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John Peter Oleson (ed.), *The Oxford Handbook of Engineering and Technology in the Classical World*. Oxford University Press, 2008. Pp. 865. £85.00. ISBN 978-0-19-518731-1 (Hbk).

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The Oxford Handbook of engineering and technology is a rich collection of 33 contributions, written by field-specialists. The volume is organised in 8 parts dedicated to the following themes: sources, primary extractive technologies, engineering and complex machines, secondary processes and manufacturing, technologies of movement and transport, technologies of death, technologies of the mind, and ancient technologies in the modern world.

Despite being wide ranging, the subject choice reflects the book's stated nature as an analytical, rather than a descriptive piece of work (p.6) which does not have the aim of covering all aspects of all the subjects that can be included in this group. The aim is instead to provide a critical narrative of our knowledge of the described subjects viewed from a chronological and evolutionary perspective. This is extremely important for the structure and content choice of the book which emerges, as a result, as an interesting piece of work on paradigm shifts in the study of archaeology and the classics.

A summary of key aspects emerging in this book will make this extremely clear for the reader. Cuomo's first chapter, on sources, is a striking re-assessment of the different roles of texts, oral tradition and apprenticeship in forming technical knowledge in Antiquity (pp.32-33). Following this, Ulrich's large section on 'Artistic Intent' (pp.36-46) occupies a fundamental role in explaining the interpretative process necessary in the analysis of the representations of technical processes. Lastly, Kevin Greene is given the task of providing an overview of the progress of research into engineering and technology in the Classical world. Through an extensive critique of past approaches and a guide through the evolution of the study of ancient

technology, Greene achieves two objectives. The first is to discuss the subject as it evolves with theoretical advances in archaeological interpretation. The second is to re-affirm the fundamental role of archaeology in improving our understanding of ancient technology and in offering future research avenues for its interpretation (pp.62-84).

These discussions of sources and of the nature of interpretation are reflected in the vast majority of the chapters analysing technological processes in detail. Among them it is particularly striking to note the critique of the role of literary evidence in Margaritis and Jones' chapter on agriculture (pp.158-174) and in Cooper's chapter on Greek engineering and construction (pp.225-255).

More generally, the aims of the editor are achieved with amazing consistency throughout the book although, as is typical for multi-authored works, to a differing degree of achievement. While chapters such as Hannah's one on Timekeeping (pp.740-758) and Meadows' on Coinage (pp.769-784) appear more daring and intellectually refreshing, others, such as Quilici's chapter on Transport (pp.551-579) or to some degree Wilson's chapter on Hydraulic engineering and water supply (pp.285-318), are clearly mindful of traditional approaches to the description of these subjects. The result is that of content that appears more 'descriptive' than 'analytical'. None of this is, of course, necessarily problematic as it reminds the reader that the study of antiquity does not belong to a single investigative framework but to all of those concerning themselves with the past.

Few are the criticisms that can be made of this work. The first has to do with its size. As illustrated in Clarysse and Vandorpe's description of the use of writing materials (p.722), 'books' were sections of larger rolls of text subdivided by scholars at the Alexandrian Museum to improve readability. This seems a description which could have inspired the format of this work. As a unit, *The Oxford Handbook of Engineering and Technology in the Classical World* is slightly cumbersome and could have been split into two or three smaller volumes. This would have helped the handling of the text, but could have also helped improve two other areas in which slight shortcomings should

be noted. The first is the quality of the hard-cover binding, which is insufficient for a book of this size, expected to be frequently consulted for many years (at least this is how I found the binding of my review copy). The second, and most important, concerns the quantity of images. As a book which is mostly about material culture, the Handbook is insufficiently illustrated. This is a problem that affects certain chapters more than others but that complicates consultation, especially when it obliges worded descriptions to become convoluted. Therefore, splitting the book into two or three separate volumes would have allowed the number of images to be increased while maintaining the current binding quality.

It should be said that the aims of providing the reader with critical summaries of present knowledge, the chronological evolution of technical capabilities, and full bibliographies in each chapter have been achieved very successfully. Anyone interested in any single one of the subject matters of the book will find this the best starting point for future research. This alone, regardless of the other great qualities of this book, make it compulsory (as well as entertaining) reading for any academic, student or lay-man interested in the wider and the specific subjects of the book.

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