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THE ENTERPRISE TROPFKE - HISTORY OF ELEMENTARY MATHEMATICS

Rudolf Fritsch, Munich (Germany)

In 1899 Dr Johannes Tropfke (1866 - 1939), senior teacher of mathematics at the "Friedrich - Realgymnasium" in Berlin published a so-called *School Program* entitled "Erstmaliges Auftreten der einzelnen Bestandteile unserer Schulmathematik. I. Teil (First appearance of the individual components of our school mathematics. Part I)". This work has been so highly appreciated by the public that Tropfke wrote a two-volume book edition instead of a second part of the school program. Volume 1 of this "Geschichte der Elementar-Mathematik in systematischer Darstellung (History of elementary mathematics in systematic presentation)" appeared in 1902 containing arithmetic and algebra; volume 2 followed in 1903 with geometry, logarithms, plane and spherical trigonometry, series, calculation of compound interest, probability calculus, continuous fractions, solid geometry, analytical geometry, conics, maxima and minima. A 7-volume second edition was printed in the twenties, a third edition started in 1930. The latter has not been completed, it stopped with volume 4, edited posthumously in 1940 by Kurt Vogel (1888 - 1985). In 1961 Vogel initiated a complete revision of which the first volume appeared in 1980, again comprehending arithmetic and algebra. Now we are working on geometry, particularly plane geometry.

The main feature of this enterprise - from the very beginning on - is the systematic treatment of the material. There are not given the mathematical developments of each century, but the path of particular subjects is followed through all periods. The contribution of Michael Toepell to the Gauss Symposium is an example for this type of mathematical historiography. The emphasis of the former editions laid on the Classics and former times in Europe, Middle East and Egypt. In the new edition we also want to present modern results and other culture areas, e.g. Chinese and Indian mathematics. In the context of this Gauss Symposium in Brazil we are looking for mathematics in the old American cultures, of the Aztecs, Incas and Mayas. The audience is asked for help.

It has to be mentioned that the development of the mathematical terminology is another essential part of this work.

One might ask how the topics are selected, what is "elementary mathematics"? In a broader sense it covers those mathematical themes which can be understood by every mathematician with an academic degree like diploma or B.Sc.; a more restricted conception takes only the union of all curricula which ever have been generated for allround education. In view of a reasonable size of the resulting books we are forced to the latter definition.

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