

Deep-Sea Medusae, from Ernst Haeckel's report in Report of the Voyage of HMS Challenger During 1873-76 (London, 1880-95), 4:1. Special Collections, Glenn G. Bartle Library, Binghamton University, State University of New York

Explorers of the sea have brought back many beautiful plants and animals unlike any on dry land. The official publication documenting the thousands of species found on the HMS Challenger expedition was a 40-volume monument of 19th-century natural science. Each specimen was illustrated in hand-drawn lithographs, facsimiles of which are shown in this

exhibition. Such images from natural history have inspired contemporary New York artist Philip Taaffe to create lithographs of creatures from the deep sea. In this work, designed in the symmetrical format of a naturalist's folio, the artist presents fishes as colorful specimens. Continuing the naturalist's tradition of documenting species with an observant eye and firm hand, Taaffe brings to life exotic marine creatures.

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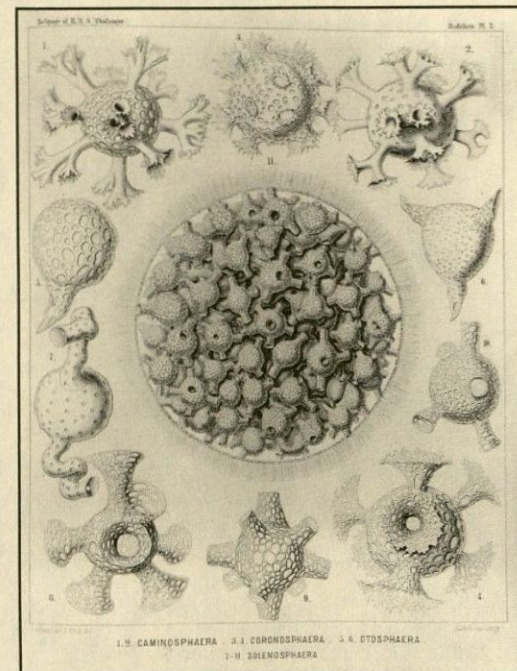
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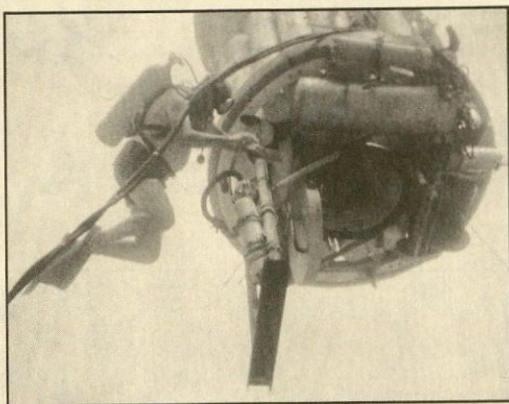
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EXPLORERS OF THE DEEP SEA



Radiolaria, from Ernst Haeckel's report in Report of the Voyage of HMS Challenger During 1873-76 (London, 1880-95), 18:7. Special Collections, Glenn G. Bartle Library, Binghamton University, State University of New York

Curated
by
Lynn Gamwell



Underwater decompression chamber,
designed by Edwin A. Link
Link Collections,
Special Collections, Glenn G. Bartle Library,
Binghamton University, State University of New York

Until the mid-19th century, everyone assumed that plants and animals lived only near the surface of the sea. Plants, after all, need light to photosynthesize, and the animal food chain ends ultimately in plants. Then Darwin's publication of *Origin of Species* (1859) turned attention to the sea as the place where life evolved, and, as part of the effort to lay a telegraph cable across the Atlantic in the 1860s, the mountains and valleys of the sea floor began to be mapped. When workers found "living fossils" at great depths, British scientists vowed to explore the origins of life in the deep sea.

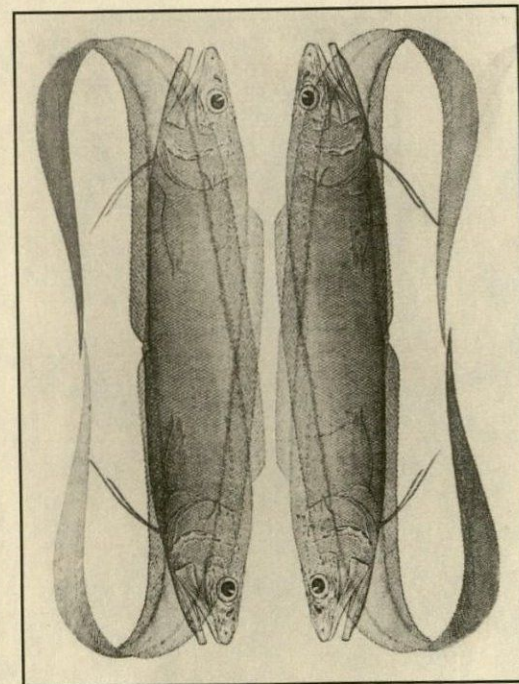
Naturalist Charles Wyville Thomson talked the British Navy into outfitting a ship, *HMS Challenger*,

with dredging equipment and a laboratory. The *Challenger* was loaded with thousands of specimen jars, alcohol for preservation, microscopes and chemical apparatus, thermometers and water-sampling bottles, and great lengths of rope with which to suspend the equipment into the ocean depths.

On December 21, 1872, the ship set sail under Thomson's command. For four years, its crew sailed around the globe, stopping at ports on all continents to ship back to Edinburgh crates of carefully bottled plants and animals. En route, there was almost no loss of specimens, most of which survive today. In their deepest dredge, naturalists on *HMS Challenger* brought up living specimens from an unprecedented depth of 3 1/2 miles.

The crew of *HMS Challenger* collected their specimens by lowering a dredge (an empty bucket with a net) connected to a rope, but by the early 20th century, explorers themselves had begun to descend into the depths of the sea. Inventors worked to make the diver's journey safe, and some important advances were made by the American Edwin A. Link. He began his career in upstate New York designing an aviation trainer and then turned to inventing tools for exploration of the sea.

In 1927-29, Link devised a "flight simulator" in which pilots can be trained safely on the ground.



Philip Taaffe (b. 1955), American. Untitled
(Green Vertical Long Tail Fish), 1997, oil pigment on paper.
Courtesy Peter Blum Gallery, New York

After decades in the aviation industry, in the 1960s Link designed and built his first submersible decompression chamber, which provides divers a safe, comfortable place to decompress after a dive. Since the chamber provides an artificial environment where air pressure and gases can be carefully controlled, it can bring divers from great depths to sea level without risk of getting bubbles in the blood ("the bends").