

GENETICS

and the Logic of

EVOLUTION

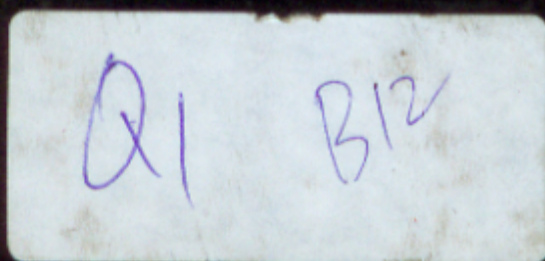
KENNETH M. WEISS and ANNE V. BUCHANAN

Darwinian theory, with genes at its center, still frames our discussion of evolution. Yet now the picture within the frame—a portrait rendered in detail at the cellular and molecular level—contains the real stuff of today's big questions about living organisms. Genetics and molecular biology have revealed a new realm of complexity in life, with major implications for how we understand evolution.

Genetics and the Logic of Evolution provides a much-needed overview and analysis of general principles and patterns of evolution in light of contemporary biology. Taking a functional approach to explain how genes are used across the diverse range of species, the authors consider:

- Basic concepts and principles of biological complexity
- Alternative and supplemental principles to Darwinian theory
- Building blocks of life: how DNA, RNA, and genes work in single-cell and multi-cellular organisms
- Communication within an organism
- Detection and perception of the environment
- Evolutionary order and disorder and the sometimes fluid relationships between phenotypes and genotypes

Working outwards from the molecular level, *Genetics and the Logic of Evolution* moves its discourse towards a broader sense of life and how organisms live it. Written to be both scientifically rigorous and accessible to the layman, this treatment offers students and practitioners a refreshingly grand tour of the most important generalizations to emerge from recent biological research.



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