BOOK REVIEW

ORGANISMIC EVOLUTION. V. Grant. 1977. W. H. Freeman, San Francisco. 418 p. This book grew out of “a one-semester, senior-level course that [Grant has] been teaching since 1952.” From the Foreword by G. G. Simpson, “The present book gives an overall view of the most important things in our current knowledge of organic evolution. . . . Here the synthetic theory is not merely expounded. This book is by an active research contributor to that body of theory. The author does not hesitate to express his own opinions and to put forward new ideas. The book has personality. . . . it may surprise some readers of this extensive and intensive treatment that some aspects of current evolutionary studies are barely mentioned, or even omitted.”

Contents: Microevolution, including population statics and dynamics, mutation, gene flow, recombination, natural selection, including the basic theory, modes of selection, drift, cost, examples; acquired characters, including transduction, induction; speciation, including races, species, isolation mechanisms, models, and general theory; macroevolution, including geological time, trends, rates, molecular changes, evolution of major groups, extinction; and 45 pages pertinent to human evolution.

The revolution in evolutionary biology that was triggered by G. C. Williams’ critique (Adaptation and natural selection, 1966, Princeton), and which will be recognized to be as significant for modern biology as the molecular revolution, so predominates current writing and thinking that one cannot help but try to imagine what it would be like had the critique not been written. Grant’s book provides a partial answer to this presumptively rhetorical question. It has nothing at all to do with selective and analytical thinking, or theoretical modeling and problem solving, the features of the revolution that finally gave Evolution a future, and put it to work. Terminology, perspective, and emphases dealing with the epicenter of current activity, the levels at which selection acts, are the author’s, who further doesn’t present any argument or evidence as to why he believes his views are superior to those of “the establishment.” In fact, in this area one never gets to hear the establishment. The book may have personality, but it also has numerous collector’s items for teachers who give quotations to their students to rewrite, or delete, most of them stemming from its obsession with interdeme selection. The most conspicuous and wretched: “The colorful plumage of birds of paradise serves a useful role in courtship, but also advertises the presence of the birds to predators. The conflict is resolved by a compromise. The brilliant plumage is confined to the male birds, which are expendable, while the females remain plain-colored.” (p. 76)

The chapter on reproductive isolation is awful; the word “mechanism”, whose definitions can be used to clarify and teach a very important concept, is used loosely and uselessly. The lumberman’s term “timberline”, rather than “tree_line” is used; and flowers are considered to be “complex genitalia” consisting of “female and male organs”—flowers are actually the spore-bearing structures of the sporophyte generation, which by definition does not have sex. (Botany texts seem to have a Freudian compulsion to speak of flowery sex organs.)

I couldn’t use this text (even) if it were the only one in town. (but see Science 1977, 197:1272-1273)

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