of p which divides the order of a group H, and if no operator of H whose order is prime to p transforms a subgroup of order p^{μ} into itself without being commutative with each one of its operators, then must H contain a subgroup of index p^{λ} which is composed of all the operators of H whose orders are not divisible by p. Frobenius observes that it is possible to state this theorem somewhat more generally; but in this case the statement becomes still more complex and we shall not present it here.

STANFORD UNIVERSITY,
June, 1902.

SHORTER NOTICES.

Urkunden zur Geschichte der Mathematik im Mittelalter und der Renaissance. By M. CURTZE. Erster Theil. *Abhandlungen zur Geschichte der mathematischen Wissenschaften*, XII. Heft. Leipzig, Teubner, 1902. 336 pp. 16 Marks.

IT is a compliment to the monumental work of Professor M. Cantor that the activity in the field of the history of mathematics for the past twenty years has been almost entirely directed by him. The sole effort has been to supplement his work, to enter some of the innumerable doors which he has opened, to decipher the inscriptions upon the monument which he has erected. Hardly an article appears in the *Bibliotheca Mathematica*, relating to the period preceding the middle of the eighteenth century, that does not refer in some way to Cantor's work, and the Abhandlungen have been more or less under his direction for a quarter of a century.

Herr Curtze's latest contribution is an evidence in point, not merely in being dedicated to Professor Cantor on the occasion of his doctor's jubilee, but in that it elaborates certain details of his History for which elaboration scholars have been waiting.

Half of the work is given to the *Liber embadorum* of Abraham Savasorda (Sahib al Schorta, chief of the guards) as translated from the Hebrew by Plato of Tivoli in 1116, a treatise merely mentioned by Cantor.* The work has already been noticed by Curtze † as being one of the chief sources of

* Vorlesungen, vol. 2, p. 853.
† *Bibliotheca Mathematica*, vol. 1, 3d series (1900), p. 501.