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Democratising 19th-century Science and Technology

Rose Roberto discusses the impact of a Special Projects Grant awarded by the BSHS.

While many people claim their work is interdisciplinary, I can claim my research, focused on 19th-century illustrations, is encyclopedic, because it is focused on the first two editions of Chambers's Encyclopaedia.

The Scottish firm W. & R. Chambers published the first edition of their encyclopaedia between 1859 and 1868. The second edition, released between 1888 and 1892, was co-published simultaneously on two continents, in partnership with the American firm, J. B. Lippincott. The title of my thesis, ‘Democratising Knowledge’, refers to two ambitions fundamental to Chambers; first, it links to the Scottish firm’s use of illustrations to convey complex information visually and succinctly to people with varying degrees of literacy. And, second, it reflects W. & R. Chambers’s business philosophy of producing affordable, accessible publications, as described in the opening notice to volume I of their 1860 Encyclopaedia: ‘The information may be characterised as non-professional, embracing those points of the several subjects which every intelligent man or woman may have occasion to speak or think about. At the same time every effort is made that the statements, so far as they go, shall be precise and scientifically accurate.’

Encyclopaedias are a snapshot of a particular time, place, and world view. Like museums, they have been curated, and the collections within them reflect particular narratives of history, science, and culture. Their construction and presentation of information, with the aim of increasing access to universal as well as practical scientific knowledge, is not only intriguing, but provides a key to understanding the flow of information in Victorian society.

The Chambers brothers

Readers of Viewpoint will know of Robert Chambers (1802–1871), who secretly authored Vestiges Of The Natural History Of Creation, a best-selling book which explained a Lamarckian view of evolution for a general audience. Between 1845 and 1854, a new edition of Vestiges was published every year. Chambers’s scientific work was recognised by the Royal Society of Edinburgh and the Geological Society of London, and he attained Fellow status in both these societies.

Still, Chambers chose to release Vestig-
es anonymously, even going so far as to have it published in London with medical publisher John Spriggs Morss Churchill; evolution was a controversial subject in the 19th century, and Chambers did not want to endanger his own lucrative publishing business or mortgage his family with controversy.

Robert was the younger brother of William Chambers (1800-1889), and together the brothers co-founded W. & R. Chambers in the early 1830s. The firm grew out of the brothers’ former experience in small-time bookselling and hand-press printing, and by the 1850s the Chambers firm was an established publisher with a global reputation and market for educational books, periodicals, dictionaries, and encyclopaedias. By the time W. & R. Chambers began taking subscriptions for the first edition of its illustrated encyclopaedias in 1859, the firm was a commercial success, having outlived several rival publishers of cheap instructive print.

Described by the Chambers brothers as their ‘crowning effort in cheap and instructive literature,’ the first edition of Chambers’s Encyclopaedia was published in ten volumes between 1860 and 1868. The second edition, still in ten volumes, followed between 1888 and 1892, and subsequent editions were produced between 1923 and 1927, and in 1950 and 1966.

Edinburgh publishing

Edinburgh was one of the most prolific centres of publishing in the 19th century. Moreover, Chambers publications display a value for public education, a belief that knowledge and the opportunity to gain rewards for hard work should be available to all, and an admiration for new technology alongside encouragement of pragmatic solutions to problems. Professor Ian Campbell writes in the History of Scottish Literature that the democratisation of knowledge, typified by Chambers’s Encyclopaedia, was a product of the period’s education system in Scotland: ‘non-specialism was a distinguished part of Scottish higher education, producing superb generalists, cross-disciplinary teachers and researchers.’

Despite the non-specialism embraced by the Scottish education system, and by the Chambers firm, I have found through my research that the images in both editions of Chambers’s Encyclopaedia favoured scientific topics. Grouping the images into categories, I found that ‘vertebrates’, ‘botanical specimens’, ‘machines and vehicles’, and ‘medical or anatomical illustrations’ were the most frequently produced images by the firm in its encyclopaedias. My research also found that towards the closing decades of 19th century, the style of illustrations were influenced by photography, and that there were editorial decisions to present more information in tabular and schematic forms. In other words, there was a decline in the use of decorative images in favour of more didactic ones.

A new e-resource

Thanks to the assistance of a BSHS Research Exhibition Grant, I was able to travel to Edinburgh in November 2017 to develop my research on Victorian book illustration into an online resource with National Museums Scotland (NMS), titled ‘Democratising knowledge: Chambers’s Encyclopaedia.’

The NMS holds 20,000 woodblocks formerly belonging to W. & R. Chambers, and more than 7,000 of those woodblocks were used in the production of the the first two editions of Chambers’s Encyclopaedia. To complete this digital project, I spent time in Edinburgh sorting through the uncatalogued collections at NMS, selecting nearly 160 woodblocks for digitisation. My selection of specific blocks, showing how printing technology changed between the publication of various editions from the mid-to-late 19th century, provided criteria for curators to individually register blocks and have them professionally photographed. The online resource allows the woodblocks to be seen as high-resolution images, so that their high-quality design, functionality, and historical significance can be appreciated.

Some of the other behind-the-scenes tasks that I undertook in support of this online project included providing smaller images of the prints from the encyclopaedias that matched the woodblocks, since displaying prints next to their associated woodblocks gives audiences a better understanding of the woodblock as an object. I was also responsible for writing captions for each digital image, and cataloguing digital images: by subject category, by illustration style, and by type of material used in its creation.

This online resource would not have been possible without the assistance of regular museum staff, such as Alison Taubman, Principle Curator of Communications in the Science and Technology Department, as well as Elaine MacIntyre from the Digital Media Team. They took my ideas, my research, and my textual and visual content, and with their high levels of skill and great amounts of patience, transformed what I gave them into an informative, coherent, beautiful, and approachable digital document suitable for general audiences as well as for scholars.

This online resource will appeal to researchers of the history of science and technology, but also to Scottish historians, information studies practitioners, and students of print and visual culture. In other words, its scope is broad, interdisciplinary, and encyclopaedic.

Rose Roberto
Collaborative Doctoral Partnership student at the University of Reading & National Museums Scotland

Further Information

For the NMS e-resource, please visit www.nms.ac.uk/chambers.

The above-mentioned categories were grouped according to an international standard: CCO (Cataloguing Cultural Objects), developed by the Visual Resource Association (VRA) in collaboration with the Getty Research Institute. This standard allows for images to be categorised by features presented in the image itself, rather than on topical categories which are subject to different interpretations. See cco.vrafoundation.org for further details.