

Societies – Origins and Patterns

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Readings

1. At the beginning of his 2012 book, “The Social Conquest of Earth”, author Edward O. Wilson calls our attention to artist Paul Gauguin’s 12-ft. wide 1903 Tahitian masterpiece painting uniquely portraying the human life cycle. On this painting, Gauguin inscribed the following:

“D’où Venons Nous

Que Sommes Nous

Où Allons Nous

Translated, this reads,

Where Do We Come From?

What are we?

Where Are We Going?

2. Shortly thereafter, Wilson himself offers the following words: “Humanity today is like a waking dreamer, caught between the fantasies of sleep and the chaos of the real world. The mind seeks but cannot find the precise place and hour. We have created a Star Wars civilization, with Stone Age emotions, medieval institutions, and god-like technology. We thrash about. We are terribly confused by the mere fact of our existence, and (are) a danger to ourselves and to the rest of life.”

Introduction

Well, here I am again to honor our Fourth Principle, the “free and responsible search for truth and meaning” drawing from “Humanist teachings which (sic) counsel us to heed the guidance of reason and the results of science and warn us against idolatries of the mind and spirit.” The topic

today, a huge one, is **human social evolution**. I believe, however, that it is also an extremely important topic, because it helps us understand why we all behave the way we do, and this understanding, very simply, can help us behave better.

The main source for my talk today is the book I quoted from a few moments ago, Wilson's "The Social Conquest of Earth". Before getting into the book, however, let me tell you a bit about Edward O. Wilson. He was born in 1929 in Birmingham, Alabama, so he's 83, just one year older than Bill Plapp. He studied evolutionary biology at the University of Alabama (whose football team is no. 2 in the country and will play Notre Dame for the BCS championship on January 7th, by the way) and went on to serve 41 years on the Harvard faculty and write 26 books, including two that earned him Pulitzer Prizes, "On Human Nature" (1979) and "The Ants" (1991). The latter title, incidentally, hints at Wilson's skill at drawing interesting parallels between the social behavior of insects, which he studied from the very beginning, and that of mankind, which confounds and challenges us virtually every day!

I'm bursting at the seams to share everything Wilson has to say with you, not that it's all gospel, but it **is** all thought provoking. But we have 20 minutes or so, and thus I am forced to limit myself to a few of the key concepts Wilson presents.

Science and Religion

Whenever a prominent scientist talks about religion, I cling to his or her words like a strip of Velcro! Wilson leaves little doubt where he stands. "Religion will never solve this great riddle," he says, referring to Gauguin's inscription. According to Wilson, from earliest times, each tribe of humans invented its own creation myth to provide an explanation for its existence, without which, in short, it was destined to weaken, dissolve, and die. The creation myths thus served as a Darwinian device for survival. But they could never uncover the true origin and meaning of humanity. Wilson asserts, however, that it **is** possible to reverse the order, where the discovery and meaning of humanity might explain the origin and meaning of myths, and hence the core of

organized religion. Similarly, while religion will not solve the riddles of humanity, neither will pure introspection, since millions of years of life-and-death struggle have led to a brain and consciousness designed for survival and reproduction, not epiphanies among a circle of philosophers. But if these riddles can be solved, there may be many things of importance besides religion and philosophy to be revealed. This is unquestionably what drove Wilson to exploit his many feats of scientific discovery and offer us his probing analysis of the evolution of human society. So we're about to take a brief look at how an eminent biologist, who often played the role of an entomologist, sees the human condition.

Where Do We Come From?

Most people, if and when they think about human origins, think about cavemen such as the Neanderthals or sometimes about the apes we are told we descended from (which isn't true, in a strict sense). But Wilson chooses to humble us somewhat by reminding us that insect societies evolved hundreds of millions of years before – termites, for example, came into being in the mid-Triassic period, some 220 million years ago – while *homo sapiens* (modern humans to us) has been around a few hundred thousand years. And while all other forms of life, termites included, achieved a stable balance among themselves, humans came along so fast that they could not coevolve with the rest of the biosphere and instead, in a sense, ambushed what came before, putting it, as well as the planet itself, in peril. To me, Wilson is saying that humans are the neighborhood bullies of planet earth!

Still, to address the question of where we came from more carefully, we should look at a few stops along the evolutionary trail of the primates and, in particular, we should talk about the Darwinian forces that led to the larger and more convoluted brains that distinguish humans from all other life forms. Early anthropoid apes existed about 10 million years ago, and some 6 million years ago, human predecessors diverged from chimpanzees. From 5 to 3 million years ago, the predecessor species *Australopithecus afarensis* roamed parts of Africa followed by the

emergence of *homo habilis* 2 to 1.5 million years ago. Then the immediate predecessor of *homo sapiens*, *homo erectus*, came along and filled the gap in time up to the appearance of humans, roughly 300,000 years ago. For the record, *homo neanderthalensis* (Neanderthal man) is considered a sister species of *homo sapiens*, not a direct ancestor – one that didn't fare too well in the harsh climates of Ice-age Europe and in the face of domination by *sapiens*. Two more mileposts I find useful to keep in mind concerning human history are the breakout from Africa into Europe and Asia about 60,000 years ago, and the march from Asia to North America some 20,000 years ago. As an aside, I was fascinated to read somewhere else where one of the two paths these earliest humans took south from the land bridge between Asia and North America was right down along the Front Range, the other being down along the California coast.

So what led this chain of prehumans in Africa to develop ever larger brains and acquire more and more intelligence? According to Darwinian logic, we have to look for a positive feedback loop supported by the environment that allowed greater intelligence to occur and then rewarded those creatures of greater intelligence in terms of increased survivability and reproduction. The changing African environment at the time presented a greater variety of ecosystems and thus a greater variety to potential foods, very importantly including meat for the first time. But that by itself was not enough. Wilson points out that large quantities of meat becoming available for consumption by prehumans relied on intelligence in a very strong manner through the skill of **complex cooperation** applied to the hunt. These creatures learned to work together in devising clever strategies for bringing down animals to eat. Said simply, the smarter you were, the more meat you got, and the still smarter you became. And one more important factor came into play, mirroring behavior in the social insects: the practice of establishing and defending a home base, be it a nest when talking about insects or a campsite or cave when studying early humans. In this setting was displayed a wide variety of behaviors, most involving social interaction – a division of labor, a sharing of the kill, and competition for a larger share of the food, for access to an available mate, and for a comfortable sleeping place. All these pressures, then and well as today,

conferred “an advantage on those better able to read the intention of others, grow in the ability to gain trust and alliance, and manage rivals. **“Social intelligence was therefore always at a high premium.”** So, since the title of my talk is “Societies – Origins and Patterns”, let me underscore the point here that social behavior not only proved itself essential for survival throughout human evolution, but it was also key to the process of evolution itself! This is a form of the positive feedback loop I noted earlier.

What are We?

As much as I'd like to continue talking about human evolution, I've got to fast-forward next to the topic of where we've ended up, i.e. “What are We?” to revisit Gauguin's inscription. We've just acknowledged the criticality of at least primitive social behavior to human evolution, so it makes sense to look more closely at its progression as the challenges of simple survival fade into the background. To help this examination, Wilson introduces the concept of **eusociality** (spelled e-u-sociality), which he defines as the existence of groups spanning multiple generations and prone to perform altruistic acts as part of a division of labor. Altruism is a step beyond rudimentary cooperation to bag big animals to eat. It often entails delayed benefits to the practitioner or no benefits at all, as when one individual gives his life for the sake of others, an act that has been performed over and over through the ages and is portrayed frequently in literature, as in Dickens' “A Tale of Two Cities.”

It is clear that humans, just like honeybees, mound-building termites, and leafcutter ants, have evolved into eusocial creatures. Arguably the most important element of this progression is the tug-of-war in the natural selection arena between attributes that benefit primarily the individual and those that benefit the group the individual is in; call this “individual versus group selection”, a multilevel evolutionary process. When an individual's environment favors, or is perceived to favor, individual action, one set of attributes gains emphasis. These include behaviors we could easily term “antisocial”, such as cheating, selfishness, and cowardice. Conversely, when the

environment favors group membership and participation, members are more prone to “prosocial” actions such as heroism, altruism, and conformity. As a result, according to Wilson, “it was therefore inevitable that the genetic code prescribing social behavior of modern humans is a chimera (ki **meer** uh).” (We all know what a chimera is, right? It’s a grotesque monster having disparate parts! Well, there is a softer genetic definition – an organism composed of two or more genetically distinct tissues.) One part of the human genetic code prescribes traits that favor success of individuals within a group. The other part prescribes the traits that favor group success in competition with other groups.

In my view, this sheds some light on two of the great questions of philosophy: (1) “Is man good or evil?”, and (2) “Does man have free will?” What we’ve talked about so far would say the answer to the first question is “yes”, meaning man is good and evil, and would point to an answer to the second question something like “yes, but not as free as you might think”. (As an aside, my belief is that quantum mechanics guarantees enough randomness in living thought processes that they are freed from deterministic, foreordained conclusions, thus allowing for what I choose to call “shaped variability” in decision making. Here, the shaping comes from both Darwinian heredity, as we’ve discussed, and from the environment (read culture and experience, in part). Sadly, the shaping can also come from mental abnormalities, where there is a strong physiological component, meaning imbalances in the complex chemical processes in the brain. With these concepts, can we explain why Adam Lanza went on a horrific rampage at the Sandy Hook Elementary School? Probably not, but maybe we can understand a little more clearly what the experts tell us as the episode continues to unfold. Was there a reasonable balance of some form between individual, solitary thoughts and actions and those involving others in Adam’s life, or were circumstances horribly out of balance between his need, as partly determined by his heritage, for solitude and his need for companionship? And, of course, there is the matter of mental illness.

Skipping a lot of detail, Wilson posits that humans have evolved socially in the general manner described to where:

1. Intense competition occurs between groups – the roots of war, which he terms “humanity’s hereditary curse”.
2. Group composition is unstable due to such factors as immigration, conquest, proselytizing, in-group usurpation, and fissioning.
3. An unavoidable conflict occurs between honor, virtue and duty, reflecting group selection, and selfishness, cowardice, and hypocrisy, the results of individual selection.
4. The perfecting of quick and expert reading of intention in others has been paramount in human social evolution.
5. Much of culture, especially regarding the creative arts, has arisen from the clash between individual and group selection.

So what have these basic elements of human nature led to? In his chapter “The Sprint to Civilization”, Wilson observes that a common pattern of societal progress has played out independently over history in different parts of the world, suggesting that, indeed, governing **societal** genetic factors were already in place and did not change appreciably as recorded history began and subsequently unfolded. Said another way, and very significantly, there is very little difference in the **average** societal genetic makeup of human populations scattered around the world, although there is considerable variation **within** these populations. This gets right to the issue of whether, for example, one race is smarter than another. Given that intelligence is a part of the societal genome, the evidence would say no. But other parts of the genome **are** more strongly affected by natural selection tied to environmental differences, and thus people living closer to the equator where sunlight is stronger have darker skin and those living at very high altitudes have blood capable of carrying oxygen more efficiently. With regard to intelligence, the implication is that environmental pressures favoring higher intelligence did not vary all that much

around the world, i.e. being smart was just as important for survival in the steppes of Asia as it was in the jungles of Borneo and along the Nile in Egypt. The common pattern of societal progress for humans, then, as I've noted earlier, is a multilevel selection process manifesting a competition between traits benefitting the individual and those benefitting the group, starting with bare, naked survival of the individual, but in short order encountering the benefits of association among these individuals. Darwin himself, in his *The Descent of Man* describes how a chance discovery by one individual, when a member of a group, quickly spreads among the group and benefits it as a whole. It no longer has to be discovered over and over again. So we see the formation of tribes, then conflict among these tribes, then some form of conquest, cooperation, or accommodation between them, and ultimately hierarchical kingdoms and finally empires. How's that for the sweep of history in one sentence!

At this point, Wilson has thoroughly established the concept of multilevel selection as the driving force resulting in humanity as we know it today. He has therefore positioned himself to lead us through an examination of human nature, which he defines tersely as "the inherited regularities of mental development common to our species" or more scientifically as "the 'epigenetic rules' that evolved by the interaction of genetic and cultural evolution that occurred over a long period in deep prehistory." In a series of chapters nearing the end of his book, he moves from human nature to the evolution of culture to the origins of language, morality and honor, religion, and finally the creative arts. At this point, he comes to Gauguin's last question:

Where Are We Going?

Clearly desiring to end his book on a positive note, Wilson terms his final chapter, "A New Enlightenment" but casts it largely in the form of pitfalls we must overcome. Although he credits religion with often offering a committed community that gives heartfelt emotional support and priceless comfort through assurances of eternal life and ultimate divine justice, he indicts it for dogmas that are stultifying and divisive, that encourage ignorance, and that lead people in wrong

directions into disastrous actions. He sees emerging over time, however, a powerful antidote in the form of an **increasingly detailed scientific reconstruction of religious belief** as an evolutionary biological product, persuasive, as he puts it, “to any even slightly open mind”. Next, Wilson enjoins us to recognize that “the planet we have conquered is not just a stop along the way to a better world out there in some other dimension”. We will never sever our reliance on Earth for survival, and so we must purposefully ameliorate the rampant global changes caused by HIPPO, an acronym you should become familiar with. It stands for “Habitat destruction, Invasive species, Pollution, Overpopulation, and Overharvesting.” Lastly, and perhaps somewhat tongue in cheek, Wilson opines that possibly the reason Earth has not yet been conquered by extraterrestrials is that they just **grew up** and realized that the immense problems of their evolving civilizations could not be solved by competition among religious faiths, or ideologies, or warrior nations. They found rational solutions achieved through cooperation to the point that there was no need to colonize other star systems! But this was enough to inspire Wilson’s confessed blind faith that “Earth, by the 22nd Century, can be turned, if we so wish, into a permanent paradise for human beings, or at least the strong beginnings of one, accomplished by the ethic of simple decency to one another, the unrelenting application of reason, and the acceptance of what we truly are.”

“And for you, Paul Gauguin”, writes Wilson, “what you wrote is an exclamation of triumph. You had lived out your passion to travel far, to discover and embrace novel styles of visual art, to ask the questions in a new way, and from all that create an authentically original work. ... In our own time, by bringing rational analysis and art together and joining science and humanities in partnership, we have drawn closer to the answers you sought.”

Amen.

Thank you.