

Henry Darcy's Public Fountains of the City of Dijon

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Darcy's Law, first published in 1856, is widely accepted as the foundation of quantitative hydrogeology. Experiments on water flow through sand led Darcy to formulate the empirical law he published as an appendix to *The Public Fountains of the City of Dijon*, his account of the planning and construction of Dijon's water system in 1840. Darcy wrote the book as a guide for engineers tasked with building water supply systems in 19th century Europe. Darcy's 650-page book provides valuable information on the historical context of his accomplishments and on Darcy the man.

Darcy describes how, as a young engineer of the Corps of Bridges and Roads assigned to his native city, he gauged nearby springs and selected an abundant spring to divert to Dijon via a 12-km underground aqueduct. He collected information from British and French engineers to calculate the amount of water Dijon needed. He built two reservoirs, 13 kilometers of pipes, and 115 street fountains in Dijon. These public fountains supplied free water for all inhabitants, for street flushing, and for fire suppression. As a result of Darcy's work, Dijon became a water-wealthy city, second only to Rome in terms of water quality and quantity.

By 1855 when Darcy conducted the experiment on fluid flow through porous media, he had retired on disability. Seeking to determine the laws governing water filtration to help cities reduce the surface area of their filters, Darcy first gathered information from cities that used surface water as their water supply. Because the data was inconclusive, Darcy devised a column experiment, conducted it in the courtyard of a Dijon hospital, and formulated the law known today as Darcy's Law.

Patricia Boback translated Darcy's *Public Fountains of the City of Dijon* into English and has photographed much of what remains of Darcy's water supply system.

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