

the writers adhere to a strictly objective nomenclature more rigidly than the authors of earlier works. The remarks upon speech are an exception to their general practice. No one will disagree with the statement that "such relations have not yet been analysed in objective terms" (p. 446). Their statement that "considerable progress has been made in this field by the methods of introspective psychology (*e.g.* psychoanalysis)" is open to the objection that, if any conceivable progress in such matters is due to professional psychologists who still adhere to an introspective terminology, it is because they have actually employed methods analogous to those which the physiologist uses.

American Oil Fields.

Structure of Typical American Oil Fields: a Symposium on the Relation of Oil Accumulation to Structure. Forty Special Papers including a Critical Summary, in part from the Program of the Twelfth Annual Convention of the American Association of Petroleum Geologists at Tulsa, Oklahoma, March 24, 25 and 26, 1927. Vol. 2, 1929. Pp. xxiii + 870 + 4 plates. (Tulsa, Okla.: The American Association of Petroleum Geologists; London: Thomas Murby and Co., 1929.) 27s. net.

THE origin, migration, and accumulation of petroleum: three outstanding episodes (in proper sequence) in a natural history even now imperfectly understood. Every text-book on oil geology gives a chapter to each; every author reiterates the same arguments which have held sway since the enlightened days of Redwood, Engler-Hofer, and their contemporaries. 'Origin', as such, has a literature of its own, much of it unconvincing to a degree. Migration of petroleum is a subject still in a state of flux and kept so by the contradictory results of experiment and conflicting tenets of modern philosophy. 'Accumulation' is the oil-pool itself, how and why it came to be formed, what its relationship to reservoir-rock really proves to be, what its disposition anent structure actually signifies. In the last case we are on more solid ground because the unravelling of subsurface conditions of so many oil fields to such a point of accurate detail has provided us with tangible evidence of the *raison d'être* of many a big pool.

Our American friends enjoy nothing better than to take stock of a situation, scientific or otherwise, preferably by means of large-scale conferences. 'Accumulation' in itself furnishes an excellent theme for one of these debates, which, in published

form, occupies two large volumes. This is the second, in matter, style, and presentation similar to the first.

If the reader can wade through the mass of detail given in each of these studies of American oil-pools, his knowledge of accumulation will be almost rare. If detail appals, he may emulate without shame that type of novel-reader who weakly scans the end pages to see if it has a likable ending or plot, or whose patience tires before the half-way chapter; only in the present instance, the last paper, by F. G. Clapp, not only reveals the essence of all that has gone before, but also it is by far the best contribution of all, and, if for no other reason, this volume merits attention. Apart from this, the papers making most appeal deal with such famous pools as Long Beach, California; El Dorado, Kansas; Caddo, Louisiana; Cushing, Oklahoma; Yates, Texas, and Salt Creek, Wyoming; perusal of these is worth while if other sources of relevant information have not previously been consulted.

There are probably few types of oil-pool in the world not amply illustrated by the examples quoted in these two books, and one wonders whether, under the heading of 'accumulation', we have very much more to learn and, be it admitted, to what extent symposia really advance our learning.

H. B. M.

'How it was Made' in Antiquity.

The Technical Arts and Sciences of the Ancients. By Albert Neuburger. Translated by Dr. Henry L. Brose. Pp. xxxii + 518. (London: Methuen and Co., Ltd., 1930.) 42s. net.

THIS is a disappointing book, and scarcely worth the great labour of an English translation, or the translator's occasional attempts to patch it up; and as the bibliographies of the German original have been omitted, it is impossible to check or follow up many remarkable statements without reference to it. But considering the immense field which it is designed to cover, and the very defective materials available in many parts, it is a remarkable compilation, and justifies the translator's contention that the achievements of the ancient world have been unduly overlooked in matters not only of industrial technique but also of scientific experiment.

Dr. Neuburger complains that often his predecessors have been insufficiently acquainted either with the ancient languages or with modern experience in the same arts and industries. But his book will perpetuate hardy misconceptions,