

the book is a discussion of fertility and sterility in the light of recent advances. We have to thank Prof. Morgan for these lucid and scholarly lectures on heredity and sex, which express his characteristic combination of critical judgment and synthetic appreciation. The reader is assisted by the numerous illustrations, many of which are very fresh and interesting.

J. A. T.

OUR BOOKSHELF.

Das Elisabeth Linné-Phänomen (sogenanntes Blitzen der Blüten) und seine Deutungen. By Prof. F. A. W. Thomas. Pp. 53. (Jena: G. Fischer, 1914.) Price 1.50 marks.

THIS small work has the two-fold object of directing the attention of nature-lovers to the pleasing phenomenon of "Flashing Flowers," which is more exactly defined as the Elizabeth Linnæus Phenomenon, and of giving a scientific explanation of its cause.

Perhaps the most interesting feature of the investigation is the names with which it is associated, beginning with Elizabeth Linnæus (daughter of the great Swedish botanist), who first observed the flashing of Indian Cress flowers at twilight in her father's garden at Hammarby, near Uppsala, and published her observation with a comment from Linnæus himself. Her discovery interested a number of scientific men, who ascribed the appearance to electricity, phosphorescence, etc., or rejected it as imaginary and only visible to those who could see ghosts. High above them all stands Goethe, who answered Elizabeth Linnæus's pertinent question "whether the flashing is in the flower or in the eye," by referring to the effect upon the eye of brilliant complementary colours, and by pointing out that the flashing is only seen in a flower which comes sideways into the field of vision.

Prof. Thomas gives an explanation of the phenomenon. It is perceived, he says, in twilight, which makes red brighter and green duller than they appear in full daylight. As the image of the red flower moves from the peripheral part of the retina, where the rods are red-blind, to the fovea, the red is perceived somewhat more vividly than before, and this image coincides with the Purkinje after-image of the surroundings, giving the impression of a flash.

H. W.

Die Wichtigsten Lagerstätten der "Nichterze."

By Prof. O. Stutzer. Zweiter Teil: Kohle (Allgemeine Kohlengologie). Pp. xvi + 345 + xxix plates. (Berlin: Gebrüder Borntraeger, 1914.) Price 16 marks.

THIS second part of Dr. Stutzer's encyclopædic work is entirely devoted to coal and other carbonaceous deposits. The first, or petrographical, division of the volume deals with the chemical and physical characters of coal and the results of its microscopical examination, with a discussion of the theories of the origin of coal. The aim of the author is to bring together the observations and conclusions of all who have written upon the subject, rather than to advocate any particular

views of his own. The second division of the work is stratigraphical, and an immense amount of valuable information is collected and classified concerning coal-seams—their modes of occurrence and the indications which they exhibit of operations taking place during and subsequently to their deposition. The third division of the book is statistical, dealing with coal-supply and coal-production in all parts of the globe, full use being made of the important work on "The Coal Resources of the World," which was inaugurated at the meeting of the Geological Congress at Toronto and published last year. Throughout the work before us no effort seems to have been spared by its author in making the information complete and up-to-date. Among the numerous wood-cuts are given many graphic illustrations, which are of the greatest assistance to the reader, as well as copies of figures derived from the works of a great number of different authors. Taken altogether, this second part of Dr. Stutzer's monograph fully realises the high expectations which must have been formed by all who have used his earlier volume.

Descriptive Geometry. Part i., Lines and Planes.

By Prof. John C. Tracey. Part ii., Solids. By Prof. H. B. North and Prof. J. C. Tracey. Pp. x + 126. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1914.) Price 8s. 6d. net.

PERHAPS the most notable feature of this work is its logical development of the subject. Beginning with the point in space we are shown its plan, front elevation, and side elevation, when situated in the various positions relatively to the three planes of projection. Then follows an equally exhaustive treatment of the line and plane. A very complete system of notation, specially suitable for oral instruction as well as for private reading, is carefully defined and strictly adhered to throughout. Also, in the authors' scheme is a unique system of triple columns. In the first column the problem is stated in general terms along with the principles and previous problems involved. In the other two parallel columns we have an illustrative particular case, accompanied by a figure, or by a series of figures exhibiting the successive steps in the solution. The authors give special prominence to three fundamental constructions on which most of the subsequent work is based.

A student who has thoroughly mastered the first part of the book should have little difficulty with the second, which deals with some of the simpler geometrical solids; their projections when situated in easy and in difficult positions; their sections by vertical, inclined, and oblique planes; the development and intersection of their surfaces; and the determination of lines and planes tangential to them.

The general treatment is purposely somewhat abstract, being unrelieved by practical problems or applications. The authors, however, propose to issue later a complete set of exercises for use with this very thorough and sound work on descriptive geometry.