Ancient Egyptian Technology and Innovation: Transformations in Pharaonic Material Culture

By Ian Shaw

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This book addresses the issue of technological change in ancient Egypt by exploring how technology affected its inhabitants’ lives, society and economy through time. Shaw states that the aim of this book is to “bring together the basic evidence for many different aspects of change and evolution in Egyptian technology” (page vii). It creates a base from which to push forward current discussions about technologies, which are transforming the cliché that Egypt was a monolithic society, reluctant to change.

The evidence in this book clearly demonstrates that the Egyptians did not limit themselves to previously known and accepted technologies. They exploited new materials and learnt new techniques when they deemed it necessary or profitable. They also welcomed technologies imported from elsewhere. This occurred throughout their history, from the Predynastic Period to Roman times.

Ancient Egyptian Technologies and Innovation not only presents clear evidence for technological change, but highlights critical issues about the social and technical processes involved in technological innovation and improvement. Each chapter focuses on specific technologies and presents the evolution of the skills and processes involved. This provides a starting point for discussions of the reasons for these innovations and, if possible, their broader social implications.

The ten chapters of this book present technological innovations in ancient Egypt using physical, visual and textual evidence, and draw accurate parallels from the rest of the Mediterranean and Near Eastern world. In the first chapter, Shaw starts with an examination of the relationship between science and technology. Here, he questions the validity of applying modern conceptions to earlier periods, through a case study of the issues encountered when attempting to translate Egyptian mathematics into modern theorems, and through a study of the engineering underlying Egyptian architecture. Shaw further demonstrates the need to detach our modern conceptions by illustrating the difficulty of understanding ‘medical’ texts and identifying equivalent modern diagnoses, and by highlighting the close links that existed between Egyptian medicine and magic.

In Chapter Five, Shaw explores the tension between innovation and conservatism in Egyptian society through a study of the development of stone-working technologies. The design of architecture was closely associated with traditions and sacredness and innovations were always given a traditional coating to fit them in the conservative discourse. The concomitance between conservatism and innovation in Egyptian society is also addressed through examples from the mummification process and medicine.

In Chapters Six and Seven, Shaw examines innovations through the importation of materials and new models of technology. He draws on numerous examples, from chariotry, composite bows and glass production, through to the integration of iron technology in the late first millennium. In Chapters Five and Eight, the social and political implications of technologies are examined via sections on the relationship between elites and craftsmanship, and on military knowledge and strategies. At the end of the book, three appendices are included, which briefly present astronomy and the measurements of space and time in ancient Egypt.

The strength of this book resides in the use of the latest Egyptological discoveries and research, with numerous examples illustrating the issues.
and arguments discussed. In addition to Egyptian examples, a broader perspective is offered by looking at ideas from medicine in the Greek world and weaponry technologies from the Hittite world.

In terms of the less successful aspects of the book, Shaw's use of terminology can be questioned. Even though the difficulties of dealing with 'innovation' are explained in the introduction, Shaw does not define its meaning, nor the differences between innovation and evolution, or alteration and transformation processes. As these concepts are quite similar, clarification would have been welcome.

Another shortfall is that the topics surveyed are limited to those commonly studied in Egyptology. The book continues the traditional emphasis on stone production, mummification and war technologies, whereas developments in mud brick techniques and building elements are not considered. Transformations in Egyptian faience’s colours or changes in the composition of plaster throughout time are interesting innovations too, but these subjects are not discussed. While a selection of topics examined within the scope of this book had to be made, an introduction to the broader range of topics being considered by current research would have been welcomed.

Undeniably, this book appears as a follow-up to the masterpiece Ancient Egyptian Materials and Technologies by Nicholson and Shaw (2000) and there are numerous references to it in the current book. However, by presenting the most recent finds and discoveries and renewing the information available on these technologies, this book represents a valuable new addition to the literature on technologies in ancient Egypt.

Too often in Egyptology material culture is set aside from political, economic and social studies. This cliché is rightfully challenged, as Shaw clearly demonstrates that technologies and their evolution were embedded in Egyptian society. Even though there are some minor flaws, this attempt to create a general framework for technological innovation is excellent and opens up new angles for future research.

References