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Mathematik und Bildung in der Humboldtschen Reform. Diss. (Univ. Bielefeld). (Mathematics and education within Humboldt's reform). (German) [Zbl 0724.01015](#)

Studien zur Wissenschafts-, Sozial- und Bildungsgeschichte der Mathematik, 8. Göttingen: Vandenhoeck u. Ruprecht. x, 504 S. DM 130.00 (1990).

The book is a case study of the role of mathematics in education and the case is Wilhelm von Humboldt's reform of education in Prussia initiated in 1810. Influence of that reform can be seen in the common opinion that the present day importance of mathematics in education goes back to it, although Humboldt himself saw the reasons differently: not in applications of mathematics to technology, science etc. as we are inclined to see it but rather in the beauty of its inner structure, its theoreticity and esthetical values.

The book consists of 3 parts. Part A contains an analysis of the position of mathematics in the scientific culture at the turn XVIII/XIX c. More precisely, its chapter I describes educational reforms in XVIII c. and interrelations theory-practice-explanation and chapter II the philosophical and cultural opinions on mathematics, focusing on great figures of Fichte and Herbart. Part B recalls conceptual changes in the then mathematics on the example of algebraic analysis, an elementary theory to become later of importance for grammar schools. Thus its first chapter (in the book chapter III) describes the combinatorial school, with an emphasis upon philosophical and pedagogical aspects, and chapter IV recalls the analysis of Cauchy as viewed by M. Ohm who tried to build it upon elementary arithmetics, thus opening to it a way to schools. The last part C tries to explain how the changes in mathematics itself, the notion of education and the level of scientific culture have eventually influenced the concept of mathematics for grammar schools and why this concept was loosing its importance in the course of XIX c. More precisely, chapter V reminds the evolution 1780-1840 of the teaching mathematics, with an emphasis on Süvern's curriculum, chapter VI recalls Crelle's report on teaching mathematics in Prussian grammar schools, and final chapter VII describes consecutive textbooks on algebraic analysis, those of Dirksen, Müller, Bretschneider, Stern und Baltzer, paving way to modern arithmetics. The book is completed by 12 pages bibliography and name index with nearly 450 entries.

Although Prussian-centered, the book is a valuable contribution to our understanding of the history of European educational systems and the mutability of common opinions shaping those systems. It is a rare as yet example of a study of history of education (of mathematics) based upon the solid foundation of the then governing philosophies, common attitudes, and the actual state of mathematics itself. It is to be hoped that studies of that kind will follow.

Reviewer: [R.Duda \(Wrocław\)](#)

MSC:

[01A60](#) History of mathematics in the 20th century
[01A05](#) General histories, source books

Cited in **7** Documents

Keywords:

[education](#); [combinatorial school](#); [algebraic analysis](#); [Fichte](#); [Herbart](#); [Cauchy](#); [M. Ohm](#); [modern arithmetics](#)