Evolutionary Psychology

THIRD EDITION

Written for undergraduate psychology students, and assuming little knowledge of evolutionary science, the third edition of this classic textbook provides an essential introduction to evolutionary psychology. Fully updated with the latest research and new learning features, it provides a thought-provoking overview of evolution and illuminates the evolutionary foundation of many of the broader topics taught in psychology departments. The text retains its balanced and critical evaluation of hypotheses and full coverage of the fundamental topics required for undergraduates. This new edition includes more material on the social and reproductive behaviour of non-human primates, morality, cognition, development and culture as well as new photos, illustrations, text boxes and thought questions to support student learning. Nearly 300 online multiple choice questions complete the student questioning package. This new material complements the classic features of this text, which include suggestions for further reading, chapter summaries, a glossary and two-colour figures throughout.

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Evolutionary Psychology

An Introduction

THIRD EDITION

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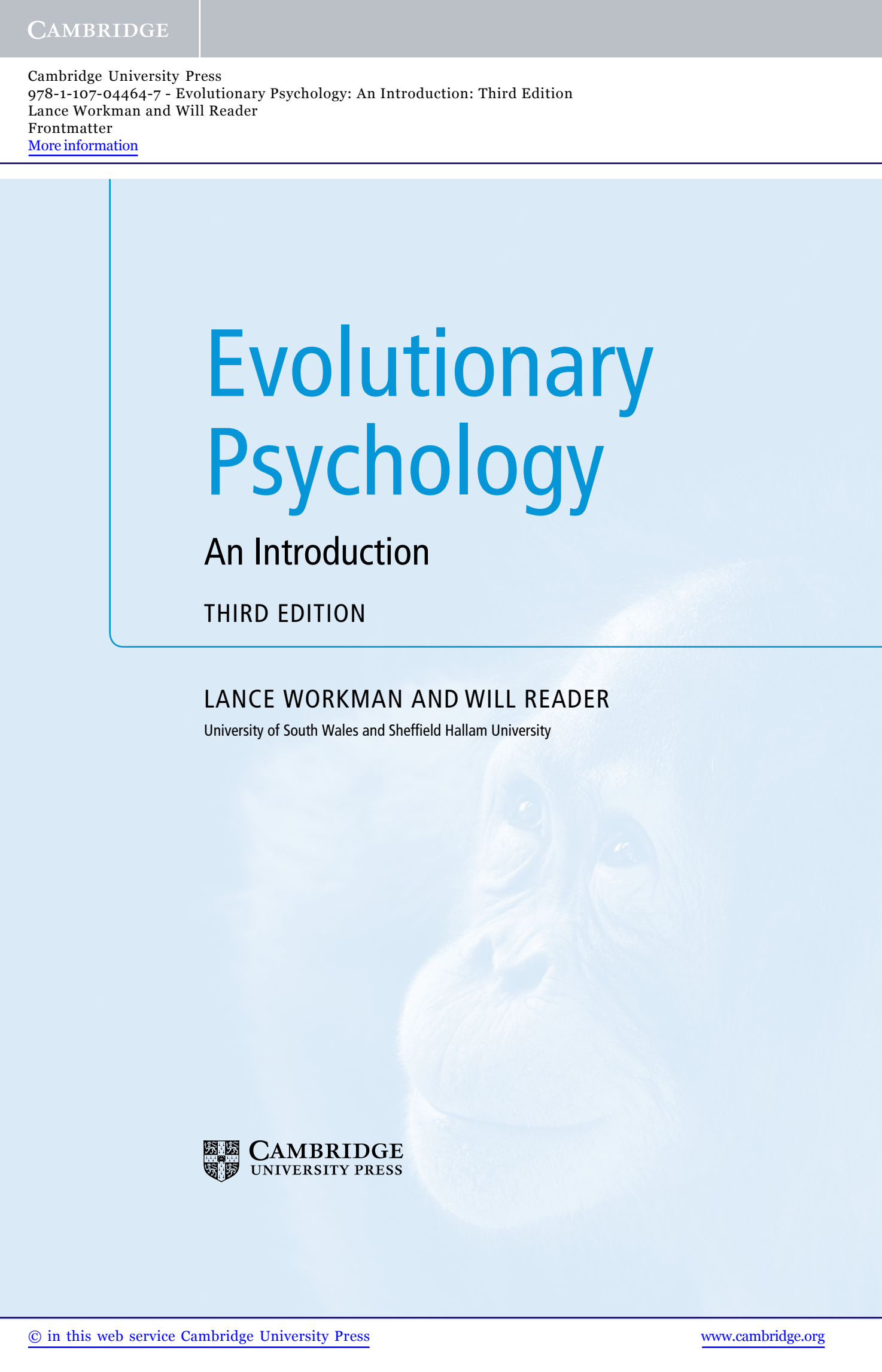

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For Sandie

To Anna and Georgia. Thank you for all the love you give. I love you both.

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Preface to the third edition

Evolutionary psychology: past, present and future

If we use the 1992 publication date of *The Adapted Mind* as the birth date of evolutionary psychology then, at the time of writing, it is now 21 years old, traditionally the age at which children become adults and are expected to make their way in the big, wide world. It therefore seems to be an appropriate time to ask whether evolutionary psychology has, as it were, become a respectable member of the scientific community, or whether it is still metaphorically tied to the apron strings of its progenitors at the University of California, Santa Barbara: loved by its parents but ignored or even despised by its peers?

Part of an answer to this question can be seen in some subtle changes to this book compared to previous editions. When we wrote the first edition way back in the late 1990s and early 2000s the Santa Barbara version of evolution psychology was preeminent. The manifesto that was enshrined in *The Adapted Mind* proposed domain specific mental modules that evolved in some mythical time and place referred to as the Environment of Evolutionary Adaptedness, or the EEA. We were enthralled by tales of hunter-gatherers in the Upper Pleistocene, of images of minds festooned with tools like Swiss Army knives, and of the principle that minds adapted for ancestral tasks might be less than successful in the twentieth (as it then was) century. This precocious child gained many vocal supporters in the scientific community, philosopher Daniel Dennett and psycholinguist Steven Pinker to name just two prominent members. But there were many critics and many points of criticism. Developmentalist Annette Karmiloff-Smith, for example, questioned the notion of innate mental modules, evolutionary anthropologists such as Eric Alden Smith pointed at problems with the concept of the EEA and David Buller, well, David Buller seemed to dislike all of it. Not to be outdone by his erstwhile colleague, philosopher Jerry Fodor – who started the whole modularity movement in the first place – wrote a book with Massimo Piattelli-Palmarini which attempted to show that the whole concept of evolution by natural selection was philosophically untenable (an argument that was dismantled by two other philosophers, Ned Block and Philip Kitcher, who managed to keep their faces admirably straight throughout).

This third edition sees a subtle change in emphasis. Rather than presenting the Santa Barbara school as the definitive version of evolutionary psychology, we discuss other versions – some more influenced by behavioural ecology – that make no appeal to modularity, domain specificity and the EEA. This should not be seen as us

distancing ourselves from the Santa Barbara school, but more our recognising what the core principles of an evolutionary psychology are and pointing out that a version of evolutionary psychology can survive even if the aforementioned assumptions are proved to be incorrect. As the philosopher of science Imre Lakatos might say, these assumptions are part of the protective belt rather than the hard core of evolutionary psychology. These changes appear in many chapters, but particularly chapter 1.

As well as these scientific and philosophical objections there are those who see evolutionary psychology to be politically distasteful, particularly the research on sex differences in mate choice which is seen as merely reinforcing patriarchal stereotypes of men and women. Such a point seems to imply that evolutionary psychology is some kind of political dogma which provides us with rules as to how we should live rather than a field of scientific enquiry. We hope we have addressed this issue in revisions to chapter 1.

Some adopters of our text have requested more primate comparative material in order to help illuminate our understanding of the evolution of human reproductive strategies. In chapter 4 (mate choice) we have greatly expanded our coverage of the social and reproductive behaviour of primates by incorporating new material on gorillas, bonobos and baboons. In particular we feel that the discussion of female coalitional behaviour adds balance to the male-centred common chimpanzee material presented in earlier editions.

Chapter 6 on social development includes more recent research on the fascinating notion that children base their future reproductive strategy on the environment in which they develop, a hypothesis that gives the lie to those who think that evolutionary psychology is nothing more than a blind and mechanical unfurling of a rigid developmental manifesto. Evolution has not only made us sensitive to environmental conditions, but it may also have given us a plan to help us deal with it.

If proof were needed that the Santa Barbara school is alive and kicking chapter 9 on cognition presents research that our memories might be sensitive to something called *s-value*, or survival value. Items that are presented under a context relevant to conditions in the EEA seem to be more memorable than those presented in a non-EEA relevant context, even when the latter context is more familiar to participants than the former. The fact that these results have been replicated by a team led by long-standing memory researcher Henry Roediger III, who has no evolutionary axe to grind, make these somewhat startling results all the more compelling. Later in the chapter research by Tooby and Cosmides on deontic problem solving reinvigorates the notion of cheater detection as a means for understanding why some problems are difficult and others easy. A proposition that had previously been given something of a pummelling by some of the big names in logical reasoning research.

The 'social chapters' (7 and 8) both have new material that reflects current areas of debate. Chapter 7 now considers the 'Cinderella Effect' (the notion that parents invest more in 'biological' than in 'non-biological' offspring), while chapter 8 has

added a new pre-industrial culture – the Aché to add balance to debates concerning how levels of reciprocation vary between different human societies. The changes to chapter 9 on language are rather more modest. Here we include more on the apparent ability of prairie dogs to generate novel, mutually comprehensible 'words' for things they have never encountered before, a re-evaluation of Chomsky and more on FOXP2 and Specific Language Impairment. We have included some new material on the evolution of schizophrenia in chapter 12 alongside a recent evolutionary based explanation for the eating disorder anorexia nervosa. We anticipate that these explanations will appeal and disturb in equal measure.

Chapter 13 contains new material on the hunt for 'candidate genes' that are considered to play a role in individual differences. We are less positive about the findings here than we were in previous editions, since these proposed single gene effects have not stood up well to scrutiny or where they appear to do so the amount of variation they account for between people appears to be really quite small. Finally chapter 14 on culture re-evaluates the status of memes in cultural transmission and has a new section on the importance of cultural specialisation to our rapid cultural development. In many ways it is the topic of culture which sees evolutionary psychology at its most inter-disciplinary, with contributions from historians, anthropologists, economists, biologists and philosophers as well as psychologists, and at its most ambitious: the attempt is to use evolution to partially explain how we got where we are now as twenty-first century hominins, the ape that tweeted, we might say.

So where are we now? The above should make it clear that to us evolutionary psychology is not an only child. The offspring of Santa Barbara is still doing well and if it is not universally loved, well that is a result of its reluctance to adhere to the status quo. But its siblings (or half-siblings) that are perhaps not so strident in their pronouncements, not so fundamentalist in their commitment to particular assumptions such as modularity or the EEA, are finding a voice too.

Who should read this book?

We have designed this book for those with a background in psychology. Unlike many books on the same topic we do not require readers to have prior knowledge of the intricacies of natural selection, genetics or inclusive fitness theory. We have also tried to relate evolutionary theory, where relevant, to some of the classic studies and theories familiar to readers with a psychological background – the 'Robber's Cave' study, Piaget's developmental theory, Bartlett's research on memory to name but three. We have also, where possible, organised the chapters in this way: developmental psychology, social psychology, individual differences, cognitive psychology and so on.

This said, we also explain the traditional psychological concepts too, so the book will be accessible to anybody with an interest in evolutionary psychology whatever their background.

Pedagogical features

We hope that the book's greatest pedagogical feature is the book itself. We have tried to explain the relevant concepts and research as clearly as we can. We also hope that we have tried to convey our enthusiasm for evolutionary psychology tempered with a critical eye when we think things don't quite add up. In addition to this we have included extra **critical thinking** questions at the end of each chapter which can be used – for example – for seminar discussion points. Perhaps the biggest change from previous editions is that we have written 240 **multiple-choice questions** (twenty per chapter) for either formative or summative assessment.

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Finally, once again we would like to take this opportunity to thank all of the instructors and students who have made use of the first and second editions of our book and in particular to those who have provided useful feedback. In particular we would like to thank Richard Andrew, Gordon Bear, Jannes Eshuis and Fred Toates. At Cambridge University Press we would especially like to thank Valerie Appleby, Martin Barr, Joanna Breeze, Charles Howell, Hetty Marx and Carrie Parkinson.