

'to try to cultivate the power of abstraction before the powers of observation (perception) and imagination have reached a certain degree of strength.' This self-evident proposition is one of the best accepted principles in the modern theory of education, though there is reason to apprehend that it is still frequently violated in practice. Child nature solves the question in its own unerring fashion. Children of the better classes, instead of an empirical programme, follow in their earliest years the dictates of their own sweet will, yet they never lisp in arithmetical numbers; they eschew what is abstract, but read and run through a whole library of juvenile literature."

VI. On the decay of mathematics in Scotland:—"The old classical system was lacking in breadth, the modern substitute is lacking in backbone. The paramount value of mathematics, for instance, is admitted by educationists of every shade. Dr. Bain, the apostle of scientific training,

says: 'As to mathematics, the question is fundamental, if there is to be any science at all, over and above a little natural history, there must be mathematics.' The allurements of higher subjects have driven mathematics to the wall."

VII. On average talent:—"Average ability is as certain as individual ability is uncertain, just as human life, however precarious in the individual, is reducible in the aggregate to arithmetical calculation. This conception, if kept in mind, would not only give to teaching a more scientific and stimulative aim, but would, to a material extent, eliminate its disappointments and mitigate, if not abolish, its lingering severity. The stupidity of children is too often the burden of the teacher's complaint, which simply means that they are stupider than the teacher thought, or, in other words, he has pitched his average too high, and day after day persists in misunderstanding the evidence of inductive facts."—*Educational Times*.

EDUCATIONAL NOTES.

EDUCATIONAL NOTES AND SUMMARY.—The General Reports of Mr. Fitch, Mr. Sharp and Canon Warburton, in the English Educational Blue Book, are all more than usually interesting this year, and that of Mr. Fitch dwells on educational topics that have an application far wider than that which concerns elementary schools only. As an example of this kind, we may mention the chapter on Methods of Teaching, from which we quote—because of its general interest—a paragraph which goes to the root of a question often debated amongst teachers:—

"It is a frequent complaint that, because the tests applied at the examination day are definite and some-

what mechanical, the processes of instruction must also be mechanical. The character of the examination, we are told, dominates the character of the teaching, and, if certain technical results are mainly looked for, nothing but dry technical teaching and 'cram' can be expected. There is great fallacy in this reasoning. At the universities, and wherever the results of instruction have to be estimated in a brief and summary way, the test applied is apt to seem crude and formal—a problem, a piece of translation, a demonstration, a theme. But a college tutor or a master in a public school who gave this as a reason for the adoption of mechanical and uninteresting processes, or for the constant