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(*b*. Paris, France, 28 April 1765; *d* Paris, 24 May 1843)

mathematics.

Lacroix who came from a modes background studied at the Collège des Quatre Nations in Paris, where he was taught mathematics by the Abbé Joseph François Marie. He became ardently interested in the exact sciences at a very young age; as early as 1779 he carried out long calulations on the motions of the planets, a nd 1780 he attended the free courses give by Gaspard Monge, who became his patron. The friendship between the two remained constant throughout the sometimes dramatic events of their lives. Monge, who was an examiner of students for the navy, in 1782 secured for Lacroix a position as professor of mathematics at the École des Gardes de la Marine at Rochefort. Following Monge's advice, Lacroix then began to concern himself with partial differential equations and with the calculus of variations. In 1785 Lacroix sent a memoir on partial differences of Monge which he reported on to the Académie des Sciences. In that same year Lacroix also sent new solar tables to the Academy.

Lacroix returned to Paris to substitute for Condorcet in his mathematics course at the Lycée, a newly founded free institution whose lectures attracted many members of the nobility and of the upper bourgeoisie. The course in pure mathematics had few audiors and was soon discontinued. Lacroix then taught astronomy and the theory of probability. He also shared a 1787 Academy prize (which they never received) with C. F. Bicquilley for a work on the theory of marine insurance. In the meantime he had married. Lacrix also succeeded d'Agelet first in the duties and eventually in the title tot he chair of mathematics at the École Militaire in Paris, and began to gather material for his *Traité du calcul différentiel et du calcul intégral* (1797–1798).

Because the chair at the Lycée was abolished and the École Militaire closed in 1788, Lacroix once again left Paris; he took up a post as professor of mathematics, physics, and chemistry at the École Royale d'Artillerie in Besançon. In 1789 the Academy chose him to be Condorcet's correspondent, and in 1793 he succeeded Laplace as examiner of candidates and students for the artillery corps. In 1794 he became *chef de bureau* of the Commission Exécutive de l'Instruction Publique. He and Hachette later assisted Monge in the practical work connected with his course in descriptive geometry at the École Normale de l'An III about this time Lacroix published his *Eléments de géométrie descriptive*, the materials for which had been assembled several years previously. The printing of his great *Traité* began during this period. Until 1791 Lacroix was a member of the admissions committee of the École Polytechnique.

Upon the creation of the Écoles Centrales, schools for intermediate education that were the forerunners of the modern lycéle, Lacroix became professor of mathematics at the École Centrale des Quatres Nations. He then undertoook to publish numerous textbooks, which further contributed to his fame. In 1799 he was elected a member of the Institute. He also succeeded to Lagrange's chair at the École Polytechnique, a position he held until 1809, when the became a permanent examiner.

The first volumes of Lacroix's treatise on the calculus, in which he "united all the scattered methods, harmonized them, developed them, and joined his own ideas to them" appeared in 1797. It was followed by a second volumes in 1798, and a third appeared in 1800 under the title *Traité des différences et des séries* (a second edition appeared in three volumes [1810, 1814, 1819]). This monumental work constituted a clear picture of mathematical analysis, documented and completely up to date. While Lacroix followed Euler on many points, he incorporated the various advances made since the middle of the eighteenth century. The treatise is a very successful synthesis of the works of Euler, Lagrange, Laplace, Monge, Legndre, Poisson, Gauss, and Cauchy, whose writings are followed up to the year 1819.

In his teaching, particularly at the École Polytechnique, Lacroix utilized his *Traité élémentaire du calcul différentiel et du calcul intégral*, which appeared in 1802. A work of enduring popularity, it was translated into Enlgish and German. From 1805 to 1815 Lacroix taught transcendental mathematics at the Lycée Bonaparte and, with the creation of the Facultés, he became dean of he Faculté des Sciences of Paris and professor of differential and [integral calculus](#).

When Lacroix succeeded to the duties of Antoine Rémi Mauduit in 1812 at the Collège de France, he arranged for Paul Rémi Binet to succeed to his post at the Lycée Bonaparte. Upon Mauduit's death, Lacroix was appointed to the chair of mathematics at the Collège de France; the then definitively ended his connection wtih theLycée Bonaparte, which in the meantime had become the Collége Bourbon.

Lacroix retired from his post as dean of the Faculté des Sciences in 1821 and a few years later from that of professor as well. In 1828 Louis Benjamin Francoeur succeeded to Lacroix's duties at the Collège de France, and beginning in 1836, Libir succeeded to these duties.

At the time of his visit to Paris in 1826, Abel found Lacroix "frightfully bald and remarkably old." Although he was only sixty-one, his astonishing activity since adolescence had affected his health.

Lacroix's mathematical work contained little that was absolutely new and original. His writings on [analytic geometry](#), which refined ideas the derived from Lagrange and above all from Monge, served as models for later didactic works. It was he who actually proposed the term "[analytic geometry](#)": "There exists a manner of viewing geometry that could be called *gémétrie analytique*, and which would consist in deducing the properties of extension from the least possible number of principles, and ty truly analytic methods' (*Traité du calcul différentiel et du calcul intégral*, **I** [Paris, 1797 [p. xxv).

A disciple of Condillac in philosophy, Lacroix brought to all his didactic works a liberal spirit, open to the most advanced ideas. He was particularly inspired by the pedagogical conceptions of Clairaut and, in addition, by those of masters of Port-Royal and Pascal and Descartes. In this regard, the contrast is quite striking between Lacroix's *Éléments de géométrie* and the similar contemporary work by Legendre, which is a great deal more dogmatic.

Lacroix's sense of history is evident in all his writings. The preface to the first volume of the second edition of the great *Traité* (1810) is a model of he genre. He also wrote excellent studies, in partitulcar those on Borda and condore\cet, for Michaud's *Biographie universelle*. In addition he participated in the editing of volume III of Montucla's *Histoire des mathématiques*, composed the secion on mathematics for Delambre's report on the state of science in 1808, for Delambre's report on the state of science in 1808, and prepared a essay on the history of mathematics, which unfortunately remained in manuscipt from and now appears to have been lost.

His *Essair sur l'enseignement* (1805), a pedagogical classic, display his acute psychological penetration, rich erudition, lberal cast of mind, and broad conception of education.

For more than half a century, through his writings and lectures, Lacroix thus contributed to an era of renewal and expansion in the exact sciences and to the training of numerous nineteenth-century mathematicians. The young English school of mathematics, formed by Babbage, Peacock, and Herschel, wished to breathe a new spirit into the nation's science, and one of its first acts was to translate the *Traité élémentaire du calcul différentiel et du calcul intégral*.

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