

## Have God and Evolution Constructed Humans Jointly?

Richard D. Alexander

*Note to the reader: I have written this essay from my own thinking, and have not yet begun to peruse the recent and current literature that may be relevant to it.*

### Conclusions (or Abstract)

Evolution, and the feedback from its “progenies” of patterned learning capabilities and the capacity for culture, represent driving forces accounting for the uniquely extensive human kin group and its organization in different demographic and environmental situations. It is argued here that the perpetual urgency to maintain a unified and strong kin group in the face of inter-group competition and conflict generated a unique spirit of community, eventually transformed into the inspiring and reassuring concept of a helpful, anthropomorphic, all-powerful, supernatural God. The elaboration of organized religions must have been followed from some combination of these antecedents. In other words, religion and the concept of God have taken forms that have tended to further rather than thwart or conflict with prior directions of human evolution. A better understanding of the specific ways in which these features of humanity interact today, and have interacted across the relevant portions of human history, has the possibility of diminishing some of the most serious quandaries of our modern existence.

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Recently, a Christian minister, upon viewing his new grandchild, declared in a letter to his and my local newspaper that, “A human life is a miracle from God, not a process of evolution.” I share this man’s heartfelt expression that viewing a new grandchild is an awesome experience, and that the human baby is indeed a marvel. But surely one does not have to set the magic and intricacy of human beings *against* anything at all. I would like to convince the Reverend, and everyone else, that it is no more useful for those who seek an understanding of God to make the evolutionary process adversarial than it is for those who seek an understanding of evolution to make the concept of God adversarial.

Although God is appropriately understood as evoking love, warmth, and social cooperation, the concept has also been used to support less positive human behaviors. It would appear that our evolutionary background and our religions together are anciently responsible for both social cooperation and the extremes of social competitiveness, including internecine struggles that have caused immeasurable pain, misery, and suffering all over the world, and millions of deliberately premature deaths within our own lifetimes. Perhaps an improved way to reduce serious conflicts and expand social harmony is to join rather than separate our knowledge of evolution and our religious attitudes and beliefs. To accomplish this cooperation we need to understand how evolution, religion, and culture in general have each influenced our performances in different circumstances, and whether they have tended to generate in us similar or different attitudes and behaviors.

As an evolutionary biologist, I have interacted with colleagues in the social and biological sciences for more than 50 years in the effort to understand better how evolution has primed our behavior for particular situations. It is a difficult problem, partly because much of our learning is accomplished unconsciously, and much of our knowledge does not automatically become or remain conscious, or has only recently been made conscious. For example, most of what the Reverend's letter cites as aspects of human complexity has been discovered by social, biological, and medical scientists only within the last few decades. We became aware of the evolutionary process a mere century and a half ago, and genes only a century ago. So it is not surprising that we tend to think that all of our important social attitudes and actions are fully conscious, and that our evolved sets of genes – as invisible, manipulative, and seemingly alien forces only recently brought into our consciousness – are not a useful or necessary part of explanations of our social behavior.

Our uses of the concept of God might also involve aspects of our makeup that we do not fully understand. If the concept of God has a real basis -- as I believe it must, because of its virtual ubiquity and the passion associated with it -- then surely it behooves us to explore everything about the concept and its influences on our lives, including effects not easily made conscious. Perhaps, rather than accepting unquestioningly that the concept of God can refer only to a singular, supernatural, anthropomorphic being, we should seriously consider alternative ideas about the origin and nature of the concept, and its significance.

To some it will seem that an essay begun in this fashion can be rejected as just another misguided effort to diminish the impact of religion. Instead, my intent is to suggest that all those who deny the existence of God, and sometimes, as well, denounce all organized religion, are making a serious mistake. If the concept of God can be connected to a testable and positive reality, then surely it becomes a social responsibility to seek the greatest possible understanding of that connection. Moreover, atheism, in the sense of denial of God, and the persistent adversarialism that such denial represents, would become a thing of the past. My essay is directed most specifically at skeptics who doubt that anything concrete in everyday life can account for the concept of God and its usefulness. My theme, or hope, is that probing possible foundations for the concept of God will generate a more positive view of religion, expanding its harmony-promoting aspects and lessening its contribution – as well as that of our evolutionary heritage -- to present-day extremes of competitiveness and internecine strife; that such probing may provide a basis through which all of us, religious or not, or religious in different ways -- and accepting of supernaturalism or not -- can find a more positive sociality in new common ground, while continuing to acknowledge and tolerate differences in our views.

In my experience when people are asked: "What is the most important thing in your life?" the most frequent answers are: Family, God, or the combination: Family and God. The question is thereby raised whether these two concepts are related, and if so, how? Perhaps the concept of God and the course of evolution have in some sense taken parallel, and even mutually reinforcing paths.

The concept of family often stands for more than parents and their children, especially in the smaller, more stable, and less mobile societies of most of human history. It can refer to extended families, and sometimes to what has been called the kinship system, or kin circle, in many societies extending all the way out to distant cousins. In most modern societies, kinship systems have been reduced and diluted, such that, in the extreme, nuclear families

sometimes live mostly or entirely among unrelated, recent acquaintances. This has happened partly because of mobility combined with fluctuations in resource distribution, and partly because governments cannot function well in the presence of multiple powerful clans or sects inclined to maintain their own legal and moral systems: "In effect, socially imposed monogamy, bilateral inheritance and descent-tracing, and the [individual-based] kindred [and support and control of elected government through taxation of private property] appear to represent the combination of behavior systems most likely to lead to the enormous, unified nation-states that today dominate the world." (Alexander, 1979: p. 256). In contrast, every well-studied non-technological society lives according to a complex system of organization along kinship lines, often involving polygyny and communally owned property and resources. Throughout much of human history, variants of the local kinship system probably functioned as the essential social machinery, with minor contributions from the more extensive population. Among other things such kinship systems (sometimes – and significantly -- via one or a few influential individuals) define, establish, and maintain social relations, such as moral rules: rules of marriage, child care, kin help, resource distribution, acceptable limits of competition, and other social responsibilities.

The rules of social relationships typically differ from the rules of scientific evidence. Unlike the findings of the physical, biological, and social sciences, many human social realities tend to be enforced by religious, political, or moral authority, with little or no requirement of systematic and carefully reviewed accumulations of evidence other than the collective opinion of a social group, the judgment of sufficiently powerful individuals, or an interpretation of the will of God, as from a holy book. As a result, and unlike scientific realities, social realities are often declared to be absolute or to derive from absolute faith. When social and moral realities become sufficiently influential, their tendencies toward absolutism begin to permeate government and generate conflicts, not merely with scientific discoveries, but between religious and secular groups, and among organized religions that adhere to different views of social and moral realities.

Individual organisms, as we know, do not survive for long. Only their genes do, via descending kin groups. Only individuals, behaving socially and facilitating the interactions of genes in the environments of human success, create the next generation, and cause the continuing survival of the human species. Individuals do this, in all sexually reproducing species, by the elaborate, predictable, repetitious processes of mitosis and meiosis, the joining of sperm and eggs, the step-by-step proliferation and specialization of cells and tissues, and the elaboration of behavior, in humans most notably via evolved social learning capacities and propensities. These capacities and propensities yield complex patterns and sequences of learning that are often partly or entirely non-conscious, and as a result remain poorly understood. We know, for example, that incest avoidance comes about as a result of social association, but as individuals we typically have no conscious access to our own passage through that learning process. It seems strange to us that both birds and nonhuman mammals learn early in their lives how to recognize members of their own species as appropriate mates much later in life, and that they do this learning at different times, such as during the first few days of life (some birds) or after several weeks of life (some mammals). But far more crucial, and currently at least as incomplete and unsatisfactory, is knowledge of the complex sequences and patterns of critical learning experiences that take place across the lengthy period of human juvenile life, and explain many features of the adult's life.

Across most of human history, the principal instrument for the long-term survival of the initially narrow streams of descendant genes carried within families has been the cooperative kin group. In 1964, the late William D. Hamilton, an influential 20th century evolutionary biologist, hypothesized that individual organisms evolve to treat their relatives differentially according to their amount of genetic overlap, tempered by the relatives' other sources of support and their likelihood of turning social beneficence into genetic reproduction. In other words, without necessarily realizing it, he was predicting that humans would likely regard family as the most important thing in their lives. Among all well-understood species, only humans meet the most elegant version of Hamilton's prediction, by distinguishing a wide array of different relatives, explicitly in the context of social beneficence and cooperation, and ranking and treating them according to their differing degrees of genetic relatedness.

Within such kin groups, both cooperation and competition thrive, sometimes displacing one another rapidly. Which is more prominent at any given time depends partly on influential extrinsic forces, including geographically accessible, competitive human groups. If we are asked what is the most intense or pervasive social motivation, we are likely to think first of tending our offspring, and second and more generally, helping family or kin. At least from biblical times to the present, however, willingness has been shown to give up even the closest individual family members to maintain or serve the interests of the larger group (e.g., Abraham's willingness to sacrifice Isaac, his only son with his wife, Sarah, as an act of faith in God; and countless modern families with offspring and spouses in the military). We often defend the willingness of such faith, or patriotism, fiercely. It is worth asking, therefore, to what extent patriotism, or allegiance to family and kin group (rather than to closest and neediest individual kin), and an accompanying faith in God, can at least sporadically become the most intense of all social emotions. Again, the question is raised, in what ways God and kin group are similar, or share their backgrounds.

Unfortunately, patriotism, as with all social cooperativeness, has two expressions: within-group amity and between-group enmity. In the search for harmony in human sociality, scarcely anything is more daunting than the realization that, among living creatures, social cooperation apparently evolves only as a mode of direct or indirect competition at a higher level of organization. Genes, for example, have evolved to compete by cooperation so astonishingly near completeness that each of their tens of thousands of different alleles (alternative versions of genes) within individuals has approximately the same chance of appearing in the next generation. This near-ultimate cooperation is the reason the development and lifetime of the individual is treated as unitary, and why the individual has become such a remarkable stand-in competitor against its peers, representing all of its 30,000 or so genes.

Just as separate human groups differ socially, and behave as if they know it, God is also seen differently among different religions. Holy books and accepted rules differ. Some religious assemblages – and leaders – operate without demanding acceptance of the existence of a supernatural condition, while others justify every decision according to their interpretation of the wills of supernatural beings. Virtually all religious assemblages probably include occasional loyal and devoted individuals who remain comfortably skeptical about supernaturalism while nevertheless serving as perfectly capable and devoted members of their congregations. Perhaps understanding of these variations can be furthered by considering what may initially be regarded as startling or dramatic alternatives to the usual views of God.

For example, what if the power, guidance, and permanence of God derives, not from a supernatural anthropomorphic being, but from a virtually non-conscious, human-generated, highly effective, continuing metaphor – a pervasive and collective spirit or attitude deriving ultimately from the protective power and permanence of the human kin group, and (recently) its replacements and diverse forms in modern society? Thinking of God in our everyday lives evokes primarily emotions such as love and cooperation. So does kinship. God is regarded as a principal source of strength, authority, morality, and protectiveness. So is the kin circle or local community. We expect and wish our families, or kin groups -- unlike ourselves as individuals -- to continue indefinitely; and we also consider God to be eternal. We pray to God, but we depend on our modern versions of family and the local social machinery to see us through our worst trials. We thank God, family, and the local community almost in the same breath.

The members of every group, or religion, would like to think that their particular view of God will eventually prevail across all of humanity. Members of different groups, on the other hand, sometimes view God so differently that intense competition and we-they confrontations are prevalent. Both of these attitudes apply as well to the ways that kin groups perceive themselves. The desire for wise and infallible leadership, and the roles of older and more influential individuals in kin groups -- given reluctance to accept death and the value of believing in communication with deceased leaders or family heads -- are possible facilitators of the envisioning of God as an anthropomorphic supreme being with powers beyond our experience in the natural world, including that of negotiating the prospect of eternal life.

Presumably, the larger kin group evolved because it served the interests of the families that continued to live and tend their offspring and close relatives within it. In turn, families appear to have evolved to serve and preserve the kin group as a whole, via cooperativeness and patriotism. To the extent that the competition of different kin groups remained intensive and expensive, and genetic relatedness continued to be higher within kin groups than between them, the families within a kin group would all have tended to be more important to one another than to members of other kin groups. The dual and reciprocal nature of these relationships within the local kin groups may have contributed to generating the concept of God, serving, as it does, both family and kin group.

Charles Darwin (1859, 1871) initiated an expanding discussion of the proposition – later stated more directly – that in some sense competing human groups became principal hostile forces against one another. Such groups apparently drove the process of natural selection by becoming, not only a major cause of homicide, but the single force most influential in determining the ways in which predators, parasites, diseases, food shortages, climate, and weather (Darwin's "Hostile Forces of Nature") affected the groups in which humans were evolving (e.g., Keith 1949, Alexander and Tinkle 1968, Bigelow 1969, Alexander 1971-2006). This postulate may be the central part of the answer to what drove the evolution of the incredible brains and uniquely complex social behavior of humans so far beyond related species. It also accords with the virtually constant prevalence of multiple forms of inter-group conflicts.

As noted earlier, in recent times -- for reasons such as greater mobility and the rise of agriculture, industry, urbanization, and commerce -- the old kin circles have diminished in relative size and influence. They have gradually been replaced by larger bands and tribes,

and most recently by huge nations. These large modern groups are increasingly characterized more by social reciprocity among unrelated or distantly related individuals and families, and less by extensive nepotism among relatives. Coincidental in many parts of the world has been the rise of multiple levels of representative governments and effective legal systems. It might seem that these directions of change – the rise of nations -- would necessarily reduce strife and lead us toward becoming a more peaceable world community. Certainly, fewer and larger socially cooperative groups have resulted. But many have gained such immense power and devastating weaponry -- without reducing the readiness for severe between-group competition or the tendency and capability of extreme patriotism – that, although deaths and injuries from inter-group strife may now occur at significantly lower rates, the actual numbers of casualties are so large as to be difficult to comprehend. Some calculations have suggested that, during merely the past few centuries, more people were killed in conflict than existed in the entire population of humans across most of the million-year human history.

We seem primed by our evolutionary history to view people in other human groups less congenially than we view those in our own. It is not because we recognize genetic similarities and differences via some cryptic, or unique, still unknown mechanism. Rather, over and above the tendency for trust to correlate with specific harmonious backgrounds of familiarity, we have evidently evolved special ways of utilizing learning (and resistance to learning) to recognize kinship, and to generate its emotional ties. We develop kinship feelings with individuals who are geographically and socially accessible early in life, and who become long-term social interactants in mostly non-conscious ways specific to differing genetic relationships. It is surely not trivial that we presently do something similar not only in military cooperation, but with religion, often treating religious ties as if they were kinship ties, or reinforcements of patriotism.

Against our best efforts to create greater world-wide social harmony, our evolved kin-learning mechanisms cause the streams of genes emanating from different kin circles across the generations to parallel in their initial narrowness the streams of tolerance emanating from sources of common social and religious beliefs. The rise of democracies and the internationalization of religions notwithstanding, evolution as biological change and religion as cultural elaboration have together enabled if not furthered the unique inter-group competitiveness and hostilities that have apparently characterized humanity across half or more of its entire history. As a result of our long history of inter-group conflict, and our propensity for absoluteness in social rules, we sometimes even create or designate enemies, more or less artificially, as part of generating extreme patriotism or to justify adherence to within-group social and moral rules. Once such animosities have been established, it can be extremely difficult to remove or reverse them. This is particularly true when conflicting groups go to the extreme of labeling adversaries with seemingly permanent features, such as "evil." Adversaries accepted as merely errant or imperfect can be regarded as appropriate for conversion, or negotiation of differences. But evil enemies must be defeated, or even extinguished. No one contemplates reforming the Devil.

Today's environment of increasingly rapid and effective world-wide communication and travel seems to reduce justification for the destructiveness of continuing regional separatism and chauvinism -- of extreme we-they group confrontations based on pride, stubbornness, economics, politics, religion, kin relationships, unfamiliarity, or uneven resource distribution. Returning to the Reverend's microcosm of the kin circle in grandchild effects, the four adopted grandchildren of my wife Lorrie and me, whose diverse genetic ancestors derive from

the far corners of several different continents, have given our extended family further confidence that appropriate social learning -- assisted by an evolutionary (functional) understanding of early imprinting and bonding, and continuing positive association -- can yield the pleasures and strivings associated with kinship as surely and as completely as do the usual life situations of actual genetic kin, and, indeed, for the same reasons. We are fortunate that the directing of human cooperativeness and competitiveness is largely socially learned, for the nature and patterning of learning, as we know, is subject to change not only by evolution, but by using our evolved learning capacities to find out about it and then deliberately change the circumstances of life to achieve our purposes. No matter how social learning has worked in the past, conscious and knowledgeable application of its evolutionary background and modes of operation in the modern world has the possibility of bypassing or minimizing the foibles of our histories with regard to social and religious diversity.

There is a widespread tendency to blame the prevalence of war on resource shortages, with the implication that either increased resources or lowered population will eliminate the problem. This seemingly reasonable view needs always to be tempered by the realization that (1) for evolving organisms success is measured in reproduction, and therefore is always relative; (2) resources that vary in quality will always be in short supply; (3) among all organisms humans may have evolved to compete more intensely with members of their own species, both individually and in groups, than has any other species; and (4), as noted earlier, only humans have evolved to gain from learning how to achieve reproductive success by behaving appropriately to an incredibly wide range of different genetic relatives. None of these four items will easily be erased from the human behavioral repertoire, particularly if we are unwilling to consider seriously the problems involved in reducing their significance.

Evolution is not the enemy, even if it has not made us perfect in our own eyes, and, indeed, evidently set the stage for the local hubris that now plagues us. The science used to explain evolution -- or anything else -- is not the enemy. Nor is religion, but perhaps we can finally understand why interpretations of even a God claimed to be universal have seldom led religious assemblages to unconditional or broadly inclusive blessings. (The minister in my own childhood church unsettled me at a very early age by consistently restricting his concluding prayers to, "God bless everyone in this congregation and all those too ill to attend.")

The old local hubris effects of both evolution and religion are indeed enemies of broad-scale or universal social accord. Indeed, even if the extended kin circle and the religious community are in some sense not equally ancient, they may be sufficiently parallel to indicate a common or mutually reinforcing background. Their similarities as much as their differences may be involved in some of their occasional conflicts.

Local hubris, whether kin-based or religious, surely has its usefulness, and not solely in the past. But in today's world of calamitously destructive powers, informed searches for better ways to diminish local hubris in favor of more widespread tolerance and social harmony surely deserve massive encouragement. As we already know from the present structure of societies, and our learning biases -- both deeply entrenched by a long history of evolutionary selection -- successes in such searches will not come easily.

As emphasized earlier, nothing in this essay is intended to disparage or downplay organized religion, or any group's version of its own history or literature. The opposite is true: I am

instead interested in future changes, from increased knowledge, that might bring religious and non-religious people together in a more open-minded and relaxed atmosphere. I seek to help emphasize the positive, cooperative, harmonious, helpful aspects of religion, and to diminish associations of religion, kin groups, and culture in general, with evolved tendencies toward inter-group enmity.

Although I personally do not feel a need to require or rely upon supernaturalism because of the unfortunate handicap of operating with incompletely conscious knowledge of social causes and effects in our lives, I am neither surprised nor disturbed that so many people find it useful or reassuring. Most of the members of my own kin group accept a supernatural concept of God, many of them worshipping in the same small country church that was once the center of my social universe, while they and I nevertheless continue to thrive comfortably on a mutual affection.

I also deeply appreciate being able to reflect on Doris Lessing's insight in *African Laughter* that "Myth does not mean something untrue, but a concentration of truths." Stories become myths because they contain truths, and the more important the truths they contain the more lasting and meaningful they become. But I believe there is cause for concern when myth is used as a weapon against other concentrations of truths. Art, poetry, music, and fiction all thrive on myth, but they rarely promote their business by attacking the merits of scientific investigation.

Is it, then, too much to hope that organized religion might strive harder to lower hostility toward science and evolution, and also tolerate a greater diversity of personal views regarding the concept of God? Is it too much to hope that different religions might concentrate their powers even more effectively on cooperativeness, and denounce even more forcefully the utilization of their powers as polarizing and sponsoring forces in the generation of extreme patriotism and the prosecution of war and oppression? Is it too much to ask that our human backgrounds and motivations -- our attitudes, traits, and tendencies -- be examined by joining the concepts of God that inspire us toward social harmony with dramatically more extensive and rigorous scientific investigations of the details and patterning of our evolved learning flexibilities? Is it too much to expect that novel and ingenious cooperative approaches between scientific realities and social and moral realities can be generated to help lessen the world-wide scourges of unnecessary pain, misery, and suffering, and the continuing sad parade of deliberately premature, violent, and painful deaths from human conflict? Is it, indeed, too much to suggest that, starting now, our prayers be modified toward something closer to, "God bless everyone, everywhere, equally"?

*The challenge of Darwinism is to find out what our genes have been up to, and to make that knowledge widely available as a part of the environment in which each of us develops and lives so that we can decide for ourselves, quite deliberately, to what extent we wish to go along (Alexander 1979, p. 136-7).*



## References

*Note: This reference list is not even close to being accurate or complete.*

Alexander, R. D. 1971. The search for an evolutionary philosophy of man. *Proceedings of the Royal Society of Victoria, Melbourne* 84:99-120.

\_\_\_\_ 1979. *Darwinism and Human Affairs*. Seattle: University of Washington Press.

\_\_\_\_ 1987. *The Biology of Moral Systems*. NY: Aldine De Gruyter.

\_\_\_\_ 1989. The evolution of the human psyche. In: *The Human Revolution*. C. Stringer and P. Mellars (eds). Edinburgh: University of Edinburgh Press, pp. 455-513.

\_\_\_\_ 1990a. Epigenetic rules and Darwinian algorithms. The adaptive study of learning and development. *Ethology and Sociobiology*. 11:241-303.

\_\_\_\_ 1990b. *How Did Humans Evolve? Reflections on the Uniquely Unique Species*. Special Publication No. 1: Ann Arbor: University of Michigan Museum of Zoology.

\_\_\_\_ 1991. Social learning and kin recognition: an addendum. *Ethology and Sociobiology* 11:387-399.

\_\_\_\_ 1993. Biological considerations in the analysis of morality. In: *Evolutionary Ethics*. M. H. and D. V. Nitecki (eds). Albany: State University of New York Press, pp. 163-196.

\_\_\_\_ 2005. Evolutionary selection and the nature of humanity. In: V. Hosle and C. Illies (eds). *Darwinism and Philosophy*. Notre Dame, Indiana: University of Notre Dame Press, pp. 301-348.

\_\_\_\_ 2006. The Challenge of Human Social Behavior. An invited review of Hammerstein, Peter (ed) 2003. *Genetic and Cultural Evolution of Cooperation*. MIT Press, Cambridge, Massachusetts, and London, England. *Evolutionary Psychology* 4(2):1-28.

\_\_\_\_ and D. W. Tinkle. 1968. Review of *On Aggression* by Konrad Lorenz and *The Territorial Imperative* by Robert Ardrey. *Bioscience* 18:245-248.

Darwin, Charles, 1859 (1967). *On the Origin of Species*. A facsimile of the first edition with an introduction by Ernst Mayr. Cambridge, Mass.: Harvard University Press.

\_\_\_\_ 1871. *The Descent of Man and Selection in Relation to Sex*. 2 vols. New York: Appleton.

Hamilton, William D. 1964. The genetical evolution of social behaviour, I, II. *Journal of Theoretical Biology* 7:1-52.

Lessing, Doris. 1992. *African Laughter: Four visits to Zimbabwe*. New York: Harper.

Trivers, Robert L. 1971. The evolution of reciprocal altruism. *Quarterly Review of Biology* 46:35-57.

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Three Explanatory Notes (These are notes that were included originally for a local audience of retired U-M people to whom I lectured on this topic. I have no idea of how they might be useful to the above essay):

On Competition: from "At the Race Track," in *Playin' Cowboy*, RDA 2006, p. 204.

*Competition is a wonderful thing that gives us purpose and determination. It comes easily to us, and it is responsible for all kinds of good and admirable trends. It can cause us to flush with excitement and enthusiasm, and teach us how to accomplish the things that can make our lives enjoyable and worthwhile. It is surely one of the basic forces advancing on a broad scale the quality of life for most humans. At the same time we all know that when the stakes are high – whether in terms of direct financial gain or prestige – competition can also deteriorate into increasingly narrow and nasty efforts, and sad and ill-tempered rivalries. It can destroy friendships, and sometimes it achieves the heights of outrageousness and injustice, unless it is stringently patterned and regulated.*

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On Conflicts of Interest: from *The Biology of Moral Systems*, RDA 1987, p. 33.

*Moral and ethical problems and questions exist solely because of conflicts of interest: moral systems exist because confluences of interest at lower levels of social organization are used to deal with conflicts of interest at higher levels.*

*To analyze conflicts and confluences of interest – therefore morality and moral systems – a theory of interests is required.*

*A theory of interests is a theory of lifetimes – how they are patterned and what they are designed (by evolution) to accomplish.*

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*If lifetimes are designed by evolution to maximize effective reproduction, then in sexually reproducing organisms conflicts of interest arise, or are exaggerated, through outbreeding, which tends to maximize genetic differences among individuals (and, not incidentally, to maximize as well the value of sexual reproduction as a foil against rapidly evolving diseases and parasites). In other words, if we individual humans have consistently been genetically unique, all across our evolutionary history, then we should have evolved many ways of behaving as if that is true. This effect would endow us with a certain base level of conflict even prior to interaction, except when the conflict is explicitly counteracted by an over-riding and recognizable value of cooperation. (RDA, April 2007).*

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## Background of Richard D. Alexander

Richard D. Alexander is Theodore H. Hubbell Distinguished University Professor Emeritus of Evolutionary Biology at the University of Michigan, and Curator Emeritus of Insects and former Director of the University of Michigan Museum of Zoology. He is a member of the National Academy of Sciences, a Fellow of the American Association for the Advancement of Science, and recipient of the NAS Elliot Medal and the AAAS Newcomb Cleveland Prize. He is a past President of the Human Behavior and Evolution Society, and he received the Distinguished Animal Behaviorist Award from the Animal Behavior Society in 2002. He has received two honorary doctorates, largely as a result of his work on behavior and evolution. He has published approximately 130 papers and a dozen books, including 50 essays and two books on human behavior and evolution, and two co-edited volumes on evolution and social behavior.

Editor, The New York Times (or(!!!), considerably more likely, someone else of an entirely different status. . .)

I am submitting the enclosed essay, "Have God and Evolution Constructed Humans Jointly?" for possible publication in the *New York Times*. I believe it is especially timely, because of (1) growing attention to the evolutionary background of human behavior and morality, (2) current attention to broad-based and influential conflicts between religion and science – in environmental pollution, climatic change, and multiple social and medical issues -- and (3) current conflicts, both national and international, involving political and religious differences and their seeming incompatibilities. The essay presents arguments that conflict with those described as reasons for two scientists, Richard Dawkins and Franz de Waal, being named among the 100 most influential people (*Time Magazine*, May 14, 2007). It suggests connections that may promote cooperation and harmony rather than adversarialism between religion and science. I am not aware that anyone has previously proposed the main theme, that the concept of God may have a natural basis arising from, and furthering, the functioning of the extensive kinship systems evidently prominent across most of human evolutionary history.

Sincerely,

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