

# Pierre François Verhulst

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**Born:** 28 Oct 1804 in Brussels, Belgium

**Died:** 15 Feb 1849 in Brussels, Belgium



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**Pierre Verhulst** was educated in Brussels, then in 1822 he entered the University of Ghent. He received his doctorate in 1825 after only three years study and returned to Brussels.

There he worked on the theory of numbers, and, influenced by [Quetelet](#), he became interested in social statistics. He had been intending to publish the complete works of [Euler](#) but he became more and more interested in social statistics.

In 1829 Verhulst published a translation of John [Herschel's](#) *Theory of light*. However he became ill and decided to travel to Italy in the hope that his health would improve.

In 1830 Verhulst arrived in Rome. However his visit there was not a quiet one. [Quetelet](#) wrote:-

*Whilst on a trip to Rome he conceived the idea of carrying out reform in the Papal States and of persuading the Holy Father to give a constitution to his people.*

This plan did not meet with approval and Verhulst was ordered to leave Rome. He returned to Belgium.

On 28 September 1835 Verhulst was appointed professor of mathematics at the Université Libre of Brussels. There he gave courses on astronomy, celestial mechanics, the differential and integral calculus, the [theory of probability](#), geometry and trigonometry.

In 1840 Verhulst moved to the military school, the École Royale Militaire. He continued to be influenced by [Quetelet](#) although he was not always in agreement with [Quetelet's](#) ideas.

Verhulst's research on the law of population growth is important. The assumed belief before [Quetelet](#) and Verhulst worked on population growth was that an increasing population followed a [geometric progression](#). Quetelet believed that there are forces which tend to prevent this population growth and that they increase with the square of the rate at which the population grows.

Verhulst showed in 1846 that forces which tend to prevent a population growth grow in proportion to the ratio of the excess population to the total population. The non-linear [differential equation](#) describing the growth of a biological population which he deduced and studied is now named after him.

Based on his theory Verhulst predicted the upper limit of the Belgium population would be 9,400,000. In fact the population in 1994 was 10,118,000 and, but for the affect of immigration, his prediction looks good.

In 1841 Verhulst was elected to the [Belgium Academy](#) and in 1848 he became its president. However, the bad health which he had suffered from earlier returned to make his life increasing difficult over the last years of his life.

Article by: [J J O'Connor](#) and [E F Robertson](#)

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