

with its hoard of energy, thus continues to present us with a fascinating mystery.

It is inevitable that in an undertaking of this magnitude not all parts of the treatment can be kept strictly up to date. Thus, for example, in discussing the spectra of gamma rays from crystals, though the important work of Thibaud (1925) and Frilley (1928) is mentioned, that of Steadman (1929), which reveals gamma rays of frequency much higher even than those observed with the magnetic spectrometer, is not referred to. The impression is, nevertheless, that the authors have covered the field with great thoroughness, and have made careful selection of the material that is included.

For those who are familiar with Rutherford's style from his earlier writings, it is superfluous to mention the clarity and succinctness of his portion of the present book. Dr. Chadwick and Dr. Ellis are, however, to be congratulated in having caught something of the senior author's lucidity of expression. The result is a well-balanced discussion which the novice will find readable, and those working in the same field will find a mine of suggestive ideas and authoritative information.

ARTHUR H. COMPTON.

Man's Remote Ancestry.

The Origin of the Human Skeleton: an Introduction to Human Osteology. By Dr. Robert Broom. Pp. 164. (London: H. F. and G. Witherby, 1930.) 10s. 6d. net.

WHEN, nearly forty years ago, Dr. Broom went to Australia to study the most primitive mammals now surviving, very little that was more than conjecture was known of the origin of mammals. As the result of his researches on the comparative anatomy of the Australian monotremes and marsupials and the examination of the rich harvest of fossils that has rewarded his thirty-four years of searching in South Africa, he has recovered so many links between the most primitive reptiles and mammals as to be justified in claiming, as he does in this book, that the essential problem of the origin of mammals is now definitely solved. Incidentally also, the question of the origin of lizards and crocodiles has been answered, and new light has been thrown upon the ancestry of dinosaurs and birds.

It is not surprising that the man who has contributed so largely to these great achievements, and himself recovered in the field most of the material which made them possible, should be able to write with freshness and originality, with a dis-

regard for traditional views and pedantry, on the subject of his lifework. In this small book, Dr. Broom gives a concise and wonderfully simple and convincing account of the information afforded by the comparative anatomy of the skeleton in vertebrates to demonstrate the line of evolution leading to reptiles, the derivation of mammals from one of the reptilian groups (Ictidosauria) at the close of the Triassic, and the origin of the Primates from a primitive Menotyphlous mammal before the end of the Cretaceous.

In the process of building up his argument, Dr. Broom examines in turn the comparative anatomy of the skull, the vertebræ and sternum, and the limbs, and thus incidentally has written in bold outline a most fascinating story of "the origin of the human skeleton", which is the descriptive label he has given his book. His wise selection, no less than his boldness and courage, eliminates most of the puzzling complexities of a difficult subject, and has enabled him to write with full mastery and lucidity a surprisingly easy and stimulating narrative. Whether or not this drastic re-interpretation of our knowledge will stand the test of critical analysis is, at the moment, of less importance than the consideration that a mass of new information is skilfully woven into the fabric of an easily comprehended hypothesis, which will provide the student with a clear-cut scheme wherewith to test the evidence, as well as the scheme itself, the brilliant hypothesis which Dr. Broom has constructed in tentative interpretation of the facts. This masterly synthesis is a conspicuous contribution to the study of the origin of mammals and of the evolution of man, which every student of human and comparative anatomy should assimilate.

G. ELLIOT SMITH.

Gold Resources of the World.

The Gold Resources of the World: an Inquiry made upon the Initiation of the Organising Committee of the XV International Geological Congress, South Africa, 1929. With a Summary by A. C. Sutherland. Pp. xiv + 457 + 38 plates. (Pretoria: Wal-lach's, Ltd., 1930.) 25s.

IN 1929 the fifteenth International Geological Congress met in South Africa—synchronising as to time with the meeting of the British Association. The organising committee of the Congress had decided beforehand to initiate an inquiry into the gold resources of the world, as it was felt that such a subject was singularly appropriate. Previous congresses had dealt with the world's resources of