
Preface

IN MY FIRST BOOK ON THE HISTORY of genetics, *The Gene: A Critical History*, I showed how the concept of the gene emerged from a series of contending views and how each of about one dozen disputes was resolved with the preservation of one view and the disappearance of the other. This, my fourth book on historical issues, once again traces the development of a concept, this time "mutation," a term that has undergone significant change in the hands of professional scientists and also become significant in popular culture.

The idea of mutation is rooted in our awareness of change over time. In the life sciences, consideration of change is essential to evolutionary biology and also, perhaps less obviously, to the study of genetics. Ideas or concepts also change, or evolve, over time. Each generation of scholars is bound by the terminology and ideas current in its period but as new tools and approaches generate new findings, the scholars' vocabulary changes to accommodate what has been discovered. This book examines the meaning of mutation when the term was first adopted, how the meaning changed, and why that alteration was forced on the terminology. Among professional scientists, there is further complexity, with the coexistence of contending terms for the same phenomenon used in different fields (e.g., microbial and *Drosophila* genetics). I also show that a somewhat different sense of the term mutation prevails among the general public.

Many scientists tend to be unaware of how their colleagues of many generations ago conceived their field. Examination of this process is the task of an historian but has the added benefit of informing us about the way ideas help or hinder the development of a field of science.

I am grateful to Jan Witkowski for organizing a conference on mutation in May 2010 at the Banbury Center of Cold Spring Harbor Laboratory. It inspired me to think about my own contribution to that conference and

to reflect on the history of the concept of mutation. This book is a result of that reflection and research.

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ELOF AXEL CARLSON