

BOOK AND CONFERENCE REVIEWS

**ALLEN, J.R.L. 2017 *GEOLOGY FOR ARCHAEOLOGISTS: A SHORT INTRODUCTION*. ARCHAEOPRESS, OXFORD
ISBN NO. 978-1-78496879 (PB, 141PP., 65 ILLUS £25.00)**

Only during the last thirty years or so have the two fields of geology and archaeology been considered together in collaborative projects and publications. The University of Reading has been leading this area of research with stone provenance studies from nearby Silchester (*Calleva Atrebatum*) (Sellwood 1984; 1989; Shaffrey 2003; Wooders 2000; Wilkinson et. al. 2008). At the forefront of this research has been Professor John Allen with his work on whetstones (Allen 2014), stone tesserae (Allen & Fulford 2004; Allen et. al. 2007) and the town wall (Allen 2013). He has also been integral in establishing a hub of applied geological study centred at Reading along with Professor Martin Bell with the MSc in Geoarchaeology as well as a series of PhD's relating to stone provenancing (e.g. Shaffrey 2006; Hayward 2009). It is appropriate therefore that Professor Allen is the author of this much anticipated reference book on geology in archaeology.

The title *Geology for Archaeologists: A short introduction* is just that, a series of short punchy chapters first summarising the basic principles of this incredibly varied subject as well as the related field of physical geography. Professor Allen sets the scene in an opening section on why geology matters, leaving the reader (especially those with an archaeological background) in no doubt as to why we need to study the earth's history and its impact on and relationship with humankind itself. Rocks (more obviously) formed part of this landscape and were exploited for tool manufacture, for building stone as well as a source of ore for metalworking. Into this

narrative Allen also introduces earth science methods and techniques.

Chapters 2-6 look at the fundamental principles of geology. Chapter 2 examines the principal rock forming minerals, their properties and crystal structure, each with an excellent accompanying colour photograph and crystal structure diagram. The rocks which are composed of these different minerals are tackled next (Chapter 3) supported by the effective use of photomicrographs to show the different carbonate, mineral and detrital grains. The information in Chapters 2 and 3 is critical to the archaeologist on two fronts. First, it provides some idea of the different types bedrock that are encountered at an excavation in an area as geologically diverse as the British Isles. Second, it shows what types of materials building stone and portable stone artefacts can be made from. A useful reading list at the end of each chapter ensures that the reader can explore these fundamental principles in much greater detail.

On a macro scale, Chapters 4 (geological maps), 5 (geological stratigraphy) and 6 (geology and landscape) provide the reader an opportunity to examine the sheer breadth and depth of geology that the British Isles has to offer. The fundamental principles of mapping and stratigraphy set out during the 18th and 19th centuries still hold true today. Indeed, some of this information will already be familiar to graduates of archaeology especially with the law of superposition. A guide to where to obtain all this data (mapping, memoirs, journal

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articles) is adequately set out, however a listing of web sites relating to the British and Irish Geological Survey, including access to historical quarries on OS Maps, would have helped for quick reference.

Chapter 6 is critical to this book in linking the geological landscape and geomorphological processes (natural) with the impact of direct human intervention (cultural) and is neatly summarised in a flow chart. It also sets the scene for the remaining 6 chapters (7-12) that deal with: specific landscapes on rivers (7) and coasts (8); extractive industries relating to stone for tools and implements, building stone, the fired clay industry (pottery and brick) and metallurgical processes (9-12). There is no one better than Professor Allen himself to describe these chapters given his expertise as one of the world's foremost fluvial and estuarine sedimentologists of the past 50 years and an integral part of the MSc geoarchaeology course at the University of Reading (e.g. Allen & Fulford 1986).

Supplementary to these chapters are a series of case studies in the form of 200-300 word vignettes, lavishly illustrated with maps, photographs and sections. There is also a very useful glossary of geological terms.

This is not a reference book for flint and chert as the subject matter is so broad. Only a short section is covered under stone for tools and implements and other works need to be consulted here.

All in all, this is a must have geological reference book for archaeological departments, commercial units and consultants alike. As a building material specialist in commercial archaeology I can see the enormous benefits that this volume will bring, especially to newly employed graduates archaeologists. Indeed, the lack of geological knowledge throughout the whole profession is something that needs rectifying. This book, along with

accompanying hands on practical sessions of rocks, fossils and maps and presentations, will go some way to addressing this.

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