purpose" for their construction, seeing in them a mysterious type or symbol of the religious beliefs and aspirations of their builders, and he sets to work to prove his theory by tracing a correspondence between their internal arrangements and the various chapters of the Book of the Dead. With regard to his theory it will suffice to point out the fact that Mr. Adams employs the Turin Papyrus of the "Book of the Dead," which dates from a period not earlier than the twenty-sixth dynasty, to explain the arrangements of a structure erected at least 3000 years earlier. This connection between the Great Pyramid and the Turin Papyrus is not the only "revelation" Mr. Adams has given us, for he is convinced that the Deluge was merely a phenomenal inundation of the Nile valley, that Eden was situated in Central Africa, and Paradise itself in the eastern basin of the Congo. He holds views of his own, also, in comparative philology, in accordance with which he derives the response "Amen" of the Book of Common Prayer, not from the Hebrew *âmên*, "verily," but from the name of the Egyptian god Åmen-Rā. So, too, the British cheer, "Hip, hip, hurrah !" is, according to Mr. Adams, merely hieroglyphic for "On, on, to plunder ! "

The form of problem, however, which appears to have most attraction for Mr. Adams is to take a building and some object with which it is apparently unconnected, and to trace wonderful and mystical connections between the two. As he formerly connected up the Great Pyramid and the Turin Papyrus, so now in his new book he traces connections between the temple of Hathor and the famous planisphere at Denderah. "To effect a comparison between the chambers of the building and the different parts of the planisphere," he writes, "and through them with the constellations of the heavens, is not a difficult task." And for Mr. Adams it certainly is not, for he proceeds to do it with the greatest ease and fluency. In fact we are convinced that Mr. Adams would find little difficulty in tracing any number of mystical relations between, let us say, the "Ingoldsby Legends" and St. Paul's Cathedral. We make a present of this suggestion to Mr. Adams, and hope that he may find time to develop it, even though he should be compelled to cease for a time from his revelations of Egyptian mysteries.

OUR BOOK SHELF.

A Laboratory Manual in Astronomy. By Mary E. Byrd, A.B. Pp. 273 + ix. (Boston : Ginn and Co., 1899.)

OWING to uncertainty of weather and the variety of times required for observations, the teaching of practical astronomy presents peculiar difficulties, and we therefore welcome a book which gives us the benefit of a teacher's extended experience. The course includes both indoor and outdoor studies, but excludes the use of instruments with the exception of a small telescope and other simple pieces of home-made apparatus.

The first four chapters consist chiefly of indoor exercises on the use of almanacs, maps and globes, and the solution of problems relating to time. These prepare the way for the outdoor observations, with which the remainder of the book is chiefly concerned. Each of the later chapters commences with a series of questions to

be answered either by direct observation or from the data obtained by observation, and following these are explanations elucidating the more important points, as well as numerous examples giving results actually obtained by the students of Smith College Observatory. As examples of the class of observations to be made, we may mention meridian altitudes, and amplitudes at rising or setting, of sun, moon, and stars, the determination of time, longitude, and latitude, the identification of planets, and the observation of variable stars. Simple computations, furnishing checks on the observations, are introduced whenever possible, and throughout the whole course the student learns to enter his results methodically. One cannot help but marvel at the accuracy frequently obtained by the rough means employed.

Generally speaking, the explanatory matter is clear and complete, but we may note that no instructions are given as to placing the sun's equator in Fig. 34, and that some of the problems in Chapter iv. would be more intelligible to readers on this side of the Atlantic if a description of the apparatus called the "heliotellus" were included. For the benefit of those who live in an unfavourable climate, the use of artificial stars, as in the course at South Kensington, might be introduced with advantage. These are easily adapted to the transit instrument, wire micrometer, &c., and are always available. A useful piece of additional apparatus also would be a model sextant, such as that described in "Demonstrations and Practical Work in Astronomical Physics at the Royal College of Science, London."

The book has many novel features, and will be very helpful to teachers and students alike ; while it will not relieve either from the trouble of adapting exercises to the occasion, it will greatly facilitate the preparation of working programmes.

Two classes of students may especially profit by following the course of instruction laid down, namely, those who study spherical astronomy as a branch of applied mathematics, and star-gazers who make their observations with little or no regard for mathematical considerations.

The Tutorial Algebra. Part ii. Advanced Course. ("The University Tutorial Series.") By William Briggs and G. H. Bryan, F.R.S. Pp. viii + 596. (London : W. B. Clive, 1898.)

IN these 596 pages we have a treatise based on the "Algebra" of Prof. Radhakrishnan. The reason for this is that the latter book is known to be the result of a careful study of the best English authorities ; while, as we read in the preface, "recent writers have shirked the task of educing what is intelligible to the average student from the work of the greatest masters of the subject. . . ." The authors have, nevertheless, taken great pains to present the student with an excellent advanced course, a more elementary course in a separate volume being promised at an early date.

It is natural that certain modifications and additions to the treatise mentioned above should find a place in the volume intended for English readers, and those included here, are, among others, logarithms, interest, convergency and limiting values.

Chapter xxvi., on the graphic representation or functions, by Mr. J. H. Grace, gives the reader a good insight into the method of discussing equations graphically ; and this should serve as a useful introduction to other branches of mathematics, such as conic sections.

Throughout the book the exposition is clear, and numerous examples are inserted in the text. As a school treatise it should serve its purpose well, and those who are reading the subject by themselves will need little, if any, outside aid.