Plana, Giovanni | Encyclopedia.com

(*b*. Voghera, Italy, 6 November 1781; *d* Turin, Italy, 20 January 1864) *mathematics, astronomy*.

Plana was the son of Antonio Maria Plana and Giovanna Giacoboni. In 1796 his father sent him to complete his studies in Grenoble, where two of his uncles lived. Plana soon became noted for his scientific ability; in 1800 he was admitted to the École Polytechinque at Paris, where he remained for the next three years. This period was decisive in shaping his career, for one of his teachers was Lagrange. In Grenoble, Plana became a close friend of his famous contemporary Stendhal.

In 1803 Plana returned to Italy. Fourier, greatly impressed by Plana, had tried unsuccessfully to procure his nomination as professor of mathematics at the artillery school of Grenoble but managed to obtain a similar post for him at the artillery school in the Piedmont, which was then annexed to France; the school was located partly at Turin and partly at Alessandria. In 1811, on Lagrange's recommendation, Plana was named professor of astronomy at the University of Turin. He remained there until his death, teaching astronomy and infinitesimal analysis, as well as other subjects at the local military academy. For half a century he also directed and stimulated the development of the astronomical observatory of Turin.

Plana is generally considered one of the major Italian scientists of his age because, at a time when the quality of instruction at Italian universities had greatly deteriorated, his teaching was of the highest quality, quite comparable with that of the *grandes écoles* of Paris, at which he had studied.

Plana's scientific contributions cover a wide range: mathematical analysis (Eulerian integrals, elliptical functions), mathematical physics (the cooling of a sphere, electrostatic induction), geodesy (the extension of an arc of latitude from Austria to France), and astronomy (particularly the theory of lunar movement). His study of the moon was inspired by Barnaba Oriani, director of the Brera Observatory in Milan. Oriani had suggested that he and Francesco Carlini, who had done geodetic work with Plana, should attempt to compile reasonably precise lunar tables solely on the basis of the law of universal gravity — that is, using only the observational data essential to determine the arbitrary constants of the problem. Plana soon quarreled with Carlini, who withdrew in disgust; and Plana succeeded alone, after almost twenty years. The results were presented in the three-volume *Théorie du mouvement de la lune* (Turin, 1832). The work was not widely read and received criticism that was not always unfounded; but it is of notable scientific and philosophical value, and as such it was well received.

In 1827 Plana was named astronomer royal; in 1844 he became a hereditary baron; in 1848, a senator; and in 1860, *associé étranger* of the Paris Academy of Sciences.

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A list of about 100 works by Plana is in Poggendorff, **II,** cols. 460–463. Most of Plana's writings and his portraits are listed in Albert Maquet, "L'astronome royal de Turin, Giovanni Plana (1781–1864); un homme, une carrière, un destin," in *Mémoires de l' Académie royale de Belgique. Classe des sciences*, **36** (1965), fasc. 6.

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F. G. Tricomi