lacking entirely in theory or any broad intellectual goals.

All of this is not criticism of *Science in Archaeology* which makes no pretense (except on the dust-jacket and that can be ignored) of being a complete treatise on methods and techniques. Concentrated as it is on the laboratory approach, the book is far from complete, even with respect to the natural science part of archeology, although its summary articles include excellent up-to-date statements about most of the problems of current interest. One can, however, more clearly appreciate the accomplishments of the authors through understanding the place of their essays within the framework of scholarship in archeology.

It is not particularly useful to comment on which of the 54 articles are the best. The individual reader will find that his interest varies widely from article to article, depending on his background and specific interests. Some of the articles are well done, but their content will be familiar and hence perhaps less exciting than material of greater novelty. Some of the more interesting articles are those by E. H. Willis on radiocarbon dating (a most informative compact summary of the current problems), Charles Reed on osteoarcheology (the analysis of faunal remains), and Nils-Gustaf Gejvall on cremations (the determination of age and sex from small fragments of cremated human bone). Other readers will find their own interests most drawn to different parts of this extensive and varied series of essays.

It is a truism that large collections of essays are uneven in scope and quality, and in works like this one the variability is inevitably intensified because the contributors are from different countries and different disciplines. A few of these articles are brief pontifications without bibliographies. Others, while not lengthy in pages, are crammed with information and have such exhaustive bibliographies that some of the more obscure and inconsequential articles (namely my own) are cited. Many of the articles cite only "local" literature, mainly European. Some articles cite no archeological writing and are confined to specialized literature dealing with a particular type of analysis. Other articles make the analysis more explicitly relevant to archeological conclusions.

Despite the inevitable shortcomings of collected essays, however, the volume profits greatly from the built-in advantages of this kind of treatment—primarily the assemblage between two covers of many kinds of compact summary articles. Although much of the material is available elsewhere, to uncover what is presented here would require broad reading in many technical journals. The selection of essays is good and the editorial grouping is sensible, so there is a coherent pattern for the book as a whole. As a result of the broad coverage, every reader will find something of interest in and will learn quite a bit from *Science in Archaeology*.

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Crystalline Polymers

Polymer Single Crystals. Philip H. Geil. Interscience (Wiley), New York, 1963. xii + 560 pp. Illus. $16.

In 1957 Keller showed that the single crystals produced by precipitating polyethylene from dilute solution were formed by repeated folding back on themselves of the long polymer molecules, a process that results in thin, platelike, single crystals whose large upper and lower surfaces consist of chain folds. This discovery initiated a revolution in polymer crystal physics, which, when expanded to include the case of other polymers and crystallization from the melt, forms the basis of Geil's timely book. Geil treats the experimental aspects with admirable clarity and without serious omissions. Theoretical aspects of chain folding and related phenomena are discussed, but they do not constitute his central theme.

The chapters on the experimental aspects of single crystals from bulk and dilute solution, and on hedrites and spherulites formed in the bulk phase, are excellent. Convincing experimental evidence of chain folding is given in detail. The chapters on the annealing of polymers and on the relationship of morphology and properties are perhaps somewhat less satisfying because both the experimental and the theoretical background of these aspects are more confused or less complete, than those of other parts of the topic. Certainly Geil's presentation and organization of the facts in these areas, as they are now known, will not be easily surpassed until new evidence comes to light. The chapter on orientation effects is particularly worthy of praise.

Most of the theoretical side of chain folding is discussed in one chapter, and in the discussion of the experimental aspects no persistent attempt is made to weave theory and experiment together, although the expert reader can often sense what Geil thinks about the origin of various phenomena. Doubtless his reluctance to assume a firm stance with respect to the theoretical intrepretation is partially justified by the fact that two very different and somewhat complex theories of chain folding have been proposed. At the time the book was written there was no clearly decisive test of which, if either, theory was correct. Geil gives a sound and fair presentation of both theories.

My evaluation of this book can be summarized in a prediction: In a relatively short time, well-worn copies of Geil's book will be found in the laboratories of practically every worker interested in the physical properties of crystalline polymers, regardless of whether his main interest is fundamental research or technological application.

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Russian-English Dictionary

Russian-English Physics Dictionary. Irving Emin and others. Wiley, New York, 1963. xxx + 564 pp. $14.

This Russian-English dictionary of physics is a welcome addition to our technical literature, for it fills a great need in that it facilitates our access to a highly important segment of the world's scientific literature. Indeed, the Emin dictionary is too much of a good thing. An adequate physics dictionary need not be burdened with geology, mineralogy, and meteorology. We do need good polytechnical dictionaries, but the Emin dictionary does not claim to be one. Why then burden a physics dictionary with пулемет [machine gun], партийный [party] разве [perhaps; unless; really], извините (меня) [I beg your pardon], шпион [spy], and many others. Although the English rendition of Russian technical terms is generally good, there are mistakes. Thus, чад is never smoke but fumes, and обзоливать is not calcine but ash