eral mass of mathematical science. According to the most recent works which have appeared in England, France, and Germany[*] on the history of mathematics, we learn that " the algebra of the Arabs originated from an Indian and a Greek source, which long flowed independently of one another." The Compendium of Algebra which the Arabian mathematician Mohammed Ben-Musa (the Chorowazneir), framed by command of the Calif Al-Mamun, was not based on Diophantus, but on Indian science, as has been shown by my lamented and too-early deceased friend, the learned Friedrich Rosen ;[†] and it would even appear that Indian astronomers had been called to the brilliant court of the Abbassides as early as the close of the eighth century, under Almansur. Diophantus was, according to Castri and Colebrooke, first translated into Arabic by Abul-Wefa Buzjani, toward the close of the tenth century. The process of establishing a conclusion by a progressive advance from one proposition to another, which seems to have been unknown to the ancient Indian algebraists, was acquired by the Arabs from the Alexandrian school. This noble inheritance, enriched by their additions, passed in the twelfth century, through Johannes Hispalensis and Gerhard of Cremona, into the European literature of the Middle Ages.[‡] " In the algebraic works of the Indians, we find the general solution of indeterminate equations of the first degree, and a far more elaborate mode of treating those of the second, than has been transmitted to us in the writings of the Alexandrian philosophers ; there is, therefore, no doubt, that if the works of the Indians had reached us two hundred years earlier, and were not now first made known to Europeans, they might have acted very beneficially in favoring the development of modern analysis."

The same channels and the same relations which led the

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[*] Colebrooke, *Algebra with Arithmetic and Mensuration*, from the Sanscrit of Brahmagupta and Bhascara, Lond., 1817. Chasles, *Aperçu Historique sur l'Origine et le Développement des Méthodes en Géométrie*, 1837, p. 416–502 ; Nesselmann, *Versuch einer kritischen Geschichte der Algebra*, th. i., s. 30–61, 273–276, 302–306.

[†] *Algebra of Mohammed Ben-Musa*, edited and translated by F. Rosen, 1831, p. viii., 72, and 196–199. The mathematical knowledge of India was extended to China about the year 720 ; but this was at a period when many Arabians were already settled in Canton and other Chinese cities. Reinaud, *Relation des Voyages faits par les Arabes dans l'Inde et à la Chine*, t. i., p. cix. ; t. ii., p. 36.

[‡] Chasles, *Histoire de l'Algèbre*, in the *Comptes Rendus*, t. xiii., 1841, p. 497–524, 601–626. Compare, also, Libri, in the same volume, p. 559–563.