professors, Varisco and Aliotta, and omits any reference to their more celebrated contemporaries, Croce and Gentile. His prayer is "for a Neo-Thomist who is also a really qualified mathematician."

All the essays in the volume are interesting. Principal Jevons writes of religion from the point of view of folk-lore study; Mr. Gooch has given an admirable review of the history of historical research, the science which Croce names "storio-grafia"; while Prof. Bragg treats of "atomic theories," but is only able to indicate in a note the new interest aroused by the work of Einstein. Of this it is too early to take stock. H. W. C.

Petroleum Geology.

Geology of the Mid-Continent Oilfields. Kansas, Oklahoma, and North Texas. By Dr. T. O. Bosworth. Pp. xv+314. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1920.) Price 3 dollars.

IN this the latest contribution to the geology of the great Mid-Continent oilfields, Dr. Bosworth has contented himself with summarising the results of most of the recent work published by American geologists in the Bulletins of the United States Geological Survey, and in those of the Oklahoma and Texas Surveys in particular. His aim throughout has been to present the facts, leaving deductions to the intelligence of the reader, since, although he sets out with the intention of reviewing those facts, he does not succeed in attaining this end, for his final chapter, devoted to general conclusions, mainly deductive, occupies only a little more than five pages out of a total of 282 of text, and cannot be regarded as more than a somewhat hurried and non-committal postscript to the preceding sections of the book.

To any keen student of petroleum geology the announcement of a new publication dealing with one of the world's greatest oilfields is to be regarded with a certain degree of anticipation, partly with reference to possible new theories of oil accumulation and development, and partly (in this case) from a curious desire to see how far the teachings of the British geological school may be affirmed or modified by association in their own country with American oil technologists. This dual anticipation, however, is doomed to disappointment, because there is certainly nothing strikingly new in Dr. Bosworth's book, and one further perceives in the work a strong undercurrent of bias to prevalent American opinion.

It was to be hoped, for example, that new light

would be thrown on the structure of the North and Central Texas fields, which are of such recent development and importance; but, beyond a brief description of the local "closed dome," "nose," and "terrace" structures originally described by Dorsey Hagar in his paper before the American Institute of Mining Engineers (1917), little information is forthcoming.

Another point on which more information is desirable is the possibility of the future development of the fields to the west. The general westward dip of the Palæozoic rocks tends to shift the oil horizons of the Pennsylvanian beds deeper and deeper in that direction, and further prospecting must inevitably lead to deeper drilling, assuming the structure to remain uniform. But it is by no means certain that such is the case, and on this point the author is unable to enlighten us. He suggests certain possibilities in regard to locating oil in the underlying Mississippian and in the overlying Permian "Red" beds; but in the former case the great depth to which borings must necessarily penetrate will tend to limit operations, whilst in the latter the oil occurrences are probably extremely localised, the conditions obtaining in the Healdton (Permian) field, which he quotes at some length, being the exception rather than the rule. It is only fair to add, however, that the short-sighted policy of many of the oil companies in prohibiting the publication of the results of detailed surveys prevents many workers from doing full justice to their research, and science, in consequence, must suffer accordingly.

It is interesting to note that in his conclusions the author regards the "vegetable" hypothesis as accounting for the origin of the hydrocarbons, and he further recognises White's laws of progressive devolatilisation as applicable to the Mid-Continent fields, an opinion which is in accordance with American views.

For the rest, the book certainly contains some useful features, the stratigraphy of the oilfields and the relations of oil accumulation to structure in most of the important fields being treated very concisely. The chemical side is by no means neglected, and the general characteristics of the Mid-Continental oil and natural gas, and the production of gasoline from that gas, are dealt with in some detail. Maps, plans, and photographs of the fields are included, together with a bibliography of the more important works relative to the area. The volume will probably make its strongest appeal to those who wish to gain a broad idea of the geology of the oilfields without having recourse to survey and other technical publications.

H. B. MILNER.