

# Biographical Encyclopedia of Astronomers

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Camus, Charles-Étienne-Louis

Born Crécy-en-Brie near Paris, France, 25 August 1699

Died Paris, France, 4 May 1768

As a member of the Académie royale des sciences, Charles-Étienne-Louis Camus took an active part in the scientific life of 18th-century Paris and is particularly known for his participation in the astronomical and geodesic program to define the shape of the Earth. He also contributed to clockmaking and mechanics.

Camus was the son of a surgeon. From an early age, he showed a special gift for mathematics, while being clever with his hands, making and repairing iron or wood objects. He persuaded his parents to let him study at the Collège de Navarre in Paris. After leaving the college, Camus continued mathematical studies on his own, later with the aid of Pierre Varignon, a member of the academy. He also

began studies in geometry, civil and military architecture, mechanics, and astronomy

In 1727, Camus presented a dissertation to the academy on ships' masts; this work was appreciated by the academy, which decided to include it among the works to be published. Camus was also rewarded with half the prize money. On 5 August 1727, the academy elected him an adjoint-mécanicien member. In the following year, Camus submitted a memoir in favor of the idea of vis viva, which was then being debated. Until 1730, the academy records refer to him as the abbé Camus. He must have left the priesthood around that time, as he married Marie-Anne-Marguerite Fournier in 1733. They had four daughters, only the eldest of whom reached adulthood

In 1730, Camus was appointed professor of geometry at the Royal Academy of Architecture, and three years later, its secretary. In 1733, he presented a memoir on toothed wheels and gears, which was a generalization of some work previously presented by Philippe de La Hire. He also showed talent in dealing with clock and watchmaking. In 1733, Camus and Alexis-Claude Clairaut were both elected associate members of the Académie royale des sciences

During these years, the French scientific establishment debated the shape of the Earth and planets. As previous measurements by Giovanni Cassini disagreed with the Newtonian theory, the Academy ordered two expeditions to measure the length of a degree along the meridian, one to Peru (1735) and one to Lapland (1736–1737). Camus participated in the latter, which was led by Pierre de Maupertuis. The abbot Réginald Outhier's account of the expedition, *Journal d'un voyage au Nord, en 1736 & 1737*, appeared in Paris in 1744. It recounts Camus's efforts as a clockmaker, mechanic, and engineer, all of which were invaluable to the success of the expedition into these distant and inhospitable areas. Camus erected the expedition's lodgings, assembled and regulated its measuring devices, and manufactured clocks for various experiments

As the Lapland results were inconclusive, further expeditions were arranged. Camus joined the Lapland team to remeasure the length of the arc of the meridian in the vicinity of Amiens made by Jean Picard in 1669/1670. With other astronomers, Pierre Bouguer, César Cassini de Thury, and Alexandre Pingré, Camus was involved in similar measurements between Montlhéry and

Juvisy to produce the Carte de France. A new expedition, with these same astronomers, was undertaken in the Amiens area in 1756.

In 1745, Camus undertook, along with Jean Hellot, some metrological work. From that time, Camus was heavily involved in the routine work of the academy, examining memoirs and machines submitted to it, attending meetings, undertaking evaluation missions, and participating in various projects

Camus was designated as a pensioner-geometer member in the academy in 1741, as sous-directeur in 1749 and 1760, and directeur in 1750 and again in 1761. In 1745 he was appointed by the academy to be an examiner in the royal engineering schools, a position that led him to write a mathematics textbook. The first three parts, on arithmetic, geometry, and mechanics, were published; the drafts concerning hydraulics were found in his home after his death. This textbook, even with some defects, was used widely in French engineering schools. Camus was elected at the Royal Astronomical Society in 1765

Camus caught a bad flu during the winter of 1766 while traveling to Metz to organize an examination; he was recovering when news of his daughter's death came to him late in 1767. Camus was reported to be an upright man, apolitical, plain in discussion, although sometimes quick to retort. Although not a scientist of the first rank, Camus was an important participant in the work to establish the figure of the Earth.

*Monique Gros*

### **Selected References**

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