 71 [24 Jan. 1930]: 84-89), Bigelow remarked, "In the further development of sea science the keynote must be physical, chemical and biological unity, not diversity, for everything that takes place in the sea within the realm of any one of these artificially divorced sciences impinges on all the rest of them" (p. 86).

As secretary of the Committee on Oceanography of the National Academy of Sciences, Bigelow wrote the report that led to the founding of Woods Hole Oceanographic Institution. The report, titled "On the Scope, Problems and Economic Importance of Oceanography, on the Present Situation in America, and on the Handicaps to Development, with Suggested Remedies," was published in 1929. The NAS committee and the marine facility were both brain children of Frank Rattray Lillie, who was long affiliated with the Marine Biological Laboratory, also in Woods Hole.

Woods Hole Oceanographic Institution was established the following year, and Bigelow was its first director, serving from 1930 to 1939. The institution was equipped from the start with a research vessel, the *Atlantis*. For the first few years, Bigelow required all staff members to take at least

one short cruise each year on the *Atlantis*, believing that fieldwork was paramount to oceanographic studies.

After leaving Woods Hole Bigelow was editor-in-chief of *Fishes of the Western North Atlantic*, to which he also contributed. The first part of the treatise was published nine years later, in 1948; subsequent volumes appeared in 1953, 1963, and 1964. Bigelow continued to contribute to this series until his death. At the request of the U. S. Navy, Bigelow and W. T. Edmondson wrote *Wind Waves at Sea, Breakers, and Surf* (1947), an introductory text on waves and their effect on seagoing vessels.

Bigelow was honored with appointments to several academic societies and committees. His students and colleagues prepared a festschrift for him in 1955, *Papers in Marine Biology and Oceanography*, which appeared as a supplement to volume 3 of *Deep-Sea Research*. He continued to work at the Museum of Comparative Zoology until his death, even though he had officially retired from it in 1962. He died in Concord, Massachusetts, his home for sixty years.

Over his long career Bigelow contributed substantially to the knowledge of Atlantic marine life, including such divergent forms as plankton, jellyfish, and sharks; completed a comprehensive oceanographic survey of the Gulf of Maine; and helped to establish Woods Hole Oceanographic Institution. In “The Oceanographic and How It Grew” (in *Oceanography: The Past: The Proceedings of the Third International Congress on the History of Oceanography* [1980]), Roger Revelle wrote, “Bigelow was certainly one of the fathers of oceanography in the United States in general and of the Woods Hole Oceanographic Institution in particular through his pioneering Gulf of Maine studies, his broadly-based, persuasive report to the Academy, and his work as the first Director of the Institution” (p. 12).

**Bibliography:** A collection of Bigelow’s correspondence is at the Harvard Museum of Comparative Zoology. The Woods Hole Oceanographic Institution maintains his director’s files, and the Marine Biological Laboratory holds Bigelow’s reprints. For an overview of Bigelow’s career, including a detailed chronology, see Alfred C. Redfield’s essay in *National Academy of Sciences, Biographical Memoirs* 48 (1976): 50-80. Michael Graham gives a rather personal account in an obituary, *Deep-Sea Research* 15 (1968): 126-32, which includes a bibliography. For Bigelow’s recollections of the events leading to the found-

ing of Woods Hole, see his “Dr. Lillie and the Founding of the Woods Hole Oceanographic Institution,” *Biological Bulletin* 95 (1948): 157-58. An obituary is in the *New York Times*, 12 Dec. 1967.

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