

community, this book provides useful background on the impact of copyright on the interests of archivists and their researchers. It may also provide insights into the directions of future rounds of copyright reform, and ways to influence the outcome in order to benefit archives.

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Drawn From Life: Science and Art in the Portrayal of the New World.
VICTORIA DICKENSON. Toronto: University of Toronto Press, 1998.
312 p. ISBN 0-80204-225-2.

Victoria Dickenson's book continues to explore the ideas first presented in her 1992 exhibition organized for the Agnes Etherington Centre, *First Impressions: European Views of the Natural History of Canada from the 16th to the 19th Century*. For this exhibition she borrowed extensively from both the art collection of the National Archives of Canada and the rare book department of the National Library of Canada; the latter was also the final venue of the exhibition in the summer of 1993. One of the advantages of reviewing exhibitions is that the works being discussed are on display and also illustrated in the accompanying catalogue, whereas books published afterwards contain illustrations only, and sometimes just a select few.

In *Drawn From Life*, the author gives an excellent overview of natural history and related illustrations, using publications on North American flora and fauna between the fifteenth and early nineteenth centuries. The beginning of this period is significant for the paradigm shift in science from the reliance on the writings of classical authors to empirical observation, a shift which is clearly visible in the illustrations accompanying the publications. In the fifteenth century, illustrations of animals and birds served as emblems to represent the mark of God on the earth; for example, a beaver on a map or in a text about North America was not there to identify the species, but to mark North America as part of creation. As naturalists began to exchange and collect specimens and as trained artists accompanied expeditions and took up the profession of illustrating, the depictions became more and more like counterfeits of the actual animal or plant. Illustrations were not always used rigorously, that is, either they were used out of context or were old and outdated, or even imaginary; this has contributed to the lack of a strong intellectual tradition for analysing images. And yet, as Dickenson demonstrates, artists illustrating natural science books went to inordinate lengths to ensure that their images were authentically coloured. The importance of colour in natural history illustrations was recognized by the eighteenth century and surely gave impetus to the development of more sophisticated colour printing methods. Better methods

were also developed for preserving specimens to send across the oceans. One technique used was to put the birds into brandy, but sailors would discover these caches and drain the fluid to the detriment of the precious cargo.

The book is beautifully designed with wide margins, excellent quality off-white paper, and intriguing illustrated monograms at the beginning of each chapter. The bibliography is extensive and pulls together art-historical and scientific writing around the same questions: how did artists use images to communicate their understanding of the natural world, and how did their depictions of the real world reflect their interest and knowledge? Although Dickenson reinforces the arguments in favour of studying visual materials as closely as the textual, the big problem with the book is that there are not enough illustrations with which to follow her discussions nor to verify her arguments and observations about scientific illustration. In the introduction, she notes that she is more interested in the printed illustration than in the original drawing from which the former was derived because this is the format most people saw. (The title of her exhibition catalogue, *First Impressions*, is therefore more apt, if one is doing a word play, than *Drawn From Life*, which refers to the original sketch made by the artist.) However, she frequently compares the original drawings with the subsequent prints to make her points without providing the reader with illustrations for a visual confirmation. Furthermore, in the chapter on landscape painting, she almost completely ignores the prints published from the drawings and discusses instead the original sketches only. She does mention in her preface that budget restraints precluded the illustration of every image she discusses, but a book that theorizes about the visual must have a significant visual component or it lacks the most important contribution to the arguments. Moreover, her arguments would have benefited from an in-depth discussion of the printing techniques available to each illustrator, as has been done by Joan Winearls in her 1999 work, *Art on the Wing: British, American and Canadian Illustrated Bird Books from the Eighteenth to the Twentieth Century*. Such a discussion would have clarified for the reader the technical difficulties the printmaker faced when translating the watercolour into a print.

In her conclusion, Dickenson points out how essential the illustration has been to the spread of scientific knowledge. A thing must be seen before it can be understood. Once the world was described, both visually and in words, then new theories such as Humboldt's or Darwin's could be formulated. She suggests that images began to be used for information at the point when the data were too complex for simple verbal transcriptions. Thus, the comprehension of the natural world, the sharing of that knowledge, and the dissemination of new ideas and theories based on a common understanding would have been impossible without the visual component.

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