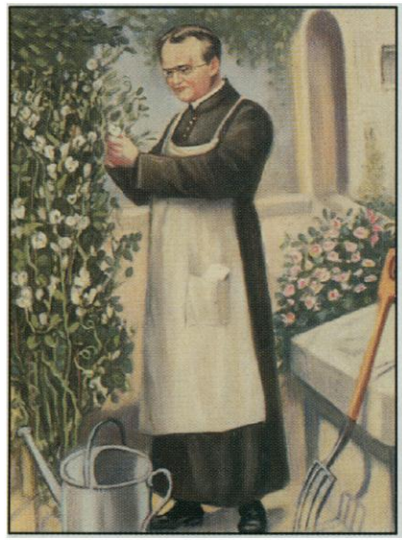
BOOK REVIEWS

The Founder of Genetics

Gregor Mendel. The First Geneticist. VÍTĚZSLAV OREL. Oxford University Press, New York, 1996. xii, 363 pp., illus. $49.95 or £29.50. ISBN 0-19-854774-9. Translated by Stephen Finn.

A new biography of the founder of genetics prompts one to reflect on the contrast between the views of Mendel and Darwin on heredity and variation. Darwin claimed that all variation is ultimately due to changes in the conditions of life—either directly and definitely, as in Lamarckism, or indirectly and indefinitely, as in the random individual differences among sibs. Hybrid progeny displayed the most marked of indefinite variation, he believed, as a result of the commingling in the hybrids of two different constitutions. The constitutional differences resulted from the antecedent exposure of the progenitors to different conditions of life. A powerful engine of variation was thus the act of bringing organisms from the wild into cultivation, acclimatizing them, and enriching their nutrition. The most significant cause of variation was thus the conditions of life, rather than hybridization.



Gregor Mendel. [Corbis-Bettman]

Mendel, in his famous paper of 1865, "Experiments on Plant Hybrids," rebutted this view and reinterpreted the greater variation of cultivated plants in terms of enhanced opportunities for hybridization that cultivation affords. The complete independence of the seven pairs of character differences that he studied convinced him of the tremendous potential for variation that hybridization offers. Whereas Darwin played down the significance of this aspect of hybridization for species transformation, Mendel emphasized it, and, as Orel shows, he fully appreciated its importance for the practical breeder.

As emeritus director of the Museum Mendelianum in Brno, Orel writes from an unrivaled position of authority and knowledge of the documents and discussions—some more, some less scholarly—concerning Mendel's life and work. In his duties for the museum and for the international community he has been tireless. Now the fruit of his long devotion is available for the reader of English. He has drawn chiefly on his own researches and those of a number of Czech authors, but also on the work of such authorities as Franz Weiling (on Mendel) and Onno Meijer (on De Vries). But whereas Darwin scholars have been overwhelmed with the wealth of documents from which rich and intimate biographies have been written, students of Mendel have been underwhelmed and undernourished.

This dearth of biographical data on Mendel has led to two tendencies—unbridled speculation in the interpretation of limited and often minor incidents and the recounting of trifling and anecdotal evidence. Many of the interpretations of Mendel's work are attacked by Orel, especially those unfavorable to the image of Mendel as the hero of genetics. This is not another blow in the culture wars between scientists and their alleged deconstructors, the social historians. Rather, it is the statisticians, led by R. A. Fisher, who are the arch-villains. In 1936 Fisher accused Mendel of reporting too good data. Orel has come to Mendel's defense here, as he has over the attempt to deny Mendel the label "Mendelian." He charts an increasingly baneful trajectory stemming from my own paper "Mendel No Mendelian?" of 1979. Does he realize that the purpose of that paper was to distinguish the claims that Mendel himself made from those made by those who called themselves Mendelians in this century? It was not to deny Mendel his founder status.

The most interesting chapter in this book is the last, given to the changing climate of opinion regarding Mendelian genetics in Brno and Prague during this century. Orel describes the increasing support for the inheritance of acquired characters that emerged in the 1920s and the attention paid to Paul Kammerer's support for the doctrine—even at the 1922 centenary celebration of Mendel's birth. He concludes with an enthusiastic account of the restoration of genetics in Czechoslovakia at the time of the 1965 Mendel centenary celebrations. The book offers an extensive overview of debates in the interpretation of Mendel's life and work and a valuable description of the economic and political climate in which Mendel made his great contribution to science. Unfortunately it has not been possible to add significantly to our knowledge of Mendel himself.

Robert Olby
Department of the History and Philosophy of Science, University of Pittsburgh, Pittsburgh, PA 15224, USA

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Drug Discoveries

The Psychopharmacologists. Interviews by DAVID HEALY. Altman (Chapman and Hall), New York, 1996. xxxiv, 633 pp. $82.95 or £45. ISBN 1-86036-608-4.

This entertaining book gives an overview of the development of psychopharmacology through interviews with 25 of its leading practitioners, who give their personal views on how the field grew and relate their own contributions to it. Healy has chosen a good mix of clinical and preclinical scientists from both sides of the Atlantic, and his structured interview style helps to give the book a coherence it might otherwise have lacked.

The development of effective drug treatments for mental illnesses during the past 40 years has had a dramatic impact on the practice of psychiatry, even to the extent of removing the need for large custodial mental asylums. The introduction of these medicines has also fundamentally changed the way in which we think of mental illnesses,