

KLEIN ON NINETEENTH CENTURY MATHEMATICS

Vorlesungen über die Entwicklung der Mathematik im 19. Jahrhundert.

By Felix Klein. Teil I. Berlin, Springer, 1926. xiii+385 pp.

Twenty years ago, during a series of walks in the forest about Hahnen-
 klee, in the Hartz Mountains, the conversation between Klein and a com-
 panion covered, as would naturally be the case, a wide range. Three state-
 ments, however, impressed his listener* very strongly. One was political:
 "There was a time when we looked up to England socially, politically, and
 as a naval power,—but that is a thing of the past." The second was political
 and of military significance: "America has no standing army today;
 twenty-five years hence she will have a large one." It is not strange that
 his auditor wondered at the real significance of these two statements by
 a man of Klein's vision and prominence. The third remark was in response
 to a statement to the effect that he of all men was the one to write a history
 of mathematics in the 19th century. "I am too old," was the reply, "It
 needs a young man who could devote years to its preparation." When it
 was urged that he had seen the development and had taken part in it as
 few if any others living had done, he remarked, "No, all that I could do
 would be to give a few lectures on the great events, but I am too much occu-
 pied to prepare even these." Ten years later, when the war was on, and
 his family had been sorely stricken, he gave these very lectures in his home
 in Göttingen, before a small group of listeners anxious to receive from a
 master that which only a master could give.

The lectures have been edited by Professors Courant and Neugebauer
 and are published as Band XXIV of *Die Grundlehren der mathematischen
 Wissenschaften*, a recent series, already well known to all mathematical
 students. Rightly did they say in their Vorwort: "Diese Vorlesungen sind
 die reife Frucht eines reichen Lebens inmitten der wissenschaftlichen
 Ereignisse, der Ausdruck überlegener Weisheit und tiefen historischen
 Sinnes, einer hohen menschlichen Kultur und einer meisterhaften Gestal-
 tungskraft; sie werden sicherlich auf alle Mathematiker und Physiker und
 weit über diesen Kreis hinaus eine grosse Wirkung ausüben."

The work is divided into eight chapters. The first naturally begins with
 the founder of the modern German school of pure and applied mathematics,
 —Gauss. It considers his work in the applied field with respect to astron-
 omy, geodesy, and physics, the last in connection with A. von Humboldt
 and Wilhelm Weber. In pure mathematics the attention is given chiefly
 to the number theory, forms, and the function theory, with a succinct
 statement as to the claim that Gauss is entitled to the award of priority

* The reader may suspect the identity of the "listener," who modestly
 conceals it. The editors may state at least that the conversation was actual
 and that this report is a first-hand report.

(THE EDITORS)