



**NAME OF THE DEPARTMENT: STATISTICS**

**TITLE OF THE BEST PRACTICE: Author biography**

**OBJECTIVE (IN ABOUT 100 WORDS)**

- **Karl Pearson** (born March 27, 1857, [London](#), England—died April 27, 1936, Coldharbour, Surrey) was a British statistician, leading founder of the modern field of [statistics](#), prominent proponent of [eugenics](#), and influential interpreter of the [philosophy](#) and social role of science
- Pearson was descended on both sides of his family from Yorkshire [Quakers](#), and, although he was brought up in the [Church of England](#) and as an adult adhered to agnosticism or “freethought,” he always identified with his Quaker ancestry. Until about age 24 it seemed that he would follow his father, a barrister who rose to Queen’s [Counsel](#), into the law, but he was tempted by many possible careers. In 1875 Pearson won a scholarship to [King’s College, University of Cambridge](#), where he worked with the famous [mathematics](#) tutor Edward Routh to achieve the rank of third wrangler in the highly competitive Mathematical Tripos of 1879. Also during his college years, having lost his religious faith, he read intensely in German philosophy and literature, and afterward he traveled to Germany for a year of study in philosophy, [physics](#), and law.

**CONTEXT (IN ABOUT 150 WORDS)**

Back in London, Pearson gave extension lectures on German history and folklore, and he participated in the upsurge of interest in socialism, proposing himself to [Karl Marx](#) as the English translator of the existing volume of [Das Kapital](#) (3 vol.; 1867, 1885, 1894). In 1885 he founded a “Men and Women Club” to discuss, from an anthropological and historical perspective, the social position of women and the possibility of nonsexual friendship between men and women. After the group disbanded in 1889, he proposed to the club secretary, Maria Sharpe, who married him in 1890 following a stormy engagement. In 1884 Pearson was appointed professor of applied mathematics and mechanics at University College, London. He taught graphical methods, mainly to engineering students, and this work formed the basis for his original interest in statistics. In 1892 he published [The Grammar of Science](#), in which he argued that the [scientific method](#) is essentially descriptive rather than explanatory. Soon he was making the same argument about statistics, emphasizing especially the importance of quantification for [biology](#), medicine, and [social science](#). It was the problem of measuring the effects of [natural selection](#), brought to him by his colleague Walter F.R. Weldon, that [captivated](#) Pearson and turned statistics into his personal scientific mission. Their work owed much to [Francis Galton](#), who especially sought to apply statistical reasoning to the study of biological [evolution](#) and eugenics. Pearson, likewise, was intensely devoted to the development of a mathematical theory of evolution, and he became an [acerbic](#) advocate for eugenics



THE PRACTICE (IN ABOUT 400 WORDS)

- Through his mathematical work and his institution building, Pearson played a leading role in the creation of modern statistics. The basis for his statistical mathematics came from a long tradition of work on the method of [least squares approximation](#), worked out early in the 19th century in order to estimate quantities from repeated astronomical and geodetic measures using [probability theory](#). Pearson drew from these studies in creating a new field whose task it was to manage and make [inferences](#) from data in almost every field. His positivistic [philosophy of science](#) (see [positivism](#)) provided a persuasive justification for statistical reasoning and inspired many champions of the quantification of the biological and social sciences during the early decades of the 20th century.
- As statistician, Pearson emphasized measuring correlations and fitting curves to the data, and for the latter purpose he developed the new chi-square distribution. Rather than just dealing with mathematical theory, Pearson’s papers most often applied the tools of statistics to scientific problems. With the help of his first assistant, George Udny Yule, Pearson built up a [biometric](#) laboratory on the model of the engineering laboratory at University College. As his resources expanded, he was able to recruit a devoted group of female assistants and a [succession](#) of more-transitory male ones. They measured skulls, gathered medical and educational data, calculated tables, and derived and applied new ideas in statistics. In 1901, assisted by Weldon and Galton, Pearson founded the journal [Biometrika](#), the first journal of modern statistics.

EVIDENCE OF SUCCESS (IN ABOUT 200 WORDS)

Pearson’s grand claims for statistics led him into a series of bitter controversies. His preference for the analysis of continuous curves rather than discrete units antagonized [William Bateson](#), a pioneering Mendelian geneticist. Pearson battled with doctors and economists who used statistics without mastering the mathematics or who emphasized environmental over hereditary [causation](#). And he fought with a long line of fellow statisticians, including many of his own students such as Yule, Major Greenwood, and [Raymond Pearl](#). The bitterest of these [disputes](#) was with [Ronald Aylmer Fisher](#). In the 1920s and ’30s, as Fisher’s reputation grew, Pearson’s dimmed. Upon his retirement in 1933, Pearson’s position at University College was divided between Fisher and Pearson’s son Egon.

PROBLEMS ENCOUNTERED (IN ABOUT 150 WORDS)

<b>Born</b>	March 27, 1857 • <a href="#">London</a> • <a href="#">England</a>
<b>Died</b>	April 27, 1936 (aged 79) • <a href="#">London</a> • <a href="#">England</a>
<b>Founder</b>	<a href="#">“Biometrika”</a>
<b>Notable Works</b>	<a href="#">“The Grammar of Science”</a>
<b>Subjects Of Study</b>	<a href="#">evolution</a> • <a href="#">heredity</a> • <a href="#">philosophy of science</a>

NOTES (IN ABOUT 100 WORDS)



[Karl Pearson](#) Karl Pearson, pencil drawing by F.A. de Bida Footner, 1924