

Preface

Diversity and complexity are the hallmarks of living forms. Yet science aims for general causal explanations of its observations. How can these be reconciled? Is it possible for a science of life to conform to the requirement of a general theory? These are the questions that are explored in the following pages. I do so by first examining Ernest Rutherford's dictum as to what science is. In the later chapters I consider the possibility, usually within a loose historical framework, of a general theory being based upon selection processes – one cannot, after all, be an evolutionist and not be alert to the importance of history, especially if one is considering the possibility of an evolutionary account for changing human culture within the same explanatory notions as those generally accepted for the transformation of species. In the last two chapters complexity moves to centre-stage.

I wanted this book to be accessible to a wider public than just academic colleagues, and one important way to achieve this is to leave out the formal citation of sources. I modelled my approach on Robbins Burling's "The Talking Ape: How Language Evolved" (Oxford University Press, 2005) but configured the bibliography on a chapter by chapter and section by section structure. The reading list was never intended as comprehensive, but each section contains enough to give anyone wanting to pursue a particular topic a good start. I have tried to be fair in providing alternative points of view even when I don't agree with them. Thus, for example, do I provide in the last section of the final chapter a reference for a very recent analysis of reduced virulence in terms of it being an individual-level adaptation even though my own view is that it must be understood as a group-level adaptation.

As usual, my debt is to the work of all those who are named in the following pages. My thanks, too, to the staff of Oxford University Press; and especially to Carol Maxwell and Martin Baum.

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