SESSION 4

Behavioral Genetics and Human Flourishing

What does contemporary behavioral genetics and evolutionary theory add, if anything, to our understanding of human nature and human flourishing? How do humans fit into the natural world and how should that impact how we relate to it?

BEHAVIORAL GENETICS AND HUMAN FLOURISHING - I

What is Nature in Nature-Nurture?

— ERIC TURKHEIMER —
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THE THEORY OF evolution, as espoused by Charles Darwin in *The Origin of Species* in 1859, was difficult to accept for religious believers whose assumptions about the world were shattered by it. But Darwin's *The Descent of Man*, published twelve years later, posed even greater challenges to people who did accept it, and those challenges continue today. It has often been noted that a disorienting consequence of the Enlightenment was the forced recognition that humans are not created at the center of the universe in the image of God, but instead on a remote dust-speck of a planet, in the image of mold, rats, dogs, and chimps. For the entirety of recorded history, moral beliefs about humans had been based on the idea that people were in some fundamental sense separate from the rest of nature. Darwin disabused us of that notion once and for all. The scientific and social upheaval that has occurred since Darwin has been an extended process of coming to terms with a unification of humans and the rest of the natural world.

Like the biblical notion that humans are created in the image of God, the second sentence of Thomas Jefferson's Declaration of Independence is as poetically true as it is empirically false. The idea has obvious roots in the idea that humans were created in the image of God: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights[.]" Presumably, our rights are inalienable because we are created in the image of God, but why would we believe that we are all created equal? Godlike beings may be equal in their divinity, but a simple look around is enough to convince anyone that people aren't literally equal. Although he died thirty years before the

publication of *Origin of Species*, Jefferson was an accomplished botanist who certainly knew about biological variation. He was, of course, also a slave owner whose commitment to the real-world equality of human beings was incomplete at best.

Jefferson perfectly embodied this paradox of human biological and moral equality. For all his imperfection and hypocrisy, Jefferson's famous sentence meant that people are morally and politically equal despite their obvious differences. Embedded in the Declaration, which was addressed to a world that assumed the natural supremacy of the white male ruling classes, Jefferson's assertion was literally revolutionary. Was it possible to create a society based in equality, given the hard empirical fact of difference? America and its struggles over the next 250 years are a testimony to the urgency and difficulty of the question.

After Darwin and Freud, and with the pronouncement of God as dead, human beings became objects of scientific investigation. Human science has been the single greatest revolution in human culture; much of it has been unambiguously successful and entirely uncontroversial. Scientific understanding of human anatomy and physiology was already well underway before Darwin provided the full evolutionary context. Many aspects of human evolution now sit uncontroversially in the domain of scientific biology. Since Darwin, the study of how human beings evolved from primates in sub-Saharan Africa, migrated from Africa, and steadily populated the rest of the globe, has been filled out to a remarkable degree. The evolution of human physical characteristics and their analogies to earlier primates, which were so scandalous when Darwin first pointed them out, are obvious to the modern evolution-aware sophisticate. Thanks to Freud, we can even swallow hard and admit that, as a matter of biology, humans fornicate and reproduce pretty much the same way as other animals. As a means of pumping blood, the human heart is like a pig's heart and can be studied and understood in the same way.

Nevertheless, a deep paradox underlies our attitudes about human biology. I presented the idea of applying science to humans in a way that made it easy to accept—of course there is such a thing as human anatomy, physiology, and medicine, and, of course, these sciences must be understood in the context of evolution. But even though all of us modern Darwinists endorse the idea

that humans are animals and can be studied scientifically as animals, no one really believes it. Reports of God's death are greatly exaggerated. The scientific practices that are applied to non-human animals are, notwithstanding their practical justification and the stringent ethical protections that are applied to them, positively gruesome. We routinely "sacrifice" animals to see what happens to their brains following some experimental manipulation. We raise them in cages—or worse. We dissect them to understand their internal physiology. We force-breed them to study their genetics or knock out genetic loci to study their development. We eat them.

I mention this not because there is something fundamentally immoral about animal research, which as I say is generally well-justified and closely regulated. But even thinking about any of these practices being applied to human beings feels abhorrent, a definition of Mengele-level genocidal abuse. Nevertheless, there are two important points to see plainly. First, a moral refusal to experiment on human beings stands in opposition to a scientific conviction that humans are ordinary animals. Second, those same ethical proscriptions put severe, intractable limits on the extent to which humans can ever come into the light of scientific explanation. These principles go together: we do not experiment on humans because we believe (whether in a religious or secular sense) humans are sacred, and we believe humans are sacred because, in our experience, we exist outside the deterministic domain of natural science. Humans remain outside that domain because we cannot—must not—create the inhuman conditions that might show otherwise. We can either maintain a special proto-scientific place for human freedom and morality, or we can pursue human science to its carnivorous, fascist, deterministic end. We can't have both. To be perfectly clear, this state of affairs is both necessary and good. It might be the definition of "good."

BEHAVIORAL GENETICS AND HUMAN FLOURISHING - II

Genetics, Human Nature, and Human Flourishing

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The question that I am setting before me here is the following: what does contemporary genetics and evolutionary theory add to our understanding of human nature and human flourishing? Before offering a reflection, let me first clarify how I approach the question. The perspective I adopt is rooted in the Catholic theological tradition and thoroughly interdisciplinary in nature. Although I am a theologian, I locate myself at the intersection of theology, philosophy, and biological and cultural anthropology. However, I by no means speak as an expert in the domain of behavioral genetics. Here my knowledge remains that of a philosophically informed layman.

Let me return to the question. My answer is, admittedly, deflationary: namely, "very little." This response stems neither from suspicion regarding the category of human nature nor the importance of genetics. Human nature currently has a sordid reputation within the humanities, where appeals to it are seen as thoroughly ideological. The Catholic theological tradition has, however, long been committed to a robust theory of human nature as intelligible. It is an "axiom" of Catholic theology that grace perfects (human) nature, and the rich tradition of natural law and virtue ethics depends upon a robust theory of human nature. The natural law is in the human soul as our given or innate inclinations toward a set of specific ends or goods, some of which we share with non-humans and some of which are unique to us. The moral life is not a renunciation of our animality but a habituation of it in service of our pursuit of higher ends.

There is much resonance between evolutionary theory and Catholic theology on this front. Evolutionary theory has rendered it impossible to posit sharp

"breaks" between humans and non-humans. Accordingly, much scholarship on human nature and the origins of human morality now root human nature and morality in our evolutionary history. Such work is more at home within the Catholic tradition of natural law and virtue ethics than it is within philosophical and ethical frameworks which make no appeal to human nature as possessing any real normative content (e.g., Kantian ethics, utilitarianism).

With that said, I want to make some observations about the very notion of a "nature" as deployed in appeals to human nature. Here we encounter a multiplicity of possible meanings. "Nature" is constraint. "Nature" is that which is given, innate, and/or fated (to varying degrees). "Nature" is that which is shared/universal and/or particular (e.g., "that's just his/her nature"). "Nature" is a principle of motion or rest. "Nature" is what is most real (versus, say, "culture"). "Nature" is a norm (e.g., "be true to your nature").

Appeals to human nature within an evolutionary context occur regularly and most often refer to a set of evolved and species-specific cognitive, bodily, and affective capacities and dispositions. Given the intimate connection between genetics and evolutionary theory, this nature is seen as genetically "programmed" such that the developmental process, while crucial as a source of "information," is often conceived of as a revelation, so to speak, of what was already "contained" in a genetic "program." Even if we adopt a more nuanced understanding of genetics/DNA than that just expressed, we still have a tendency to associate "nature" with "genetically programmed" and, subsequently, with our evolutionary past. The evolutionary past is "in" us as that which "programs" us. This logic then serves as the grounds for numerous "scientific" accounts of, for instance, the nature of religion, cognition, sexuality, morality, and flourishing.

We might be tempted to think that, finally, with the combination of Darwinian evolutionary theory and genetics, we are approaching a rigorous science of human nature that stands on firm ground. However, this is where I hesitate, for three primary reasons that I will conclude with:

1. At least within the philosophical community, there are significant debates concerning the very meaning of "genetics/genes." In brief: what exactly does it mean to claim that X or Y characteristic is "in" our genes/DNA? If, as some claim, DNA does not "program" for anything, then what exactly does it do and how exactly does it do it?

2. I am sympathetic to ideological critiques of scientific claims about human nature and human flourishing. In the twentieth century alone we saw immense pendulum swings within the scientific community regarding what our evolutionary past (and hence genetics) implies for human nature.[1] Scientific claims regarding human nature very often do track wider political-societal transformations. And some of these claims can and do come into direct conflict with a Catholic vision of human nature and human flourishing. Furthermore, we cannot divorce questions concerning genetics and human nature from the current entrepreneurial dynamics of contemporary science. Science must "sell itself" in ways dictated by the logic of the market. We may find social Darwinism and eugenics repulsive, but we remain enthralled by the possible power that genetics may grant us for the manipulation and control of particular human phenotypes (physical and behavioral) and by the possible monetary profits this will bring. In our current context, questions regarding the significance of genetics are therefore always interwoven with questions about power, manipulation, and money.

3. Finally, and somewhat more closely related to my own research, evolution and genetics tend to place us within a causal framework. We want to know how "genes/DNA" cause or constrain X or Y phenotype for all humans or for certain populations. Yet this causal framework often risks bracketing out (or downplaying) that which is most important, namely, the cultural systems of meaning in which we dwell and which structure all our evolved and acquired capacities and dispositions. It is not that evolution or genetics are of no consequence, only that they are of limited consequence for the project of understanding ourselves, where understanding pertains to questions of meaning and flourishing. Whether viewed in terms of evolution/genetics or the inclinations toward certain goods/ends that constitute the human soul, what we are given/inherit by nature is, so to speak, the means for human symbolic-cultural projects of meaning and flourishing. Even the most "biological" of human acts (e.g., reproduction and nourishment) are structured by complex systems of

1 Erika Lorraine Milam, *Creatures of Cain* (Princeton: Princeton University Press, 2019).

human institutions and meaning, and without a grasp of these systems we cannot understand even human reproduction and nourishment in their particularly human form. Rightly or wrongly, it is precisely because of the sheer diversity of such systems of meaning that many within the humanities and social sciences find evolution of limited use as this pertains to an account of human nature and flourishing.

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POST-CONFERENCE REFLECTIONS
FROM ERIC TURKHEIMER AND DYLAN BELTON

ERIC TURKHEIMER

Prior to this meeting, I was unfamiliar with contemporary thinking at the interface of Catholic theology and evolutionary biology. Across a wide range of presentations, I was struck by the fact that theology—at least as it was represented here—has made its peace with Darwin. Evolution may not explain everything the religious believer wants to understand about humans, but I did not hear a single speaker questioning whether Darwin was broadly correct, in particular about humans' relationship with the rest of the living world. If I understood correctly the broad message, Darwinism is not wrong about the human place in nature; at worst, it is incomplete.

My contribution to the meeting was about the inverse of the psychological challenge Darwin presents for religious believers. Taking human animality seriously, I suggested, poses deep problems for those of us who accept evolution as thoroughly and literally true, and who therefore might wish to conduct ourselves—as intellectuals, scientists,

or individuals—in accordance with the principles that a literal reading of Darwin mandates. In modern psychology, by which I mean the psychology of the post-Darwinian Twentieth Century, the integration of evolution into naturalistic human psychology has been built on two very different platforms. One of them, more explicitly Darwinian in outlook, was originally called Sociobiology by its founder E.O. Wilson, but it is now usually referred to as evolutionary psychology. The second, not as widely recognized as an evolutionary theory *per se*, is the psychoanalysis of Sigmund Freud.

Both evolutionary psychology and psychoanalysis are founded on the idea that evolution has left human beings with a dual nature. On the one hand, based on the cosmological and evolutionary calendar that was shared at the meeting, in a biological sense, we humans are far more like dogs and pigs than we are different from them. On the other hand, for religious believers and natural scientists alike, on a day-to-day basis none of us *feels* like a dog or a pig. We experience ourselves as civilized or spiritual—take your choice—and denial of these uniquely human qualities leads directly to a dystopian nightmare, red in tooth and claw.

The two paradigms differ in their scientific basis and in the level of analysis they pursue with respect to human psychology. Evolutionary psychology is conducted at the level of the population, using the disconnect between our evolutionary environment and the modern world to identify archaic psychological structures that continue to inform our modern selves. Why are we afraid of snakes, which present little danger in our modern environment, but unafraid of motorcycles, which do? Because we evolved in an environment in which snakes were dangerous and motorcycles didn't exist.

Freud, in contrast, is concerned with the location of these primitive desires in the bodies and minds of individual people, as experienced subjectively. It is one thing to concede that human beings, as a species, reproduce in the same way that horses reproduce; it is quite another, as in the Tom Wolfe passage I presented, to confront that process in its raw detail, and ponder its homologies to our own behavior, known to each of us but rarely shared. Dylan Benton, in his response to my presentation,

said that humans do not have sex as animals. Freud demurs, and thus remains ever dangerous, even in an era in which human evolution has been thoroughly accepted.

DYLAN BELTON

Overall, I remain committed to the general position outlined in my initial reflection. With that said, the discussion with Dr. Turkheimer and the other conference attendees challenged me on a number of fronts, two of which I will focus on here.

1. First, in my initial reflection, I overstated the case concerning the relative "lack" of importance of evolutionary theory for an account of human nature and human flourishing. I want to clarify what I had in mind with this claim. My primary point is only that it is easy to overstate the case when it comes to what evolution by natural selection and genetics have shown us concerning human nature and human flourishing. As a scientifically grounded causal account of how species evolve, evolution by natural selection is, of course, novel. However, some of the contentious debates that it has given rise to (e.g., "are we inherently selfish and/or violent?" or "are we primed to care more for the 'in-group' more than the 'out-group,'" etc.) are not new debates, and evolutionary theory *by itself* does not settle them.

   It is also the case that what exactly evolutionary theory is is currently contested, with many claiming that we are going through a "paradigm shift" with regard to evolutionary theory. As far as I understand it, this shift is away from an "adaptationist" and "gene-centered" vision of organisms and evolution toward a vision of multi-layered evolutionary inheritance as well as toward more emphasis on complex "developmental systems" in which genes are but one "causal" resource. Central to this paradigm shift is therefore a debate about the exact nature of and role of "genes" in human development and behavior. The "allergy" that one often finds within the humanities towards evolutionary claims about human nature/human behavior stems from the sense that such claims imply some sort of biological (genetic) determinism that has

been, and still can be, ethically and politically abused. But there is often a tremendous amount of misunderstanding here that requires clarification from *both* behavioral geneticists and those of us in the humanities. We cannot answer the question about the significance of genetics and evolution for an understanding of human nature/flourishing unless we attend carefully to these debates.

What I want to add to these observations here is the qualification that evolutionary theory is an indispensable *resource* for investigations into human nature and human flourishing. Again, it is not a resource that will by itself *settle* debates concerning human nature and human flourishing. Evolutionary theory does not enable us to simply "leap outside" of the interpretive milieus in which we are deeply entangled in order to deliver to us an unbiased "science" of human nature (that can in turn be the grounding for a "science" of human flourishing). Rather, it is one among many such resources. For a Catholic theologian like myself who is committed to a "robust" theory of human nature and to a theory of natural law in one form or another, the current debates concerning evolutionary theory and human origins are now indispensable resources. How we narrate our evolutionary origins holds immense importance for how we think about human nature and human flourishing.

2. Second, even though it remains unclear to me what exactly behavioral genetics adds to our understanding of human behavior other than insights into correlations between certain "genes" and certain behavioral characteristics, I came away from our discussion seeing the need to gain further clarity on this. As Dr. Turkheimer himself noted during our panel discussion, even though behavioral geneticists do not uphold naïve theories of genetic determinism often ascribed to them, he does often feel the need to defend behavioral genetics against criticisms of it. However, I do not believe that we managed to unpack what it would mean to defend behavioral genetics in this sense. Does it mean defending the claim that specific behavioral traits have genetic correlates that we can now map very clearly? Or does it mean something more, i.e., that genes are the primary *causes* of behavior/trait X or Y? I am again left feeling that there is something important here

that requires clarification, one which does not simply revert to claims about the relative importance of both "nature" (understood in terms of evolution/genetics) and "nurture" (understood in terms of anything non-genetic that is developmentally relevant). As I noted in my original reflection, many of us in the humanities have become very efficient at ideological-like critiques of scientific claims about human nature. Dr. Turkheimer's provocative suggestion that behavioral genetics still operates in the tradition of classical eugenics makes it clear that such critiques are still needed! However, those of us in the humanities also need to have a more scientifically informed *constructive* understanding of what exactly genes are and what role they play in processes of human development and behavior within complex "developmental systems" in which genes are only one among multiple important "causal" factors.