

tice of placing a date after a man's name is helpful when it has any definite significance, but with Dr. Lanner it has none. Sometimes he gives the date of death, as of Stevin (1620); sometimes the date of a book, as in the case of Vieta (1591); but quite as often the date has no particular significance, as in the cases of Tartaglia (1557) and Riese (1550). Usually, however, the important date is omitted entirely, as with Stevin's work on decimals (1585). There are also several unfortunate errors in technical and proper names, as in the cases of Ouch-tred, Boëthius and Boethius, Goss (for Coss), and Wimburgh (for Edinburgh).

Altogether, therefore, the work may be said to have been written with a laudable purpose, but to leave the field open for a carefully prepared treatise on the same subject.

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*Reformvorschläge für den mathematischen und naturwissenschaftlichen Unterricht*; entworfen von der Unterrichtskommission der Gesellschaft deutscher Naturforscher und Aerzte. **Zweiter Teil: Vorschläge überreicht der 78 Naturforscherversammlung in Stuttgart, 1906.** Herausgegeben von A. GUTZMER, Leipzig, Teubner, 1906. Pp. 73.

THE work of the commission appointed by the German society of natural scientists and physicians, as summarized in this second annual report, has been carried on during the past year along the lines laid down in its first report which has already been reviewed in the BULLETIN\*. So far as mathematics is concerned, the present report consists of a discussion of the way in which the principles laid down in the first report would work out in practice in certain special types of German schools not there considered, and brings little of general significance beyond the boundaries of Germany.

The section on instruction in mathematics in the higher schools for girls is of some interest to us in America, where thousands of girls and young women annually carry through successfully work of a grade as advanced and as difficult as any that is given to the young men in the German gymnasia. The commission urges that more work in mathematics be given in the schools for girls, and, indeed, that those who complete the full course should end with substantially the same attainments

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\* Vol. 12, (1906), pp. 347-351.

as the young men who have passed through a gymnasium. In the earlier years (to age fifteen or sixteen) the commission recommends somewhat more emphasis upon intuition and practical exercises, especially the making of models, than in corresponding work in the boys' schools, where the logical element must be brought more freely into play. The avoidance of pedantic proofs of statements that are intuitively evident is particularly important in teaching girls, special emphasis should be laid on the esthetic side of mathematics, while the logical side should not be neglected; the instruction as a whole must have its own peculiar character, and be based upon textbooks specially prepared therefor.

In the later years of the course no special differences in the instruction of young men and women are recommended, since the very fact that the women go on into the later years is of itself sufficient evidence to the commission of a somewhat mannish type of mind that may reasonably be expected to prove equal to the logical demands made on it by the mathematics to be given, extending perhaps as far as the elements of analytic geometry.

J. W. A. YOUNG.

*N.-H. Abel, sa Vie et son Oeuvre.* Par CH. LUCAS DE PESLOÛAN. Paris, Gauthier-Villars, 1906. Pp. xiii + 168.

No pretension is made in this biography to add to the facts previously published relating to Abel. It will not supersede the biography written by C.-A. Bjerknes and brought out in 1885 by the same publishers. The aim of De Pesloûan is to put the story of the short life of the gifted Norwegian in attractive form for scientific readers who are not specialists along the lines of Abel's researches. The idea is a commendable one and should be carried out more frequently in biographies of scientists. The author exhibits great sympathy and admiration for Abel. In the preface he goes so far as to call Abel's researches "*l'oeuvre du plus grand mathématicien du XIX<sup>e</sup> siècle.*" More judicious and suggestive is a remark which is attributed by the author to Hermite (page 136), by some others to Sylvester: "*Abel a laissé aux mathématiciens de quoi travailler pendant cent cinquante ans.*"

It is well known that Abel, in his twenty-third year, started