



John P. Crane

JOHN P. CRAVEN

1924–2015

Elected in 1970

*“Contributions to the development of sea-based deterrence,
deep-submergence vessels, and ocean technology.”*

BY NICHOLAS JOHNSON¹

SUBMITTED BY THE NAE HOME SECRETARY

JOHN PIÑA CRAVEN, a national leader in the innovation, development, design, construction, and operational deployment of major oceanic systems, died February 12, 2015, at the age of 90, in Honolulu.

John, or “Craven” as he answered the phone, was born October 30, 1924, in Brooklyn, New York. His father, a musician and stock analyst, represented a family naval tradition; on his mother’s side were Barbary pirates—which he said contributed his “black blood.”

He began his studies of ocean technology at the Brooklyn Technical High School and went on to earn a BA from Cornell University (1946), MS from the California Institute of Technology (1947), and in 1951 a PhD in hydraulics and mechanics from the University of Iowa. (He was inducted into the UI College of Engineering’s Distinguished Engineering Alumni Academy in 2002.) Most remarkable, and as evidence of his wide-ranging curiosity and abilities, he decided later in life to undertake, and succeeded in acquiring, a law degree from George Washington University!

Much of his professional life and accomplishments involved the Navy, beginning with World War II service aboard the *USS*

¹Nicholas Johnson was US maritime administrator (1964–1966).

New Mexico that led to his rank of ensign. He helped design hulls for nuclear submarines at the David Taylor Model Basin outside Washington (at the Naval Surface Warfare Center at Carderock, Maryland).

He later worked as project manager and ultimately chief scientist (1959–1969) for the Navy’s Polaris submarine program and Special Projects Office (Deep Submergence Systems Project; SEALAB). The Defense Department and US Navy each awarded him their highest civilian award, the Distinguished Civilian Service Award.

He is best known in some scientific circles for his work developing the Bayesian search theory for locating objects lost at sea. This was used on one occasion to find a lost hydrogen bomb, and later in locating a missing submarine.

After his Navy service, he taught at the Massachusetts Institute of Technology for a year, before being wooed away by the University of Hawaii. He and his wife, Dorothy Drakesmith Craven, whom he had met at the University of Iowa, moved to Honolulu in 1970. She was a noted speech pathology professor at the University of Hawaii. He served as the university’s dean of Marine Programs, and later as director of its law school’s Law of the Sea Institute. He was also appointed by the governor as Hawaii’s Marine Affairs Coordinator.

President Carter appointed him to the Weather Modification Commission that developed a model for reducing the impact of hurricanes. And his scientific accomplishments supported his acceptance to the prestigious Cosmos Club in Washington, DC.

For all his extraordinary and innovative professional contributions to engineering and his country, he was even more remarkable for the breadth and diversity of his activities, talents, curiosity, and inquiring mind. He was an early innovator with multimedia presentations, combining music, video, and stories of the sea. And perhaps inspired by having earned his law degree, he entered politics as a candidate for Congress. He could design underocean cities (or water-based municipal transportation systems) and play the piano; build innovative submarines, write their history (*The Silent War: The Cold War*

Battle Beneath the Sea; Simon & Schuster, 2001), and find them when they went missing; and sing both opera and Pete Seeger songs (he earlier sang in the choir at Trinity Episcopal Church in Iowa City).

He would start his days with 50 pushups and an ocean swim, and often end them with a cigar and a winning poker game. He constructed innovative project management tools (the project evaluation and review technique, PERT) and wrote haiku. He mastered both engineering and law while maintaining a body that successfully competed in marathons and rough-water swims with athletes half his age. He could theorize, and then create, a major agricultural innovation of global consequence while writing his own set of Psalms.

Indeed, one of the most striking examples of the breadth of his creativity was as founder of the Natural Energy Laboratory of Hawaii, the sustainable development experiment he called “a pipe, a pump, and a pond.” On formerly unproductive Hawaiian land he created in 1974 a multifaceted laboratory that used deep cold water, and its temperature differential with the surface, to create electricity. The condensate from the cold water pipes, plus the soil’s temperature differential between the pipes’ chill at the plants’ roots and the soil’s surface, enabled the growth of succulent vegetables and fruits. (The pond was used to raise fish for protein.) Given the number of the world’s people living near oceans, he envisioned the contribution this might make globally.

When John Craven died, the world’s media considered his death, and life, worthy of fulsome note. Obituaries appeared in *The Times of London* (“racked up many of the undersea world’s technological firsts”), *The New York Times* (“Dr. Craven described an energy project in terms that echoed his own life. ‘It seemed,’ he said, ‘like perpetual motion.’”), *The Economist* (“To outside observers his world came straight from Ian Fleming”), *The Washington Post* (“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”), and elsewhere.

There are far too many exciting stories from his life to repeat them all here. More are available in the newspaper stories and other material posted online under “John Piña Craven, American Treasure” (at <http://fromdc2iowa.blogspot.com/2015/02/john-pina-craven-american-treasure.html>).

On April 12, 2015, the United States Navy held the “Dr. John P. Craven Committal to Sea” from the deck of the *USS Hawaii* (SSN 776) at the Submarine Piers, Joint Base Pearl Harbor-Hickam, in Honolulu. On that day his ashes were returned, with a 21-gun salute, to the ocean that he loved.

John Craven is survived by his wife of 64 years, Dorothy, daughter Sarah (a women’s rights advocate; director, Washington Office, United Nations Population Fund), son David (a Chicago lawyer), and five grandchildren.

