

## Roger Payne, Biologist Who Heard Whales Singing, Dies at 88

His underwater microphones recorded “Songs of the Humpback Whale,” inspiring a movement that led to national and international bans on commercial whaling.



By Sam Roberts

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Roger S. Payne, a biologist whose discovery that whales serenade one another prompted him to record their cacophonous repertoire of baying, booming, shrieking, squealing, mooing and caterwauling, resulting in both a hit album and a rallying cry to ban commercial whaling, died on Saturday at his home in South Woodstock, Vt. He was 88.

The cause was metastatic squamous cell carcinoma, his wife, Lisa Harrow, said.

Dr. Payne combined his captivating scientific research with the emotive power of music to spur one of the world’s most successful mammal conservation campaigns. He amplified whales’ voices to help win a congressional crackdown on commercial whaling in the 1970s and a global moratorium in the ’80s. And he established Ocean Alliance, a research and advocacy organization, as well as programs at the Wildlife Conservation Society and elsewhere that continue his groundbreaking work.

“He was instrumental in protecting and saving those large animals throughout the world,” Dr. Howard Rosenbaum, director of the Wildlife Conservation Society’s Ocean Giants program, said in an interview.

Prof. Diana Reiss, director of the Animal Behavior and Conservation Program at Hunter College of the City University of New York, said in an email that Dr. Payne’s album “Songs of the Humpback Whale” “had a profound effect in raising global awareness and empathy for whales” and “became a national anthem for the environmental movement.”

In a Time magazine essay published just days before he died, Dr. Payne warned that human survival would be jeopardized unless efforts were made “to try to save all species of life, knowing that if we fail to save enough of the essential ones, we will have no future.”

In pursuing those efforts, he wrote, society must heed other voices — including nonhumans, like whales — and listen to “what they love, fear, desire, avoid, hate, are intrigued by and treasure” in confronting threats like climate change and increasing acidity in the ocean.

“Fifty years ago, people fell in love with the songs of humpback whales, and joined together to ignite a global conservation movement,” Dr. Payne wrote. “It’s time for us to once again listen to the whales — and, this time, to do it with every bit of empathy and ingenuity we can muster so that we might possibly understand them.”

In 1971, Dr. Payne founded Ocean Alliance, now based in Gloucester, Mass., to study and protect whales and their environment. He was an assistant professor of biology at Rockefeller University and a research zoologist at what is now known as the Wildlife Conservation Society’s Center for Field Biology and Conservation, both in New York; he was also scientific director of the society’s Whale Fund until 1983. He was named a MacArthur Foundation fellow in 1984.

Dr. Payne was the author of several books, including “Among Whales” (1995), and produced or hosted six documentaries, including the IMAX movie “Whales: An Unforgettable Journey” (1996). More recently, he signed on as the principal adviser to Project CETI (Cetacean Translation Initiative), founded in 2020 with the goal of translating the communication of sperm whales.

In the early 1960s, Dr. Payne was a moth expert who had never seen a whale. His curiosity was piqued when a porpoise washed up on a Massachusetts beach and he heard whale sounds recorded by William Schevill of the Woods Hole Oceanographic Institution in Cape Cod, Mass.

A friend suggested that he would have a better chance of seeing and hearing live whales in Bermuda. It was there that he met a Navy engineer who, while monitoring Soviet submarine traffic off the East Coast with underwater microphones, had detected another source of undersea sounds that formed thematic patterns and appeared to last as long as 30 minutes.

The sounds emanated from whales, whose sequence of sounds Dr. Payne defined as songs, sung both solo and in ensemble. The songs could sometimes be audible for thousands of miles across an ocean.

“What I heard blew my mind,” he told The New Yorker last year.

Dr. Payne and a fellow researcher, Scott McVay, confirmed in 1967 that humpback whales sing in what Dr. Payne described as a chorus of “exuberant, uninterrupted rivers of sound.”

"Tower Whales" - Songs of the Humpback Whale



He analyzed the audio with a sound spectrograph, and with collaborators including his wife and fellow researcher, Katharine Boynton Payne, known as Katy, as well as Mr. McVay and an engineer, Frank Watlington. They notated the rhythmic melody in what resembled an electronic-music score. Dr. Payne then wrote, in *Science* magazine in 1971, that humpback whales “produce a series of beautiful and varied sounds for a period of seven to 30 minutes and then repeat the same series with considerable precision.”

How, why and even if the whales were actually communicating remained a mystery. Whales have no larynxes or vocal cords, so they appear to make the sounds by pushing air from their lungs through their nasal cavities. Male humpbacks seem to make the sounds especially during breeding season.

Notwithstanding whatever advocacy and research Dr. Payne and his colleagues did, it was the whale songs that caught the public imagination and fired the global movement.

The music critic Donal Henahan wrote in *The New York Times* in 1970 that the whales produced “strange and moving lyricism,” which the *Times* described in a separate article as akin to a haunting oboe-cornet duet trailing off to an eerie wailing bagpipe.

“Songs of the Humpback Whale” landed on the *Billboard* 200 album chart and stayed there for several weeks in 1970, initially selling more than a hundred thousand copies. The track list included “Solo Whale,” “Slowed-Down Solo Whale,” “Tower Whales,” “Distant Whales” and “Three Whale Trip.”

“If, after hearing this (preferably in a dark room), you don’t feel you have been put in touch with your mammalian past,” Mr. Henahan wrote, “you had best give up listening to vocal music.”

Some of the whales’ melodies were incorporated by Judy Collins on one track of her album “Whales and Nightingales.” Pete Seeger was inspired by the melodies to write “Song of the World’s Last Whale.” And the New York Philharmonic performed “And God Created Great Whales,” composed by Alan Hovhaness and incorporating recorded whale songs — sounds that, Mr. Henahan wrote, “carried overtones of ecological doom and a wordless communication from our primordial past.”

In 1977, when NASA launched *Voyagers 1* and *2* to probe the far reaches of the solar system, the songs of the humpback whales were carried into space on records that could be played by any alien with a stylus.

Dr. Payne in the Gulf of Mexico in 2014, studying the effects of the 2010 Deepwater Horizon oil spill on whales. Ocean Alliance

Roger Searle Payne was born on Jan. 29, 1935, in Manhattan to Elizabeth (Searle) Payne, a music teacher, and Edward Benedict Payne, an electrical engineer.

He graduated from Harvard with a bachelor's degree in biology in 1956 and earned a doctorate in animal behavior from Cornell University in 1961.

He married Katharine Boynton in 1960; their marriage ended in divorce in 1985. He and Ms. Harrow, an actress and environmentalist, married in 1991. In addition to her, he is survived by four children from his first marriage, John, Holly, Laura and Sam Payne; a stepson, Timothy Neill-Harrow; and 11 grandchildren.

“Roger’s career, his life, was marked by his deep commitment to the lives of whales and other marine life, and then to the interdependence of all species,” Prof. Stuart Firestein, a former chairman of the biology department at Columbia University, said by email. “Roger’s way was not coercion but creating in others the awe and wonder he felt for the beauty of life on this planet.”

In his Time essay, Dr. Payne looked both backward and to the future. “As my time runs out,” he wrote, “I am possessed with the hope that humans worldwide are smart enough and adaptable enough to put the saving of other species where it belongs: at the top of the list of our most important jobs. I believe that science can help us survive our folly.”

**A correction was made on June 15, 2023:** An earlier version of this obituary misspelled the given name of Dr. Payne’s first wife and fellow researcher. She is Katharine Boynton Payne, not Katherine.

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