

*Spying on Whales. The Past, Present, and Future of the World's Largest Animals.* Nick Pyenson. 2018. London: William Collins. 322 p, illustrated, hardcover. ISBN 978-0-00-824446-0. £20.00.

Whales are indeed fascinating animals. Their gigantic size, their cultural and social characteristics, their being mammals living in a marine habitat all make whales and their benign nature “almost a human dream of alien life: approachable, sophisticated and inscrutable” (p. 26). Over the course of the last 50 or so years, this fascination has – at least in the Western world – led to social movements that have elevated ‘the’ whale to a level of a creature with almost divine characteristics. This process has yielded a discourse on whales that has created the ‘superwhale’: intelligent, musical, social or endangered – without consideration of differences in species, populations or ecology (Kalland, 2009, p. 29). Whales and ultimately whaling have become important triggers for international movements that have generated a myriad of information on these animals.

An element that is often lost in this underwater jungle of whale-related documentaries, articles or stories are the questions: Where do whales actually come from? How have they evolved? And what has caused them to be what they are today? These questions finally find their answers in the present volume *Spying on Whales*, which is written by a palaeontologist – a fossil-researcher – of the prestigious Smithsonian Institution in Washington, DC, who has specialised in the study of whale fossils. While this is not a polar issue in the strict sense, the high abundance of cetaceans in the polar regions makes this book highly relevant for a *Polar Record* readership.

The book is divided into three large parts – Past, Present and Future – with several subchapters in each part. The first thing that the reader notices is the deeply personal tone of the book. In a way, the book is an autoethnography of sorts, which makes the reader get to know the author as a person and, of course, as a whale researcher. But this is not all, simply because Pyenson has skilfully weaved his personal narrative into a wealth of information on both whale evolution and characteristics and the life and work of a whale palaeontologist. We also learn about geology and genetics, about climate and microbiology – all written in a tone which is clearly aimed at a lay audience that knows little to nothing about whales.

At the centre of the first part – Past – stands Pyenson’s work in Cerro Ballena (‘Whale Hill’) in Chile’s Atacama desert, where road construction unearthed several dozen whale fossils in very good condition. Almost as in a novel, we get to know Pyenson’s colleagues who work on these fossils and the ‘crime’ they have to solve: Why did such a large number of whales end up in this area? After all, whale fossils are usually individually scattered. By using 3D laser scanning technology and by linking the geological conditions in the area the researchers found that it was in all likelihood algae bloom that cause the deaths of the whales several million years ago (see also Pyenson et al. 2014). The reader also learns that in the course of this research openly accessible 3D images of the fossils have been generated. I can only recommend any reader of this book review to visit the website and take a look at the fascinating work (available at <http://cerroballena.si.edu/content/3d-model-mpc-684-fossil-rorqual-whale>) .

The second part – Present – sheds light on the current anatomical features of whales, particularly rorquals. Pyenson beautifully outlines how these whales survive by lunging into schools of fish or krill. But this part also deals with the nexus of commercial whaling and science; Pyenson describes how he and his colleagues spend time at a whaling station in Iceland to conduct studies on whale carcasses stemming from commercially hunted whales, thus advancing our understanding of these species. Unfortunately, he does not delve into more normative aspects of this nexus, which is particularly relevant in the case of Japanese scientific whaling: while the Japanese have long argued that it serves scientific purposes, others, such as the International Court of Justice, have disagreed with this assessment. Of course, Pyenson’s focus is a different one, but I would have hoped to see at least a short paragraph discussing this matter. Be that as it may, the reader learns fascinating aspects of whale anatomy and evolution, again paired with the ruthless depictions of what life as a whale researcher brings about in reality – such as walking on blood-covered, slippery asphalt at a whaling station in Iceland. Once again the novel-like character is emphasised. At some points, however, I feel that Pyenson is overdoing it to a degree. For instance, while a reference to the author and his colleague drinking beer on a hike in Iceland is certainly nice to read (p. 142–144), I wonder how this adds to the narrative.

In the last part – Future – the reader gets to know several whale species more closely: the right whale, river dolphins and vaquitas, and the killer whale/orcas. While Pyenson uses examples

from his fieldwork, the reader learns about the threats to these species and the potential impact of the threats in the future. Especially tragic is the story of the vaquita in the Gulf of California, which, according to the latest data by the IUCN, now merely numbers 18 individuals (IUCN, 2017). Its decline is closely linked to the totoaba fisheries, which take the vaquita as bycatch. Pyenson rightly asserts that, unlike in the past, it is not the hunt for whales that devastates its numbers, but other anthropogenic threats such as ocean noise, ship strikes, bycatch, habitat loss and pollution (p. 224). This is particularly tragic given the cultural traits that cetacean species display (p. 236; see also Whitehead & Rendell, 2014).

Having been dealing with whales myself from a societal standpoint for quite some time now, I found *Spying on Whales* an extremely fascinating read, because it opens up the intriguing history of cetaceans to non-biologists and lay persons. One does not need to be a whale-related researcher to find this book a must-read. Pyenson's skill to combine his wealth of knowledge with an easy-to-read narrative should serve as a benchmark for others – such as myself – to communicate complex research and research findings to a wider public. The drawn illustrations help to explain what Pyenson is writing about while the rather low price of the book makes it accessible to a wider audience. Indeed, this is research communication and outreach at its best and it is clear that upon finishing this book, the reader knows significantly more about whales, their history, the work of a palaeontologist, geology and

the anthropocene (and much more). I wholeheartedly recommend this book, obviously to those interested in whales, but also to those interested in how science works. Lastly, I recommend this book to my colleagues in research and science: we should all learn how to write books like Nick Pyenson! (Nikolas Sellheim, Helsinki Institute of Sustainability Science (HELSUS), University of Helsinki, PO Box 4, 00014 Helsinki, Finland ([nikolas.sellheim@helsinki.fi](mailto:nikolas.sellheim@helsinki.fi))).

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