

*Berichte und Mitteilungen der Internationalen mathematischen Unterrichtskommission.* Hefte IV–VII. Teubner, Leipzig und Berlin, 1909–1911. Pp. 39–128.

THESE four pamphlets comprise the German reports of the progress and proceedings of the International Commission on the Teaching of Mathematics for the years 1909–1911. They are edited by W. Lietzmann and cover the meeting of delegates at Brussels in August, 1910, and the first international congress on the teaching of mathematics, held at Milan, in September, 1911.

We may sum up the progress which has been made by the commission up to the present year, as given in these reports, by stating that committees, well organized, are now working in twenty-three countries of the world. Under the leadership of Klein these have issued about 100 pamphlets; and many others are in preparation, in manuscript, and in press. As is well known, the plan is comprehensive and covers all fields in which mathematics is taught, from the kindergarten to the research university. Germany and France have contributed most to the literature issued. The United States has also joined in the movement and besides the four reports published in the BULLETIN there have appeared lately five other reports of special committees issued by the United States Bureau of Education. These have already been widely distributed.

The report of the proceedings of the first international congress held at Milan, at which plans were made for a meeting with the fifth international congress of mathematicians held at Cambridge, England, August, 1912, shows that eleven countries were represented by mathematicians of world-wide renown headed by Klein. The special subjects considered dealt with the emphasis placed on various methods used in the teaching of geometry, the teaching of mathematics (pure and applied) to students with major interest in the sciences, and the fusion in the teaching of the various branches of mathematics. These problems were handled in a finished and scientific manner which make the proceedings of many conferences held in this country on similar topics seem crude in comparison. However it must be said that the practical spirit of this country has already adopted and used for some time the so-called reform methods now learnedly discussed by the commission.

The commission expects to complete its labors and report in full to the Congress at Stockholm, in 1916. When the various reports and special articles are published in full, they will give a comprehensive cross-sectional view of the teaching of mathematics as it exists to-day.

ERNEST W. PONZER.

*Taschenbuch für Mathematiker und Physiker.* Edited by FELIX AUERBACH and RUDOLF ROTHE. 2ter Jahrgang, 1911. Teubner, Leipzig und Berlin. ix + 567 pp.

POCKET and hand books of more or less ambitious size have been in use by engineers, astronomers, and others for a long time. The book under review is the second volume—the first appeared in 1909—of a series of pocket books planned along similar lines for the daily use of mathematicians and physicists. The two sciences are combined in one book because they naturally have much in common, and the 1911 edition also covers in part other fields of science.

It may seem a novel, and certainly an ambitious, project to publish each year a volume which shall remain a reference book and yet not be a duplicate in great part of former volumes issued. It may also be questioned if a series of such separate books would make reference easy. There might also be a question of the number of pockets required. However, while the project might not appeal to an American publisher, it must be said that the firm of Teubner has, as usual, done its part with its usual standard of excellence.

The articles are, as might be expected, very much condensed; in fact in many places definitions and references to books which are authorities in the fields under consideration suffice. The results given are always more than formulas alone, though it would be quite impossible to have treatises on the many subjects considered. Take the case of mathematics, pure and applied. There are 56 articles by various authors covering 180 pages. Among these such subjects as Mengenlehre, quadratic forms, theory of numbers, etc., are included for pure mathematics, while the theories of probability, approximations, and vector analysis are discussed in the section on applied mathematics.

Many parts of mechanics are treated. The tables of logarithms and trigonometric functions given seem totally inadequate. Astronomy is touched upon to the extent of