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# Oceanography

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dogs (specifically retrievers) to locate subnivean (beneath-the-snow) seal holes in the Arctic.

This book presents a great deal of useful and time-tested information on a wide range of topics. Most chapters, whether solo- or co-authored, manage to convey content in a writing style somewhere between refereed journal articles and popular literature and, as such, will appeal to a wider audience without trivializing the science. The editors clearly and successfully frame this book, and sea ice science in general (particularly for the Arctic), in its socio-cultural context,

as a “highly collaborative enterprise” among researchers, the native peoples of the northern latitudes, and the many agencies, institutes, and governmental and nongovernmental organizations with a stake in the polar regions.

While I survived two field excursions in the Antarctic and Arctic without serious mishap and managed to collect enough useful data to put myself on a firm footing with my own sea ice research career, this book will, without a doubt, accompany me on all future excursions. The book, in its final chapter, discusses the protocols for encountering

polar bears while in the field, with wise advice on how not to offend our ursine cousins. I have no doubt that distracting the bear by hurling this book at it (likely a last resort) would meet with smiling approval from several of this book’s authors. Perhaps the editors will consider addressing the throwing technique in a future edition.

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## Of Seas and Ships and Scientists: The Remarkable Story of the UK’s National Institute of Oceanography

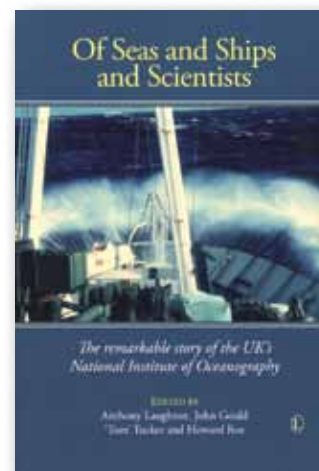
Edited by Anthony Laughton, John Gould,  
‘Tom’ Tucker, and Howard Roe, The  
Lutterworth Press, 2010, 350 pages, ISBN  
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REVIEWED BY ERIC MILLS

It was the summer of 1961. I was at sea with a small group of students and some senior scientists on Woods Hole Oceanographic Institution’s graceful old ketch *Atlantis*. Somewhere in the Sargasso Sea, between stations, we were on deck talking and somehow the Golden Age of classical Greece came up. One of the older scientists broke in to say that the Golden Age was right then and there. And for oceanographers, it certainly was. We had lots of research funding, ships available, chances at plum jobs, and a level of research freedom that

has become more and more difficult to find since those heady days.

The United Kingdom’s National Institute of Oceanography (NIO) developed just before and through that modern Golden Age. Its origins were complex, as several essays in *Of Seas and Ships and Scientists* tell us. The immediate origins lay in Group W, a group of physical scientists within the British Admiralty established during the late days of World War II to work on waves and help with predictions for amphibious landings in the Pacific. At the end of the war, Group W, composed of physicists and mathematicians, formed the nucleus of the UK’s first nonacademic oceanography institution by merging with other scientists, most of them biologists, working for the Discovery Committee, which had been established



in the 1920s to provide information on the physical, chemical, and zoological background of the burgeoning whale fishery centered at South Georgia.

The National Institute of Oceanography, as it began to take shape in 1949, was directed by George Deacon, who had done chemical and physical oceanographic work during the Discovery Investigations in the southern oceans and who had been the head of Group W. Under Deacon, NIO developed from scattered units to

a coherent group of marine scientists centered in “Wormley” (actually Witley, Surrey), southwest of London. This book follows the fate of NIO from its creation until 1973, when, in a reorganization under its new master, the UK’s Natural Environment Research Council (NERC), it was combined with other NERC laboratories and renamed the Institute of Oceanographic Sciences (IOS). In later days, mentioned rather briefly in this volume, IOS went through other changes, eventually becoming a part of the Southampton Oceanography Centre (to which it moved in 1995). It has now merged completely into the recently named National Oceanography Centre, Southampton.

*Of Seas and Ships and Scientists* is not a history in the analytical and academic sense. Instead, as its editors tell us, it is largely a “first hand account” of what its scientists did and thought during the early days of development in the quarter century following its formation in 1949. But there is a solid historical background, too, for example, chapters dealing with the history of the marine sciences in the UK, including the early machinations that resulted in the formation of NIO, written with characteristic thoroughness and insight by Margaret Deacon. There is a biographical sketch of George Deacon, a chapter on Group W by some of its members, and then a series of sections, written for the most part by the scientists involved, dealing with work at NIO on biology, ocean circulation and composition, waves and tides, geology and geophysics, and the “support functions”—engineering, research vessels, the library, and administration. A final chapter deals with “the legacy” after 1973 and outlines the events

that led to the present-day concentration of British government and academic oceanography in Southampton. The tone is retrospective, and the various essays range from sometimes dry accounts of scientific developments to quite personal assessments of what it was like to work at NIO during its Golden Age. The effect is engrossing, and I found myself reading the book with increasing interest and fascination.

NIO arose out of intersecting interests dating back several decades, involving scientific warfare, the lack of information on coastal processes and tides, the need for physical information in fisheries management, and the recognition that southern ocean whaling was bringing economic and ecological problems. Practically speaking, its proponents were not marine scientists themselves, but a naval hydrographer and eminent members of the British scientific establishment. The contrast with the origins of the other “big two” of the oceanographic world, Scripps Institution of Oceanography (SIO) and Woods Hole Oceanographic Institution (WHOI), to concentrate only on North America, is striking. SIO was rooted in a small municipally based marine biological laboratory that expanded onto the world stage, first by renaming itself (the name was applied in 1925), and then by recruiting the help of the eminent Harald Sverdrup. Its academic links were, as they are today, with branches of the University of California. WHOI arose in 1930 from the scientific vision of F.R. Lillie of the Marine Biological Laboratory and the happy circumstance that a unit of the Rockefeller Foundation was dispensing money to support the creation and extension of marine science

laboratories. It maintained itself largely outside of academia (despite the early whimsical description of WHOI as “the Harvard yacht club”) until our own era when it began to offer degrees under an arrangement with MIT. The differences in the origins and development of the three institutions are striking, and surely must lead historians and other analysts of institution-building to conclude that there are lots of ways to skin cats, provided there is a reason for doing it.

One of the factors that unites the early NIO, SIO, and WHOI, if we agree that there were few other factors in common apart from a generalized interest in the ocean, is the quality of their leadership. Harald Sverdrup and later Roger Revelle at SIO, and Henry Bigelow and later Columbus Iselin at WHOI, established a working environment for their scientists that is legendary. So it was at NIO. Throughout *Of Seas and Ships and Scientists*, the unifying factor is the vision, working style, and personality of its founding director, George Deacon. Deacon purposefully built a laboratory that was capable of world-class work in all the branches of ocean science. His style was low key and based on the individual freedom of highly competent staff members. Michael Longuet-Higgins gives a general appreciation: “...all of us...owed to George Deacon a great debt, the unfettered opportunity to do creative work in the expanding and exciting field of ocean science.” Jim Crease notes the similarity of Iselin and Deacon: “the close collaboration between NIO and WHOI was probably aided by the fact that the style of work at WHOI was similar to our own. Our bosses (Columbus Iselin and George Deacon) were not dissimilar. Each had a

profound feeling for oceanography and each relied on his personal judgment of potential recruits.” David Cartwright describes his recruitment to NIO from a job in which he felt a “misfit”: “in 1953, I contrived to visit Group W at Teddington [i.e., the first home of NIO] and to join a short sea trip off Plymouth...Deacon and Tucker [‘Tom’ Tucker, specialist in waves and ocean engineering] were most welcoming and I immediately felt an affinity with all the researchers I saw there. Here, at last, was a sympathetic group of scientists to whose work I felt I could contribute. After negotiations between Deacon and the RNSS [Royal Naval Scientific Service, the employer of NIO scientists until 1965] I was seconded to the NIO at

Wormley...I later learned that Deacon had a reputation for taking on staff who did not fit into any conventional slots, and making marine scientists of them.” Newly recruited, Arthur Stride notes that “at Wormley, I was welcomed by George Deacon with the words ‘I expect that you will find something interesting to do.’” And so they all did. Steve Thorpe sums up the early years of NIO by saying that “it was a golden time of exciting discoveries and of wonderful opportunities, with far greater freedom for research and exploration than there is now.”

It’s too easy to bask in the golden glow of the past. Nonetheless, reading this account of the early work at NIO makes it clear that outstanding marine research could be and was done under

conditions that seem almost inconceivable now—before major research grants and the funding imperative, before targeted research, before political oversight of government laboratories, before conspicuous public accountability. There is no going back—but I recommend reading this account of reminisces and analyses of NIO for sheer pleasure and for a vision of ocean science that we still maintain under, paradoxically, more difficult circumstances.

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# UPCOMING *Oceanography* ISSUES

## REGULAR ISSUE FEATURES

The editorial staff also encourages unsolicited manuscripts on other oceanography themes for consideration and publication under the Regular Features banner.

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### **Philippine Straits Dynamics Experiment** **Vol. 24, No. 1, March 2011**

Guest Editors:

- Arnold Gordon, Lamont-Doherty Earth Observatory
- Cesar Villanoy, Marine Science Institute, University of the Philippines

### **Sea Level**

#### **Vol. 24, No. 2, June 2011**

Guest Editors:

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- Greg Mountain, Rutgers University
- Josh Willis, Jet Propulsion Laboratory

### **Arctic Oceanography**

#### **Vol. 24, No. 3, September 2011**

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- Joseph Ortiz, Kent State University
- Patricia Matrai, Bigelow Laboratory for Ocean Sciences
- Rebecca Woodgate, University of Washington