CONSERVATION OF EARTH STRUCTURES,
Price £54.99.

Anita Smith

Conservation of Earth Structures is one of two books written by John Warren (Fellow of the Institute of Advanced Architectural Studies, University of York and Chairman of ICOMOS UK World Heritage Committee) for this series. The other is the companion volume Conservation of Brick. Although I have not seen the second volume, the two together would probably make an excellent reference source as many of the structures Warren uses as case study structures in Conservation of Earth Structures use a combination of brick and stone. Knowledge of conservation techniques used in both materials is ultimately required for the conservation of such structures.

However, as a standalone volume I found the book enjoyable reading, not because I will have many opportunities to apply the techniques - the conservation of earth structures has very limited application in an Australian context - but for general knowledge about, and photographs of, earth structures. As Warren claims, earth structures "have sheltered human beings longer and to a greater extent than any other building material". Those who study the history of plant products in structures may contest this, but, nonetheless, the global survey of earth structures given in the introductory chapter argues convincingly for the importance of earth
as a building material in the past and present.

The volume begins with the series editors' preface that states the volumes in the series "are unified by a systematic and balanced presentation of theoretical and practical material with, where necessary, an objective comparison of different methods and approaches" (viii). General principles of conservation are briefly discussed here but dealt with in greater detail by the author, John Warren in his Introduction. This first chapter sets the context for the book, locating the reader in the earliest building materials and the author's approach to the principles and practice of conservation. Most notably he says "while the social purpose [of conservation] may be to provide continuity with the earlier building materials and the author's approach to the town or the landscape" (xiii). Warren sees the use of creative achievement represented by the buildings, the conservation may be to provide continuity with the earliest building materials and the author's approach to the principles and practice of conservation. Most notably he says "while the social purpose [of conservation] may be to provide continuity with the historical past, the cultural purpose in to retain the creative achievement represented by the buildings, the town or the landscape" (xiii). Warren sees the use of traditional techniques and local labour as central to this "cultural purpose".

The book begins (Chapter 1) with a short review of the use of earth as a building material. This is followed by more detailed discussion on earth construction, strength and stability; mortars; the history of British earth structures; construction methods in general; a methodology for conservation; options for repair of earth structures; and methods of workmanship. The information is dense and at times confusing. This could well have been divided into more than one chapter. The relevance of a special section dealing exclusively with the history of earth structures in Britain must lie in the intended readership and/or the expertise of the author. What I found most interesting about this section is the regional and temporal diversity in the use of earth in Britain. One can only assume that similar diversity is likely elsewhere. This section would perhaps have been better placed as part of the historical survey at the beginning of the chapter rather than in between sections discussing technical aspects of earth as a building material.

We then move (Chapter 2) straight into the technical and scientific information required to understand how earth acts as a building material and therefore how conservation may be achieved. This is detailed information on particle size and its relationship to processes of strain, fracture, erosion etcetera; solid composition; origins of minerals; and characteristics of clay. There is certainly ample accessible information here for the lay person to understand the dynamics of earth composition. However, the importance (and application) of this becomes obvious only at the conclusion of the chapter.

The technical information is extended (Chapter 3) to a detailed explanation of factors, chemical and climatic, affecting the strength of earth bricks and mortars. Chapter sub-headings include: mechanics of cohesion; mortars; shrinkage and swelling; freezing and thawing; and the interaction of materials. Again the information is detailed and provides a sound beginning for understanding the issues that need to be taken into account when assessing a building for conservation purposes. Like the previous chapter, a context for the information, including an overview of how it can be used, would have made a valuable introduction here.

Conservation basics are discussed in Chapter 4. Photographs illustrate some of the variety of ways water may affect an earth structure. Some diagrams would be handy. Then plants, human agency and animals, especially termite action, wind and water are discussed with reference to examples previously presented. The book concludes with a manuel for conservation. Discussion is needed for detailed chemical analyses and tests of composition, and there are also sections in each of these chapters outlining simple tests that can be done in evaluating a structure as part of developing a conservation plan. I found these especially informative. As the author stresses, vernacular building techniques have long developed enabling them readily to assess the suitability of the material and these are accurate and useful in the simple 'field station analyses' described.

Two case studies are presented in Chapter 9. These are well-chosen examples illustrating diverse approaches to conservation that serve to educate conservators about the importance of acknowledging the social and political contexts in which heritage conservation takes place. The first example is Bowhill in England, a late medieval manor house that underwent conservation by English Heritage for conservation as a monument but subsequently, through lack of funds, restored for a practical use. Warren outlines this history from the perspective of changing British attitudes to the idea of restoration and the consequent changes in approach to the practical ways in which techniques were used. Conservation of buildings in the town consisted of their reconstruction using traditional building techniques that are described in detail.

These two case studies clearly set the context for the final chapter, in which the author reiterates and expands the philosophic and ethical approach to conservation. These principles, including authenticity and neutrality are discussed with reference to examples previously mentioned. The book concludes with a manuel for conservation of historic buildings.
While I enjoyed reading the book, it was at times annoying to find typographical errors. A quite striking omission in the writing and/or editing of the book is the absence of discussion on the relevance and significance of the drawings of earth structures found throughout the book. These (and the many photographs of structures) are not specifically referred to in the text and their captions are not always descriptive. There are detailed and very beautiful architectural drawings of wall sections, methods of drainage, etc. but although our attention is drawn to specific features by labelling, their significance is not discussed. Despite the publisher’s back cover note stating that the technical aspects of the study are treated from the non-scientist point of view, I suspect that a degree in architecture would better permit their significance to be understood. The absence of a glossary is probably the major flaw in the book. I would have thought that providing a definition of terms used would have been mandatory in a resource book such as this.