

## Preface and Reader's Guide

With major limitations, the planned scope of this book is a systematic look at the mineral and rock materials that have been used from prehistoric times through the seventeenth century CE. The author has used the end of the seventeenth century as a stopping point because the expansion of the world economy and scientific knowledge at that time would have led this book to become two volumes. [The notation used for dates throughout is BCE (Before the Common Era), CE (dating to our Common Era) and BP (Before the Present) to avoid any religious connotations.]

“Archaeomineralogy” may seem like a small and arcane niche in the scholarly world. However, it turned out to be very difficult to limit the number of references cited from the large universe of publications. In preparing this volume it became obvious that the number of germane articles and books lies somewhere between 5000 and 10,000. Those publications used and referenced constitute only a small fraction of the literature. Although there are over 800 references, and almost as many additions were consulted but not used, the sheer immensity of the literature precluded comprehensive coverage. Hence, the references in this volume are in no way exhaustive.

Consideration of the use of specific ores grades imperceptibly into production technology and other aspects of archaeometallurgy. Consideration of metal ore and lithic sources leads imperceptibly into provenance studies and consideration of the color of gems can lead directly into gemology. It has been difficult at times to draw the line and stay on course to keep the content of this volume to a manageable size.

The author has taught geoarchaeology approximately a dozen times, spanning nearly 30 years at three universities, so his gathering of material and references dates back this far and even farther. He has made notes on lithologic compositions of artifacts in excavation storehouses, in museum displays, and non-display collections, particularly in Greece, Turkey, Cyprus, Israel, Jordan, Egypt, Tunisia, North America, and China. Many of these found their way into lecture notes and into this book. The reader can assume that when a reference is not given, the items are from the author's 34 years of experience in the field.

The coverage and references are often extensive but never exhaustive. In addition, there are many language and geographic gaps. This is in part because of lack of published research and also because neither the author nor his two research

assistants read Far Eastern languages, particularly Chinese and Japanese. However, most relevant publications from India are in English. This book will not usually cover secondary mineral products such as patinas on archaeological artifacts. For patinas, the reader is referred to a series of three annotated bibliographies in Art and Archaeology Technical Abstracts (e.g., Volume 6, #4, 1967; Volume 7, #1, 1968; and Volume 7, #2, 1968). Many rocks and minerals of necessity are discussed under more than one topic heading. Repeating standard information each time would be inefficient. Therefore, readers are directed to the extensive mineral and rock species index to see all references to a specific rock or mineral.

This book is written for a broad group of scholars and students. Foremost would be those archaeologists (practicing and in training) who deal regularly with rock and mineral artifacts. Geoarchaeologists, diverse geoscientists, historians, conservationists, and anthropologists should find this book helpful. The diversity of this group presents a challenge. Many geoarchaeologists have at least the equivalent of a Bachelor of Science in geology. Few historians would have any background in geology. I ask your indulgence if some sections seem “elementary”; others might find these sections critical for their understanding. Behavioral archaeologists sometimes ask why a given group had certain preferences for this or that raw material. Mineral science can address only those materials that could have provided a higher quality product for human use. Many cultural preferences may well be unrelated to anything that can be measured scientifically.

I have had more than 30 years of experience identifying the **lithology** of materials excavated in Greece, Turkey, Cyprus, Israel, Egypt, Tunisia, China, and North America. The word “lithology” appears in boldface type because all the scientific nomenclature in this book that is not in common use or defined in the text appears in boldface when used for the first time and then defined in the Glossary.

The idea for this volume came from the Series Editor, Günther Wagner. In amassing and organizing the data I had the devoted and critical assistance of two of my Ph.D. students, Doris Stoessel and Edith Dunn. Russell Rothe assisted with all of the figures. The photos in this book were taken by Russell Rothe or by the author. Elaine Nissen did the stippled drawings. Nancy Nelson reviewed and improved many chapters. Although portions of this book are based on more than 30 years of the author's direct experience carrying out geoarchaeology, archaeomineralogy, and archaeometallurgy, most of what is presented herein is from the literature. Hence, the often excellent primary work, as well as the many thoughtful summaries by others, must be acknowledged as the essential basis of whatever value resides in this book. The author exercised his, perhaps idiosyncratic, judgment concerning both truth and relevance, and is thus alone responsible for any errors of fact or judgment.

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