

Eugenics Revisited

The Legacy of His Ideas by Francis Galton; Milo Keynes

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ESSAY REVIEWS

EUGENICS REVISITED

by

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Sir Francis Galton, F.R.S. — The Legacy of his Ideas. Proceedings of the twenty-eighth annual symposium of the Galton Institute, 1991. Edited by Milo Keynes. London: Macmillan, 1993. Pp x + 237, £40. ISBN 0-333-54695-4.

Victorian Britain will remain for many decades a source of fascination and wonderment for the historically inclined. The world's richest and most politically stable democracy, Imperial Britain, ruled its huge overseas Empire with relative enlightenment, and very considerable profit, while *laissez-faire* capitalism surged triumphantly forward at home, bringing in its wake a marvellous infrastructure of railways, roads, urban housing, hospitals, sewerage systems, schools and universities to cater for the expectations of the ever-expanding bourgeoisie. 'Dark Satanic mills' transformed the countryside and sustained a huge shift of population from country to town, generating wealth for a society which tolerated child labour, exploitation of women, and appalling poverty and deprivation. It was the era of Victorian morality: hierarchical, retribitional and stultifyingly formal, both within and outside the Victorian family. Indeed, many features of twentieth-century life in Britain have, for better or worse, stemmed from a rejection of the moral austerity and oppressive capitalism of that era. Yet the Victorian era manifested much that was wholly admirable. It saw the beginnings of that sense of social duty and egalitarianism which continued to spread widely in Britain right up to the 1960s; it was also an era of intellectual innovation and turmoil, especially in political theory, philosophy and the natural sciences.

Galton was one of the intellectual giants of that era. A productive biologist, geographer, inventor and mathematician, yet with a very modest view of his own abilities, he initiated several themes of scientific and intellectual advance. Moreover, after reading his cousin Charles Darwin's *On the Origin of Species* he was immedi-

ately converted to Darwinism, became an agnostic (with relief, though without denying the value of religion to others) and developed a passionate conviction that advances in human genetics could be used to improve mankind.

This book is a welcome reminder of the substantial and diverse contributions he made to science in its broadest sense. It opens with an excellent biographical introduction by Milo Keynes, effectively a survey of the whole volume, followed by an assessment of Galton's historical status by W.F. Bynum, who points out that he is not widely remembered and that his personality has become something of an enigma. Then Dorothy Middleton of the Royal Geographical Society gives a brief and entertaining account of Galton's travels and geographical writings, and Sir Crispin Tickell leads from a consideration of Galton's meteorological work (he introduced the term 'anticyclone') to an interesting discussion of modern climatology and its prospects. H.J. Eysenck then takes up Galton's theme of 'hereditary genius' to offer a modern account of the nature of unusual creativity. Next the Galton lecture for 1991, by J.H. Edwards, presents a view of his life and work that complements Keynes's, followed by a critical discussion of the misuse of statistics in human genetics. A.W.F. Edwards continues the statistical theme in the subsequent chapter with a discussion of his influence on twentieth-century statistics through Karl Pearson and R.A. Fisher. Then comes J.M. Tanner's occasionally sardonic piece on Galton's anthropometric work and studies on human growth (he is not the first to see a resemblance between Galton and Lewis Carroll's White Knight). This is followed by C.F. Mascie-Taylor's commentary of Galton's use of the study of twins as a means of distinguishing genetic and environmental influences: 'nature *versus* nurture'. Gertrude Hauser addresses the topic of fingerprints: Galton's major contribution lay in devising means of cataloguing their patterns, and his interest in the matter was genetic and anthropometric rather than forensic. J. Maynard Smith, in a witty survey of Galton's ideas of evolutionary theory (with which he is not wholly in sympathy: Galton was not a naturalist at heart, he feels), describes how Galton's experiments with peas brought him very close to the discovery of the Mendelian laws of inheritance; sadly he failed to rationalize his findings completely. M. Banton then discusses, with exemplary common sense, the semantics of the term 'race', used often by Galton and his contemporaries but nowadays politically sensitive, and W.H.G. Armytage examines Galton's interest in education, where he seems to have seen scope for using his statistical techniques, an interest which grew as he realized the need for public education in eugenic matters. J.S. Jones provides a brief account of the history and status of the Galton laboratory, which Galton himself founded at University College, London; and finally, three of Galton's less accessible writings are reprinted, notably his engaging examination of the efficacy of prayer (a paradigm of lateral thinking), followed by his bibliography.

Naturally there are occasional slight overlaps between chapters, especially as far as their introductory passages are concerned, but the compilation provides an

informative, and indeed affectionate, guide to what its title promises, the legacy of Galton's ideas. A tremendous legacy it is: one man fathered the subjects of human genetics and biological statistics, and pioneered scientific approaches to such diverse matters as educational assessments, survey by questionnaire, weather reporting, forensic fingerprinting and family health records, as well as being a constant source of minor inventions, such as how to fabricate a wash-basin in a continental train by twisting up a newspaper (quoted by Middleton). How curious that we now hear so little of him.

Some contributors suggest that he spread himself too thinly: that he did too many things and followed up too few. Perhaps so, but many great scientists have been polymaths. Could it be something more insidious? That his major work has become too politically incorrect to mention?

Several contributors, Keynes in particular, give some account of what Galton regarded as the most important project of his life: the furtherance of eugenics. It was the objective which underlay his preoccupation with human genetics, anthropometry and the problem of nature *versus* nurture. For, satisfied by Darwin's account of evolution in terms of natural selection, he at once realized that civilized societies such as his own, by enabling the more intelligent, productive and far-sighted to limit the numbers of their offspring, and at the same time motivating them to protect the weak and inadequate, had put a stop to, and would in time reverse, the selective processes that had led to the emergence of intelligence and civilized behaviour. Yet our species was clearly still in need of improvement in these and other qualities. Two quotations cited by Keynes display Galton's thinking admirably:

Man is gifted with pity and other kindly feelings; he has also the power of preventing many kinds of suffering. I conceive it to fall well within his province to replace Natural Selection by other processes that are more merciful and not less effective.

And how would Man do that? Through eugenics,

... the scientific study of the biological and social factors which improve or impair the inborn qualities of human beings and of future generations.

What could be a more laudable and clearly expressed ambition? Yet here are two recent, and probably not atypical, re-interpretations of Galton's obsession:

... The fearsome term eugenics – the deliberate manipulation of the gene pool with the idea of creating a master race ... (*New York Times Magazine* of Christmas Eve, 1989).

or:

When we have a clearer idea of our own ignorance we shall see that eugenics is more barbarous than cannibalism and far more destructive (Germaine Greer, in *Sex and Destiny*, 1984).

What went wrong? It happened because Galton's thinking came a century before its time. He knew nothing of genes; the Mendelian laws of inheritance had eluded

him; and his only practical approach to eugenics amounted to empirical stock-breeding, with its attendant problems of deciding, in humans, what characters are inheritable and, among those, which are desirable and which are not. The first question was difficult enough, but Galton made progress; the second was impossible. Ignorance of genetics led to proposals that ranged from the wise, such as the voluntary sterilization of those likely to produce congenitally defective offspring, to the horrifying, distortions of eugenic objectives such as took place in Nazi Germany or inter-war Southern USA. Racist prejudice and political confusion, abetted by semantic obfuscation comparable to Marxist or feminist newspeak, made eugenics into a dirty word.

But the ignorance that enabled such blunderbuss approaches is fast disappearing. Today we know which genes, mutated, are responsible for cystic fibrosis, Duchenne muscular dystrophy, adenosine deaminase deficiency and several other hereditary disorders. More will be discovered. Already we are able to moderate some such disorders by somatic introduction of un-mutated genes into afflicted patients, and more disorders will become amenable. Soon we shall be able to introduce undamaged genes into the germ cells of afflicted patients and correct such disorders, not just in single individuals but for generations to come. Is there any ethical, social or moral reason why we should not do just that? It would be eugenics as Galton conceived it: using our understanding of heredity to improve the human gene pool as a whole. But when it comes, as germ-line therapy inevitably will, society will face the deeper problem which Galton also saw clearly, for we shall learn the genetic bases, such as they may be, of social inadequacy, criminality and other behavioural aberrations; even, perhaps, of aspects of intelligence. No wonder the prospect of germ-line therapy has generated a resounding squawk of ethical alarm!

We cannot uninvent gene therapy, only delay it. We can but hope that in the twenty-first century we shall be able to rise above fashionable prejudice, and shall at the same time have learned wisdom and detachment well beyond that of our nineteenth- and twentieth-century forebears.