

BOOK REVIEW

The *Drosophila* Model. By Jeffrey R. Powell. Oxford University Press, London, 1997. xiv + 562 pp. \$70.00.

With 10,497 publications in the past 5 years, *Drosophila* is second only to *Escherichia coli* and *Saccharomyces cerevisiae* as a model organism in genetic studies. The newer additions to the empirical arsenal in genetics, *Caenorhabditis* and *Arabidopsis*, lag far behind with 2413 and 2981 publications, respectively. The historical lore (for which we have little evidence) maintains that *Drosophila* was chosen as a model organism in genetics by accident, when Morgan ran out of ostrich eggs for his cytological studies. Be it as it may, without *Drosophila* we would not have had genetics today. All the branches of genetics, from population genetics and cytogenetics to developmental genetics and molecular phylogenetics, have been developed with a *Drosophila*-containing jar nearby. Who could have imagined that this modest and unremarkable group of flies would be instrumental in the development of so much science?

The Drosophila Model is an encyclopedia of biological knowledge that has been derived from studies of *Drosophila*. From behavioral genetics to taxonomy, and from the neutralist/selectionist controversy to transposable elements, the book is a treasure trove of facts, syntheses, and well-thought summaries. Things great and small are given their due coverage, from the origin of the name *Drosophila* to such unfashionable subjects as rare-male mating success. The book is permeated by a historical subtext that allows one to develop a sense of time in scientific development. It shows not only what has been achieved, but how scientific progress occurs, and how disparate phenomena are brought together under a unifying umbrella of scientific hypothesis and rule. For a very long time in the history of biology, students of *Drosophila* were the only group of scientists who regarded biology as a hard science in which relevant parameters are measured, counted, or com-

puted from empirical data and theories are tested against objective reality. They were the first ones to use Popperian conjectures in the same manner as in physics, i.e., as quantitative working hypotheses meant to encourage experimental work so that a theory be verified, refined, or refuted, and by doing so they achieved what Sir William Herschel (1738–1822) called the true goal of all natural sciences, namely, to phrase its propositions “not vaguely and generally, but with all possible precision in place, weight, and measure.” Powell’s book is a definitive ensample of this philosophy.

As a rule, encyclopedic completeness and scientific clarity cannot be achieved simultaneously. However, rules are meant to be broken, and in *The Drosophila Model*, Jeffrey Powell attains a previously unimaginable degree of encyclopedic coverage without sacrificing even a modicum of clarity. *The Drosophila Model* does justice to *Drosophila* studies as a paradigm of what biological sciences should be. It is everything you wanted to know about *Drosophila* but were too lazy to search the literature of the past 100 years, or too young to be able to grasp historical significance and subtlety. After reading Powell’s book, the only word that comes to mind is “indispensable.”

My only criticism of the book is that it ends in Italian. This was not necessary. Dante has been translated into English, and some of the translations (e.g., by Robert Pinsky) are simply brilliant. The fact that Gisella is Italian is no excuse. My wife is Polish. Does this mean that I have to end my review with “To jest doskonała książka i wielkie osiągnięcie Powell’a”?

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