

ENVIRONMENT

The Many Lives of Whales

Gregg Mitman

At one time, the blood-red waters in the protected coves of South Georgia island—waters stained by the butchering of thousands of whales on the shore flensing platforms—were a sign of wealth and progress. In the 1910s, F. Cook, managing director of the Southern Cross Whaling Company, reveled at the whale on land as a source of jobs, money, and commodities. But “in the water,” he suggested, whales are “of value to no one, and you cannot make pets of them.”

One hundred years later, the sight of a churning sea sullied with cetacean blood inspired quite different sentiments. National Geographic photographer Louie Psihoyos, repentant former dolphin trainer Ric O’Barry, and a team of covert operatives joined forces to document and expose the capture of dolphins by fishermen for the oceanarium trade and the slaughter of the remaining corralled dolphins for the meat markets of Japan. Their film, *The Cove*, took the media and audiences, particularly in the United States, by storm. Winner of the 2010 Oscar for Best Documentary and a darling of the 2009 Sundance Film Festival, *The Cove* vilified Japan’s role on the International Whaling Commission (IWC) and upheld the image of dolphins and their larger cetacean cousins as playful, gentle, and intelligent emissaries of the ocean.

How, in the span of just a few generations, could the value of whales and their meaning for humanity change so drastically? In *The Sounding of the Whale*, Graham Burnett answers that question with a history of breathtaking depth. Burnett (a historian of science at Princeton University) plunges into the belly of the beast where hip-booted whale science emerged alongside industrial whaling. He dives into the diplomatic maneuverings and behind-the-scenes work of scientists like Remington Kellogg on the IWC and ultimately surfaces into the “hothouse atmosphere of the *Manchurian Candidate*—era sciences of mind and behavior,” where John Lilly emerged as guru and hipster of cetacean science in the counterculture age.

In Burnett’s skilled narrative, the whale as scientific object has many lives. Knowl-

edge of whales proves to be dependent on the forms of labor through which scientists come to know their cetacean subjects. In Britain and among the Scandinavian whaling nations, markets for whale products brought biologists into both a “sloppy anatomical intimacy” and a distanced relationship, born of numbers and statistics, made possible by whaling on an industrial scale. In the pressing need to stabilize and regulate the boom-and-bust economy of whale oil, zoologist and director of the British Museum (Natural History) Sidney Harmer oversaw the Discovery Investigations, which surpassed in size and scope the famed 19th-century *Challenger* expedition. Intent on ascertaining precise information on the abundance and geographic reach of the Antarctic whale stocks, this multivessel effort traded on the aspiration that intimate knowledge of whale distribution and abundance would put “conservation on a business basis” and provide the industry with the “promise of a reasonable, *perpetual* yield.” Placing Burnett’s analysis against the backdrop of ecological science emerging under the British crown reveals how little we understand the extent to which

widespread concern for regulating markets tied to forestry, furs, agriculture, and fisheries in the early 20th century went hand in hand with efforts to better understand the cycles of scarcity and abundance of biological organisms vital to the economies of nature and nations.

In the United States, by the dawn of the 20th century, the heyday of whaling had long since passed. To the cadre of mammalogists, zoologists, and sportsmen-naturalists who in 1928 founded the Council for the Conservation of Whales (CCW), hunting and game management, not industrial slaughter and regulation, spawned their relationship to and knowledge of whales. Gifford Pinchot, a pillar of the American conservation movement, was delighted to put his “148-foot, three-masted topsail schooner” into the service of science. A porpoise bagged in the Gulf Stream was the first of many big sea trophies and

scientific specimens he collected on a 1929 sailing jaunt with his family through the South Seas.

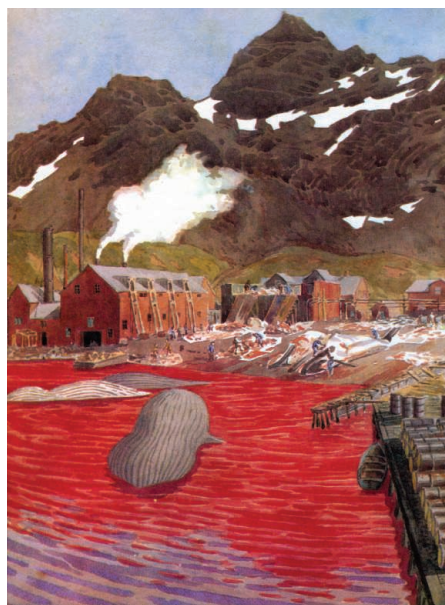
At the center of the CCW was Kellogg, curator of mammals in the Smithsonian’s U.S. National Museum. His relationship to whales began with the fossilized bones of their ancestors. Developing interests in living cetaceans led him into the role of scientific diplomat and statesman as a founder of, and U.S. delegate to (1946–1964), the IWC. Nowhere has science and policy by committee come more alive and been clearly shown to be important than in Burnett’s treatment and analysis of the IWC. Suffice it to say that Kellogg’s hope and vision for a collaborative model of rational regulation based on science, diplomacy, and economic need would be thwarted time and again by bureaucratic processes and structures. By the end of his life, technocratic optimism gave way to moral desperation in his desire to save some of the last great mammals from extinction.

The rationality that brought the end game to commercial whaling, argues Burnett, was not the statistics of blue whale units and the life cycle and age structure of populations but the rationality “*of the whales themselves*.” Near the end of the book, he navigates away from land-based whaling stations, pelagic factory ships, diplomatic boardrooms, and baleen whales to the trippy surf of places like Point Mugu Naval Missile Center and the Communication Research Institute (Saint Thomas) and the research-

The Sounding of the Whale
Science and Cetaceans in the Twentieth Century

by D. Graham Burnett

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Bloody waters. Alister Claverling Hardy’s 1926 painting of the whaling station at Grytviken, South Georgia.

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ers who communed with the small cetaceans they domiciled. By the 1950s, dolphins had already begun their meteoric rise to stardom, thanks to the marketing savvy, scientific research, and technological know-how of the staff behind Marineland, the first oceanarium to successfully house dolphins in captivity. Neurophysiologist Lilly would prove to be their best agent. His 1961 book (*I*) catapulted the respected former National Institute of Mental Health researcher and his scientific subject to fame when he posited that the sophisticated brain structure of dolphins made them the most promising prospect for communication with “alien intelligent life forms.” Lilly’s work on dolphin communication, intelligence, and behavior reverberated across the domains of science and activism: in papers on the songs of the humpback

whale [e.g., (2)] and below the decks of the *Rainbow Warrior* with its band of ecopirates. A rising tide of science, enmeshed in the very different lives of whales, and of sentiment, channeled across different walks of life, would effectively end commercial whaling by 1982, when the IWC passed a moratorium against it, even as certain cultures and traditions reserve their right to the taking.

Numbers rarely move people; emotions do. Lilly harnessed the sciences of affect to bring into being another life of whales, not one of populations, but of individuality and emotion. But Lilly was not alone, and it is this broader context that Burnett does not address. By the 1970s, the study of animal behavior and cognition had transformed not just whales but also other animals—among them elephants, gorillas, and wolves—into

charismatic megafauna endowed with similarly rich inner lives. Furthermore, it took the emotional force of a social movement to make whales and other glamour species into paradigmatic symbols endowed with the power to foster a new environmental consciousness.

The Sounding of the Whale offers a telling reminder of just how much ideas matter, literally, in the material relationships that bind the lives of humans to other animals with whom we share Earth.

References

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2. R. S. Payne, S. McVay, *Science* **173**, 585 (1971).
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SCIENTIFIC ILLUSTRATION

Grand Master of Reconstruction

Mary A. Parrish

Richard Milner’s *Charles R. Knight* surveys the life and work of the first and best-known American mural painter of prehistoric life. The beautifully illustrated volume documents why he is also often the most admired.

Knight (born in 1874) grew up in Brooklyn, New York, during the heyday of 19th-century American vertebrate paleontology. In their “bone wars,” Othniel Charles Marsh and Edward Drinker Cope amassed hundreds of fossils new to science (e.g., *Stegosaurus*, *Triceratops*, and *Camarasaurus*) from the western United States. Young natural history museums around the country vied for material to display and explain to the public. Knight, a freelance artist, created reconstructions for many of these museums (including the Smithsonian’s U.S. National Museum, Chicago’s Field Museum, and the Natural History Museum of Los Angeles County), but his primary association was with the American Museum of Natural History (AMNH).

While Knight’s skills as an animal art-

ist were maturing, vertebrate paleontology at AMNH was gaining strength. In 1891, the museum hired Henry Fairfield Osborn to build its new department of vertebrate paleontology. Beginning in 1896, Osborn repeatedly turned to Knight for “beautiful, scientifically accurate paintings and sculptures of extinct animals.” Osborn (AMNH president from 1908 to 1933) not only promoted Knight as his protégé, he was the artist’s patron and friend for life. Through his efforts, AMNH introduced spectacular dioramas and murals (many by Knight) into its exhibit halls.

Interestingly, when Knight was meticulously studying live animals, dissections, and fossil material and collaborating with some of the best paleontologists of the day in order to achieve scientific accuracy in his work, the art world was rapidly developing in different directions, often leaving traditional realism and aesthetics behind altogether. Knight became an outspoken critic of modern art, describing it as “monstrous and inexplicable creations masquerading in the name of art.”

Milner’s lively text incorporates excerpts from and letters by Knight, wife Annie,



Charles R. Knight
The Artist Who Saw
Through Time

by Richard Milner

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£24.99. ISBN 9780810984790.

daughter Lucy, Osborn, and others. The book offers insight into Knight’s artistic processes, reprinting extracts from his own accounts, and reproduces many rough sketches as well as finished paintings and sculptures. Stretching far and wide, this work includes decorative sculptures of elephant, zebra, and rhinoceros heads at the Bronx Zoo; a bas-relief of ancient and modern pachyderms at the Smithsonian’s National Zoological Park; and a drawing of a buffalo that graced both a 10-dollar bill (1901) and a 30-cent postage stamp (1923).

Although legally blind for much of his life, Knight’s restorations of fabulous extinct vertebrates in their environments ignited the imagination of all who saw them. They are forever cemented into our collective vision of these ancient worlds. Milner’s book shows why Knight retains a prominent place in the worlds of modern wildlife art and, even more so, paleoart.

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