

## OBITUARY NOTICES OF FELLOWS DECEASED.

MICHEL CHASLES was born at Epernon, in the department of Eure-et-Loire, on the 15th of November, 1793.

He began his education at the Lycée Impériale, and even in childhood showed a decided taste for geometry, and was in the habit of communicating to the pupils of other schools the problems given him by his teachers, obtaining their problems in exchange.

In the year 1812 he began his studies at the École Polytechnique. In 1814 he assisted with his fellow-students in the defence of Paris, and in that same year passed the engineering examination. After considerable hesitation he decided to accept the appointment as officer of engineers to which he was now entitled; but just as he was about to enter the service he was induced to surrender the appointment in favour of a friend, who was next on the list to the successful candidates, and to whom it was a great object. He spent a short time with his mother at Chartres, and then resumed his studies at the École Polytechnique.

When, in 1814, all the students of the École Polytechnique were abruptly dismissed, Chasles gave hospitality in his home at Chartres to his brilliant schoolfellow at the Lycée Impériale, Gaëtan Giordini, who through his influence had been induced to study geometry, and who had obtained the first prize at the Concours Général over the head of Chasles himself, and had afterwards obtained the first place in the École Polytechnique.

On finally quitting the École Polytechnique Chasles spent about ten years in retirement at Chartres, devoting himself to geometry.

In 1837 he published the first edition of his great work, "Aperçu Historique sur l'Origine et le Développement des Methodes en Géométrie," which was characterised by De Morgan as a work of great importance in the historical point of view, and described in the following words by M. Bertrand: "L'admirable 'Aperçu Historique,' qui sous ce titre plus que modeste, restera l'œuvre la plus savante, la plus profonde, et la plus originale qu'ait jamais inspirée l'histoire de la science."

In 1841 Chasles became Professeur de Machines et de Géodésie at the École Polytechnique, which appointment he held for ten years, when he resigned it in consequence of some radical alterations which were being made, and of which he entirely disapproved.

In 1846 he was appointed to a new chair of Modern Geometry at

the Faculté des Sciences, which had been established in consequence of the strong recommendation of Poinsoy, and for twenty-five years Chasles devoted himself assiduously to his duties at the Sorbonne. The "Traité de Géométrie Supérieure," an elaborate and masterly treatise which embodied the substance of a course of lectures given to the Faculté des Sciences, appeared in 1852. This book became scarce, but about two months before his death, Chasles had the satisfaction of seeing a second edition of it published, accompanied by his excellent "Discours d'Inauguration."

The "Traité de Géométrie Supérieure" was followed in 1865 by the first volume of his "Traité des Sections Coniques," being a sequel to the former. No other volume of this work ever appeared, though much desired by mathematicians.

In 1863 Chasles published his book "Les Trois Livres de Porismes d'Euclide, rétablis pour la première fois, d'après la Notice et les Lemmes de Pappus, et conformément au sentiment de R. Simson, sur la Forme des Énoncés de ces Propositions." The publication of this work led to a short controversy with M. P. Breton ("Question des Porismes—notices sur les débats de priorité auxquels a donné lieu l'ouvrage de M. Chasles sur les porismes d'Euclide," Paris, 1865; and a second part, Paris, 1866). M. Chasles comments on these in his "Rapport."

In 1851 Chasles was elected a member of the French Academy, of which he had been a corresponding member since 1839. In 1854 he became a foreign member of the Royal Society, and in 1865 he received the Copley medal, which was given to him in acknowledgment of his historical and original Researches in Pure Geometry. He was the first, and for some years the only, foreign member of the London Mathematical Society. He was also a member of the Cambridge Philosophical Society.

Chasles continued his labours in the cause of science without interruption, from the time of his leaving the Lycée Impériale until he was eighty years of age. An interval of sixty-eight years separates the first note of the pupil Chasles, which appeared in the "Correspondance sur l'École Polytechnique," from the last memoir he presented to the Academy. In the "Catalogue of Scientific Papers" will be found the titles of 177 of his papers, and it is computed that the number published since 1873 would probably bring the total to nearly 270. The subjects range over curves and surfaces of the second and of any degree, geometry, mechanics (and attractions), history, and astronomy. His "Rapport" perhaps furnishes the best key to his writings, and at pages 72—126, 220—280 will be found an account of his own contributions to geometry.

Chasles' life was a happy and simple one. He lived quietly and abstemiously, respected and loved by all the scientific friends whom he

was in the habit of inviting and entertaining with such true kindness and hospitality. His brethren of the Institut, as well as the numerous other French and foreign savants, whom he liked so much to collect around him, will not easily forget the cordial and sympathetic reception which they always met with in his hospitable salon, whether in Paris or in his country quarters at Sèvres.

Chasles was an active member of the Council of the Société des Amis de France, and it is well known how diligently and conscientiously he always laboured in finding worthy objects for the charity of this institution, and how generously he frequently supplemented its work by donations from his own purse when the funds of the society did not suffice for its wants.

Fifteen years before his death, when the pupils of the École Polytechnique first conceived the idea of founding the Société Amicale, they perceived how important it was, in order to succeed in such an undertaking, that they should place it under the guidance of a man beloved and respected by all, and Chasles was requested to act as president. In spite of his already advanced age, and the necessity he might have urged of repose after his long labours, he accepted the post, and it is well known how zealously he devoted himself to the interests of the society, of which he must always be considered the real founder.

His death took place on the 18th of December, 1880.