north as West Scotland, but hitherto "painted pebbles" have only been found farther south. The latter part of the book is concerned with an account of some open-air Neolithic stations. The whole is completed by the inclusion of a very full bibliography, referring both to the archæology and to the palæontology.

The authors are to be congratulated on their explorations and on the publication—especially on having managed to include so many and such excellent plates. The area under discussion is of course restricted, but it is exceedingly important that the results obtained in various diggings should be carefully published, and not, as is, alas, so often the case, be either not published at all or merely noted briefly in some obscure review. The finds described in the above work are preserved in the museum at Basle. M. C. B.

The Practical Applications of X-rays. By Dr. G. W. C. Kaye. Pp. viii+135. (London: Chapman and Hall, Ltd., 1922.) 10*s.* 6*d.* net.

THIS book is based largely on a course of Cantor Lectures given by the author, and is primarily concerned with the many practical applications to which X-rays are put at the present time; this term is, however, not meant to include their medical applications.

Rather more than one-half of the book is devoted to a description of the methods of production of X-rays and of their measurement; such a liberal proportion of space will generally be welcomed by those seeking to apply X-rays for themselves. During the War, X-rays were used successfully to detect flaws in aeroplane parts, and the author shared very largely in this work, of which some good illustrations are shown. The main industrial application may perhaps be said to be in the examination of metal castings, and the recent technical developments, whereby X-rays of very short wave-length may be obtained, should see a widening range of application here.

X-ray examination shows some very striking differences between ancient and modern pictures; these differences are mainly due to the pigments and primers employed by the artists; present-day pigments are not nearly so opaque to X-rays as the metallic pigments used by the earlier painters. Some illustrations from the work of Heilbron will convey sufficiently well to the expert the assistance he may expect from the radiologist in detecting the work of the vandal.

The volume contains in one appendix the two memoranda which have been issued by the X-ray and Radium Protection Committee on methods of safety, and in a second appendix a useful list of definitions of terms in common use in X-ray and electro-medical literature.

Principles and Practice of X-ray Technic for Diagnosis. By Dr. John A. Metzger. Pp. 144. (London: H. Kimpton, 1922.) 14*s.* net.

THE author's aim is "to put into the hands of the student and operator a formula on which to base his work in order that he may obtain better results and thus be able to reach a more correct diagnostic interpretation."

We must confess to a failure in finding the "formula." The book opens with a glossary of terms and this is scarcely reassuring; for radiography we read "same as skiascopy," which is not defined; X-rays are said to be rays of unknown quantity; tension is defined as the tendency of electricity to overcome resistance.

On the second page of the first chapter the author discusses the use of gas and Coolidge tubes, but we are left wondering at what is meant by the following statement: "The difference between the tubes used with the high-frequency machines and the induction coil is one of the vacuum, and the additional cathode of the former to care for the inverse, while the difference between those for the induction coil and the transformer is that of a heavier target construction and lower vacuum of the one to care for the additional voltage and absence of an inverse."

The book is profusely illustrated, mainly in order to show the various positions of the patient which the author advises for different diagnostic purposes. Many of these are quite unnecessary, and three of them are duplicated in the text.

A Text-book of Intermediate Physics. By H. Moore. Pp. ix+824. (London: Methuen and Co., Ltd., 1923). 22*s.* 6*d.* net.

THIS is a very complete text-book for intermediate students in universities. It is well printed, has many original illustrations, and is provided with an exceptionally good index of thirty-nine pages. Block type is used for the principal laws and conclusions, so that revision of his work on the part of a student is facilitated. The author has, however, unfortunately reproduced a number of the mistakes and incomplete statements of his predecessors. He confuses surface energy and surface tension, and on p. 149 he speaks of the weight of the liquid below the meniscus in a capillary tube being supported by the surface tension. He devotes more space than is desirable to old and discarded methods, *e.g.* Laplace and Lavoisier's expansion apparatus, p. 173, and specific heat apparatus, p. 218, while no information is given as to how the expansion coefficient of a gas is calculated from observations with accurate apparatus, p. 191. On p. 254 the saturation vapour pressure over a solid is incorrectly shown. The part on light is good, but there seems no reason for omitting old sight from the list of defects of the eye on p. 458. There appears to be no mention of the magnetic circuit, and the diagrams of dynamos on pp. 739 and 741 may account for the necessity of silence on the subject.

Abriss der Biologie der Tiere. Von Prof. Dr. Heinrich Simroth. Vierte Auflage, durchgesehen und verbessert von Prof. Dr. Friedrich Hempelmann. Teil 1. Entstehung und Weiterbildung der Tierwelt. Beziehungen zur organischen Natur. (Sammlung Göschen Nr. 131.) Pp. 147. (Berlin und Leipzig: Walter de Gruyter und Co., 1923.) 1*s.*

THIS is a revision of Simroth's "Sketch of the Biology of Animals," and a very interesting little book it is. We do not think that the text corresponds particularly well with the sub-title, which might be translated "Rise and Progress of the Animal Kingdom: Relations to Organic Nature"; and in the catalogue these are the titles of two separate volumes. But that is a trivial detail. The little book before us deals mainly