

BOOK REVIEW

Rehabilitating Galton

Francis Galton: Pioneer of Heredity and Biometry

M Bulmer

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Reviewed by R Weikart

Bulmer is not the only biologist who has tried recently to restore the tarnished reputation of Francis Galton, the founding father of the eugenics movement. In 2001, Nicholas Wright Gillham published a biography that honored Galton for his scientific achievements, including his discoveries in forensic science, meteorology, and African exploration, as well as his work in statistics and heredity. Although honored during his lifetime with memberships in elite scientific societies and with prestigious awards, Galton's work on heredity – his main field of study from the 1860s on – has not received much appreciation since it was eclipsed by Mendelian genetics in the early 20th century. While Gillham presents a full portrait of Galton's life and activities, Bulmer is concerned solely with Galton's contributions to biology, and specifically to heredity.

Bulmer admits from the start that his account of Galton's science is internalist. He provides only a brief chronicle of Galton's career in the first chapter. In the subsequent nine chapters Bulmer proceeds to discuss in great detail various aspects of Galton's theories related to heredity. Although he (begrudgingly) devotes one chapter to eugenics, only four pages of that chapter actually explain Galton's thoughts about eugenics. Consistent with his internalist view, Bulmer takes the sensible position that Galton's eugenics ideology was derived from his view of heredity, not *vice versa*. However, I was disappointed that Bulmer never explained how Galton's various theories of heredity related to his eugenics ideas. Some of his later theories of heredity and evolution seem to pose problems for eugenics (especially regression to the mean and discontinuous evolution), so why did Galton remain wedded to eugenics come what may in his science?

Bulmer's main contribution to the history of heredity is – if he is right – to show that Galton's ideas about

heredity were not all overthrown by Mendelian genetics, as the standard story has it. However, as Bulmer admits, many of Galton's ideas, including his ancestral law of heredity that he had formulated in the 1890s to explain the contribution of hereditary characteristics from each ancestor, were clearly contrary to Mendelism. Further, Galton and his followers recognized these points of tension and vigorously opposed Mendelian genetics in the early 1900s. Since the Mendelians won the scientific argument, Galton and his fellow biometricians must have lost out, relegating his ideas to the dustbin of the history of science. Not so fast, Bulmer argues. Rather Galton's statistical methods were incorporated in Darwinian theory in the 1930s and synthesized with Mendelian genetics. Galton's ideas live on!

However, it seems to me that the ideas of Galton's that survived were rather modest in comparison with the ideas that were wrong. Indeed, although he is generally sympathetic with Galton, Bulmer's portrait of Galton is that of a flawed thinker. While he did make significant advances in statistics, especially in his discovery of regression to the mean, he did not have the mathematical expertise to deal with many of the problems he confronted, so he often had to rely on colleagues to generate equations for him.

The renewed appreciation for Galton by Gillham and Bulmer is probably in part a sign of the revitalization of a greater measure of biological determinism and even eugenics in our day than was the case a generation ago. However, Bulmer fairly points out that Galton was so heavily biased toward hereditarian explanations that he did not give sufficient consideration to environmental explanations. However, if Galton's hereditarian bias did not derive from his scientific data, but rather influenced the interpretation of his data, then this suggests that Galton held such a position for nonscientific reasons, undermining somewhat Bulmer's internalist approach.

Bulmer's painstaking analysis of Galton's theories of heredity and his statistical equations will probably only appeal to a very narrow audience, including those doing research into the minutiae of the history of heredity in the late 19th and early 20th centuries.

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