

Girard, Pierre-Simon | Encyclopedia.com

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(*b.* Caen, France, 4 November 1765; *d.* Paris, France, 30 November 1836)

hydraulic engineering.

Educated at Caen, Girard was admitted to the *École des Ponts et Chaussées* at the age of twenty-one and in 1789 was appointed to the grade of engineer in the *Corps des Ponts et Chaussées*. His first subject of investigation, to which he later returned, was the strength of wood as a structural material, yet he won the 1790 competition of the *Académie des Sciences* on the theory and practice of canal and harbor lock construction. In 1798 he was among the scientific experts in many fields called to take part in Napoleon's expedition to Egypt, where he remained until 1803, after the last troops had left. At first assigned to the port of Alexandria, he soon undertook an extensive study of the surface elevation and bed characteristics of the Nile; this study eventually broadened to cover material on Egypt's agriculture, commerce, and industry, all to be included in the comprehensive report on the expedition, of which he was one of eight authors.

Upon Girard's return to France, Napoleon appointed him director of the Paris [water supply](#), with the special task of connecting the Seine and Ourcq rivers with a ship canal to serve the capital. This led him to study the resistance of the flow of water through pipes and open channels, the most essential contribution of which was the attention that it called to an important analysis, buried since 1768 in the files of the *Corps des Ponts et Chaussées*, by Antoine de Chezy. The first barges reached Paris from the Ourcq in 1813, but the overthrow of Napoleon and the restoration of the monarchy delayed completion of the 100-kilometer canal until 1820. Girard's account of the project, including the causes of certain objectionable effects on the groundwater level in urban districts, is to be found in his major treatise, *Mémoire sur le canal de l'Ourcq* — a two-volume work plus atlas (1831–1843).

Girard was elected to the first class of the *Institut National des Sciences et des Arts* in 1815—this class became the *Académie des Sciences* of the Institute the following year—and served as its president in 1830. Despite his having rallied to Napoleon during the [Hundred Days](#), Girard retained his post as water commissioner until 1831, and in the latter period he was promoted to the grade of *officier* in the Legion of Honor. The day of his death, 30 November, is given incorrectly in several references.

BIBLIOGRAPHY

A complete list of Girard's writings is in *Nouvelle bio graphie générale* (see below), which refers to a projected collection of his works, but no trace of the latter can be found. His major work is *Mémoire sur le canal de l'Ourcq* — 2 vols. plus atlas (Paris, 1831–1843).

Biographies are in *Nouvelle biographie générale*, XX (Paris, 1857), 661–668; and *Grand dictionnaire universel du XIX^e siècle*, VIII (Paris, 1872), 1268. See also Charles Richet (Girard's great-grandson), "Pierre-Simon Girard..." in *Compètes rendus de l'Académie des sciences*, **197** (11 Dec. 1933), 1481–1486.

Hunter Rouse