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The Evolution of Agency and Other Essays

This book presents a collection of linked essays on the topic of biological evolution written by one of the leading philosophers of biology, Kim Sterelny.

The first half of the book explores most of the main theoretical controversies about evolution and selection. Sterelny argues that genes are not the only replicators: non-genetic inheritance is also extremely important, and is no mere epiphenomenon of gene selection. The second half of the book applies some of these ideas in considering cognitive evolution. Concentrating on the mental capacities of simpler animals rather than those of humans, Sterelny argues for a general distinction between detection and representation, and that the evolution of belief, like that of representation, can be decoupled from the evolution of preference.

These essays, some never before published, form a coherent whole that defends not just an overall conception of evolution but also a distinctive take on cognitive evolution. The volume should be of particular interest to graduate students and professionals of biology, cognitive science, and the philosophy of biology.

Kim Sterelny is Professor of Philosophy at Victoria University of Wellington and Senior Research Fellow in the Philosophy Program at Australian National University.

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KIM STERELNY
Victoria University of
Wellington and
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To Lucy

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Sources

Chapter 1: Evolution and Agency: A User's Guide. Not previously published.

Chapter 2: The Return of the Gene (with Philip Kitcher). *Journal of Philosophy* 85: 339–60, 1988.

Chapter 3: The Extended Replicator (with Kelly Smith and Mike Dickison). *Biology and Philosophy* 11: 377–403, 1996.

Chapter 4: The Return of the Group. *Philosophy of Science* 63: 562–84, 1996.

Chapter 5: Punctuated Equilibrium and Macro-evolution. *Trees of Life: Essays in Philosophy of Biology*. P. Griffiths. Dordrecht, Kluwer: 41–64, 1992.

Chapter 6: Explanatory Pluralism in Evolutionary Biology. *Biology and Philosophy* 11: 193–214, 1996.

Chapter 7: Darwin's Tangled Bank. Not previously published.

Chapter 8: Where Does Thinking Come From? *Biology and Philosophy* 12: 551–66, 1997.

Chapter 9: Basic Minds. *Philosophical Perspectives* 9: 251–70, 1995.

Chapter 10: Intentional Agency and the Metarepresentation Hypothesis. *Mind and Language* 13: 11–28, 1998.

Chapter 11: Situated Agency and the Descent of Desire. *Biology Meets Psychology: Constraints, Conjectures, Connections*. V. Hardcastle. Cambridge, MIT Press, 1999.

Chapter 12: The Evolution of Agency. Not previously published.

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Preface

This work is a collection of twelve essays, nine of which have previously seen the light of print. I fondly imagine that each essay is independently intelligible, but jointly they constitute, I hope, an integrated conception of evolution in general and the evolution of mind in particular. However, that conception is incomplete in important ways; this is research in progress. In particular, like many in the philosophy of biology trade, I have only begun to sketch out the connections between evolutionary theory and other crucial areas of biological thinking; in particular, ecology and developmental biology. The conception of cognitive evolution, too, is still tentative in important respects.

I outline the contents of this collection, pointing to themes, interconnections and revisions in the first chapter. So I will not recapitulate that survey here. Instead, I will use this opportunity to acknowledge the debts I owe others, intellectually, institutionally, and personally. Perhaps first of all I should thank my co-authors, Philip Kitcher, Kelly Smith and Mike Dickison, for generously giving me permission to reprint the two co-authored chapters (Chapters 2 and 3) in this collection. Particular acknowledgements are made, where appropriate, in each chapter, so this is the place to note more general and diffuse debts. But, as Fiona Cowie would say (indeed, has said) in this situation, first, spleen.

I have always been interested in the connections between philosophy and the natural sciences. For most of my professional life, I have thought that the "linguistic turn" in philosophy has been a catastrophe for my discipline. According to this mistake, there is a sharp distinction between empirical and conceptual truths, and the aim of philosophy is to discover purely conceptual truths: truths describing a concept's structure. These discoveries were originally expected to be in the form

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of a set of necessary and sufficient conditions for the application of philosophically important concepts, though this has proved to be a Moscow from which analytic philosophy was forced to retreat. They were to be discovered by thought experiment: the description (typically, a half or quarter-description) of often physically impossible scenarios about which an intuitive judgement would be elicited. That judgement, the idea ran, would directly reflect the real underlying structure of our concepts. So intuitive judgements about a range of actual and possible scenarios would test proposed analyses. In my view, this whole project has nothing to recommend it. Even if there prove to be conceptual truths, it is far from obvious that their discovery is a worthwhile project. Even if concepts are logically structured, it is far from obvious that our intuitive judgements reflect that structure. And it turns out – I think particularly clearly in philosophy of biology and evolutionary theory – that the empirical/conceptual distinction is no sharp divide. Moreover, the project as a whole has led to a divorce between philosophy and the natural sciences. So goodbye to all that. Instead, we should think of philosophy as part of the same project as the natural sciences, but a discipline concerned with the more theoretically obscure elements of those sciences (this is the grain of truth in the analytic project) and as playing an integrative role within them. I intend these essays to vindicate that metaphilosophy.

I have never defended analytic philosophy (in the narrow sense), but I first pursued this naturalistic project in philosophy of language and philosophy of mind. In the early 1980s, however, I became a born-again Darwinian, first becoming interested in philosophy of biology, and then coming gradually to focus on it. Originally, this was under the influence of a then-student and now-colleague, Peter Godfrey-Smith. He urged me to read *The Selfish Gene* and *The Extended Phenotype*, rightly claiming that they were philosophically as well as empirically rich. Amusingly, given his later Lewontinization, he at first rejected the moderately Dawkinsish *Return of the Gene* as a sell-out. I have talked philosophy of biology; biological philosophy of mind; and biology with him ever since, and we have regularly exchanged manuscripts and ideas. Intellectually, then, this collection owes more to him than to anyone else. At about the same time, Paul Griffiths arrived at the Australian National University to begin a Ph.D. His initial interests were in philosophy of mind, especially the emotions, but we both began to drift towards evolutionary theory at about the same time, and over the following fifteen years I have learnt much from Paul.

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Having begun to work my way into the field, I was given much help and encouragement by Elliot Sober and, a little later, by Philip Kitcher. I met David Hull for the first time at an APA conference in 1990, and like almost everyone in the field I have been overwhelmed by his intellectual and personal generosity. I do not think he has ever failed to read and comment on a word I have sent him. He organised a substantial visit to Chicago in 1993 (and insisted on me infesting his house for three months); he encouraged, supported, and edited my recent book with Paul Griffiths. He's a wonder.

In 1988 I moved from the Australian National University to Victoria University of Wellington, New Zealand ("Vic" to its inmates), though I have recently returned half-time to Canberra, and have completed this project while in residence there. My New Zealand base has supported my evolutionary immersion in many ways. I have had the opportunity to teach advanced courses on this material on a regular basis. So many of these ideas were first tried out, in a crude and inchoate form, on generations of Wellington students. Many of these students were a real pleasure to teach: enthusiastic, generous, and able. But I would particularly like to mention in this connection James Maclaurin, now at Otago University; Matthew Barrett, now at Stanford; Roger Sansom, now at Chapel Hill; and Mike Dickison, now at Duke: actual and potential members of a new generation of philosophers of biology. My department, and through it the university, supported my work in many other ways as well. They provided me with time, space, and occasionally the concrete help of research assistants. Most important, it is a supportive, convivial, civilised, and committed place at which to work. My away base, the Philosophy Program in the Research School of the Social Sciences, too, is a wonderful place to work; a heaven away from home.

Philosophy of biology is necessarily interdisciplinary. Science departments do not always welcome philosophers, and knowing the philosophers I do, that is hardly surprising. But that is certainly not true of Vic. The Schools of Biological and Earth Sciences have both been very hospitable, making me more than welcome at their seminar series. In this regard I would like to particularly mention the evolutionary theory gang of four, Mike Hannah (Earth Sciences) and Charlie Daugherty, Geoff Chambers, and Phil Garnock-Jones (Biological Sciences). The three supremos of the Friday Evolution and Ecology Seminar Series, Kath Dickinson, Don Drake, and Christa Mulder deserve my thanks, too (though perhaps not that of my audiences), for

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inviting me to speak at these seminars, and forcing others to listen. I should also thank the previous publishers of nine of the essays for allowing me to reprint them. In doing so, I have resisted the considerable temptation to alter and update them, but typos, when noticed, have been corrected, and spelling and citation style have been made uniform.

Finally, on a personal note, I need to thank my partner, Melanie Nolan. Research and writing are very hungry of time and energy. So even when I am at home base in Wellington, she is often short-changed. When I escape to Canberra, she gets no change at all. So I owe much to her patience, tolerance, and (even) good humour. That is especially so, since she herself has recently launched on the major research project of motherhood.

Kim Sterelny

Philosophy, Research School of the Social Sciences, Australian National University, and Philosophy, Victoria University of Wellington

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