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Library of Congress Cataloging-in-Publication Data

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Carneiro, Robert L. (Robert Leonard), 1927-

The evolution of the human mind : from supernaturalism to naturalism-an anthropological perspective / Robert L. Carneiro.

p. cm.

Includes bibliographical references and index.

ISBN 978-0-9797731-1-2 (hardcover) – ISBN 978-0-9797731-2-9 (pbk.)

1. Human evolution. 2. Social evolution. 3. Brain – Evolution. 4. Thought and thinking. 5. Naturalism. 6. Supernatural. I. Title.

GN281.C375 2009

599.93'8 – dc22

2008026261

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ISBN-10: 0-9797731-1-3 (Hardcover)

ISBN-10: 0-9797731-2-1 (Paperback)

ISBN-13: 978-0-9797731-1-2 (Hardcover)

ISBN-13: 978-0-9797731-2-9 (Paperback)

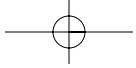
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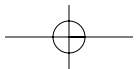
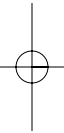
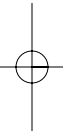
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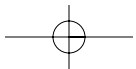
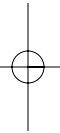
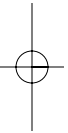
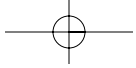
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To the memory of my mother and father





## PREFACE

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Not many authors, I suspect, can say exactly when the idea of writing their book came to them. If that is so, then this book is an exception to the rule, for I know precisely when and how the idea of writing it came to me.

I was on board a plane bound from New York to Ann Arbor, Michigan, on November 10, 2005, and was reading a printout of an article about Jean Buridan, a fourteenth century French cleric and scholar. What prompted my interest in Buridan was that unlike many of his contemporaries, he did not believe that God involved himself in the everyday running of the universe. Rather, he thought, “God may have given each of the heavenly bodies the impetus He desired at the time He created them, and they have been running of their own impetus ever since” (Dales 1989:111). I had once quoted this statement as an example of changing conceptions of God’s role from that of a capricious deity, intervening repeatedly in the affairs of the world, to one who had—at the very outset—laid down a set of laws and thereafter allowed the cosmos to run according to these laws.

Buridan’s contention, it seemed to me, afforded a striking example of the change undergone in human thinking, from a thoroughgoing belief in unalloyed supernaturalism toward an attitude in which naturalism played an increasingly greater role. This change was of fundamental importance in how the affairs of the world, and indeed of the universe, were deemed to run.

Yet as often as historians of ideas have noted this trend, I could not recall a single volume devoted entirely to tracing this change over the course of centuries. Certainly no book known to me followed this trend from the beginnings of supernaturalistic thinking (back in the Paleolithic) and carried it through the most advanced levels of scientific thought today. As an anthropologist interested in the religious beliefs of primitive peoples, as well as someone concerned with the philosophy of science, it occurred to me that I might have something to say on the subject. So, sitting in an aircraft at

34,000 feet, I decided to try to write a book that sought to trace the course of this intellectual evolution.

The title of this book—*The Evolution of the Human Mind*—occurred to me then as encapsulating its intended scope. Moreover, I wanted a title that was at once grandiose and presumptuous, provocative and intriguing—a title that would require a concerted effort in order to live up to it.

“The Mind of Primitive Man” has long been a subject of interest and concern to anthropologists. It was the title of Franz Boas’s most famous book (1911) and it was the name of Leslie White’s most popular course at the University of Michigan. But the word “mind” is ambiguous, and I need to make clear at the outset just what I mean by it. In the first place, this is not a book about human psychology. Psychology deals with the processes and mechanisms of thinking, even with the neuroanatomy that makes thought possible. This book, however, is not concerned with the structure and function of the brain, but only with its *contents*. That is to say, it deals with the thoughts—the ideas—that people have held over the course of millennia. More specifically, it deals with those ideas purporting to account for the origin of the world, how the world works, and humanity’s place in it.

My exposition, I should note, does not presuppose any particular theory of brain function. It simply assumes the *correct* one. That is, it takes for granted how the brain actually works, how it has generated the ideas it has given rise to. But these ideas are not self-generating; they have not simply been excogitated. They have not been drawn from the inner workings of the human brain, the way a spider spins its web from material it draws from its spinneret, deep inside its body. The ideas that have emerged from the human brain have been very largely derived through the processing of experiences that people have had and have grappled with, using the intellectual tools available to them at the time—tools that were at first simple, crude, and limited.

A fair summary of what I mean by “mind” was once given by Julian Huxley and bears quoting.

The brain alone is not responsible for mind, even though it is a necessary organ for its manifestation.... I would prefer to say that mind is generated by ... living matter, capable of receiving

**Preface****ix**

information of many qualities ... about events both in the outer world and in itself, [and] of synthesizing and processing that information in various forms. (Huxley 1961:16–17)

I am not concerned here with whether, at bottom, the human “mind” operates in terms of dualities, dichotomies, or dialectics. I simply assume that the brain operates however it does. Again, what I am interested in are the concepts and ideas that were generated by cerebral activity as individuals sought to understand and interpret their experience of the world around them. And I am not concerned so much with the ideas of particular individuals—although I will of course cite them extensively as exemplifying these ideas—as I am in systems of ideas. As a cultural anthropologist, I am primarily interested in *culture*, which in one sense is the product of thought.

In searching for an analogy to illustrate the relationship between brain and mind, perhaps we can say that the brain “secretes” thought the way a polyp secretes coral. And my concern in this book is not with the polyp, but with the coral reef—the product of the polyp’s accumulated secretions. Viewed over the course of time, those “accumulated secretions” constitute an evolutionary record. And the evolution of ideas can be studied in and of itself, quite independently of and apart from the organisms that gave rise to them.

As with evolution generally, the sequence of development of these ideas shows a distinct direction. And this direction is basically—strikingly—from a supernaturalistic interpretation of the world toward a naturalistic one. Moreover, this evolution has been marked not only by a direction, but by an *acceleration*. The trend toward naturalism has, unquestionably, been speeding up. The most dramatic changes in the interpretation of the world have come about during the last four hundred years of human history, more so by far than in the preceding forty thousand. In the pages that follow, I propose to track this evolution as well as it can be discerned, from the Paleolithic to the present. This means going back some tens of thousands of years to a murky, indistinct past and proceeding forward to the present time, when issues involving human understanding are more sharply delineated and the evidence for their transmutation is clearer and more abundant.

One of the notable features of this evolution is that its course is not strictly rectilinear, but (one might say) *sawtoothed*. Movement

has been generally forward, but not always. Periods of stagnation or even retrogression have sometimes alternated with periods of advance. Particularly striking is the way in which, time and again, the new is intertwined with the old. Naturalistic and supernaturalistic attitudes are often intermingled in the same person. Indeed, it will be a leitmotif of this book that those individuals responsible for some of the greatest advances in naturalistic thinking—men like Copernicus, Kepler, and Newton—nevertheless retained palpable vestiges of supernaturalistic thinking. Only in recent decades are we beginning to find scientists in whom supernaturalism has been completely extirpated and whose naturalistic thought stands out distinct and uncompromised. But the story must begin with the first glimmerings about the fundamental questions of human existence. And these early glimmerings, as we are about to see, were suffused with supernaturalism. It could hardly have been otherwise.

## ACKNOWLEDGMENTS

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**M**y overriding obligation in writing this book is to the hundreds of thinkers whose ideas about the great questions of existence, from the Paleolithic to the present, I have attempted to trace and interpret. But acknowledgments are usually made to the living, not to the dead. And although the former are far fewer in number, they nonetheless have been of inestimable value to me in pursuing the objectives that this book seeks to attain.

First among those to whom I owe a debt of thanks is Joyce Marcus. This marks the third book in which I have had the pleasure of expressing my appreciation to her. Despite her many more pressing concerns, she always found the time to read my manuscript with her unerring eye and give me the benefit of her keen insight, sound judgment, and warm encouragement. In a previous preface, I spoke of her support as being worth rubies; I would now raise that to diamonds.

Robert Bates Graber, my fellow evolutionist, friend, and comrade-in-arms, also read the manuscript and from his wit, wisdom, and deep knowledge of the history of science made many thoughtful comments, often forcing me to reconsider matters that I thought settled.

B. J. Brown, who on his own initiative has kept careful track of my published writings, used his powerful mind and unique perspective to offer a number of penetrating suggestions.

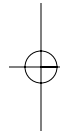
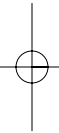
William Peace, fellow student of the works of Leslie White, and Seymour Baxter, friend since our college days, each read several chapters of the book and found something of value to contribute to their improvement.

This is the second volume in which Eliot Werner has been my editor. And I must report that my second experience with him in this role has only strengthened the opinion I voiced of him once before: that he is the kind of editor every author wishes he had. Let me just reinforce this by saying that any author who works with Eliot can expect the assurance—and indeed the satisfaction—that he is being held to the highest standards.



When we hit a particularly vexing problem in grammar or usage, about which we were uncertain or in disagreement, we turned to Gloria Brownstein of Marist College, whose wise and learned counsel we were almost invariably happy to follow.

Finally, I could not end my acknowledgments without conveying my thanks to my old friend and typist Clarissa Wilbur, who with skill, grace, and humor entered seemingly endless drafts of these chapters into her computer.

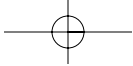


## CONTENTS

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1. The Emergence of the Supernatural	1
2. The Spirit World Elaborates	19
3. Origin Myths: Accounting for Things as They Are	33
4. The Life of the Soul After Death	55
5. The Later History of Soul Beliefs	69
6. The Birth and Evolution of the Gods	85
7. The Rise of Scientific Thinking	107
8. The Impact of the Physical Sciences	123
9. The Attenuation of the Concept of God	139
10. The Rise and Demise of Idealist Philosophy	153
11. The Expansion of Naturalism	169
12. The Coming of Evolution	193
13. The Impact of Evolution	215
14. The Religious Views of Charles Darwin	229
15. The Twin Specters of Atheism and Materialism	241
16. Vitalism versus Mechanism in the Interpretation of Life	271
17. Accounting for the Origin of Life	295
18. Evolution and Emergence	305

<b>xiv</b>	<b>Contents</b>
19. The Diminishing Role of God in History	313
20. Free Will versus Determinism	321
21. The Doctrine of the Two Magesteria	339
22. The Scientists Speak Up: The Theists	349
23. The Scientists Speak Up: The Non-Theists	361
24. Trends in Belief to the End of the Nineteenth Century	375
25. Secularism and Religion Continue to Compete	385
26. Current Status and Future Prospects	411
References	425
Index	459



# **THE EVOLUTION OF THE HUMAN MIND**

## **From Supernaturalism to Naturalism**

*An Anthropological Perspective*

