

BOOK REVIEWS

Stephen I'Anson reviews

Paper and Water: A Guide for Conservators, Gerhard Banik and Irene Brückle, Butterworth-Heinemann, 2011, 576 pp., £100 (hardback). ISBN 978 0 7506 6831 6

This book is the result of a real attempt to gather together information on paper and water which is appropriate and useful to both practising conservators and conservation scientists, as well as those from outside these specialized areas who may be interested. It is a textbook suitable for students of a range of disciplines at a range of levels to use along with other resources and also a useful reference book for professional conservators and scientists. In addition, because of the broad spectrum of content from fundamental, detailed science to practical conservation guidance, this volume will help to ensure that everyone involved in conservation has a common, broad understanding and a common language with which to discuss it.

My own background is that I am a paper physicist and have been involved for many years in teaching university students about the physical properties of paper, including its interactions with water but in the context of the production, conversion and end-use of modern, industrial paper. My recent research area, at the university and previously in industry, has been the shrinkage of paper during drying, its restraint and the effect of these things on subsequent dimensional stability during, for example, printing. This experience places me at the scientific end of the spectrum of potential readers of this book but it was the insight into the less familiar issues of chemistry and conservation practice which was most valuable to me and which will enable me to work more effectively with colleagues who are closely allied to conservation practice. I suspect that this will be true for many readers and, like me, they will not have fully understood the areas outside their usual comfort zone but will feel confident about going back to such sections for more detail, as required. There will be few who will be confident to read and absorb all the material in one pass but this emphasizes that the book does not sacrifice depth in its quest for breadth.

For the most part the book is well laid out and easy to navigate and the editors have succeeded rather well in implementing a standard style of illustration

throughout. I did, however, find it rather distracting that some of the internal references, particularly to figures and tables which had occurred in previous chapters, were too brief, giving only an identifying number but no page number or other location assistance. While this number begins with the chapter number, these do not occur in the running headers and footers, so that it is necessary to resort to the contents pages to discover the page range for the chapter which must then be manually searched for the figure. Where only a quick glance at a familiar curve is the actual (and expected) result of the reference, this convention is frustrating and interrupts progress on a topic. I ended up finding it difficult not to ignore these irritating references and was tempted to continue reading rather than spending several minutes searching for them and suspect that others will feel the same: it really would not have been so difficult to add a page number in each case. Other than this, there were a few typographical errors but this is inevitable in a work of this length and, in fact, there were fewer than I would have expected and I did not find them misleading, although for non-scientists, the use of three different symbols for 'litre' in one table in chapter two could potentially cause some confusion.

Although for the most part the authors succeeded in explaining the many difficult concepts in a relatively accessible fashion, I did feel that there were occasions when intuitive simplifications did not help with clarity, although I should add that I am referring to material close to my own expertise and that I have explained myself on many occasions. Unsurprisingly, these were difficult concepts and ones which were generally also discussed elsewhere in the book in other contexts, so that this perhaps just emphasizes the difficulty of such a genuinely multi-disciplinary enterprise, both in terms of authors and readers.

There were a few somewhat perplexing omissions from the book that are probably treated by conservators as special cases of wider categories of object or as outside their remit but which seemed to me to require some separate mention if only to exclude them. The most obvious example is that there was little mention of pigment-coated paper, perhaps because this is difficult to treat in an aquatic environment. However, the paper machine illustrated in figure 7.1, in fact, makes coated paper rather than newsprint as it is captioned (by coincidence, I have a framed

copy of this photograph in my office!). As there is so much coated paper produced and used in the modern world (it is worth noting that the book itself is printed on coated paper), an explicit exclusion of its consideration might have been appropriate. Also, photographs are printed on paper substrates, and have been for a considerable length of time, but are presumably the business of some other category of conservator which is something that the reader is assumed to know. I can easily imagine that the specialized coatings involved and the delicacy of the images depicted on them have their own conservation textbooks but a comment to this effect would have been helpful. Also what about 3D multi-ply structures, for example cardboard boxes?

The early chapters of the book are on the science of paper, its component parts and water, along with descriptions of the science and engineering of paper production in both modern and historical contexts. The authors of these chapters begin at the beginning with cellulose and water molecules, taking us through to the modern paper machine, while keeping the descriptions and explanations simple enough for those without a conventional science background to follow but with guidance towards lots of additional material in the literature for those with specific interests. This was a brave undertaking which was certainly a success but it was the remainder of the book—that put this knowledge into the context of conservation issues—which I enjoyed the most, although I recognize that my background means that I was familiar with the science and engineering but less so with all the conservation issues, rendering them relatively new and exciting. It is in chapter eight (by Paul M. Whitmore) on 'Paper ageing and the influence of water' that the material specifically concerned with the ageing, deterioration and conservation of paper objects begins. This and the following six chapters provide detailed descriptions of situations, processes, procedures and experiments that put into scientific context aspects of conservation practice which I knew about only peripherally, giving enough detail to provide a clear perspective of the whole. The explanation of aqueous deacidification of paper and the introduction of an alkaline reserve by Anthony

W. Smith deserves particular praise for its combination of detail, with patient step-by-step simplicity without at any point seeming like an instruction handbook.

There is a wealth of extra material in the appendices, including basic chemical and physical data, advice on teaching methods and resources, and detailed descriptions of testing methods for those who need them. For completeness, Appendix 11 includes an hour-by-hour plan for a four-day paper conservation training event using the materials contained in the book in lectures, demonstrations and workshops. This demonstrates the truly comprehensive nature of the project leading to the production of this book and, having read it, it is easy to see how it would be successful when used in this concentrated fashion. This collected material pretty much makes this the only textbook to which many will need to refer on most issues to do with paper conservation. The DVD included with the book contains a number of video clips which can be viewed using a home DVD player or laptop or, alternatively, used during teaching sessions. Some of the video clips are straightforwardly informative and interesting but others are rather imaginative simulations where the benefit obtained from them will depend on the context in which they are viewed. There are also some real classics, with Hiroki Nanko's Confocal Laser Scanning Microscopy videos of drying fibre networks being an example. There is no doubt that these videos will give significant benefits when played during lectures and workshops and, usefully, the drawings and tables from each chapter are also on the DVD.

Overall, this is an excellent textbook which will be welcomed by conservation educators and students and which will require an easily-reachable position on the book shelves of many in the museum, library, paper and conservation worlds.

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