instrument, afterwards called "the method of fluxions"; but he had not made it generally known before the invention of Leibniz was published.[1] This, though much later in time, had been perfected and applied by his friends and followers in a most extensive manner, and had, in fact, become the recognised mathematical language of the Continent. No learned body did more than the Paris Academicians to perfect (with purely scientific

[1] Leibniz seems to have been in possession of his method as early as 1675, and communicated it to Collins in 1677. It was, however, not published before 1684 in the 'Acta Eruditorum,' and then probably only on account of some writings of Tschirnhausen trenching on the same subject. Newton seems to have been in possession of his methods as early as 1665, fully ten years before Leibniz made use of his. Immediately after the publication of Leibniz's paper in 1684, the differential calculus was taken up by the Continental mathematicians, especially by James Bernoulli (1654-1705) and John Bernoulli (1667-1748), and the Marquis de l'Hopital, who published the first treatise on the new calculus in 1696. Newton did not publish any account of his method, though he must have used it extensively in arriving at the results contained in the 'Principia.' Different views have been expressed on the reasons which induced Newton to withhold from publication his new methods, and the question to what extent Leibniz owed the first suggestions of his method to Newton remains also undecided. Those who take an interest in the personal question should refer to the original documents, the 'Commercium Epistolicum,' published by the Royal Society in 1715 ; the pamphlet of Gerhardt, 'Die Erfindung der Differentialrechnung' (Halle, 1848). An extreme view, unfavourable to Leibniz's originality, is taken by Sloman, 'Leibnitzens Anspruch auf die Erfindung der Differentialrechnung' (Leipzig, 1857); but it has not been generally adopted by those who have examined into the subject. As to the superiority of the Continental notation for practical purposes, this seems to have been generally admitted at the beginning of this century, when it was introduced into English mathematical works. In the school of W. R. Hamilton of Dublin the notation used by Newton acquired a peculiar importance, and it is still occasionally used in some important works like Tait and Steele's 'Dynamics of a Particle,' and Thomson and Tait's 'Natural Philosophy.' See on this Tait's article on Hamilton in the 'North British Review' (Sept. 1866). The importance of the labours of the Continental school, headed by Leibniz, for the diffusion of the new methods, is well described by Remont de Montmort in a letter to Brook Taylor, dated 18th December 1718, and given in the appendix to Brewster's 'Life of Newton' (vol. ii. p. 511, &c.) Those who take more interest in the fate of ideas and the progress of thought than in personal matters will do well to read this letter.