

Have God and Evolution Constructed Humans Jointly?

I share the Reverend Gordon Hyslop's feeling (Ann Arbor News, Feb. 14) that viewing a new baby grandchild is an awesome experience, and that the human body is indeed a marvel. But one does not have to set the magic and intricacy of human beings against anything at all, as in his statement, "A human life is a miracle from God, not a process of evolution." I would like to convince Reverend Hyslop that it is no more useful for those who seek an understanding of God to make the evolutionary process an adversary 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, in its various forms the concept has also been invoked to support human adversarial behaviors. It would appear that our evolutionary background is even more anciently responsible for both social cooperation and the horrors of extreme social competitiveness, including internecine battles that have led to immeasurable pain, misery, and suffering all over the world, and caused millions of deliberately premature deaths within our own lifetimes. Perhaps an effective way to reduce serious conflicts and expand social harmony is to join rather than separate our knowledge of evolution and our attitudes and beliefs regarding God and religion. To accomplish this we need to find out how evolution and religion each have been responsible for our performances in different circumstances, whether evolution and religion have tended to generate different or similar attitudes and behaviors, and how religion might be used to minimize serious social conflict on a world-wide basis.

As an evolutionary biologist, I have sought for more than 50 years to understand better how evolution has primed our behavior for particular situations. This problem is difficult, partly because much of our knowledge and many of our impulses are not automatically conscious, or have only recently been made conscious. For example, most of what Reverend Hyslop cited as aspects of the complexity of humans has only been discovered by social, biological, and medical scientists within the last few decades. Similarly, we only learned about the evolutionary process a century and a half ago, and about genes a century ago. So it is not surprising that we do not like to believe that we do things of which we are not fully conscious, or that genes – as invisible, manipulative, and seemingly alien forces only recently brought into our conscious lives – in any way influence how we behave.

It is not difficult to believe that our uses of the concept of God might also involve aspects of our makeup that we do not understand fully. If the concept of God is real -- as I believe it is, because of its virtual ubiquity and the passion associated with it -- then surely it behooves us to explore everything about the concept, and every effect it may have on our lives, including effects not yet easily made conscious.

It is my experience that when people are asked: "What is the most important thing in your life?" many respond, often with great emphasis, "*Family! Nothing is more important than family!*" Two other common answers are: "Family and God" or "God and family." God and family are probably the concepts most often mentioned. Is it possible they are related, and if so, how?

The word family often stands for more than parents and their children, especially in the more stable and less mobile societies of most of human history. It can also refer to extended

families, sometimes to what has been called the kin circle, extending even to distant cousins. Every non-technological society studied by anthropologists lives according to a complex system of organization along kinship lines. Among other things the kin circle – sometimes via mainly one or a few influential individuals -- defines, establishes, and maintains moral rules – rules of marriage, child care, and other social responsibilities such as kin help and participation in reciprocal beneficence among non-relatives.

Individuals, as we know, do not survive for long – only their genes do – in the form of descendant 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 accomplish this, not just in humans but 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 extensive evolved learning capacities, propensities, and biases.

Across most of the history of humanity, the kin circle or extended family is likely to have been the principal instrument for the long-term survival of the narrow stream of descendant genes carried within the families comprising the cooperative kin group, and by extension the long-term survival of the entire kin circle and whatever kinds of cooperative communities arise from it. Cooperation and competition both thrive and fluctuate within kinship systems, and which is more prominent there varies according to changes in the nature and effects of influential extrinsic forces. Included among such extrinsic forces are geographically accessible, similar, but often severely competitive human groups.

If we are asked what is the most intense social motivation, we might at first say confidently, helping family or kin. But, in biblical times as well as today, we can consistently be made willing to give up even our closest family members – spouses or offspring – to maintain or serve the interests of the larger group. And we often defend that willingness fiercely. It is worth asking if patriotism is the most intense of all social emotions. 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 the evolution of social cooperation can only be explained 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 to being complete that each of their more than 60,000 alleles has approximately the same chance of appearing in the next generation. This is the reason the development and lifetime of the individual can be viewed as a unitary phenomenon, and that the individual has become such a remarkable stand-in competitor, representing its genes.

In 1964, the late William D. Hamilton, sometimes described as the outstanding evolutionary biologist of the 20th century, said that we should expect individual organisms to evolve to treat their relatives according to their amount of genetic overlap (he did not provide the mechanism by which they could do this: see below), tempered by relatives' needs, based on other sources of support and their likelihood of turning social beneficence into genetic reproduction. In other words, probably unintentionally, he predicted the answer humans would usually give when asked what is most important in their lives: family. Behavioral scientists are finding that, in the kinds of societies in which they evolved, humans come closer than any other species to meeting Hamilton's prediction. Thus, only humans are

known to distinguish a wide array of different relatives in the context of social cooperation, and to rank and treat them according to their different degrees of genetic relatedness.

Just as separate human groups differ, and behave as if they know it, God is also seen differently among different religions. For example, many religious assemblages operate without requiring acceptance of a supernatural, and most probably include some loyal and devoted members who are comfortably skeptical. Perhaps understanding can be furthered by considering even more dramatic alternatives to the usual views of God.

What if the power, guidance, and permanence of God derives, not from a supernatural anthropomorphic being, but from a human-generated and highly effective use of a metaphor referring ultimately to the human kin group, and (later) 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. We think of God as a source of strength, authority, morality, and protectiveness. So is the kin circle or local community. We expect and wish our families, or kin groups, to continue indefinitely; and of course we also refer to God as eternal. Within our groups, or religions, individuals tend to see God similarly, and the members of each group would like to think that their particular view of God might come to prevail across all humanity. Members of different groups, on the other hand, sometimes view God so differently that intense competition and we-they confrontations are prevalent. The same is true of kin groups.

In recent times, for various reasons -- such as increased mobility, agriculture, industry, urbanization, and commerce -- the old kinship organizations have expanded to become larger bands and tribes, and even huge nations. It might seem that this change would necessarily reduce strife and lead us toward becoming a peaceable world community. Fewer socially cooperative groups have surely resulted, but many have gained such immense power and devastating weaponry that more deaths and injuries rather than fewer are the result. It is likely that more people were killed in conflict during the past century than existed in the entire population of humans across most of the more than a million-year human history. We seem primed by our evolutionary history to view those in other groups less congenially than we view those in our own. It is not because we differ genetically, but because we have evolved the capability and tendency to learn to recognize and generate the emotional ties of kinship (and today, continuing reciprocity) only with those who are geographically and socially accessible early in life, and who typically become lifelong interactants. It is surely not trivial that we do the same with religion, often treating religious ties as the same as kinship ties. It seems likely that the appearance of the uniquely human kin circle preceded the rise of organized religion, raising the question of how religion has changed the nature of human sociality, including the intensity and prevalence of intergroup competitiveness.

Against our best efforts to create world-wide social harmony, our evolved learning mechanisms cause the streams of genes emanating from different kin circles across the generations to parallel in their narrowness the streams of tolerance emanating from different religious circles. The rise of democracies and the internationalization of religions notwithstanding, evolution as biological change and religion as cultural elaboration have together set up and furthered the continuing inter-group competitiveness and hostilities that across history have characterized humanity.

Today's environment of increasingly rapid and effective world-wide communication and travel deny us justification for the destructiveness of continuing regional separatism and chauvinism -- of we-they confrontations based on pride, stubbornness, economics, politics, religion, historical relationships, or even resource distribution. Returning to Reverend Hyslop's microcosm of grandchild effects, the four adopted grandchildren of my wife, Lorrie, and me, with diverse genetic ancestors from the far corners of three different continents, have given us confidence that appropriate social learning, assisted by evolutionary 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. We are fortunate indeed that the directings of our cooperativeness and competitiveness are learned, for learning, regardless of its overall effectiveness, can be manipulated by deliberately changing the circumstances of life. Judicious application of social learning thus has the possibility of bypassing or minimizing the foibles of our histories with regard to both social and religious differences.

So evolution is not the enemy, even if it has not made us perfect in the ways we might like today. The science used to explain evolution is certainly not the enemy. Nor is religion, although it may be regarded as curious that few interpretations of God have so far led individuals or social and religious assemblages to bless everyone, everywhere, equally. But the local hubris effects of both evolution and religion, each grounded more or less in ancient history, are indeed the enemies of wide scale or universal social accord, and they are sufficiently parallel to suggest a common if not simultaneous background. Without much doubt local hubris was somehow useful in the distant past, but in today's world of calamitous destructive powers, all impetus to diminish it surely deserves massive encouragement.

I am not personally uneasy about supernaturalism, and I appreciate Doris Lessing's contention in *African Laughter* that "Myth does not mean something untrue, but a concentration of truths." I am concerned only when myth is used as a weapon against other concentrations of truth. Art, poetry, music, and fiction all utilize myth gloriously, and they rarely promote their business by attacking the findings of science.

Is it too much, then, to hope that organized religions will come to tolerate greater diversity of personal views regarding the nature of God, and show less hostility toward science and evolution? Is it too much to ask for openness to the possibility that our backgrounds and motivations, our traits and tendencies, might be consistent with both the concepts of God that inspire us most irenically and the nature of the organic evolution that has produced and formed us? Is it not worthwhile to consider that science -- especially the science that continues to search out the details of the evolutionary background of the human species -- might be combined with religious efforts to identify the broadest and most useful and profound meanings of the concept of God and the function of religion? Is it too much to hope that such alliances might contribute to a lessening of the deplorable world-wide scourges of unnecessary pain, misery, and suffering, and the continuing sad parade of deliberately premature deaths from human conflict?