

ment, and from this or some other cause, has not noticed a passage in that writer which seems to have been singularly overlooked, but which nevertheless possesses a certain degree of interest. It has been invariably asserted that Hipparchus was incited to the formation of his celebrated catalogue by the appearance of a new star, leaving it to be inferred that it was an object similar to the Great Star of 1572 (the possible return of which, by the way, Baron von Mädler refers to 1885, instead of the present year, as has been sometimes thought), or that of 1604. But it seems to have altogether escaped notice that the words of Pliny in reference to it expressly describe a movement which must have placed it in another class of bodies:—"Novam stellam et aliam in ævo suo genitam deprehendit: ejusque motu, qua die fulsit, ad dubitationem est adductus, ane hoc sæpius fieret, moverenturque et eæ, quas putamus affixas." Such is his statement; where he obtained it of course cannot now be ascertained; but from its explicitness it certainly carries at least a show of authority.

In adopting a more favourable idea of Ptolemy than has been admitted by many opponents of his system, the author has expressed an opinion well deserving of attention:—"When criticising the literary proceedings of Ptolemy, we should not forget how extremely different, as compared with our own, was the form which the mutual relation of authors took in those days. Instead of the hundreds of thousands, or even millions, of books which fill our libraries and catalogues, their number at that time might hardly amount to a thousand; the principal works especially were so few in number that every one, generally speaking, who read and wrote was acquainted with them. Ptolemy wrote for his own time. When he alleged anything which was the property of another without mentioning his name, nobody could then have been well deceived by it, and there could be no reasonable question of a design of plagiarism." And as an incidental parallel he remarks the use made in a similar manner by St. Paul of the expressions of Archias and Epimenides.

Some interesting, but perhaps not generally known, facts may find a suitable place in the present brief notice; such as the discovery on the site of what is conjectured to have been Cicero's house at Rome of a sun-dial, which may have been the identical one mentioned in one of his letters; the employment, in Seneca's time, of hollow glasses filled with oil to protect the eye in observing solar eclipses; the grandeur of speculation which led Cleomedes, some fifteen centuries ago, to assert that the earth would show but as a point to the sun, and from the fixed stars, even if it possessed intrinsic light, would be imperceptible; the discovery in Egypt, in 1854, of four wooden tablets covered with plaster, containing astronomical calculations—the almanac, in fact, of the great school of Alexandria in the reigns of Trajan and Hadrian; the recognition of Uranus by the ancient inhabitants of Tahiti. Relations such as these lend an additional interest to a narrative which, even without them, would not be felt as dry or tedious.

One more passage may be cited, as giving full evidence of that soundness of thought and feeling which thus (but not thus only) are shown to be united in the Baron von Mädler with the other qualifications of a historian:—

"If in those times a comet appeared, writings appeared immediately, especially in the form of religious exhorta-

tions, taking occasion from it to recommend repentance and amendment. Let no one suspect that we have even the slightest objection to offer to these admonitions. Much rather could we wish that at other times also, whether a comet were visible or not, they were employed with equal earnestness, and that the inscription on a comet medal of that date (1472)—

God grant us from this comet-blaze
To learn amendment of our ways—

were more laid to heart, especially as regards the second line. If cometary prediction had brought nothing worse to light than exhortations to amendment, we might with respect to this fancy (though the fancy itself, as such, would always remain objectionable) have been able to contemplate the whole with greater satisfaction."

T. W. WEBB

OUR BOOK SHELF

Botany for Beginners: an Introduction to the Study of Plants. By Maxwell T. Masters, M.D., F.R.S. (London: Bradbury, Evans, & Co., 1872.)

THIS is in no sense a cram-book. To take the trouble of learning it by heart, page for page, would not suffice for any botanical examination with which we are acquainted. This is a great advantage in an elementary scientific work. Not only does it enable the author to be entirely independent of the favourite points of particular examiners; but it permits him to pursue his own method of developing the subject in the learner's mind. In no science is this freedom of greater value than in botany. The text-books used and recommended by many teachers of botany would appear to have been especially designed to deter the intending student from the study of the science. Bristling at the outset with a formidable array of technical terms, which should never be introduced till a later stage of the instruction, they give a superficial countenance to the idea which is prevalent even with many who ought to know better, that Botany is a mere science of terms, unworthy to be placed by the side of Comparative Anatomy or Animal Physiology. Each teacher will no doubt have his own idea of the arrangement of his subject best calculated to interest the beginner, and to lead him on step by step to see the true dignity of the science. Dr. Masters's is recommended by his own experience as a lecturer for many years to one of our Metropolitan hospitals. He commences by taking in succession a series of flowers in the order in which they are to be met with as the spring unfolds—willow, poplar, ash, elm, tulip, hyacinth, apple, lilac, and so forth; and in plain and attractive language, bringing in technical terms at the outset only when necessary for the sake of accuracy, he explains the structure of their different parts, and the points in which they resemble or differ from one another. The more important phenomena of the physiology of plants are also brought under review as the descriptions of structure naturally lead up to them, though we think that more space might with advantage have been bestowed on this portion of the subject. A single page devoted to the decomposition of carbonic acid by the leaves, and twelve lines to the process of fertilisation of the ovule, are hardly sufficient to introduce the reader to these branches of physiology, which are not only of the highest importance themselves, but also of far greater interest to the student, if simply and intelligently brought before him, than the details of morphology or of classification. The substance of this little book has already appeared in the columns of the *Gardener's Chronicle*, and it is well illustrated with capital wood-cuts. We heartily recommend "Botany for Beginners" to teachers or parents who are desirous of interesting young persons in this science, and who can appreciate the value of a clearly-written, simple, and yet accurate elementary treatise.

A. W. B.