

within the grasp of busy medical practitioners. With this object graphic formulæ are profusely employed, so that "a glance will lay bare to the eye of the novice the whole details of the constitution of the most complicated compounds," and the practical preparation of the compounds has been generally omitted "because the much tried patience of medical men need not be burdened with things chiefly of interest to the chemist." With these exceptions a large proportion of organic chemistry is very fully treated, and a careful reading of the work in leisure moments would doubtless give any one, who had some previous knowledge of the science and some liking for it, a fair grasp of somewhat more than the outlines of this vast and ever-increasing field. Especially interesting, though demanding more than cursory reading, is the concluding chapter on atoms, linkage, and stereo-chemistry. In our earlier days chemists did not so much concern themselves with these things. The determination of mere composition and formulæ furnished enough occupation. But with advance of knowledge it has been found necessary to study what has been called the "atomic architecture of molecules." In the concluding pages this subject is very ably and lucidly discussed. A new hypothesis is suggested, to which the name of the "screw theory" is given, which, it is pointed out, may satisfactorily explain those cases of optical activity which are met with in certain bodies, *e.g.* some terpenes and glycerides, where there is no asymmetrical carbon-atom, and which are consequently not clearly met by van't Hoff's ingenious theory.

The volume is one in the production of which great labour and care must have been expended, and both parts are worthy of commendation. Possibly, however, it would have been advantageous to both, if they had been published separately. JAS. CAMERON.

OUR BOOK SHELF.

Astronomische Chronologie. By Walter F. Wislicenus. (Leipzig: B. G. Teubner, 1895.)

HISTORIANS, archæologists, and astronomers will hail with delight this work, as it fills a gap which for some time past has been very apparent. At the present day, to take one case only, archæologists are busy in Egypt deciphering and unravelling the legion of myths which are there recorded in the many forms and ways peculiar to that country. Many of these myths are, as has been recently more clearly pointed out, purely astronomical in their nature; and this is perfectly natural when one considers that the Egyptians, or, at any rate, the priests, for these were the chief writers, were astronomers. Archæologists in fathoming these depths are perfectly at home when archæology is in question, but as soon as the astronomical boundary is reached, and astronomy pure has to be attacked, then perfectly different problems are met with. In like manner, the astronomer himself, going from the astronomical to the archæological side, is also nonplussed, unless he wishes to enter somewhat generally into the study of Egyptology. In the book which we have before us, Dr. Wislicenus gives the historians and archæologists a helping hand, and presents them with the necessary means and ways of solving some of the problems which are generally encountered.

Without entering too minutely into the contents of these 150 odd pages, a general survey of the text will best give the reader an idea of their character.

The two parts, into which the book is divided, deal respectively with the fundamenta of astronomy, and the different methods of computation.

The former part is concise and brief, and the author in forty-four pages presents the reader with a general summary of the different systems of coordinates used, the different kinds of years, the course of the moon, eclipses, daily and yearly rising and setting of the heavenly bodies.

The methods of computation in the second part are so arranged that they follow, in the same order, the text in the first. At the commencement of this part Dr. Wislicenus brings together a list of the numerous tables which are used for the solution of chronological problems. These are here given with their full titles, and are explained further on. The remainder of the book is devoted to the solutions themselves, and these are arranged as follows: First, the known and the unknown quantities are separated, then the tables to be used in the problem in question are explained; following these, typical examples are taken and worked out by the use of the different tables.

A very full index makes reference easy, and completes what will prove a very useful book. W. J. S. L.

Die ältesten Karten der Isogonen, Isoclinen, Isodynamen
By Prof. Dr. G. Hellmann. (Berlin: A. Asher and Co., 1895.)

THIS is the fourth of the elegant series of reprints devoted to classical contributions to meteorology and terrestrial magnetism. It contains seven maps, all excellently reproduced, and representing old standard charts of isogonic, isoclinic, and isodynamic lines. The maps portrayed are Halley's Declination Chart of the World, published in 1701; Whiston's two maps (1721), showing lines of equal magnetic Dip in the South of England; J. C. Wilcke's Isoclinic Chart of the World in 1768; a chart by Humboldt, published in 1804, showing Isodynamic lines over part of South America; and Hansteen's Isodynamic Charts (1825-26) of North-West Europe and of the world.

Halley's description of his "New and Correct Sea-Chart of the Whole World, shewing the Variations of the Compass," is reprinted, and brief descriptions are given of the other maps.

Whiston, it may be remembered, suggested that longitude might be determined from magnetic inclination, this element being preferred to declination for reasons which he stated as follows: "When, therefore, I considered that the Lines of equal Dip could hardly be more irregular than those of the Variation; I well knew that Mutation was a great deal slower; and that these might probably be useful over all the World; I conceived great hopes that this way of Application of the Power before us might very probably discover the Longitude."

Prof. Hellmann contributes a number of bibliographical notes, and these, with the maps, make the reprint a compact and useful work of reference.

An Elementary Text-book of Hydrostatics. By W. Briggs, M.A., and G. H. Bryan, M.A. Pp. 208. (London: W. B. Clive, 1895.)

THE portions of hydrostatics and pneumatics usually taught to beginners, and required for the matriculation examination of the London University, are concisely and clearly treated in this book. Though evidently constructed for examinational purposes, the book contains a number of good points. The mathematical formulæ are deduced from first principles instead of being stated dogmatically; so the student is led to rely more upon his real knowledge, and less upon mere memory. This and other commendable features distinguish the volume from ordinary text-books of hydrostatics, while the numerous problems, covering a wide field, furnish clear evidence of originality.