



Top Navy Scientist helped to develop Polaris missile

By [Matt Schudel](#) February 21

John P. Craven, a top scientist for the Navy during the Cold War, who oversaw many undersea weaponry and research programs, including efforts to retrieve a missing hydrogen bomb and to spy on the Soviet Union, died Feb. 12 at his home in Honolulu. He was 90.

He had complications from Parkinson's disease, his daughter, Sarah Craven, said.

Dr. Craven, who served as an enlisted sailor during World War II, went on to spend more than a decade as chief scientist of the Navy's Special Projects Office. He had key roles in the development of the Polaris, the first intercontinental ballistic missile to be launched from a submarine, and in underwater exploration and reconnaissance efforts carried out by submarines.

He began his civilian career with the Navy in 1951 at the David Taylor Model Basin, in Carderock, Md., a leading design and testing facility for Navy ships. He participated in some of the early work on nuclear submarines before he was named chief scientist in 1958 of what was then called the Special Projects Office.

Under the general supervision of Navy Vice Adm. William F. Raborn, Dr. Craven led a team that, in 1960, successfully fired a Polaris missile from a submerged submarine. It

was considered a landmark military development of the Cold War, but it was only one part of Dr. Craven's innovative work with the Navy.

"I had five or six programs going," he told the Honolulu Star-Bulletin in 2002. "One was multiheaded, so highly classified that nobody on it could tell relatives or anybody. They couldn't even speculate who else was involved in the program. It was a special top secret program, which meant it didn't exist."

After the nuclear submarine USS Thresher sank in 1963 with 129 sailors on board, Dr. Craven was put in charge of a new program called the Deep Submergence Systems Project.

"The purpose was to provide the Navy with the capability of essentially locating and picking up from anywhere in the ocean anything of military significance," he told the Star-Bulletin. "That included atomic bombs."

In 1966, an Air Force B-52 collided with a tanker during mid-air refueling near the southern coast of Spain, killing seven U.S. airmen. The B-52 was carrying four hydrogen bombs at the time, and three were found on land. Dr. Craven and other scientists plotted the probable spot where the bomb had come to rest on the sea floor. It was recovered several months later.

In 1968, Dr. Craven helped find the USS Scorpion, a nuclear submarine that disappeared in the Atlantic Ocean. He examined oceanographic research records to pinpoint the location where an explosion caused the submarine to sink.

He believed a torpedo accidentally exploded inside. The submarine's wreckage has been photographed, but the Scorpion and the 99 sailors on board remain entombed at the bottom of the sea.

Meanwhile, Dr. Craven also oversaw the modification of an attack submarine, the USS Halibut, into a reconnaissance and recovery vessel that was relaunched in 1965. It contained a vast array of electronic equipment, including miles of cable that could be lowered to the ocean floor, well below the depth that a manned submarine could reach.

The Halibut found a Soviet submarine that disappeared in the Pacific in 1968, about 750 miles northwest of Hawaii. Remote-controlled cameras took close-up photographs of the wreckage, which included nuclear-armed missiles and torpedoes, giving U.S. officials their first detailed view of a Soviet submarine.

In other missions, the Halibut discovered and sometimes retrieved many items of military interest from the ocean floor, including sunken ships, airplanes and weapons. It also tapped into underwater Soviet communication cables, which proved to be a major source of clandestinely acquired intelligence during the Cold War.

Dr. Craven also was in charge of the Navy's experimental SeaLab projects of the 1960s, in which divers lived in underwater habitats for long periods. The effort was abandoned after one diver died.

One of Dr. Craven's final Navy projects was the NR-1, a nuclear-powered submersible vessel used for research and underwater recovery. Among other things, it explored ancient shipwrecks and recovered parts from the space shuttle Challenger after it exploded in 1986.

John Pinna Craven was born Oct. 30, 1924, in Brooklyn, N.Y. His father was a musician and stock analyst. He later changed his middle name to Piña, the original spelling of his mother's middle name.

After serving aboard a battleship in the Pacific during World War II, he entered a Navy officer training program at Cornell University, from which he graduated in 1946. He received a master's degree in civil engineering from the California Institute of Technology in 1947 and a doctorate in mechanics and hydraulics from the University of Iowa in 1951.

He graduated from George Washington University law school in 1958 and was, in addition to his scientific expertise, an authority on ocean and maritime law.

After leaving his Navy post in 1969, Dr. Craven taught at the Massachusetts Institute of Technology for a year before becoming dean of marine programs at the University of Hawaii. He later served as director of the Law of the Sea Institute at the university's law school.

He lost a Democratic primary race for Congress in Hawaii in 1976 and, in the 1990s, launched a company that developed methods to harness the ocean for agriculture and electricity. One of his longtime friends, whom he met while working in the Pacific, was actor Marlon Brando.

Survivors include his wife of 64 years, Dorothy Drakesmith Craven of Honolulu; two children, David Craven of Chicago and Sarah Craven of Bethesda, Md.; a brother; a sister; and five grandchildren.

In 2001, Dr. Craven published a book detailing his experiences with the Navy and in underwater technology, "The Silent War: The Cold War Battle Beneath the Sea."

"Without the shield of a strong silent deterrent," he wrote, "or the intellectual sword of espionage beneath the sea, that war could not have been won."