



Adaptation and Natural Selection: A Critique of Some Current Evolutionary Thought 1966

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George C. Williams

Adaptation and Natural Selection began as a polemic. In the 1930s, the evolutionary biologists Ronald A. Fisher, J.B.S. Haldane, and Sewall Wright had combined Darwinian natural selection with Mendelian genetics to develop a rigorous mathematical evolutionary theory.

But thirty years after this “modern synthesis,” George Williams found that evolutionary thought had grown flabby and popular understanding woefully inaccurate.

In 1966, simple Darwinism, which holds that evolution functions primarily at the level of the individual organism, was threatened by opposing concepts such as group selection, a popular idea that evolution acts to select entire species rather than individuals. In this book, Williams famously argued in favor of the Darwinists and struck a powerful blow against those in opposing camps.

In particular, he proposed that in studying adaptation, biologists should focus on the simplest form of natural selection—alternative alleles in Mendelian populations. He also urged biologists to treat adaptation as a special and onerous concept that should be used only where absolutely necessary. It was not adaptation that led the flying fish to fall back into the water; it was gravity.

With others, Williams helped restore Darwinian evolution as a blind process driven by genetic variation and selection. The book remains a remarkably crisp introduction to what evolution is and what it is not.