

*Philosophy as Scientia Scientiarum and a History of Classifications of the Sciences.* By ROBERT FLINT, D.D., LL.D., F.R.S.E. Edinburgh and London: William Blackwood & Sons, 1904. Pp. x, 840. Price 12s. 6d. net.

Like everything that Prof. Flint writes, this is a very learned book, and is distinguished by clear thinking and lucid expression. As the title indicates, it consists of two parts—one being occupied with the definition and characterization of Philosophy, and the other with the History of the Classifications of the Sciences. The collocation is itself suggestive, throwing us back in thought a generation or more, to the time when the classification of the sciences was a very burning question among British thinkers, influenced this way or that by Comte, and when the approach to philosophy was uniformly made through a scheme of generalized knowledge. The parts are of unequal length, the first being considerably the shorter of the two; but both are packed with information and ideas.

It is a happy thought to present philosophy once again from the side of *scientia scientiarum*, because we thus get rid of the usual vague generalities on the subject and are brought face to face with the all-comprehensive unity in its relation to the subsidiary unities of the various sciences. A twofold advantage is thereby secured—first, the wider conception (philosophy) is filled with content and so becomes to us other than a bare abstraction; and, secondly, it is made to re-act upon the sciences and to aid in the determination of their boundaries and provinces. On practical and intellectual grounds alike this is to be commended. If it is well that philosophy should keep in touch with science, it is no less well that science should keep in touch with philosophy. Even in the interests of any special science, the wider outlook of philosophy and its spirit of broad sympathy and frank toleration, is a great desideratum. For “whatever may be fancied to the contrary, the truth is that the researches and studies of the mere specialist are never very productive. Special investigations only enrich science to any considerable extent when they are directed and guided by enlarged views; they are only truly successful when not exclusively special; when on the contrary, the part or section of existence examined is looked at by a reason illumined by a worthy and ample idea; a reason which sees the part in the light of the whole and the whole as related to the part.” More particularly, philosophy is of great value in guiding education. As there is a hierarchy of the sciences, based on the principle of beginning with the simple and most fundamental and proceeding thence to the more complex and derived, it is not a matter of indifference from an educational point of view whether you pay regard to the just sequence here or ignore it. On the contrary, the sequence is everything, conditioning success and progress.

So, then, philosophy is to be viewed both as theoretical and as practical; and not the least interesting of Dr. Flint's remarks has reference to the characterization of it in these two aspects. There is a strange oversight, however, that must be noted in connexion with this. The second half of the third section of Part I. is to a considerable extent a repetition of Section II.: not only the thoughts but the actual wording are the same. (Compare, *e.g.*, p. 80 with p. 58, and p. 34 with p. 60.) There is some reflection here upon the reading of proofs.

When we come to the detailed account of the various classifications from Plato downwards, we find that it is very thoroughly done, and is full of interest. Ancient and modern alike gets due appreciation. There are occasional omissions, of course (*e.g.*, Boëthius), and there are points

which one should like to see elaborated (e.g., the attitude of the Stoics towards psychology); but the work does not pretend to be absolutely exhaustive—what work of the kind could be absolutely exhaustive? Much attention is paid, and rightly so, to the leading classifications of the sciences of the second half of last century—more particularly to Comte's and the two British classifications to which it gave rise, Spencer's and Bain's. Here Dr. Flint's powers of exposition and criticism are seen at their best. His final judgment on these three last is:—"Leaving out of account Dr. Bain's unsatisfactory conception as to what should be called 'Practical Sciences,' his classification of the sciences properly so called may well be regarded as an improvement on Comte's and much superior to Spencer's".

WILLIAM L. DAVIDSON.

*Educational Psychology.* By E. L. THORNDIKE, Adjunct Professor of Genetic Psychology in Teachers College, Columbia University. New York: Leincke & Buechner, 1903. Pp 177.

No one with any equipment in philosophy as well as in education, who has at any time either through necessity or desire, read largely among books of pedagogy, can have concluded his perusal without feelings in which painful perplexity plays a dominant part. There is as little agreement among them as in metaphysical treatises, and even the saving grace of cogent and subtle reasoning, present in the latter, is lacking in the former. Nor is the reader helped to argue for the side his sympathies select by any list of cases or statistical references such as enliven the competing claims of rival theorists in natural science. Is this inevitable? Doubtless it is, so long as educational writers persist in indiscriminately mingling their ideals and their facts. In any case, ideals of life, and hence of education, will not assume uniformity because of convenience to the educationist, even though education be now a separate science. But there is hope that, at least in a limited field, agreement may be possible if we temporarily, for working purposes, (1) separate the ideal from the actual and (2) apply the methods of induction as well as those of deduction to the problems of educational investigation.

As Prof. Thorndike implies, it does not follow that we have not strong opinions about educational principles because we know little about them. The same, by the way, is true of philosophy—a proposition which, however, is not advanced, though it is illustrated, in this book. It is just this unhesitating confidence of the ignorant dogmatist that this book, sometimes by affirmations of negation equally dogmatic, so usefully attacks.

Not for a moment do I, nor do I think would Prof. Thorndike, assert that much good work has not been written on education,—even the violence of the contradictions prevents one-sidedness in patient students. But the trouble is that the work is unconvincing and individual. The fluid concepts in education must be crystallised into definite units with which the experimenter and the logician may work.

Prof. Thorndike's book is a pioneer contribution to this most pressing need, and has great value rather from its purpose than from its positive results,—which indeed is inevitable at this stage. I hope that every one who lectures on Education will read it, and that every educational administrator competent to understand it will do so likewise, for impressionism has hitherto been almost unchecked in educational work, and this book is convincing as to the necessity for other methods.