instructed to recognise its merits, and sufficiently humble and enterprising to stoop to learn anew, and by a better method, the elements of their science), take its place at the head of elementary treatises on its subject. It is by no means faultless: no first edition on so new a plan could quite avoid confusion; there is excess of detail on many points, too little on others, and the language, though generally correct throughout, is sometimes almost mystical. This is not a reproach—quite the reverse—for it is mainly in these passages that we feel the strength of the author, and we are unfortunately not speaking from the beginner's point of view. He has evidently thought deeply, and the result is in all cases well worthy of careful study, especially for those who think themselves thoroughly masters, if but of the merest elements. No one can read the work without feeling that he has still something to learn, even in the most prosaic parts of the science. Dr. Stewart does not, as it were, follow the ordinary laws of war; he abjures pipe-clay and red tape, and he has a method of his own which we cannot but think is calculated to do a real service to the beginner. Even methods in mathematics cannot be stereotyped; Euclid is about to be laid on the shelf; and it is not at all unlikely that in a few years the so-called Cartesian x, y, z, will disappear, to make way for Hamilton and his vectors. Thus it is, and shall be, with the so-called *statical* proofs of the Parallelogram of Forces, we shall get back to Newton's methods as nearly as modern nomenclature will permit; and so likewise in other parts of physics. The reign of *inartificiality* and *simplicity* must soon be inaugurated, and this work will greatly tend to hasten its advent.

It would be improper to finish without finding some additional fault, especially after all we have said in praise of the work, and even Dr. Stewart's recent accident (from the effects of which we are delighted to hear he is steadily recovering) must not influence us.

The printing is excellent; but some of the woodcuts (the balance, p. 59, and the strained beam, p. 71, for instance) are not merely execrable, but, what is far worse, misleading. No mention is made of the Peltier effect at a thermoelectric junction, nor is Sir W. Thomson's so-called "specific heat of electricity" alluded to, though both might easily have been introduced without increasing by more than a page or so the bulk of the volume. These are matters of such fundamental importance, and are capable of such easy description, that they certainly ought to have been given. There are other points of a similar kind, but it is not necessary to mention them.

Dr. Stewart very fully treats of the grand question of the equality of Radiation and Absorption, the question which first brought him prominently before the scientific world; but he has done it with such an excess of modesty that his own genuine claims might be endangered, were there not happily other works in which his services to this important branch of science are fully recognised.

It is peculiarly sad that Prof. Stewart should have been temporarily disabled just when he was getting into working order his Physical Laboratory in Manchester: no one is better fitted for such work than he is; let us hope that he may soon be in a position to resume the direction of it, and to teach beginners by means of his excellent Manual.

P. G. TAIT

OUR BOOK SHELF

The Academy. Vol. I. (London: Williams and Norgate. 1870.)

WE congratulate our twin brother (or sister?) the *Academy*, on the appearance of its first volume. The journal had at its starting a clear *raison d'être*, to respond "to a widely felt and constantly expressed dissatisfaction with the existing organs of literary and scientific criticism." The wide field embraced in the programme has rendered the editor's task anything but an easy one. Of the literary department it does not come within our province to speak; the scientific portion, we can fairly say, has been honestly and ably executed. This department consists of two sections—original reviews, and scientific notes. The former, in accordance with the practice of the rest of the paper, are all signed. The desirability of signed articles is one that has been much debated. Whatever may be its relative advantages or disadvantages in literature or politics, we are convinced that in science the former greatly outweigh the latter. In reading a criticism on a scientific work, it is before all things necessary that we should know that the critic has a right, from his own knowledge of the subject, to speak with authority. The signatures to the scientific articles which will be found in this volume are themselves sufficient guarantee that the subject is discussed from a standpoint from which something is to be gained by the reader. The scientific notes consist of paragraphs under the various heads of chemistry, physics, geology, zoology, botany, physiology, &c., epitomising the most important discoveries or researches of the month. Though the subjects are rather unequally treated, the notes have evidently been drawn up with great care by competent men, and the whole gives a very fair *résumé* of the more important advances in each department of science. If we might mention one section that appears to us to have been particularly well done, it is that of physiology. A list of the new books of the month, English and foreign, is also given, and the titles of the more important scientific magazine articles, with occasional abstracts of them. We notice with pleasure the conscientious manner in which the editor invariably acknowledges the source of his information, a practice we could wish to see more generally carried out by his brothers of the craft. Other literary journals have been content hitherto to supply their readers with their modicum of science either second-hand and very much out of date, or with a disregard to accuracy which has rendered it perfectly valueless. The *Academy* is doing good service in bringing scientific subjects before educated readers who have no special scientific bias, in a style that is likely to interest them in it, and in a manner that may be relied on as sound and accurate, and calculated to increase the knowledge in which they are, as a rule, so lamentably deficient.

Die Praxis der Naturgeschichte. Zweiter Theil: Dermoplastik und Museologie, oder das Modelliren der Thiere und das Aufstellen und Erhalten von Naturaliensammlungen. Unter Mitwirkung von Präparator Bauer, Prof. Dr. G. Jäger, Stadtdirektions Arzt Dr. Steudel, und der Thier- und Landschafts-Maler, Paul Meyerheim und Friedrich Specht; von Philipp Leopold Martin. 8vo, pp. 240, six plates. (Weimar: B. F. Voigt. London: Williams and Norgate 1870.)

FEW tasks are more distressing to a right-minded naturalist than the inspection of the ordinary mounted specimens of animals in most museums in this country and elsewhere. More hideous spectacles than usually meet one's eyes when visiting these establishments it is impossible for man to form, or mind to imagine. Some little advance, it is true, has been made of late years, upon what was formerly the prevailing type of a "stuffed beast." But no real reform can take place until the curators of museums have come to recognise the great