

BIOEVOLUTIONARY ETHICS: A NEW PARADIGM FOR PUBLIC POLICY MAKING

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The thesis I propose here is simple. Morality and ethics should serve as the basis for public policy; and biological processes lead to the formation of what E. O. Wilson calls our “moral sensibilities.” In other words, our notion of right and wrong naturally proceed from our biological evolution. Anything with which a consequence is associated also has an ethical component. This is most easily seen in three superordinate reference points that guide human behavior: (1) concern for individual survival; (2) concern for the survival of the entire culture; and (3) abstract or transcendent concerns that enhance the quality of life. We now understand that our individual survival, the survival of the culture as a whole, and our transcendent concerns are all inextricably bound to the survival of our planet from which we evolved or, more completely, the universe from which we evolved.

These reference points that guide human behavior have associated with them a set of rules, moral principles and rights and wrongs that modify human behavior to insure that these reference points are sustained. Most of the time when we speak of ethics or morals it is understood by most to be in a religious context or in the context of some personal and subjective value system. The point of my brief introduction to bioevolutionary ethics is to establish that there is another alternative, one that is objective and rooted in an understanding of our bioevolution.

This notion is not new. There are whole schools of thought and philosophy on the subject of ethics based in biology, particularly biological feedback loops. I hasten to add here that the assertion that ethics have evolved from our biological evolution has come and gone over the years and has been refuted by philosophical arguments rooted in David Hume’s *is/ought* dichotomy¹ and G.E. Moore’s naturalistic fallacy.² There has, in the past, been an inability on the part of

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1. DAVID HUME, A TREATISE OF HUMAN NATURE (2000).

2. G.E. MOORE, PRINCIPIA ETHICA 69 (University Press, Cambridge 1993).

evolutionary biologists to show the link between actions that promote survival and moral behavior. Since this is only a brief comment, I will not take the time to present counter arguments to these problems but will simply say that they are problems of language and the logical construct and no longer are valid.

Returning now to biological evolution, an often-cited example to make this point is that there is a moral or religious reason to abstain from alcohol. However, the alternative view is that society has observed the negative consequences that overindulgence in alcohol brings, and it has developed a set of rules to govern its consumption. Is it immoral to drink and drive, or deleterious to society as a whole and therefore wrong? Or are they one and the same?

The basis for the biological approach to right and wrong is rooted in feedback information given to all biological organisms to enhance survivability through modification of behavior. The human brain is the most efficient processor of information known, and it is, of course, biological.

Most people are aware that our planet was threatened by our use of fluorocarbons. We were given the feedback that, if the use of these chemicals continued, our survival would be in jeopardy. Thus, we modified our behavior accordingly.

The following story helps illustrate the point about moral intolerance versus biologically-based right and wrong. I lived with the Mennonites in Belize for a time and lived amongst a very strict sect that believed the use of “modernisms,” as they called them, was forbidden. They firmly held that the use of the internal combustion engine, chemicals, and such would eventually lead to the destruction of human kind and were therefore evil. Biologically-based ethics, on the other hand, would say that these Mennonites had enough cumulative experience to know that the nature of man was such that he would extract as much immediate advantage and gratification as possible from these new technological tools. Lacking wisdom, he would use the tools, blind of any negative consequences, and this would finally lead to his destruction. Therefore, it was necessary to make a series of rules to prevent this destruction, and, here, this was to be achieved by the restrictions against all “modernisms.” For the biologist, this demonstrates a direct link between actions leading to survivability and morality.

It is my assertion that a more uniform approach to ethics is one based on our understanding of our biological evolution. Our social constructs, which are made up of a number of rules, laws, and princi-

ples, evolved as our minds developed through the eons. The human mind, provided with information, began to use this information to formulate rules that modified human behavior and would serve to increase the survivability of the species.

The policies that we develop in government should be a continuously refined set of rules that sustain the superordinate reference points mentioned earlier, the simplest of which is the concern for individual survival, followed by the concern for the survival of society. We will leave the concern for the transcendent aside for the moment. But here is the rub, or perhaps the irony. As we have become more sophisticated in collecting and processing information, we agree less and less on the meaning of that information. Instead of efficiently using the information we receive as a feedback process to modify behavior, we often find it difficult to agree on the interpretation of the information. While I will not go into all of the reasons for this, I will spend a few moments on some of the reasons for this quandary within the context of environmental policy.

The current administration, of which I am a member, has made it clear that it wants to use objective science as a basis for making decisions and developing policy. In the highly charged political atmosphere in which we work, this is easier said than done. Scientific information is often challenged when it does not conform to established social rules, norms, ideas, or laws that may have been originally designed to protect society. New information is considered suspect if it challenges previous information, and change is resisted until clear proof is established. Scientific information is supposed to be objective and unbiased. However, what we are often dealing with is not unbiased, clear scientific information with solid experimental proof behind it; rather we are dealing with scientific data that has been collected but is yet unproven. This often leads to vehement disagreements about the interpretation of information.

Then there is raw politics, ensuing from individual special interest or group special interest. In this context, information is interpreted in such a way as to protect the interest and, ostensibly, the survivability of an individual or group of individuals. Conflicts result, and, instead of being used as an objective tool to formulate policy or make decisions about what is right and wrong, information becomes fodder for acrimonious debate.

All is not lost, however. It was sometime before the scientific data on fluorocarbons was accepted as solid proof that the Earth's ozone layer was being depleted. And even after the information was

irrefutable, special interests continued to resist the behavior modification demanded by this information feedback loop. Though the debate was often acrimonious, truth ultimately prevailed, and behaviors were modified. Most of us now accept that it is wrong to pollute the air with these chemicals.

I think that we would all agree that governments and differing administrations should behave ethically. However, it is equally clear that we do not always agree about what is ethical and what is not. Some may believe it is immoral to drill for oil in ANWR, while others believe it is equally immoral not to drill. I have heard both arguments. The naturists who visit my office annually believe public nudity is, of course, natural, while others believe it to be immoral. Can biologically-based ethics resolve these differences in belief? I believe the answer is yes, eventually. Once, for example, there were those who believed it was wrong to put fluoride in water, but eventually the benefits were proven, time passed and most people changed their minds about there being any danger from fluoride.

The change of mind about what is moral or immoral comes from either the understanding of new information or the application of information. This should give us hope. It is within our ability to adapt to new information that sustains the evolutionary process. Our minds are capable of reflecting upon our actions. So not only is information provided as raw data, but also it can be manipulated through contemplation and merged with existing information. In other words, it is a continual process of refinement, and this refinement is fundamental to evolution.

It is my firm belief that when we are in the midst of political conflict over an idea, proposal, new law, or a regulation; when we argue about whether or not we should drill in the Arctic or allow snow machines in parks; or when we dispute the veracity of some new information, we are, in fact, watching ourselves evolve. And we are evolving new codes of moral and ethical behavior that will ultimately contribute to the survival of the species. We as individuals may never see the end result, but the species as a whole may.

We are unique in that we are sentient beings with the capability of observing our own evolution. We now have a base of knowledge and understanding sufficient to modify our behavior even before we are confronted with the reality of the many threats that could destroy us. We have sown the seeds of our own destruction countless times and survived because we were able to modify our behavior in time.

But we are living in even more dangerous times now. The consequences of the use of certain information we receive are not always apparent. We rush headlong to gain advantage without recognizing the possible disadvantages. We have been lucky so far. We stop the car just before it goes over the precipice.

The point is simply this: ethics also evolve, and this evolution of ethics flows naturally from our biological evolution. From the survival of a glob of genetic material to the survival of complex species, information feedback loops enhance survivability. Likewise, the ethics we develop are a result of the continuous acquisition of information and the corresponding response to that information. If we can better understand what E. O. Wilson calls, “the biology of moral sentiments,”³ perhaps we can refine even further the evolution of our ethical systems and eliminate some of the conflict currently inherent in the meeting of science and politics.

Wilson believes we can understand the biology of moral sentiment and offers a prescription for doing so. We must, he says, define moral sentiments, first by precise descriptions from experimental psychology and then by analysis of the underlying neural and endocrine responses.⁴ We must also understand the genetics of moral sentiments, and this is most easily approached through measurements of the heritability of the psychological and physiological processes of ethical behavior and, eventually and with difficulty, through identification of the prescribing genes.⁵

Understanding the development of moral sentiments as products of the interactions of genes and the environment is also important, according to Wilson.⁶ Research is most effective when conducted at two levels: the histories of ethical systems as part of the emergence of different cultures, and the cognitive development of individuals living in a variety of cultures. Such investigations are already well along in anthropology and psychology. In the future, they will be augmented by contributions from biology.

Wilson also encourages us to research and understand the deep history of moral sentiments to find out why they exist in the first place. Presumably, they contributed to survival and reproductive success during the long periods of prehistoric time in which they genetically evolved. He states:

3. E.O. WILSON, *CONSILIENCE, THE UNITY OF KNOWLEDGE* 279 (1998).

4. *Id.* at 290.

5. *Id.* at 270.

6. *Id.* at 279.

From a convergence of these several approaches the true origin and meaning of ethical behavior may come into focus. If so, a more certain measure can then be taken of the strength and flexibility of the epigenetic rules composing the various moral sentiments. From that knowledge it should be possible to adapt ancient moral sentiments more wisely to the swiftly changing conditions of modern life into which, willy-nilly and largely in ignorance, we have plunged.⁷

To say that what Wilson is describing is most difficult is an understatement. His statement should probably be qualified by saying, “if we don’t kill ourselves first.” This is not hyperbole when you realize that most scientists agree that nearly ninety-five percent of all species that ever existed are now extinct. Survivability is a risky business. Some would say, and I would agree, that survivability is our need for the third superordinate reference, namely abstract or transcendent concerns that enhance the quality of life. These transcendent concerns are embodied in religious beliefs, customs, and rituals. They are often the result of our natural instincts to wonder and question. A large part of the reason for my chosen profession is because the National Parks, indeed the natural world when seen through the eyes of a good interpretive ranger, provokes one to a sense of wonder and awe that leads to deep questions about why we exist, and how this wondrous thing called life can be at all. Our survivability is greatly enhanced by all this because it leads to the formation of what I call deep rules that guide our behavior towards one another; for example, love thy neighbor as thyself, the code of Hammurabi, the Ten Commandments, the precepts of Confucius and Socrates, or the code of non violent resistance to injustice.

Think of the countless human beings that would have been slain during the struggles for civil rights, had it not been for this transcendent notion of non-violent resistance. Or think of the number of conflicts that might constantly arise if our churches did not admonish us to love our neighbors. Survival of our species is dependent on these transcendent concerns that lead us to form moral laws. Though some, most notably Steven J. Gould, attempt to keep separate religion and science or morality and an objective, biologically based right and wrong,⁸ this attempt is misguided. In what can only be characterized as the mystical aspect of the minds activity, namely faith, rules of morality have been developed in the apparent absence of any informational feedback loops. But the mind makes connections that we are

7. *Id.* at 279.

8. S. J. GOULD, *Justice Scalia's Misunderstanding, in BULLY FOR BRONTOSAURUS: REFLECTIONS IN NATURAL HISTORY* 455-56 (1991).

not always aware of and produce thoughts in quiet contemplation that culminate in bursts of genius, often in the form of moral constructs. Just because we do not yet fully understand this more mystical side of our nature does not mean we should ignore it.

Taken together, our concern with our survival and our concern with the abstract or transcendent, serve as powerful motivators in the evolutionary process leading the species to what I believe will be a glorious never ending. Though public policy making is often contentious, contradictory, time consuming, and even farcical at times, so too has been the story of our evolution on this planet thus far. And so it will be until we do reach that glorious never ending.