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# Sir Francis Galton

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## Galton, Francis 1822-1911

Cousin to Charles Darwin and a talented statistician, Sir Francis Galton had an influence on social science that was profound. His major contributions to mathematical statistics included the initial development of quantiles and linear regression techniques. Along with F. Y. Edgeworth and Karl Pearson, he developed general techniques of multiple regression and correlation analysis, statistical devices that serve as substitutes for experiments in social science. Galton had a major impact on economics, and with W. R. Greg, was instrumental in creating the “science” of eugenics.

Galton was born in Birmingham, England, on February 16, 1822, and died on January 17, 1911, in Haslemere. He spent two years (1836–1838) at King Edward’s School in Birmingham, underwent a medical apprenticeship in Birmingham, then studied for a year (1839–1840) at the medical school of King’s College, London, before entering Trinity College, Cambridge in 1840. Galton read mathematics at Trinity, from which he graduated without honors.

After inheriting a substantial fortune on the death of his father in 1844, Galton embarked on an African exploration. He published an account of his travels in 1853, and joined the council of the Royal Geographical Society. Galton was elected Fellow of the Royal Society in 1856, and served as Secretary of the British Association from 1863 to 1867.

Galton’s focus on heredity was first manifested in the 1869 publication, *Hereditary Genius*, an attempt to marshal evidence in favor of the proposition that mental ability is inherited. In it, Galton, who presumed that mental ability is correlated with reputation in a given profession, examined the scores of two hundred candidates for the Mathematical Tripos at Cambridge as well as those of seventy-two candidates for civil service positions.

In 1883 Galton published *Inquiries into Human Faculty and Its Development*, in which he discussed the ideas now known as *eugenics*. Here, his argument began as an attack on the race-neutral accounts of ability in classical economics (Galton 1907, p. 207). Darwin’s endorsement (Darwin 1871, pp. 138–139) gave warrant to Galton’s eugenic ideas. Galton’s claims for the importance of “race”—that is, characteristics preserved by inheritance in distinction to characteristics acquired by custom—was challenged in his time by the assertion that it was implausible that a child of Quaker parents raised in the North American woods by aboriginal people would show the “gentle altruistic nature of his progenitors”

(Reid 1897, p. 945). This challenge would lead to twentieth-century studies of identical twins raised in separate environments.

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Galton's study of eugenics illustrates his creativity as a researcher. He was, for example, ingenious in his use of composite photography to help identify inherited characteristics. "The individual faces [of criminals]," he wrote, "are villainous enough, but they are villainous in different ways, and when they are combined, the individual peculiarities disappear, and the common humanity of a low type is all that is left" (1907, p. 11). Because there is no reason to believe that criminality is inherited, Galton is partially correct in his deductions—that is, in his claim that there is no specifically criminal type. Of course, since Galton's time the idea that there is such a thing as a "low type" of humanity has been discounted.

Similarly, the argument that ability is inherited by race has been questioned, notably by Tukurfu Zuberi (2001), who argues that *race* is a concept devoid of biological meaning and is instead socially constructed.

Despite the fact that many of his conclusions about genetic differences are questioned, if not disproven, today, Galton's work reveals his integrity regarding test results—that is, his willingness to acknowledge cases where the data does not match his presuppositions. An example can be found in his attempt to use his system of fingerprint identification to establish a racial hierarchy, on the basis of his belief that a "higher" race would have less uniform fingerprints. Galton presupposed that the fingerprints of black people would be more uniform than those of white people, but confessed an inability to observe this in the data.

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