domes of Louisiana. They show that the most recent work has confirmed the hypothesis that these salt-domes occur at the intersection of two rectangular series of fractures. The Calgary field, which created a fever of speculation in south-western Canada, is more than once quoted as illustrating that the predominance of light oils is a discouraging feature as an indication that the oils have travelled for some distance. They refer to the present investigations to check Höfer's theory that the geothermal gradient rises most rapidly in oilfields, but they regard it, even if verified, as a not very hopeful method of prospecting.

The final chapter is on the oil market and future supply. All through the book may be recognised the tacit assumption that the days of an oilfield are short and that a period of declining oil production is not far distant. Then, say the authors, will be the day of the oil shales, of which there are large quantities, which can then be more profitably worked. They remind us, however, that there is not likely ever to be an absolute failure of oil for purposes for which it is indispensable. So soon as oil production begins to decline the price will rise, and its employment will be restricted to the purposes for which oil alone can serve. It will no longer be squandered on uses for which there are more enduring reserves of alternative materials. J. W. G.

OUR BOOKSHELF.

Wisconsin Geological and Natural History Survey. Bulletin No. xxxvi. *The Physical Geography of Wisconsin.* By Dr. Lawrence Martin. Pp. xxii + 549. (Madison, Wis.: Published by the State, 1916.)

THE "Educational Series" to which this work belongs is "primarily designed for use by teachers and in the schools" (p. 486), and the cloth-bound volume of 549 pages, with abundant maps and illustrations, is "sent on receipt of 15 cents" (7½*d.*) to those who are sufficiently keen to ask for it. Wisconsin, like Canada, places no bar to the spread of educational information collected by the State.

Dr. Martin is careful to explain technical terms as they arise, but he writes for the advanced teacher, who will appreciate the details shown in his well-selected maps. The romantic history of Indian, French, and American Wisconsin is bound up with the geographical position. To this day (p. 12) the most valuable articles manufactured in the State are "the products of the wood-working industry, which come from the soil." In many ways, even in the abundance of lakelets in the north (p. 388), we are reminded of Finland, where the soils depend also to a large extent on glacial transport. But Wisconsin has some 40 in. of annual rainfall, distributed under the extremes of a continental climate, and the wind-weathering that forms pinnacles and rock-tables in the driftless areas does not imply continuous aridity. On the west we come across the broad sweep of the Mississippi, flowing below Prescott between isolated bluffs, which are in reality the extremities of divides cut through by the young and dominant stream. We are grateful to the author for the sympathetic record on p. 170 of Black Hawk's heroic stand on the Mississippi bluffs in 1832. The human, and thus the humane, touch can never lie far from the geographer. GRENVILLE A. J. COLE.

The North Staffordshire Field Club. Jubilee Volume, 1865–1915. Edited by S. A. H. Burne, J. T. Slobbs, and H. V. Thompson. (Published by J. and C. Mort, Stafford.) Price 7*s.* 6*d.*

AN immense amount of good and useful scientific work has been accomplished during the last fifty years in the United Kingdom by local natural history and archæological societies. Not only have these bodies stimulated local research, but by affording means of publication they have been of inestimable service to science in placing on record accounts of local discoveries, co-ordinating methods of study, and enabling the embryo student to try his prentice hand at authorship.

The North Staffordshire Field Club is a typical society of the kind, and having attained its jubilee, it has just issued a commemorative volume, which consists of a sufficiently full record of the work performed by the members during the fifty years of its existence, compiled by the president, together with an account of the work done in the various sections by the respective chairmen. The work of the club is organised in sections, and is carried on by means of monthly excursions under approved leaders during the summer, and the reading of papers and debate at evening meetings during the winter, and it must be admitted that the results of the fifty years' work are an unqualified success. It is not permitted to everyone to live to see the full fruition of their pioneer work, but the fates have been kind enough to Mr. W. D. Spanton to permit him to live not only to see his offspring successful, but also to act as president on the fiftieth anniversary of the club he was instrumental in founding.

Having now reached maturity, it behoves the club to consider itself more seriously and to extend its work. For example, the histories of Roman and Saxon Staffordshire have still to be written. Botany and zoology include much more than the mere listing of finds, and the annual volumes would be better if shorn of the many platitudes which still add to their bulk, but not to their usefulness.

Macmillan's Graphic Geographies. The British Isles. By B. C. Wallis. Pp. 32. (Macmillan and Co., Ltd.) Price 9*d.*

THE beginner in geography is here provided with a combined atlas and text-book. The simply worded lessons, in which the human note is predominant, are supplemented by four coloured, full-page, orographical maps and twenty-four further maps in black and white. The exercises at the end of the lessons, and the occasional test-papers, will supply the teacher with the material necessary to secure the active co-operation of the pupil throughout the course of instruction.