

It is to be hoped that in the next edition of this work M. Lebon may be moved to give a list of papers and books which have been inspired by Henri Poincaré's suggestions and discoveries.

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SHORTER NOTICES.

First-Year Mathematics for Secondary Schools. By ERNST R. BRESLICH. Chicago, The University of Chicago Press. 1915. 344 pp.

ABOUT six hundred fifty years ago Roger Bacon gave voice to his feelings with respect to the teaching of mathematics, and this voice was in no respect uncertain nor was it at all lacking in emphasis. His words may be found in the *Opus Majus*, in the *Opus Tertium*, and in the manuscripts as yet unpublished of his *De Communia Mathematicæ*. In the last-mentioned work Bacon says that students are burdened with unnecessary difficulties to such a degree that they come to despise mathematics, whereas, if properly taught, the subject could be understood without any unreasonable expenditure of time; and that the first course in mathematics should not be designated as geometry, arithmetic, and so on, but as the elements of mathematics, a preliminary to the special branches.

What Bacon had to say on this phase of teaching was not new; others had said it before, and thousands have said it since, and after a fashion many have put the idea into practice. And so the effort of Mr. Breslich comes to the teaching profession as merely an ancient one clad in new guise. This does not in the least detract from the laudable nature of the effort, but it serves to give the work a kind of historical setting which assists us in judging of its novelty and its probable effect upon education.

The central idea of the work seems to be to select those features of secondary mathematics which are easily within the reach of beginners, postponing the consideration of the more difficult ones to a later period. As the author puts it, "The simpler principles are best suited for beginners, and may therefore be brought together in an introductory course."