The British Journal for the History of Science (2024), **57**, 289–324

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BOOK REVIEWS

Samuel J.M.M. Alberti, *Curious Devices and Mighty Machines: Exploring Science Museums*

London: Reaktion Books, 2022. Pp. 272. ISBN 978-1-789-14639-4. £20.00 (hardback).

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In this fairly brief and highly illustrated book, Samuel Alberti considers the nature of science museums, their collections and their roles. It is a personal and thoughtful overview, the text

https://doi.org/10.1017/S0007087423001000 Published online by Cambridge University Press

frequently adopting first-person grammar, with many references to his own museum forays and involvements, together with his consultations with fellow curators. Though not intended to be a carefully balanced or comprehensive account, it is unquestionably the best book so far published on the subject. Much is thought-provoking and should be read (and argued about) by all who follow a career in science museums, or work in those more general museums that, like Alberti's National Museums Scotland, hold substantial collections of historical material representing the physical sciences.

Early in his text he asks, 'What is a science museum?' There are no simple answers to this seemingly straightforward question. Many readers will have clear, pre-formed views of their own. He states the view that large, national, comprehensive museums of science are thin on the ground. At the same time plenty of specialist museums are concerned with particular technologies or social issues, such as those dealing with railways or aviation. Additionally, there exist large numbers of science centres, these being institutions which have developed demonstrations, often interactive, but which possess few or no historical objects. Also briefly considered as subheads are the range of scientific objects in museums (natural-history specimens are largely omitted), what kind of person a science curator is, and who visits science museums. Whereas curators in archaeological museums are often practising archaeologists who publish, art museums often employ highly specialized art historians who rank with university academics in connoisseurship, and natural-history museums have specialist zoologists on their staff who conduct fieldwork, science museums generally do not include scientists who practise science or who fully understand up-to-date science. In fact, when choosing and then acquiring highly specialized modern or contemporary scientific artefacts, science curators have to depend heavily on the advice given by those who have been involved with developing the objects being considered.

Alberti omits to refer to the benefit of recording oral histories from those who have designed, built and maintained the objects being transferred. Thousands of recordings of them do already exist, though the practice of creating them is not universal amongst science museums. Another area too lightly touched on is the location of museum libraries and stores. Some are situated far too far away from those who need, or wish, to consult them. The UK government's recent disposal of Blythe House at Olympia, which previously provided storage for the Science Museum, as well as the British Museum and the Victoria and Albert Museum, is a disgraceful episode.

The book looks into the origin of collections, pointing to the disparate, sometimes serendipitous, ways in which they were formed. An important source of science museum collections was the temporary Great Exhibitions which were held in the nineteenth century and into the last. Objects which were shown in these exhibitions were mainly sent on loan but it is surprising how many of them did not return to their owners but ended up in museums. The Science Museum in London can trace its origins to the 1857 South Kensington Museum and hence the 1851 Great Exhibition, though its recent anniversaries have frequently been conveniently tied to later years. The earlier Museé des arts et métiers in Paris includes material formerly used for teaching in its parent institution, as does the collection of Teylers Museum at Haarlem.

The section Alberti calls 'Whizz-bang collections' describes objects which scarcely belong to true museums but are rather found in science centres. It is usual for science museums to present themselves in triumphal ways, but Alberti can be frank, and a short, though not unimportant, section makes reference to failures. Here he mentions the Dana Centre at the Science Museum, but at least two expensive museums developed with lottery money in Britain closed shortly after they were opened for lack of public footfall.

As well as treating collecting as a positive museum function, Alberti considers deaccessioning, or 'uncollecting', as he calls it. He calls this process 'good collection

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management' (p. 106), but does not point out that a few museums cannot, for legal and other reasons, act or wish to act in this way (would it be helpful for potential donors to know that their gifts might not permanently remain in the museum in which they are being deposited?). With honesty, Alberti talks of the costly human resources needed to get rid of unwanted objects. It is not unknown for museums, a generation or so later, to regret the actions of over-keen deaccessioners of the past. Around the beginning of the twentieth century, his own museum had a massive clear-out of material acquired fifty years earlier, material which defined the original purpose of its precursor, the Industrial Museum of Scotland.

There is a significant section in the book which concerns the way in which science museums and collections are cared for, worked on and used for particular purposes. He regrets the lack of interest by historians of science in material culture (this is another contrast to academics in fields of archaeology, natural history and fine art, where museum collections are considered vital resources). To counter statistical evidence indicating that science historians do not involve collections research, it could be pointed out that in recent years some science museums have developed successful research programmes with universities. In general, the curious public is not as interested in science collections as in collections in other fields. In the case of physical science, there is not an equivalent to the profusion of amateur natural-history, archaeological or art-history societies.

A final chapter is headed 'Campaigning with collections', in which Alberti deals with how science collections might be used politically through the medium of exhibitions. In particular he writes about climate emergency, misinformation and human rights, and clearly he wants museums to feel as sufficiently concerned as he does to support such current movements, and hence to point out past wrongs. It is fairly clear that in the examples he gives, museum objects will not play a large role amongst the photographs and printed statements that establish the arguments. In an illustration of a Deutsches Museum exhibition, Willkommen im Anthropozän (Welcome to the Anthropocene), just one object, an early tractor, is displayed amongst the heavy design work.

Alberti's written style is refreshing: examples in the 'Engaging objects' chapter are: 'A good label is poetry' (p. 167), 'They [a school party] may or may not have been listening, but they did seem to be enjoying themselves' (p. 174), 'Many even find a museum visit enjoyable' (p. 191). His book is an important stimulus for those working in science museums or considering them from the outside, and should be read by science historians who have any interest at all in material culture.

doi:10.1017/S0007087423001000

Benjamin Johnson, *Making Ammonia: Fritz Haber, Walther Nernst, and the Nature of Scientific Discovery*

Cham: Springer Nature, 2022. Pp. xvi + 278. ISBN 978-3-030-85531-4. £44.99 (hardcover).

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Fritz Haber's legacy in the history of science is a tapestry of brilliance and controversy. His role in chemical warfare during the First World War, his staunch views on the responsibilities of