



John D. Isaacs III

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1913-1980

BY ELMER P. WHEATON

JOHN ISAACS, world-renowned oceanographer and pioneer in man's conquest of the oceans, died June 6, 1980, at his home in Rancho Santa Fe, California. John Isaacs was a professor at the Scripps Institution of Oceanography and since 1971 was also Director of the University of California's statewide Institute of Marine Resources.

Professor Isaacs was often described as a Renaissance man: scientist, engineer, physical oceanographer, biologist, author, inventor, and his favorite of all, teacher. His colleagues and students were energized by the enthusiasm and unfettered imagination of this large and warm man, who was thrilled with the challenge of the natural universe. He was troubled at the unproductive ways in which politics could influence scientific progress and wrote, "I wonder at the deep and unbridged gulf in communication that now cleaves our vast fund of knowledge and understanding from those who create policy and lead events "

In recent years his innovative developments had included tidal-mediated harbor channel control, a dynamic breakwater, a search system for underwater thermal and freshwater springs, a wave-powered generator, and research on salinity gradient power. His theories on the oceanic food web and chemical uptake are broadly influencing pollution research and waste disposal design, as were his findings in past levels of marine populations and chemical concentrations as recorded in sea-bottom sediments.

John Isaacs contributed broadly to the fields of marine biology, fisheries, physical oceanography, climatology, and other marine sciences. His contributions to engineering were considerable. He developed new and important approaches to oceanic problems, including deep-sea moorings, deep-sea free instruments, wave refraction plotting systems, current meters and cameras, undersea communication and signaling devices, trawls, and dredges. These were novel, first-time accomplishments. Now they are in general worldwide use.

Elected to the National Academy of Engineering in 1977, he was a rarity in academe, having achieved the status of Professor, Head of a University of California institute, and election to membership in the most prestigious scientific organizations: the National Academy of Sciences, National Academy of Engineering, American Academy of Arts and Sciences, and World Academy of Art and Science—the highest recognitions accorded a scientist by his peers—and he received all of this without a Ph.D. He was a prolific author and could have converted many of his research projects into Ph.D. theses, but he was too busy moving on to new challenges.

John Isaacs was born into a prominent Oregon pioneer family, in Spokane, Washington, on March 28, 1913. He attended Oregon State University in 1930-1931 and worked as a chemistry lab assistant until a serious leg injury forced him to stop school. The mysteries of the deep sea were irresistible to John, and in 1939 and 1940 he went to sea as a commercial fisherman. From 1941 until 1943 he worked for the Austin Company, and with no previous education in engineering he worked out basic equations for stress in structures and became Chief Project Engineer for the construction of the Tongue Point Naval Air Station at Astoria, Oregon. He stopped work to attend the University of California (UC) at Berkeley, where he received his Bachelor of Science degree in civil engineering in 1944. Until 1948 he worked as a Research Engineer at UC on the waves, beaches, and amphibious landings, this work being directed by Morrrough P. O'Brien. Willard Bascom was John's assistant.

In 1948 John Isaacs went to the Scripps Institution of Oceanography as an Associate Oceanographer in charge of the photography program for Project Crossroads. He served as Assistant to the Direc-

tor, Roger Revelle, until 1955, when he became an Associate Professor. From 1958 to 1974 John Isaacs directed the activities of the Marine Life Research Group, which is the university's portion of the California Cooperative Oceanic Fisheries Investigations, a long-term study of the ecology of the eastern North Pacific, the California current, and its living resources. He became a full professor in 1961, and in 1971 became Director of the Institute of Marine Resources (**IMR**). During his years as Director, **IMR** expanded its programs in scope and service to society, and under IMR the California Sea Grant College Program became the largest of its kind in the Nation.

Scripps Director William A. Nierenberg said:

John Isaacs' life and career are coincident in what will be recognized as the greatest era in oceanography. Isaacs is one of a handful of postwar pioneers in man's conquest of the oceans. In his early years at the University of California at Berkeley and his many years at the Scripps Institution of Oceanography, he was one of the small group who built the Scripps Institution to what it is today. He was a world leader in his field. Isaacs' contributions were always a mixture of the orthodox and unorthodox. He was involved with all aspects of man's interventions in the oceans—his favorite description of our many activities. John Isaacs' passing represents a great loss to our community and will leave an unfillable void.

John Isaacs served in consulting, advisory, and editorial positions for a variety of government committees, private businesses, foundations, and societies. Since 1970 he had been Chairman of the Consulting Board of the Southern California Coastal Water Research Project, and in 1976 he became President and Chairman of the Board of Trustees of the Foundation for Ocean Research in San Diego. He also served as Chairman of the National Academy of Sciences/National Research Council (NAS/NRC) Panel on Ocean Engineering and was a member of the Mine Advisory Committee, the President's Science Advisory Committee, and many other committees of national and international scope. More recently, he served on the NRC Commission on Natural Resources, the Assembly of Engineering, and the Marine Board.

In addition to the organizations already mentioned, Professor Isaacs was a Fellow of the American Geophysical Union and the California Academy of Sciences, a past President of the Pacific Divi-

sion of the American Association for the Advancement of Science, and a member of the New York Academy of Sciences, Sigma Xi, Challenger Society, Cosmos Club, Pi Mu Epsilon, American Society of Limnology and Oceanography, and the Western Society of Naturalists.

Dr. Roger Revelle, Director Emeritus of Scripps, said:

John Isaacs had more original scientific ideas every month than most scientists have in a lifetime. His incredible creativity was famous among oceanographers throughout the world, but its sources were perhaps not as well known. John's ideas didn't simply spring fullblown out of his subconscious, but rather out of perceptive observations of the ocean and its creatures and out of a profound, almost intuitive, knowledge of the laws of physics and chemistry. John was one of the very small number of marine scientists who can be called true oceanographers, in the sense that they are interested in everything about the ocean—the motions of the waters, the ways of life in the sea, the use of an ocean's resources, and the meaning of the oceans for human history and for mankind's future. He was cut off in his intellectual prime before he had a chance to make a grand synthesis of his ideas into a wholly new way of looking at the ocean.

Dr. George Shor, Jr., Associate Director at Scripps and Professor of Marine Geophysics, has said that "the most remarkable thing about John was his constant flow of ideas—enough to have kept him busy for a hundred lifetimes. The ones he carried to completion have impacted almost every branch of ocean science. He was a great man—larger in many ways than the rest of us—but also a wonderful person to know and to work with. He will be missed. It is as if a mountain had disappeared."

John and Mary Carol's home reflects their broad range of interest in music, the arts, and horticulture. Their patio contains a sunken fireplace surrounded by circular stone steps arranged for lively conversations with students and colleagues. Friends from all over the world will miss those conversations around the crackling fire.

John Isaacs is survived by his wife, Mary Carol; his four children: Dr. Ann Katherine Isaacs, Professor of Renaissance History in Italy; Dr. Caroline Isaacs, geologist for the U.S. Geological Survey; Jon Berkeley Isaacs, mechanic; Dr. Kenneth Isaacs, resident neurologist at the University of California San Diego Medical School; and one grandson, Allesandro Marcello Isaacs of Pisa, Italy.

