

It is furthermore a relief from the atmosphere of most works on the same subject in which attention is largely devoted to flint typology. This shift of emphasis and broadening of sources of evidence are needed now that we are beginning to find out that the classic sequences of flint typology set up by the French school and slavishly followed elsewhere may have overemphasized the importance of selected minor variations of tool styles. Some of these, being largely local, may turn out to make little difference in the end product, as seen in the perishables that Clark has so carefully sought out and restored or reconstructed. Although he has covered but a fraction of the time span so assiduously explored by the French school, the principles derived from his work may add a new breath of life to the results of their painstaking industry.

Clark has made full use of statistical techniques, slighted by many of his colleagues. This is particularly necessary in dealing with the bones of wild and domestic animals in Neolithic and early Metal Age collections. That he has not mentioned radiocarbon dating is not surprising, since the latest date in his bibliography of over 750 titles is 1949. However, his profound acquaintance with the minutely detailed climatic studies of the Dutch and Scandinavians makes this relatively unimportant, within the time and space spans covered. The reviewer's only regret is that the subject had to be limited by the nature of the materials largely to northwestern Europe. It opens a clear and brightly polished window on one corner of the world. If only we could see Turkestan and China in the same brilliant light!

The price, which may deter many potential readers, is not excessive when one sees the beautiful printing, and the wealth of illustrations, which will be used as slides in many colleges for years to come. Costing no more than two and a half bottles of Scotch whiskey, this competing British import can provide stimulation over a much longer period.

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Symmetry. Hermann Weyl. Princeton, N. J.: Princeton Univ. Press, 1952. 168 pp. \$3.75.

This short book on a vast subject is the work of a master. With a few sure and authoritative words he gives us the heart of the matter. There is no book or article quite like this one on the subject of symmetry, and I doubt if any book will be written in the future that will not in some way lean upon this one.

It starts off with the easy and specific matter of bilateral symmetry and shows how right and left reflections have been used in art, and how in biology it is a matter of import to many organisms, including man. There is a pleasant mixture in this chapter, ranging from the embryological origin of left and right in the worm *Ascaris* to the symbolic meanings the left (or sinister) has taken in times past. Next comes an

analysis of translatory and rotational symmetry, leading to a chapter on ornamental symmetry. The same pattern is kept, a mixture of art and natural science, and it takes us from the walls of a room in the Alhambra in Granada to the comb of a bee, from the baptistry at Pisa to the Radiolaria of Haeckel. The last of the four chapters goes into the basis of crystal symmetry, symmetry in relativity, in quantum mechanics, and in mathematics.

The book begins with a general description of what is meant by symmetry, and then proceeds through the specific kinds of symmetry to a general mathematical statement of symmetry. This means that as the book progresses it does become more abstract and more difficult for the nonmathematician to follow. But fortunately it contains so much besides mathematics (although the latter is the main point) that it can still be read with profit and enjoyed by someone who has not advanced beyond long division. More than anything else the book gives the feeling of authority—which its substance, as well as all the other things we know about Professor Weyl, substantiates.

This is the work of a mathematician, and there is one aspect of the book that may disturb the natural scientist as it will the art historian. The biologist is interested in the cause and the mechanism or origin of certain symmetries. For instance, Weyl discusses the phyllotaxis of plants, the arrangements of leaves in whorls, but does not touch upon the recent work on the cause of these leaf distributions. Or, in art history, he shows that certain symmetrical patterns are used by the Greeks, or the Minoans, or the Sumerians, but he does not tell, except in an occasional passing reference, where these patterns had their origin and how they can be traced in the history of art. This is not an omission on the part of the author—his book is on the subject of symmetry itself, what symmetry is, and how it may be precisely defined and described. It is the approach that would have satisfied Plato, and in fact Weyl himself says in the beginning of the book that his argument will go “along a road that will finally lead us to a mathematical idea of great generality, the Platonic idea, as it were, behind all the special appearances and applications of symmetry.”

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The Auricular Arrhythmias. Myron Prinzmetal, Eliot Corday, Isidor C. Brill, Robert W. Oblath, H. E. Kruger, et al. Springfield, Ill.: Thomas, 1952. 387 pp. Illus. \$16.50.

This monograph describes the authors' researches concerning the auricular arrhythmias. It also presents historical reviews and clinical discussions of these arrhythmias. The methods of study and the equipment used are described in an appendix. Their observations have been made with the high-speed cinematograph, the multiple-channel electrocardiograph, and the dual-beam cathode-ray oscillograph.

The authors begin their book with a study of the