

with a trailing line. Beginning when the dawn breaks, navigation under sail may itself be fertile in adventure. Recent extension of fishing with drag-nets and suitable appliances enables professional fishermen to operate in depths which are winter quarters for the species. Much has been heard lately of 'big game fishing' off the Dogger Bank. The tunny has a chapter to itself.

T. E. J.

The Mathematical Atom: its Involution and Evolution exemplified in the Trisection of the Angle. A Problem in Plane Geometry solved by Julius J. Gliebe. Third edition revised. Pp. iv + 87. (San Francisco: St. Boniface Franciscan Friary; London: Technical Records, Ltd., 1933.) 10s. 6d. net.

THIS is an enlarged and beautifully produced edition of a pamphlet which has been circulated before under the simpler title "The Trisection of an Angle". Since Euclid cannot be supposed to have thought that he was giving anything but a selection of geometrical facts, it is legitimate to add to his postulates others that he did not perceive, and, in particular, to introduce the postulate that the author's construction is valid. This, of course, puts the matter beyond argument. The author relies on graphical evidence, and since his construction is in effect an identification of $\sin \alpha / (2 + \cos \alpha)$ with $\tan \frac{1}{3}\alpha$, where α is one eighth of the angle to be trisected, it is not surprising that the evidence seems adequate. To do justice to the author's style, a quotation must be made: "I have the honor of introducing to the mathematical world"—on another page he speaks of "students of geometry and miscellaneous circles generally"—". . . a new kind of Triangle . . . The Golden Mean Triangle will serve to show that even the scalene triangle is not to be classed among the lower host of things, 'the loose, the lawless, the exaggerated, the insolent, and the profane' . . . It can be mathematically demonstrated that the scalene triangle is capable of being invested with a certain charm and comeliness distinctly its own, by being brought into perfect relation to the GOLDEN MEAN, which lies at the heart, or at least within easy reach of every blessed one of them—whether it be lank or plump, slender or buxom, microscopic or telescopic."

E. H. N.

Psychoanalysis To-day: its Scope and Function. Edited by Dr. Sándor Lorand. Pp. xv + 370. (London: George Allen and Unwin, Ltd., 1933.) 18s. net.

THIS volume consists of a collection of twenty-five contributions from various representative psychoanalysts; and, while for the most part concerned with general (Freudian) psychoanalytical theory, deals also with its applications to mental hygiene and education, nervous and psychic ailments, anthropology, religion, literature and criminology.

Psychoanalysts are nothing if not enthusiastic

for their theories, and the writers of these chapters are no exception to the rule. The topics are not critically treated, but are handled in an expository and didactic manner, and should prove of interest to many others than physicians and professional psychologists as giving a bird's-eye view of the very extended field that psychoanalysis seeks to cover. The reader may find that he cannot agree with all the interpretations of fact that are given and all the claims that are made for the Freudian theories, but he can scarcely fail to discover that they are not merely "pansexualism" but contain many grains of valuable truth.

Applied Gyrodynamics: for Students, Engineers and Users of Gyroscopic Apparatus. By Prof. Ervin S. Ferry. Pp. xiv + 277. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1932.) 25s. net.

SINCE the days of Kelvin, gyrodynamics has exercised a fascination on the minds of a small but powerful group of mathematicians, and it is pleasant to see that interest maintained and to record the publication of a volume dealing with the subject which concerns itself with the spins of bodies of molar magnitude and is not at all exercised about the spins of sub-molecular masses.

Prof. Ferry begins at the beginning with a chapter devoted to definitions and to the principles of elementary dynamics. He then gives sixty pages to a consideration of the motion of a spinning body under the action of a torque, and in the remaining chapters applies the principles so developed to the gyroscopic pendulum, gyroscopic anti-roll devices for ships, navigational compasses and gyroscopic stabilisation.

A most useful book, giving a sound training in the principles of rigid dynamics and some of the most important of its applications. A. F.

Makers of Astronomy. By Dr. Hector Macpherson. Pp. vii + 244 + 8 plates. (Oxford: Clarendon Press; London: Oxford University Press, 1933.) 7s. 6d. net.

THIS little book contains the substance of two courses of lectures given at the Royal Technical College, Glasgow, in 1930-32, dealing with the lives and work of astronomers from the time of Copernicus down to the present time. It is divided into eight chapters, entitled "The Pathfinders"; "Isaac Newton"; "After Newton"; "The Herschels"; "In Herschel's Footsteps"; "Pioneers of Astrophysics"; "Watchers of the Skies"; and "Explorers of the Universe".

Though the book is intended to be of a more or less popular character, and will therefore be of interest to amateur astronomers, the notices of modern work will be valued by many. There can be few writers more intimately acquainted with the biographical side of astronomy than Dr. Macpherson, and we are glad to be able to place this volume side by side on the shelves with his "Astronomers of To-day", published twenty-eight years ago.