

THE REAL ORIGIN OF THE SPECIES

By Richard D. Alexander June 28, 1987

THE MOST mysterious and compelling unanswered question about ourselves is how we came to be.

What caused us to evolve our marvelous intellects, our unsurpassedly complex social life? Why are we so different from our closest relatives? What happened to all of our extinct ancestors, so that for five or 10 million years, while other rapidly evolving forms of life were speciating prolifically, no part of the evolving human line has survived as -- or perhaps even became -- a different species?

Why are we all alone at the pinnacle of the particular direction of rapid evolutionary change that led to such traits as a huge brain, complex intelligence, upright posture, concealed ovulation, menopause, virtual hairlessness, physically helpless but mentally precocious babies, and above all our tendency and ability to cooperate and compete in social and political groups of millions?

Biologists take it as given that all forms of life have come about through an organic evolution guided by natural selection, which implies reproductive advantage. But there are whole suites of human activities that seem to have nothing to do with reproduction. How does one explain art, music, opera, literature, humor, politics, or religion, using arguments from biological evolution? Conversely, why should we take evolution seriously, in trying to understand ourselves, if such important activities seem immune to its probings?



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The theory I discuss here is a combination of previous ideas and findings from disciplines such as psychology, anthropology, biology and philosophy. Even if not correct in all its particulars, it suggests that a comprehensive evolutionary explanation of humanity may not always be inaccessible. About 10 years ago, a young Cambridge psychologist named Nicholas K. Humphrey argued that the human intellect -- our most distinctive attribute -- evolved as a means of dealing with the uncertainties of social life. Humphrey meant that the real challenge in the human environment throughout history was not climate or weather or food shortages -- not even predators. Rather, it was the necessity of dealing continually with our fellow humans in social circumstances that became ever more complex and unpredictable as the human line evolved.

Humphrey's argument is a very special one because it challenges our familiar notions of intelligence. Consider the reverence we show for great mathematicians, chess players and masters of memory who strut their stuff on TV quiz shows. Where in all of this is even a hint that humans have long been evolving toward greater cleverness in cooperation and in socially manipulating, using or besting their fellows? It seems almost perverse to imagine intelligence tests designed to give high scores explicitly for such social abilities. Yet we would all like our personal lawyers, and the politicians who represent our interests to others, to be ultimately clever in social manipulation. (But who, one may also ask, do we hold in greater suspicion and distrust?)

Humphrey suggested that variations in this ability to predict and manipulate gave advantages to some, and resulted in the step-by-step changes in intellectual complexity that eventually yielded modern humans. Biologists would wish to specify that such advantages were, ultimately, advantages in reproduction success, for that is how evolution proceeds.

Human mentality has several components, but consciousness is probably central. It is related to foresight, planning, awareness, self-awareness, fantasizing and dreaming. Consciousness implies the ability to think about times and places and events separated from our personal circumstances. It implies the ability to build scenarios -- to anticipate different possible outcomes and retain the potential to act in several alternative ways, depending on circumstances that can only be imperfectly represented at the time the plans are being made. Language is tied closely to the process, because it alone -- through the use of symbols and tenses -- enables us to communicate with others about such "displaced" events.

What circumstances should we expect to be most challenging in respect to building scenarios? Surely those involving other organisms doing exactly the same in preparation for their competitive and cooperative interactions with us. In other words, nothing would select more potently for increased social intelligence than a within-species co-evolutionary race in which success depended on effectiveness in social competition.

This view places cognition, as problem-solving ability, in a clearer light. I have argued that other aspects of human mentality -- such as linguistic ability, expression of the emotions, and personality traits -- are also parts of our supply of tools for social cooperation and competition. (Psychologists and anthropologists have suggested that mathematical ability is a special case of linguistic ability, and that linguistic ability is likely explainable only as serving a social function.)

Scenario-building, including dreaming and daydreaming as well as serious or purposeful planning, has seemed to many a kind of social-intellectual play. The most widely accepted theory of play is that it represents practice for the future which occurs under circumstances that make it inexpensive compared to the real thing. Such practice can take many forms. It can merely improve physical, social or intellectual skills. It may involve producing and trying out alternative scenarios. It may involve acquiring status or learning how to deal with dominance rankings that may be difficult to change as the playing individuals develop and begin to compete in earnest for the actual resources of reproductive success, such as mates, jobs, and status.

The theory I am developing implies that there will continually be balance-of-power races between competing groups, and scarcely anything better describes the economic, political and social interactions of internally cohesive human groups. At the same time, partial differences of interest within groups will cause continual efforts at manipulation and deception there, as well as cooperation. Everyone puzzles over the insanity of our current group-against-group competition and the international arms race with its threat of mutual extinction or the loss of civilization. Yet the theory here described seems to predict just such an outcome. It seems simultaneously to explain the rise of nations and the runaway aspects of the international arms race. Perhaps

