The Blind Empiricist

E. O. Wilson was one of the first figures to introduce me to the wonders of science. I read his autobiography while in public school, where he described how he first developed his passion for entomology (the study of ants). E.O. Wilson was visually impaired as a seven-year-old, in a fishing accident. Due to the accident, it was easiest for him to perceive the life of ants. Reading about his childhood in Alabama, being out in nature, and becoming fascinated with it, resonated with my love of nature at the same age, running around in France, catching lizards and cicadas, to observe them and eventually releasing them again.

After successfully making a wide array of contributions to biology, E.O. Wilson was not satisfied with merely contributing to his own field. He wanted to expand his method of inquiry to all scopes of scientific endeavor. Meeting much controversy, E.O. Wilson redeveloped the field of sociobiology, a field that had mostly laid dormant after the horrors of the Nazis during the second world war. We tend to forget that the basic learnings of "racial cleanness" were not isolated to the Nazis, but were prevalent amongst a wide range of intellectuals. John Maynard Keynes, the great liberal economist of the 20th century, was president of the eugenics society in the United Kingdom. In Denmark, the reform of the welfare state in the 1930s had underpinnings of "racial sanitation". Social minister K.K. Steincke, widely credited for developing the first reforms to aid the poor in an encompassing manner in the 1930s, thought of "racial improvement" in his reform design. The basic notion was that genetical traits were heritable, and one must limit the transmission of undesirable genes in society. Few civilizations were free of racial thinking.

Perhaps the shift went too far in the other direction after the war, as all societies sought to disavow this intellectual heritage and instead think in terms of environment, or "nurture" rather than "nature". E.O. Wilson wanted to pull back the discussion to nature and met many adversaries on his way.

Yet even after this discussion, E.O. Wilson was not satisfied. He went on to write "Consilience: The Unity of Knowledge" (1998), arguing that all fields should converge to the scientific method of inquiry. Wilson considered no limit to this aim. The study of society, ethics, and culture should all be subject to the scientific method. Only by achieving this, would humanity make progress. This is a critical review of this book and a general critique of the naïve empiricism that Wilson advances in the book.

Reductionism as knowledge

Wilson's basic argument is that science is the process of decomposing material phenomena into smaller pieces, understanding the causes and consequences of these pieces, and then being able to predict how the larger organism behaves. This is observed empirically, where experiments and observation inform us of the piece's behavior. An ideal example of this approach is Richard Dawkins' "The Selfish Gene", where Dawkins masterfully describes the evolutionary motive of the single gene. It seeks survival, reproduction, and transmission, and the behavior of genes drives the behavior of the greater organism, be it the organ, the mind, or the entire person. The parsimony of the theory is beautiful, and the social implications are manifold.

For Wilson, science is *finding* something. It is not about "knowing" something, that is having a sense or a theory of how certain phenomena act. No, this is not knowledge for Wilson until we can test it *empirically*. The basic epistemological outlook is the driver of the ultimate limitation of the argument forward in "Consilience". Many things we care about are invisible to the eye, and the anecdote of the lab has a poor transmission to understanding fundamental questions about the world.

The case for theory

Most social phenomena are unobservable. Take nuclear deterioration and mutually assured destruction. We cannot *see* that states act in a certain way knowing that the other state has an atomic bomb. We cannot test a sequence in which states bomb each other and then present "findings" of the interaction of states armed with nuclear bombs. Instead, we develop *theories*, that explain the basic game states find themselves in. In nuclear deterioration, this is typically done through game theory, popularized through the notion of the prisoners' dilemma (which I shall not go through here). The prisoners' dilemma is a simple construction of the mind, through which we think through the interactions of the states. Theory frees us from the limits frees us from the limitations of empiricism, when what we want to see is unobservable.

Wilson laments the social sciences for not being able to present "findings", arguing that the social sciences have been bestowed many resources, but have nothing to show for them. Wilson is unable to understand the power of theory. Political scientist Kenneth Waltz has for instance produced no empirical "findings", but developed the basic theory of mutual assured destruction, and gave policymakers the scenario that they were living through. This period was a

"golden age" of international relations (but a grim period for humanity), by both presenting a parsimonious theory and it having real-world implications. It is hard to think of an area with greater consequence for the continued propensity of humanity, than the one thinking carefully of the doomsday weapons we have created. How can Wilson ignore this?

The sum of society is greater than its parts

The next flaw in Wilson's reductionist (meant descriptively, not as a slur) thinking is that he does not have a basic grip on relational phenomena. He laments James Coleman and Émile Durkheim for pulling social science away from its basic unit of analysis, the human. For Wilson, the correct method of inquiry is to decompose society into individuals, then decompose individuals into parts of flesh, and then bring it back together to make explanations of how society works. For Wilson, we are all driven by some sort of biological variance that drives our behavior. Where Robert Solow quipped at Milton Friedmann that "*Everything reminds Milton of the money supply. Well, everything reminds me of sex, but I keep it out of the paper.*". For Wilson, everything reminds him of the biological propensity to reproduce, and he wants the paper to start from there.

Institutions, cultures, and religions are all human-made artifacts that have no direct biological explanation. There is no interesting biological explanation to explain the turn from polytheism to monotheism in Viking society. There may be material reasons that explain the spread, but the concrete organization is solely a product of the mind. Likewise, it is banal to state that there is no interesting reason for why some countries have a president and others have a prime minister. There may be biological reasons to explain the behavioral variance, but what does seems so weird and random, that it is irreducible to the genome. The extent to which we engage in certain relations may have roots in "biological" explanations, but there is no nature to the nature of our relations.

The organization of inquiry

Forget Wilson's possible misconceptions of science: is there no merit to a unification of knowledge? Here, again, Wilson's poor grasp of social science shows itself anew. One aspect is that of diminishing returns. We are not better off studying all questions by the same prism. This relates to an aspect of specialization, where Wilson is also blind to the fact that he has engaged with one certain empiricist branch of science. Armed with the empiricist hammer, Wilson tries to knock down all questions of interest. But it is but one tool.

Next, Wilson does not think carefully about the value added by focusing on especially biological aspects of behavior. He laments microeconomics for not incorporating biological variance into its "too abstract" models but does not recognize that the parsimony of microeconomics is exactly what makes it a strong mode of inquiry (which he in the same chapter recognizes). Yes, there may be some value added by adding some sort of biological component, but how does this compare to other second-order forces, such as culture or time? This is again driven by Wilson's blindness to theory and wholehearted orientation to empirics. Wilson thinks that the study of social phenomena can be solved by adding biological "facts", but he succumbs to a sort of analytical fallacy reflected in Dani Rodrik's heeds us against "*Analysis requires simplicity; beware of incoherence that passes itself off as complexity.*".

Finally, I have kept most of the areas where Wilson's argument may make sense and ignored the most decoupled ones. Wilson claims that ethics, culture, and the arts generally should all be guided by some biological notions. I have a hard time understanding how one could ever arrive at such a position, and it generally makes the argument weak, because if everything is science, then what is *not* science? This highlights the lack of epistemic humility in Wilson's book, where he starts from the vantage point that everything can be known, and laments "postmodernists" for claiming that nothing can be known. But the scientist should not start from a point of complete confidence, but instead of fallibility, recognizing that empirical truths are feeble, and that the only thing that can be "known" is what is not true.

To what end?

I will conclude on the same question that Wilson asks himself in the final chapter of his book: to what end do I write this? First off, it is to digest some personal development. I was quite interested in biological explanations of social behavior when I started my studies, and this is probably the area where I have updated my basic priors the most over the last five years. Yes, biology says something, but not a lot. The most important questions in the social sciences are not rooted in behavioral variance. Their concern instead themselves with the organizations of institutions to foster welfare and growth or how to create a more peaceful world. Our first-order concerns to answer these questions are not rooted in biology.

Next, I think the tone and approach of Wilson are symptomatic of a lot of overconfident people who believe to have found *the* answer. The argument typically goes along the lines of

"Mode of inquiry X has been successful in field A, therefore mode of inquiry X should be used more in field B". But these people rarely think of the *questions* that a certain field deals with, and appreciate that the modes of inquiry are developed to address this question. This should not be pushed too far; naturally, disciplines should look to each other and be inspired. However, one should always approach other fields with some humility. There is probably a reason larger than university politics to explain why they have survived.

Finally, Wilson's lack of appreciation for normative theory is also symptomatic of the exaggerated naturalistic approach to human affairs. Wilson wants us to understand human behavior, and from that, design institutions that best comply with our biological propensities. But the organization of humankind is malleable to positive ideas, and there is nothing naive about divorcing political theory from biology. Rather, the realm of ideas propels us forward in our relations and the development of human character. Perhaps the naturalist should aim to incorporate this outlook, instead of the political theorist incorporating the naturalist view. A unity of knowledge would ultimately mean societal statis, while diversity will propel us to realms not yet imaginable to mankind. This seems to be a much grander aspiration.