

Does Evolutionary Theory Imply Genetic Tribalism?

Blithering Genius

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1 The Common Belief

Many people believe that the theory of evolution implies genetic tribalism. They believe that organisms act for the good of the species, or that organisms are altruistic toward others who share their genes. These beliefs are false. Evolutionary theory does not imply genetic tribalism or altruism.

Belief in genetic tribalism comes from the idea that we have natural genetic interests in those who share our genes. This seems superficially plausible. We have a natural interest in our children, don't we? That interest is because we share genes, right? If so, we should also have a genetic interest in our ethnic groups or races, by extension of the same principle.

The fundamental misconception is that we have natural genetic interests based on shared genes. Evolution does not create entities with genetic interests. It creates reproducing machines. Those are different things.

But isn't reproduction an instrument of genetic interests? Isn't the purpose of reproduction to spread our genes and increase their numbers in the world?

No. Reproduction isn't instrumental to genetic interests.

2 Explaining Genetic Interests

The concept of genetic interests is hard to define. If we have genetic interests in people based on shared genes, then you have almost the same interest in everyone, because you share about 99% of your genetic information with every other human. You share most of it with all other mammals, and a significant amount with most living beings.

Of course, that raises some interesting questions. What does it mean to share genetic information? Does it mean that the genes derived from the same ancestral molecule with no modifications? What if a gene is slightly different but has basically the same effect on the phenotype? What if there is an identical gene that has different effects in different organisms? What if the genes are identical but evolved independently? Genetic similarity is not a simple, well-defined concept. It is actually very difficult to define.

No matter how those questions are answered, however, you share almost all of your genes with every other human being. Your genetic similarity to your own child is not much higher than your genetic similarity to a random person. And yet, people care a lot more about their own children than about other, randomly selected people. They don't care about them 0.5% more. They care about them much, much more, perhaps infinitely more. That alone suggests that the basis for selection is not shared genes, but reproduction.

If you wanted to increase the frequency of your genes in the world, what should you do? Reproduction wouldn't be a good strategy. Simply by living, you destroy far more copies of your genes than you could ever create by reproducing. Every day, you consume organisms that share most of your genes, so the effect of your existence on the frequency of almost every gene in your genotype is negative. Having children would only make matters worse.

It is not clear that doing anything would have much impact. Perhaps killing yourself would be the best strategy, or killing as many complex organisms as possible, since they consume more energy per individual and most of your genes are shared by simpler organisms. Maybe a few of your genes would fall by the wayside, or be reduced in number, but overall the number of copies of your genes would increase. (Let's say an individual carrying gene X is considered to be one "copy" of X.)

However, you might argue that if you don't reproduce, then other complex life forms would occupy whatever niche your offspring would have occupied anyway, so you might as well reproduce. Killing yourself or killing other complex life forms would not have a net impact, because those niches would just be filled by other complex life forms. That is true, but it "negs" the question. It assumes that other living beings will not act in their "genetic interests", but rather as selfish reproducers. Yes, other complex life forms will fill those niches, precisely because they were not selected to act in their "genetic interests", but to act as reproducing machines.

3 Biological Functions / Purposes

Now let's talk about biological functions or purposes.

What does it mean to say that trait X has the biological function Y? It means that X was selected to do Y. In other words, that X has a positive effect on Y and Y has a positive effect on the reproduction of X. Biological forms have functions because they affect their own reproduction. To say "X has the function Y" means that the selective basis of X is Y: X causes Y, and Y causes X to be reproduced.

Evolution generates forms with functions because of reproduction and selection. The eye has a function (to see), the ear has a function (to hear), the hand has a function (to grasp), the kidney has a function (to extract certain wastes from blood), etc. The largest biological form, the body, has the largest biological function: to reproduce. The biological purpose of every life form, including you, is to reproduce.

Reproduction is the ultimate purpose of life. There is no telos beyond reproduction. We don't reproduce in order to do something else, such as increase the frequency of our genes in a population. We reproduce because that is what our forms were selected to do. Reproduction is the basis of selection, and thus it is the telos of life. Reproduction is the cycle that generates functionality from causality in nature.

For something to be the basis of selection, it must happen over and over again in many different individuals. Does maximizing the frequency of your genes in the population happen over and over again in many different individuals? No. Can it be the feedback mechanism that creates forms with functions? No. Reproduction is an event that occurs over and over again in many different individuals. It depends on the individual form and it copies the genetic information expressed by the individual form. That is why reproduction, not "genetic interests", is the basis of selection.

4 Infanticide by Males in Nature

Now I will give an example of how a species or a gene can be selected to act against its own "interests", so to speak.

Male lions kill the cubs of other males, if they take over a pride. Male lions do not (generally) kill their own cubs, perhaps because they bond with them, but they do kill the cubs of other males. This behavior generally increases the cost of making new lions, because many cubs are killed by other lions before they have a chance to grow up and reproduce. Infanticide probably reduces the number of lions in an ecosystem. Yet, lions have been selected to act in this way. Why?

Because it is a good reproductive strategy. The male can impregnate the females sooner, and his cubs will get all the benefits of their motherhood. Otherwise, he would have fewer cubs, and his cubs would compete with the cubs of other males for parental resources. Male lions that act in this individually selfish way have more surviving offspring than "nicer" males would have. Thus, infanticide has been selected for, even though it probably results in fewer lions. It makes lions fitter as individuals, but less fit as a species.

Infanticide by males occurs in many species. It is a common adaptation. Humans have been known to do it.

Suppose that there is a population of "nice" lions that don't commit infanticide. Then some mutation K occurs that causes males to kill cubs they haven't bonded with. Initially, the K gene is rare, but it spreads because it increases reproductive success. Males with the K gene have more surviving offspring that go on to reproduce the K gene. Eventually every lion has the K gene. Now, when males kill cubs because of the K gene, they are destroying copies of the K gene. The K gene is not acting in its own "interest" as a gene. However, there is no way for the K gene to change itself. A mutation of the K gene would be a different gene. And any new gene that shut off the K gene would be selected against. The K gene is stable at 100% in the population, even though in that equilibrium state it is not acting in the genetic interest of the species or even in its own interest.

The apparent paradox comes from the metaphor of the gene “acting” in the world. Genes aren’t little demons that make organisms act for the “good of the genes”. Genes are just DNA sequences that are expressed in organisms. Genes are selected for or against based on their effects on reproduction.

Evolution does not generate forms that act for the good of the species, or for the good of the genes in some abstract sense. Evolution generates forms that are good at reproducing themselves.

5 Evaluating the Belief in Racial / Ethnic Tribalism

Many people believe that evolutionary theory implies racial or ethnic tribalism. They believe that a racial or ethnic group is a biological unit, and that individuals should act for the good of their group. This view could be called “genetic tribalism” or “genetic collectivism”. It portrays evolution as a competition between genetic tribes rather than individuals or genes. This view is incorrect. People do not generally display ethnic or racial solidarity.

5.1 The European Conquest of Latin America

Let’s consider an example: the European conquest of Latin America. The Spanish marched against the Aztecs with Tlaxcalan allies. The Tlaxcalans spoke Nahuatl (the same Uto-Aztec language as the Aztecs). They were genetically and culturally much more similar to the Aztecs than to the Spanish. Yet, they chose to ally with the Spanish against their close cultural and biological relatives. Why? Because the high-ranking members of Tlaxcalan society thought it would benefit them, as individuals, to ally with the Spanish against the Aztecs. They knew that the Spanish were powerful enemies. They made a pragmatic calculation that it was less risky for them and their society to ally with the Spanish against the Aztecs than vice versa. The low-ranking members made similar calculations about their personal interests, and they went along with their leaders. That sort of thing has happened over and over in history. Something similar happened with the Spanish conquest of the Inca empire in Peru. The Iroquois allied with the British against the Huron and the French. There are many other examples.

During the Spanish conquest of Mexico, Eurasian diseases swept through the native population, making them more susceptible to conquest. Roughly 90% of the native people died. They were replaced by a mixed population descended mostly from European men and native women. The strategy of mating outside one’s race was extremely successful for both sides. The women got the benefits of European civilization, and their children got resistance to Eurasian diseases. The men got women at a relatively low cost in labor, compared to the expense of shipping brides from Europe, and those women had the cultural knowledge of how to survive in the Americas. The mixed-race population of Latin America has been very successful, despite being descended from “race traitors”.

It would have been better for the native people, viewed as a biological unit, to ally against the Spanish and kick them out. It would have been better for the Spanish people, viewed as a biological unit, to annihilate and fully replace the native population. Neither thing happened, because races or “peoples” don’t act as biological units.

5.2 A Thought Experiment About Race-Mixing

Here's another example. This time it's a thought experiment. Suppose that every white person in the world is required by decree of the global techno-state to mate with a person of another race and have 2 children, and this law is ruthlessly enforced. If a person cannot find a mate, one is assigned. After 100 years or so, the white race would be gone. No white people would exist.

However (assuming no social collapse or other major disaster), every gene that existed in the white population would still exist, at the same frequency as before. Almost every individual from the original white population would have descendants, except for the few who died young from accidents or disease. The genes were replicated, and the individuals reproduced, but the race disappeared.

The survival of one's race is not necessary for individual reproductive success, or for the perpetuation of one's genes. A race is just a cluster of genetic variation. It consists only of correlations between genes. Mixing races decorrelates genes. It doesn't destroy them.

5.3 Individualism and Biology

Biology is far more individualistic than it is tribal. The individual is a more important unit in biology than race or even species. Race and species are somewhat arbitrary notions. They are descriptive categories. Neither a race nor a species is an object that has coherence, in the way that an individual body has coherence. Neither a race nor a species can act in the world, in the way that an individual can. The individual is the unit of action and the means of reproduction. Genes can only act on the world through their expression in individuals, and they can only be reproduced by the actions of individuals. The individual is the reproductive bottleneck for genes: they reproduce only if the individual reproduces. Thus, genes are selected to make individuals reproduce, not to perpetuate the race or species.

Social behavior does exist in nature, but it isn't an expression of "shared genetic interests" and it isn't based on altruism. For one thing, most life forms are not social. If sociality followed directly from shared genes, then you would expect it to be more common. It is relatively rare, and it always requires some special adaptation to make it possible. Most sociality in nature consists of simple association, such as herding or flocking behaviors. Complex social behavior is very rare, and humans have the most complex social behavior of any species by far. It is a special adaptation that is built into our psychology. We evolved it because it helps us to reproduce as individuals.

The so-called "social insects" are not social. See Bees are not Social.

Our species evolved social instincts that make us form into groups that cooperate internally and compete with other groups. You have social instincts that make you a social animal, but you do not have an intrinsic, genetic in-group to which you belong. Your perception of your "in-group" is generated by your social instincts and your social environment. You can perceive yourself to be a member of multiple in-groups, depending on the context. For example, your social emotions can attach to a sports team, the company that you work for, your little group of friends, an online community, your country, or a racial/ethnic category. None of those is your intrinsic in-group. They are just different perceived groups that your social emotions can plug into. You have an innate psychological potential for a social identity. You do not have an intrinsic, genetic in-group to which you belong.

Race and society are different things. A race is a descriptive category that refers to a cluster of

genetic variation. A society is a system of individuals organized into a power structure of incentives. Society is based on cooperation between selfish individuals for their (perceived) mutual benefit. Often this involves competing with other societies (war). Sharing an extra 0.2% of their genes does not make a race into a society, and a society can be composed of people of different races.

The theory of evolution does not imply that genetic tribalism is natural or adaptive. We are not naturally ethno-centric. We are naturally self-centric and offspring-centric.

5.4 Race And Self-Segregation

“But, but...” the ethno-nationalist protests, “What about the FACT that people self-segregate by race and vote by race, etc, etc??”

Well, all that is true, but they also kill and rape by race, don't they? People don't act altruistically toward one another just because they belong to the same race. They might, however, form social identities and organize based on race, depending on the circumstances.

People self-segregate by race for two reasons. One is that there are real race differences, and those differences, although due to a tiny percentage of the genome, still matter and still affect human behavior. Similar people tend to end up in similar situations, and similar people prefer to hang out together. However, segregation by race is a weak preference that is easily overridden by other factors. When it is convenient to mix for economic or sexual reasons, people mix. (E.g. the Spanish and Native Americans.)

People can and often do form social identities based on race, and socially organize to some extent based on race. That is not because they are acting out the will of their shared genes, however. It is because people need some basis to organize into groups, and race provides such a basis, although it is not the only one. Religion, ideology or language can also be used as a basis for social organization. There is nothing special or magical about race as the basis for social identity and organization, but it does have one advantage: it is a visible signal of identity that is always present.

In the United States, blacks tend to develop social identities based on race, while whites tend to develop social identities based on ideology. That is mostly because whites are the majority race, and so race wouldn't make sense as a basis for political organization or social identity for whites, at least for now. As whites decline as a percentage of the US population, however, their social identities will be more based on race. We are seeing that happening now: racial identity is becoming more important to whites as the white majority shrinks. In essence, the importance of race as a signal of social identity depends on its information content. In the US, being black is more informative than being white because blacks are a smaller percentage of the population. (The information content of a signal is the negative logarithm of its prior probability.)

I am not saying that race doesn't play any role in society. It can and it does. I am saying that we are not divided into genetic tribes that struggle against each another because they are 0.5% genetically different. We form social identities and divide into societies in various ways that depend on our social instincts and the environment.

6 Conclusion

Society is not biology. It is another level of order that we create on top of the psychological and biological. It supervenes on biology, but does not reduce to it. Society is based on power and ideas, not on shared genetic interests. I have explained how society works in other essays, so I won't explain it here. The important point here is that it does not depend on altruism or a common biological purpose. Society is not based on pre-existing genetic group interests. Society is based on cooperation between selfish individuals pursuing their own perceived interests.

It is hard for most people to accept the reality of evolution. They want to believe that their lives serve some great purpose, and that they are part of something big and important. The truth, however, is that you are a reproducing machine whose only purpose is to reproduce genes, and reproduction serves no greater purpose. By cooperating with others, you can create a bigger machine (a society) that benefits its members, but your participation in that machine is conditional and selfish, not an expression of a greater purpose.