FRANCIS GALTON, LIFE AND WORK.

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Francis Galton was born one hundred years ago near Birmingham, England. Early in life he took up work in neglected fields. He became a great man of science and developed Eugenics, a system or science concerned with improving races by breeding.

He was a contemporary of Charles Darwin (his cousin), of Thomas H. Huxley, Herbert Spencer, and of a number of other noted men—men whose insight and aid were valuable to him in developing his own ideas and his work.

More specifically, Galton was born under a most favorable and healthful environment, amidst green fields, with long-lived ancestors, intellectual and well-to-do parents, with four sisters and two brothers older than himself. A sister made it her duty to look after his early education. Formal education in school and college he bore badly, for there is repeated mention of ill-health. He instinctively sought the open-air life, which to him spelled health. He was able to bear great physical exertion and exposure, a trait of value to him in exploring expeditions and which he believed he inherited from his mother's side—just as he looked upon his tendency to bronchitis and asthma as an inheritance from his father's side. Euthenically considered, it appears, however, that he overlooked the fact that his great-grandfather was country-bred and reacted on removing to the city, just as his father reacted, and as he himself reacted; for he had stated that he could not bear close, warm, and carpeted rooms.

On his mother's side both his grandfather and great-grandfather had been physicians and his mother desired him to follow in their footsteps. This he was willing to do and he entered hospital work, but during his university studies his health failed. About the time he completed his medical education his father died, and being left with independent means he never became a practitioner. The family now broke up, and he himself took to traveling and became a noted explorer.

In his *Memories of My Life* he mentions getting married and the value of marrying into a good family, but there is no mention of any offspring. References indicate that he had much ill-health in London, and he became a bird of passage, leaving the city on the approach of the closed-door season for an open-air climate. His cousin, Charles Darwin, reacted even more acutely to city conditions and left the city entirely.

A centenary presents an opportunity to review a man's life and work, but unless an essayist is unusually well qualified he may hesitate to express any opinions—but he can at least voice his appreciation and admire the industry revealed by a long list of titles. A full bibliography appears in his autobiographic *Memories of My Life*, and reveals his various and successive activities. His chief works may be referred to briefly:

The *Narrative of an Explorer in Tropical Africa* (1853) brought him the gold medal of the Royal Geographical Society. Several papers

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and monographs relating to travels and geography followed. The *Art of Travel or Shifts and Contrivances in Wild Countries* appeared in 1855 and went through a number of revised editions. His attention was then turned to meteorology and he charted data on a large scale. From him we have the term anticyclone. He developed great proficiency in making charts, diagrams and graphs; by applying this knowledge to the study of anthropology he advanced it through statistical methods. He became interested in the subject of heredity, and in 1869 published *Hereditary Genius*—and formulated his ancestral law, that the two parents contribute one-half, the four grandparents together one-fourth, and so on.

A difficult problem is presented by the comparative worth or desirable qualifications of individuals and races. Galton believed that much could be accomplished through proper nurture. *English Men of Science, their Nature and Nurture,* appeared in 1874. At intervals and between larger works he employed himself with all sorts of seeming oddities, including the making of "Composite Portraits", on which he published in 1878. Then came his *Human Faculties,* for which he had collected a great mass of data. In this work he for the first time used his newly-coined term Eugenics.

Galton was a pioneer in neglected fields. He brought together a lot of material and from a careful study arrived at certain conclusions. Others have taken up his work and advanced it and presented it more systematically, but the name of Galton will always be associated with Eugenics.

A study of the lives and the books of the master minds enlarges our vision. Too many of us are controlled by our emotions—we may see only the need for immediate relief from misery and affliction. Few of us consider future generations nor the constant crop that calls for more and more relief. Great minds, as Galton's, are concerned with fundamental causes and with the diffusion of knowledge and prevention.

The measurement of physical and mental qualities was definitely taken up by Galton through the establishment of an anthropological laboratory. Today we hear much about psychological testing, a subject that was wholly new in 1884. The late war gave a great impetus to measurements, and at present school children, mainly in city schools, are tested from all angles—new and improved tests are constantly introduced. In *Natural Inheritance* he again advocated the breeding of desirable qualities and the checking of the undesirable. His observations on Finger Prints appeared in 1893; the practical value of this was soon recognized and developed.

In 1904 Galton founded a research fellowship at the London University for work in Eugenics, which has been a great stimulus to the whole world. In this connection attention may be called to the Galton Lecture of 1919 by Dean Inge of St. Paul's, which appears in his *Outspoken Essays.* This lecture is remarkable when we consider that it is by a noted churchman.

In England where life conditions for a long time have been fixed, static—"as the father so the son"—inheritance plays a great rôle; all in marked contrast to conditions in our own country. England, and the

old world generally, where there is no immigration problem, offers the best opportunities for the study of Eugenics. Our own country is in a constant flux, dynamic; there is no predicting the vocation or career of the son of even the humblest citizen. Uneducated parents may have ideals, and by giving the son a higher education may enable him to become a superior man. At present we do not realize how much talent is submerged, needing only suitable life conditions—a proper environment—to rise to the surface.

Galton's *Memories of My Life*, published in 1909, two years before his death, is a book well worth reading. From this autobiography we may again learn, that which stands out strongly in all his work,—that great minds are concerned with fundamental causes.