



Journal of Sedimentary Research

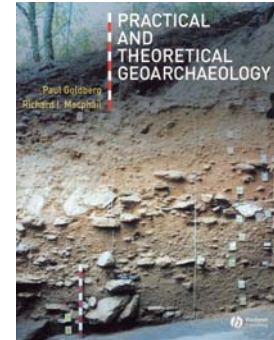
An International Journal of SEPM

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Review accepted 31 May 2006

Practical and Theoretical Geoarchaeology, by Paul Goldberg & Richard I. Macphail, 2006. Blackwell Publishing, 350 Main Street, Malden, MA 02148-5020, USA. Paperback, xii + 455 pages, 262 figures. Price GBP 34.99; USD 64.95. ISBN 0-632-06044-1.



When I was a student in geology, unconsolidated deposits were considered only as a nuisance: they just prevented the mapping or study of “the real thing.” This changed when I became an assistant of my professor in sedimentology, Jan de Jong, who had been in charge of the national geological mapping program of The Netherlands for the—then—Geological Survey. As The Netherlands’ surficial sediments consist for the great majority of Quaternary, he was an internationally recognised specialist in Quaternary geology, and he taught a course in this discipline. This course, which included an excursion, was not meant for geologists, but for archaeologists. As I had to organize—and participate in—this excursion as part of my (first) “job,” I had to take the course in Quaternary geology as well. During both this course and the excursion, I found how closely geology and archaeology are interconnected.

And when I had finished my Ph.D. (on a Carboniferous basin), I got the opportunity to become employed at another university in the Department of Quaternary Geology. To my surprise, hardly any attention was paid there to archaeology, and even when I found some Stone Age tools during one of my research projects, there was hardly any attention for it. That was some 30 years ago. In the meantime I have been involved in an archaeological research project where the distribution of Palaeolithic occupation sites on a Polish river terrace could not be explained by the archaeologists. They asked (clever enough!) for geological help, and we found soon that the occupational sites were all situated on a terrace that had locally been eroded, after which a younger terrace at almost the same level had been formed. The distribution of the Palaeolithic sites was therefore no longer an enigma: most probably the whole terrace had been occupied, but only few of the sites has survived erosion.

I have also worked in subrecent lagoonal sediments with a characteristic sedimentary succession. Since the sediments contain a lot of reworked peat fragments, C-14 analysis cannot help to date the various units. The finds of prehistoric and (higher up) historic fragments of tools etc. make it, however, well possible to date each unit very precisely.

These examples show how closely interwoven (Quaternary) geology and archaeology are. Yet, these disciplines developed quite independently until - in the seventies of the last century - the introduction of the term ‘geoarchaeology’ seemed to

wake up both communities. Ever since, the interconnection between both disciplines has become more outspoken, although archaeologists seem in general much better informed about the potential value of Quaternary geology for their research than it is the other way around. It is therefore most fortunate that this new book on geoarchaeology has become available. Numerous Quaternary geologists may become more keen to look for archaeological traces, and archaeologists will certainly profit from a deeper insight into the geological aspects of the sites that they are investigating.

The book has a clearly didactic purpose. This can already be deduced from its structure. It is divided into three parts: (I) Regional Scale Geoarchaeology, (II) Nontraditional Geoarchaeological Approaches, and (III) Field and Laboratory Methods, Data, and Reporting. The first part (with its title that is a bit awkward) comprises eight chapters, which deal with the basics of sedimentology, stratigraphy and pedology, hydrological systems, and the main 'environments' where prehistoric people lived: in aeolian terrains, along coasts, and in caves. The second part deals primarily with archaeological aspects, including the discipline of experimental archaeology, which has become of great importance. The last part consists of field techniques (such as coring and trenching techniques, sampling and descriptions), laboratory techniques (including thin-section analysis, mineralogy, SEM, microprobes, etc.) and reporting/publishing advices. The last chapter with concluding remarks and a view into the geoarchaeological future is interesting enough to start with when reading the book. Some fairly technical appendices follow, as well as a most useful bibliography (with perhaps to much emphasis on the authors' own work: 40 references to works with Goldberg as the single or the first author, and 61 references with Macphail as the single or first author!) and a handsome index.

The text of the book is, in general, well readable and instructive. There are, however, some errors and omissions that one would not have expected, certainly not from archaeologists (who have the reputation to be very accurate). There is no reason to go into detail, but some examples may be useful. A section through estuarine sediments (p. 165) has a legend that explains only part of the symbols used; a geological section through Ohio (p. 310) is presented without an indication on the map where the section is situated; figures 6.1 (p.120) and 6.17 (p. 141) provide the same information; silts in deposits other than loess are stated to be "either derived from, or simply associated with loess accumulations," thus neglecting both the origin of loess silt and the many non-aeolian silty deposits; in the bibliography, the famous book *Physical Process of Sedimentation* by J.R.L. Allen is included twice (1970 and 1971); etc.

These are, in fact, all minor shortcomings that do not really affect the value of the book, which is well printed on paper that makes reading easy (also in a room with artificial light) and that allows good reproduction of line drawings. It is therefore remarkable that some of these drawings are vague (e.g., fig. 6.19), suggesting that a low-quality 4-colour computer print has been reproduced in black/white. Much worse, however, is that the paper is definitely unsuitable for the reproduction of photos. The book contains numerous photographs, but few of them show the subject in any detail. Most of them are just mainly compositions of black and dark grey areas (e.g. fig. 3.19, 6.6, 7.1, 8.7, 9.6, etc., etc.), and details mentioned in the caption are often not even traceable (e.g. fig. 15.3). This is only compensated for a minimal part by the eight pages with colour photographs on a different (and suitable) type of paper.

Taking all together, I think that this book—which seems more directed towards archaeologists than to geologists—is, nevertheless, very interesting for Quaternary geologists who are aware of the interaction between Man and his environment, who want to recognize archaeological traces, or who are interested in cooperation with

archaeologists. This book will certainly a good starting point, but in a next edition—and I hope that it will come—the quality of the reproduced photos should be considerable higher. They are meant to provide information that cannot be communicated easily with words. The book seems nevertheless value for money. With better photos, I would certainly have considered this book even as a highly interesting bargain.

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