

degree of Doctor of Laws was conferred on him by Trinity College, Dublin, in 1857."

This brief notice of one who was for twenty-seven years an honour to the Society, may be fittingly closed with a few words of affectionate testimony by a brother officer, to whose Memoir we are indebted for much of the foregoing. "The characteristics which shone forth in Portlock during his well-spent life," writes Major-General Sir Thomas Larcom, "whether as a soldier, a geographer, or a geologist, were—undaunted courage in facing difficulties, Spartan endurance and invincible perseverance in overcoming them. Endowed, when in the zenith of his career, with a frame and nerves of iron, he exhibited such a vast power of continuous labour, that he achieved every object he had in view; while great ability, and a pure love of knowledge, were in him guided and governed by the highest sense of honour and moral rectitude."

DR. ARCHIBALD ROBERTSON was born at Cockburnspath in Scotland, on the 3rd of December, 1789. He studied medicine at Edinburgh, and in 1808 entered the Naval Medical Service. After some years of active employment in Europe and America, he on the termination of the war resorted again to Edinburgh for the further prosecution of study, and took his degree of M.D. in that University in 1817. He then settled as a physician in Northampton; and although for more than a twelvemonth he did not receive the encouragement of a single fee, he held on to the position he had taken, and was soon rewarded by large and lucrative employment, his success being promoted and assured by his being in 1820 elected Physician to the Northampton Infirmary. After a long and prosperous professional career, and the acquisition of a handsome independence honourably earned, he in 1853 resolved to withdraw himself from the labour of active practice. He accordingly left Northampton, and passed the rest of his life in retirement in the west of England.

Dr. Robertson was a man of considerable literary accomplishment, and, before his time became engrossed by practice, he was in the habit of writing literary articles in some of the journals and reviews of the day. He contributed two short articles on professional subjects to Forbes's 'Cyclopædia of Medicine.' He was elected a Fellow of the Royal Society on the 11th of February, 1836.

Both as a physician and as a member of society, Dr. Robertson was highly esteemed. His death took place at Clifton, on the 19th of October, 1864.

GIOVANNI ANTONIO AMEDEO PLANA, descended from an ancient and distinguished family of Guarene in Piedmont, was born at Voghera, on the 8th of November, 1781. In 1800 he entered the Polytechnic School of Paris, where he so greatly distinguished himself that, on the 23rd of May, 1803, he was appointed Professor in the Artillery School of Alessandria.

On the 28th of November, 1809, he presented to the Academy of Turin a paper, entitled "Équation de la courbe formée par une lame élastique quelles que soient les forces qui agissent sur la lame," the first of a series of papers offered to the same Academy, far too numerous to be recorded in the present notice. On the 15th of March, 1811, on the recommendation of Lagrange, he obtained the Professorship of Astronomy in the University of Turin, and on the 5th of March, 1813, became Director of the Observatory. After the Restoration, the king, Victor Emmanuel I., who took a personal interest in the progress of astronomy and frequently sent for Plana to explain various celestial phenomena, augmented the income of the Observatory, and transferred it from the house of the Academy to a better situation on the west tower of the north face of the Palazzo Madama. During the years 1821, 1822, 1823 he was associated with Carlini in the operation of measuring an arc of parallel in Savoy and Piedmont. The results were published in 1825, under the title "Observations géodésiques et astronomiques pour la mesure d'un arc de parallèle moyen." In 1828 the authors received from the Institute the Lalande prize for the astronomical part of their joint work. In 1832 he published his 'Théorie du mouvement de la Lune,' in three large quarto volumes. This he regarded as the most important of all the labours of his life. For this work the Copley Medal was awarded to him in 1834, and the Gold Medal of the Astronomical Society in 1840. In announcing the latter award, Sir John Herschel, President of the Society, made the following quotation from the "Discours préliminaire" of the 'Théorie de la Lune'—"Je n'ai pu me faire aider par personne; j'ai dû traverser *seul* cette longue chaîne des calculs, et il n'est pas étonnant si, par inadvertence, j'ai omis quelques termes qu'il fallait introduire pour me conformer à la rigueur de mes propres principes,"—adding, "When we look at the work itself there seems something awful in this announcement."

In 1822, on the occasion of the appearance of his "Mémoire sur les mouvements des fluides qui recouvrent une sphéroïde à peu près sphérique," he was elected a Corresponding Member of the Institute, and in 1860 one of the eight Foreign Associates. In December 1851 he became President of the Royal Academy of Turin. He was elected Foreign Member of the Royal Society in 1827. He received from his own king the title of Baron, and was created a Senator on the formation of the Senate in 1848.

He delighted in the classic poets, and was not more remarkable for the accuracy and elegance of his mathematical investigations than for the precision of his style in writing. He was in the habit, it is said, of bestowing extraordinary care on the composition and correction of his works.

On the 6th of January, 1864, he read a paper before the Royal Academy of Turin, entitled "Mémoire sur les formules du mouvement circulaire, et du mouvement elliptique libre autour d'un point excentrique par l'action d'une force centrale." This was his last work. He died at Turin on the 20th of January, 1864, leaving a widow (Lagrange's niece) and a daughter.

The death of his only son, on the 27th of March, 1832, called forth the expression of grief which concludes the Introduction to the 'Théorie de la Lune.'

HEINRICH ROSE was born on the 6th of August, 1795, at Berlin, where his father, son of the discoverer of the fusible alloy known by his name, was Pharmacist and Assessor of the Superior Medical College. His father died in 1807, leaving behind him a widow and four young boys. H. Rose studied Pharmacy first in Dantzic, where he experienced the horrors of a siege, and nearly lost his life by typhus fever. He served in the campaign of 1815, together with his three brothers, of whom one is Professor Gustav Rose, the distinguished Mineralogist of Berlin. On the conclusion of the war he continued his studies in Berlin, working in Klaproth's laboratory during the summer of 1816. In September 1816 he entered the Pharmacy of Dr. Bidder of Mitau. About the end of 1819 he went to Stockholm, where he worked for a year and a half in the laboratory of Berzelius, who recommended him to devote himself to the teaching of chemistry as a profession. On quitting Stockholm he resided for some time at Kiel, where he wrote his Dissertation "de Titanio ejusque connubio cum oxygenio et sulphure," and took the Degree of Doctor of Philosophy. In the summer of 1822 he obtained the sanction to become a private teacher in the University of Berlin, and began a course of lectures on practical analytical chemistry in the autumn of the same year. He was appointed Extraordinary Professor in 1823, and Ordinary Professor of Chemistry in 1835. He was elected a Member of the Berlin Academy in 1832, Foreign Member of the Royal Society in 1842, Corresponding Member of the Institute in 1843, and was invested with the Prussian order of *pour le mérite*.

His memoirs on inorganic chemistry and chemical analysis, a department in which he stood unrivalled, to the number of nearly, if not quite, two hundred, are contained principally in Gilbert's and Poggendorff's 'Annalen.' The results of his researches in analytical chemistry are embodied in his 'Handbuch der analytischen Chemie,' which came out in one volume in 1829. A second edition, in two volumes, was published in 1831, a fourth in 1838, a fifth in 1850, the sixth (so thoroughly revised that it should be regarded as a new work) was published in French, at Paris, in 1861. In forming an estimate of the labour expended in preparing this voluminous treatise, it must be remembered that each precept is the result of an experiment (frequently of a series of experiments) made by the author. During the last years of his life he was engaged in writing an elementary treatise on analytical chemistry, about thirty sheets of which were printed during his lifetime. For this work also a large number of experiments were made in his laboratory. His activity and industry increased with advancing age. A year before his death he was heard to exclaim, "I have at most only a few years to live, and so much remains to be done!" During the latter