useful guide to recent contributions to many problems in American geology. In his account of the bone beds of Nebraska he explains their origin by the crowding of the animals on to hill-tops at times of flood; and in reference to the opposite explanation, that they were bogged beside drying pools in time of drought, he quotes a sentence which he attributes to W. K. Gregory instead of to the present writer. J. W. G.

Our Bookshelf.

Æolus: or The Future of the Flying Machine. By Oliver Stewart. (To-day and To-morrow Series.) Pp. 96. (London: Kegan Paul and Co., Ltd.; New York: E. P. Dutton and Co., n.d.) 2*s.* 6*d.* net.

THE "To-day and To-morrow" series has a reputation of brilliance and provocativeness. Mr. Oliver Stewart's account of the future of the flying machine amply maintains this reputation. The writing is clever, the argumentation is fearless, and the prophecy is unhampered by any hesitation to speculate on the barest foundations. In civil aviation, Mr. Stewart foresees a severe struggle between the present-day type of fixed-wing aeroplane and the moving-wing flying machine of which the autogyro is a forerunner. He concludes that the moving-wing type will prevail for short-distance flight, while the fixed-wing machine, in the form of monster flying boats weighing a thousand or more tons, will prevail for long-distance and trans-oceanic flight. An amusing forecast of the relationships between the police and sporting aviation is followed by a fantastic and gruesome account of the future battle in the air round and over London. Why has nobody yet written on the renewed sense of dignity and privilege that the provincial will acquire as the result of the concentration of aerial warfare round the large centres of population?

Mr. Stewart seems to have considerable objection to statesmen and financiers. It may be of interest to scientific workers to discover that the author objects to them too: "... scientists have demonstrated that the world is flat, that it is round, and that it is oblong. In the future they will demonstrate that it is rectangular." This is pretty nonsense, and the author bases much of his interesting prophecy on the results of scientific investigation. Mr. Stewart does not believe in the future of the airship. S. B.

Theory of Vibrating Systems and Sound. By Dr. Irving B. Crandall. Pp. x+272. (London: Macmillan and Co., Ltd., 1927.) 20*s.* net.

THE reader of Rayleigh's classical treatise on the theory of sound cannot but feel that the subject is more of theoretical than of practical interest. It is true that the theoretical results have many illustrations in certain of their musical and technical aspects, but one does not feel that the theory has had much influence on the design work of the constructional engineer. In recent years, however, great progress has been made in applied acoustics, more especially in connexion with the problems of telegraphy, telephony, sound transmission and reproduction, and certain parts of the classical theory have been extensively employed to analyse and explain the problems and results that presented themselves in the technical developments of these subjects.

In the book before us, the late Dr. Crandall, who was a member of the technical staff of the Bell Telephone Laboratories in New York, has presented an account of those parts of the theory which have proved of service to the constructional designer. The theoretical side of the subject is treated thoroughly—on the lines of Rayleigh's treatise—without, however, too great insistence on mathematical detail, but also without that slovenliness and circumlocution so familiar in technical works dealing with mathematical subjects. The best parts of an altogether good book are those essential connecting links in the mathematical argument where the physical assumptions underlying the theory are examined from the point of view of their practical possibility and where the limitations and usefulness of the mathematical results are discussed in their physical and technical bearing. To a theorist these parts make very satisfying reading, and to the practical man they more than justify the application of somewhat complex mathematical analysis to the technical problems of the subject.

The book is well written and can be strongly recommended as an up-to-date text-book of the subjects with which it deals. It is replete with bibliographical references even of the most recent developments of the subject, and is produced in a style worthy of the publishers' name that it bears. G. H. L.

Crashing Thunder: the Autobiography of an American Indian. Edited by Paul Radin. Pp. xvi+203. (New York and London: D. Appleton and Co., 1926.) 10*s.* 6*d.* net.

THIS autobiography of one of the Winnebago Indians living on the Nebraska side of the Missouri River, is a remarkable document. It may be regarded either as a piece of anthropological evidence or as material for psychological study. Its engaging frankness and entire absence of a moral viewpoint are illuminating. At the same time it must be admitted that from neither point of view do the conditions which this record reveals seem such as are conducive to the welfare and preservation of the Indian, if they can be regarded as typical. It is perhaps significant that in seventeen years a Presbyterian mission had in 1909 converted one family only. This suggests a conservatism which adds to the value of the autobiography as a record of tribal custom and tradition. Anthropologists who have worked in the field are well aware of the difficulty of getting at the subjective side of the information they seek. In this document custom, ritual, and belief take their proper place as integral elements in proper perspective in the everyday life of the individual.