

THOMAS AQUINAS: TEACHER OF TRANSHUMANITY?

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Introduction

In his 2005 article “In Defense of Posthuman Dignity,”¹ Nick Bostrom presents a transhumanist response to various ethical criticisms of emerging human enhancement technologies. Bostrom is a strong proponent of “transhumanism,” a relatively recent movement which promotes the use of biotechnology to help humans transcend our nature through material improvement, ultimately leading to a new state of existence which is dubbed “posthuman.” Those opposed to transhumanism are pejoratively labeled “bioconservatives” or “bioluddites” by the transhumanists. Unfortunately, the “bioconservative” faction, with whom we share many sympathies, has offered subpar arguments against transhumanist aspirations. While critics like Francis Fukuyama have rightly pointed out the possibility of abuse of biotechnology and the need to consider carefully what technologies we should deem permissible,² the basis on which Fukuyama argues is flawed. He fears that biotechnology will destroy human nature, thus eliminating the foundation for morality and human rights. In order to protect these rights, he says that we must prevent any tampering with human nature by heavily regulating biotechnology.

While there are legitimate concerns about the use of biotechnology, we should not dismiss all developments in biotech as immoral or illicit. What is needed is a firm ontological framework on which to base ethical judgments. The aim of this paper is to show that transhumanism, while revolutionary in aims, presents nothing new in terms of ontological reality. Human enhancement technologies will not destroy human nature. Future individuals with enhanced capabilities will still be fully human. The same categories which we currently use to make moral judgments will apply just as much to “our posthuman future” as they do to our current unenhanced state.

Therefore, the basis for moral judgment, for rights grounded in natural law, will not cease to exist. However, in order to understand this, we must work from a proper view of human nature. In this respect, we agree with the transhumanists that Fukuyama and his colleagues have not leveled appropriate arguments against transhumanism, although for different reasons than Bostrom gives. We do not think that the fruits of biomedical research will fundamentally transform human nature, thereby creating a new species of persons so advanced that the only description of them will be in terms of what they no longer are, namely “posthuman.”

In this essay, we will argue that biotechnical enhancements will not create a new species. Enhanced humans will be precisely that, human. We will argue that future man, if he is to be considered a person, must retain rationality. Thus the classical definition of man as a rational animal will still hold true. Consequently, the foundation for ethics and human rights, i.e. rationality, will still be present. Whether these enhanced individuals come to be by moral or immoral means is beyond the scope of this paper. The alleged “posthumans” will still be rational. They will still be moral. The rules of ethics will not be altered.

Transhumanism

The central claim of transhumanism is that human beings ought to pursue the development and application of technologies that will

make it possible to increase human health span, extend our intellectual and physical capacities, and give us increased control over our own mental states and moods.³

Prima facie, these goals appear ambitious, but reasonable. However, the transhumanist goes beyond merely stating that we can and should try to extend life spans, expand our cognitive and physical capabilities, and achieve better control of our moods and cognitive states. Transhumanists assert that the result of these projects will be a change in human nature. In achieving these goals, we will cease to be human and will become a new sort of thing, “posthuman.”

This term posthuman is used to describe the next stage of humanity, attained by self-directed evolution. It is not a merely semantic change, the result of redefining our conception of what it means to be human; rather “radical technological modifications to our brains and bodies are needed.”⁴ Although there is no set definition of “posthuman,” transhumanists generally agree that the minimum requirements to be a posthuman will be

given in terms of enhanced capacities and abilities. Bostrom defines a posthuman as someone who possesses at least one posthuman capacity, including increased healthspan, enhanced cognition, and enhanced emotion⁵ achieved through either redesigning the human body using nanotechnology or enhancing it using a plethora of means.⁶ Beyond enhancement, transhumanists speak of posthumanity as including “completely synthetic artificial intelligences” and “enhanced uploads.”⁷

The key question is whether or not posthumans will constitute a new species. This is a tricky question to answer when reading the transhumanists. Some, like Bostrom, think that an individual can become posthuman while remaining a human being.⁸ Others, like Mark Walker, hold that posthumans will be a new genus.⁹

The Transhumanist Understanding of Human Nature

To determine why transhumanists think there will be a new species, we must look at their understanding of human nature. The very name “posthuman” indicates that our future state can currently only be defined in terms of the degree to which it exceeds our current nature. Thus, the concept of human nature plays a crucial role in transhumanist claims. Unfortunately, there is no one definitive position among transhumanists regarding human nature. All that transhumanists seem to agree on is that human nature is fundamentally material and thus malleable since the ability and obligation to change human nature and even transcend it is the defining characteristic of transhumanist thought. The malleability of human nature is what qualifies it as capable of being transformed into a new species.

This lack of clarity or concern regarding human nature is a result of the transhumanists’ singular focus on the goal of becoming posthuman. This *telos* dominates their writings. As a result, they pay very little attention to the nature they are leaving behind except insofar as such knowledge can be used to leave it behind. Max More, one of the leading proponents of the “extropian” school of transhumanism, says that biologists’ conception of human nature “remains useful” but is “becoming increasingly inadequate as our further evolution depends more on the scientific and technological products of our minds.”¹⁰ The end result is that technological changes will “render our chromosomes almost vestigial components of our individual and species identity.”¹¹

Nevertheless, this materialistic definition of human nature in terms of our genetic code and evolutionary lineage must be presupposed in order to

argue for the possibility of biotechnological enhancement.¹² Walker explains that humans are animals with a species specific genome resulting from the mutation of the genomes of our evolutionary ancestors; all of our powers and characteristics are rooted in our biology:¹³ “The history of our intelligence lies in a secular phylogeny, that is, with our apelike ancestors and indeed even more ‘primitive’ organisms.”¹⁴ Walker states that our distinct nature is best understood in terms of a comparison to these ancestors. For instance, we differ from chimps in intellectual and moral virtues, differences based on our biology.¹⁵ Thus, posthumanity will constitute a new genus because posthumans will possess significant biological differences from us, which will manifest themselves in increased abilities. Since the abilities of posthumans are vague, Walker must use analogy to demarcate humans from posthumans, as we do with chimps and men:

By altering biology, transhumanists propose to improve human nature to the point of creating a new genus: posthumans. Perhaps the most powerful means to adequately conceptualize what is at stake is in terms of a phylogenetic analogy: posthumans will stand to us in the moral and intellectual virtues as we stand to chimps. The phylogenetic analogy underscores the importance of biology in making humans what we are: it is not prejudice or cultural differences that prevent chimps from integrating into our society, but differences in human and chimp nature. Chimps have congenital limitations that prevent them from understanding much of what we know and doing much of what we do. The confirming experiment is easy enough to run: send any chimp to the best private school in the world. The chimp is not going to succeed academically as well as an average human toddler, no matter how many years of intensive one-on-one tutoring it receives. Accepting the phylogenetic analogy means that we will be similarly intellectually challenged compared with posthumans.¹⁶

The transition to posthumanity is thereby defined by altering our bodies to produce a speciation event. However, the precise point at which a speciation event takes place is unclear. Let us assume that there will be a specific point at which our physical phenotype will be significantly altered (larger muscles, better neural networks inside the brain, more efficient eyes) such that we would be able to perform tasks that no current human can. Posthumans then excel at academic and practical activities, which humans in their current state are simply unequipped to take on. These changes would presumably be achieved by germ-line selection, genetic alteration and psychopharmacology. Would this change in our physical structure be sufficient to produce a new species of posthumans?

Problems with Transhumanist Assumptions

Walker's concept of posthumanity treats differences in kind as if they were merely differences of degree. He presupposes that we differ from chimps in kind, but only insofar as chimps cannot perform as well as we do in academic and moral spheres. This means that chimps do have rational and moral capabilities. This is not a proper distinction in kind, but only in degree, since both 'species' are assumed to possess the same abilities. The reason that transhumanists use these analogies is that they assume chimps could perform such actions if they lacked "congenital limitations."

However, there is a fundamental difference in essence between human beings and chimps. Chimps lack the ability to understand universals, abstract concepts, make abstract judgments, or perform proper logical deductions. They would never be able to perform academic tasks in any meaningful way, let alone succeed at them. If we changed the chimp genome, on the presupposition that rationality is entirely genetic, it would have a different essence. This would not be enhancing the chimp. It would be causing a substantial change whereby the chimp would cease to be a chimp. A chimp can only do what we do by becoming human.

But if posthumans will exceed us academically and morally as we exceed chimps, we must ask *what* kind of activities posthumans will be capable of that we are not. Are they merely better at the same type of activities or are they performing activities of a completely different nature, activities which do not belong to reason at all? We have no idea what kind of super-rational activities posthumans could perform. The transhumanists do not either. They talk in terms of vague possibilities and analogies. Bostrom says that posthumans will create and enjoy music which makes Mozart sound like Muzak. This does not sound like a different kind of ability. It is just an enhanced ability. Given the general nature of their predictions, we can only give a general reply. It is of little use to argue over possibilities that the transhumanists themselves cannot precisely define, let alone prove to exist. Stating that we will stand to posthumans as chimps stand to us is of little help. Transhumanists assure us that even though they cannot describe in concrete terms what these powers are, these powers will be radically different and, clearly, being radically different entails that they will be vastly superior. Barring a clear explanation of what these activities and the corresponding powers would be, we are forced to assume that they are performing the same type of

activities that we do, but better due to more powerful versions of our own capacities. Posthumans will be extremely rational, not above rationality.

The very talk of enhancement presupposes an essence, which has the ability to perform these actions and which stands under the change as the source of it. Hopkins recognizes this when he notes that there must be a biologically grounded human nature, otherwise improving our behaviors and cognition through biotechnology would be impossible.¹⁷ Assuming that the manipulation of the human genome is possible through one means or another, it is clear that if you alter the genome, and the consequence is enhanced ability, then you have only actualized a possibility that was already in the substance materially. We have only shown something which we are able to do to ourselves while remaining the same. Enhancement presupposes an innate ability to do something which can be improved.

The reason we think remembering things more easily is better is that we assume that a human being has a particular essence that would be benefited by remembering things better. This assumes that the ability to remember is part of the essence of humanity. Likewise, the assertion that we can enhance our ability to think or to create presupposes that these abilities are part of what a human being is. To enhance these abilities cannot mean to replace them. It merely perfects them and makes what was potential actual. There is no change in species unless we posit that there is some further realm of activity, which can only be accomplished by powers that cannot be described as rational in any sense.

The Thomistic Response to Transhumanism

The Thomistic and, more broadly speaking, the essentialist view is that things have real natures which are determinate. They are not fixed in a Platonic sense; they are able to undergo changes. Rather, the changes that a substance can undergo are circumscribed by its nature. We can remember things more easily and think more clearly because by nature we can remember and think. We can have better control over our emotional states because control over our emotions is something proper to human beings.

Given this fact, it is strange to claim that enhancement would change what we are. These enhancements do not introduce some new aspect or determination that was not already implicitly contained in the notion of human. We only speak of enhancing what already exists. Genetic enhancement productive of greater health and increased resistance to disease presupposes a natural disposition to be healthy and a power by

which we preserve this health. Because the essential nature of human beings includes the power of nutrition, whereby animals maintain themselves, and because this power is exercised through material organs, there is no change to the power if we realize the full potential of it by better disposing the matter to the operation of this power. Susceptibility to the common cold is not a power of human beings; fighting infection is. Eliminating susceptibility to the common cold by altering our genome to fight a specific virus does not replace one power with another or add a new one. It perfects the means whereby the preexisting power acts. When we come into contact with a particular virus or bacteria, our bodies naturally fight against it. Even if we are unable to cope with a particular virus, this does not mean we lack the general power to fight it. We merely lack a sufficient material means to do this.

For Aquinas, such material changes, which result in the development of posthuman capacities, would not qualify as speciation events. Speciation is a special kind of generation. Natural changes involve three principles: form, matter and privation. In accidental change, the material cause is the individual substance which acquires a new accidental form. The subject is present both before and after the change. In generation, the material cause is the substrate which loses one substantial form and gains another. The substantial form present before generation is not the same as the form present after generation has occurred. From one kind of thing, a different kind of thing results. However, in the generation of living things, the agent cause will have the same formal nature as the thing generated. A speciation event is different. The offspring belongs to a different species than its parents. We tend to speak loosely when we say that species evolve. The prior species does not actually change. Rather it produces offspring which are of a different species. New species are created because before the act of speciating generation, the new species *does not exist* except in potency. This potency is contained in the generic nature of the parents, which is able to take on a variety of specific determinations. The actuality realized in the new species must be something contained within the proximate genus of the parents. Birds give birth to other birds. As the evolutionary tree shows, mutations are modifications of the ancestor's nature. Even though birds and mammals are considered to have descended from the common ancestor *reptillia*, we must say that both potentialities were contained in the original ancestor's essence. A fish cannot give birth to a bird. It can, however, due to a mutation, give birth to a different kind of fish or at least a creature which is very fishlike.

What would be required for a speciation event in which humans give rise to posthumans? A new essence. Human beings are traditionally

defined as rational animals. Aquinas notes that the genus of animals is subdivided into rational and irrational.¹⁸ This is the primary and exhaustive metaphysical division of animal, for it encompasses two grades of animality, one more perfect, the other less perfect. This does not mean that irrational creatures are less animal than rational animals. Both have complete animality. However, in some, the complete potentiality of animality is more fully realized. In order to be human, then, to be a rational animal, the power of reason possessed by the individual must be a specification of animal. Rationality is a determination of animality. As Aquinas makes clear,

The understanding of animal is without determination of a special form and expresses, with respect to the ultimate perfection, the nature of the thing from that which is material; the concept of the difference, rational, consists in the determination of the special form.¹⁹

As a determination of animal, the power of reason is proper to rational animals as animals. As David Oderberg has put it, “Rationality adds to the purely sentient and vegetative nature of a thing.”²⁰ If it were possible for rational computers to exist, they would not be human for their rationality would not be a determination of animality. To be a human, one must possess full animality along with full rationality.²¹

A basic principle of Thomistic taxonomy is that the addition or subtraction of a difference from the definition of a thing will alter the species. Just as the addition or subtraction of a unit changes the species of number, the addition or subtraction of a difference changes the species of the definiendum.²² If the difference added can be reduced to the category of substance, we will have a new or different species in the category of substance. If we were to add rationality to an ox, since rationality is a determination contained potentially in the genus of animal, it would cease to be an ox and would become a human.²³ If the difference introduced is reduced to one of the accidental categories, we will not have a different species of substance but a different species of accident.²⁴

In order for the creation or discovery of a new species, which comes forth from human beings, there must either be the subtraction of rationality and/or the addition of some further perfection, one which adds to rationality. The former does not concern us here, since the transhumanists are not interested in creating subhuman individuals.²⁵ In order to create a new, posthuman species of animal, the addition of a further perfection must be contained potentially in the genus of animal. Thus, if from humans, posthumans come to be, the specific difference of posthumanity must be contained potentially in human nature.

However, it is unclear what such a perfecting specific difference would be. In order to create a *tertium quid*, a posthuman animal, the difference introduced must add a power above and beyond rationality. If it merely adds a further determination to sensitivity, e.g. the ability to sense electromagnetic fields, then this will not create a posthuman species, for the crowning perfection of the new creature will still be rationality. If the division of animal into rational and irrational is an exhaustive division, the new species must be within one of these two classes: rational and irrational. There is no *tertium quid*. If there were to be a new species of animal that was neither irrational nor rational, it would have to possess both sensibility, rationality, and some power beyond rationality which was a further perfection of these two previous classes. It could not simply be rational in a different way or be more rational. However, as we said, the division into rational and irrational is exhaustive. Thus, on a Thomistic account, there is no possibility of a new rational animal coming about which is not contained in the species *animal rationale*.

If there cannot be a new species, we can only speak of physical enhancement. Aquinas recognizes that improvement in body corresponds to improvement in intellectual activity and cognition: "We observe 'those who are refined in body are well endowed in mind,' as stated in De Anima ii, 9."²⁶ Those who take care of their bodies are able to think more clearly. This does not entail that there is a difference in species when speaking of differences in bodily refinement. Furthermore, radical changes to the bodily structure of a rational animal, assuming that these changes do not corrupt the matter so as not to be able to receive the form of rational animal, do not change the species either. As noted above, Aquinas recognizes that there can be differences in the phenotype without altering human nature. Were we to add rational "to the definition of ox, it would no longer be an ox, but another species, namely human."²⁷ It would be rational and thus human despite the preservation of its phenotype; a "rational bovine" would still be four-legged, herbivore, etc.

However, the transhumanists are not talking about a change whereby an irrational animal gains a power it previously lacked. They talk about a human being becoming better at performing various actions proper to humans as human. The qualifier is that these enhancements are produced by changes to the human phenotype. Nevertheless, the posthuman will still be a rational animal. As the example of the ox illustrates, these changes to the phenotype, which do not replace or remove rationality, would not be sufficient additions to place a posthuman outside the species of rational animal. Unlike the ox example, the differences between the human and posthuman phenotype would not be such as to subdivide the species.

Humans can be enhanced because we contain in ourselves a potential for change. Even if there were a difference due to technological intervention, this would be the actualization of a potency preexisting within us as human beings.

Mutations which produce imperfections in individuals do not change the species of the individual. People with Down's syndrome are fully human even though they possess certain congenital defects. Why would the same not apply to perfections rather than defects? If we were to produce an offspring which was better at doing what a human does *qua* human, it would not be a *new species* of human but a *better* human.

The biological changes which transhumanists propose will therefore fall under the class of natural dispositions. Just as some are born good boxers or good runners because of physical constitution, so too will those with enhanced abilities be born with talents. Through enhancement, we can create a change in species from "bad at running" to "good at running." These enhanced abilities, however, belong to the category of "quality," not substance.²⁸ This change does not alter our substantial essence, i.e. rational animal. To run well or poorly is accidental to being a human. Genetic alteration either enhances abilities we already have or destroys them by corrupting the material organs whereby we can exercise these abilities.

Conclusion

Given this proper understanding of speciation in light of nature and definition, it now seems appropriate to ask the question, by way of conclusion: why ought human beings to pursue posthumanity? Bostrom replies that it is beneficial for *us*.²⁹ But who and what are *we*? Human beings. It follows from Bostrom's line that it is better for human beings to cease to be human in order to fulfill ourselves as humans. This is a rather queer notion of self-fulfillment. Enhancement enhances us *as* human beings. These values which proponents of enhancement hold are values proper to us as human beings possessing a particular essence which is directed toward particular ends. All being posthuman entails is that we achieve ends proper to us as human beings in a more complete manner than before. If achieving ends proper to us as human beings is fully consistent with human nature, posthumanity refers not to a new essence or state of being but to merely living more perfectly. If the transhumanist agrees with us, then he undermines all talk about enhanced biological posthumans belonging to a new genus.

¹ Nick Bostrom, "In Defense of Posthuman Dignity," in *H +/-: Transhumanism and Its Critics*, ed. Gregory R. Hansell and William Grassie (Philadelphia, PA: Metanexus Institute 2011).

² Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (New York: Picador, 2002).

³ Bostrom, "In Defense of Posthuman Dignity," 55; cf. Bostrom et al., *The Transhumanist FAQ: A General Introduction*, 2.1, 2003, World Transhumanist Association. <http://www.transhumanism.org/resources/faq.html>.

⁴ Bostrom et al., *Transhumanist FAQ*

⁵ Nick Bostrom, "Why I Want to be a Posthuman When I Grow Up," in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*, ed. Max More and Natasha Vita-More (Oxford: Wiley-Blackwell, 2013), 28-29. Cf. Bostrom et al., *The Transhumanist FAQ*. The FAQ lists a host of qualifications: "To be resistant to disease and impervious to aging; to have unlimited youth and vigor; to exercise control over their own desires, moods, and mental states; to be able to avoid feeling tired, hateful, or irritated about petty things; to have an increased capacity for pleasure, love, artistic appreciation, and serenity; to experience novel states of consciousness that current human brains cannot access. It seems likely that the simple fact of living an indefinitely long, healthy, active life would take anyone to posthumanity if they went on accumulating memories, skills, and intelligence."

⁶ Bostrom et al., *Transhumanist FAQ*

⁷ Bostrom et al., *Transhumanist FAQ*

⁸ Bostrom, "Why I Want to be a Posthuman," 49-50.

⁹ Mark Walker, "Ship of Fools: Why Transhumanism Is the Best Bet to Prevent the Extinction of Civilization" in *H +/-: Transhumanism and its Critics*, eds. Gregory R. Hansell and William Grassie (Philadelphia, PA: Metanexus Institute 2011), 94.

¹⁰ Max More, "True Transhumanism: A Reply to Don Ihde" in *H +/-: Transhumanism and its Critics*, eds. Gregory R. Hansell and William Grassie (Philadelphia, PA: Metanexus Institute 2011), 136.

¹¹ Max More, "True Transhumanism," 136.

¹² Patrick D. Hopkins, "Is Enhancement Worthy of Being a Right?" in *The Transhumanist Reader: Classical and Contemporary Essays on the Science, Technology, and Philosophy of the Human Future*, eds. Max More and Natasha Vita-More (Oxford: Wiley-Blackwell, 2013), 351.

¹³ Mark Walker, "Ship of Fools," 94.

¹⁴ Mark Walker, "Prolegomena to Any Future Philosophy," *Journal of Evolution and Technology*, no. 10 (March 2010), accessed October 1, 2013, <http://www.jetpress.org/volume10/prolegomena.html>.

¹⁵ Walker, "Ship of Fools," 94.

¹⁶ Walker, "Ship of Fools," 94.

¹⁷ Hopkins, "Is Enhancement Worthy of Being a Right?" 351.

¹⁸ *Summa Contra Gentiles* 1.42.

¹⁹ *De ente et essentia* 1

²⁰ David Oderberg, *Real Essentialism* (New York: Routledge 2007), 94. Cf. *ST I*, q. 77, aa. 4 and 7.

²¹ Oderberg, *Real Essentialism*, 105.

²² *ST I*, q. 5, a. 5; Cf. *ST I*, q. 25, a. 6; *SCG* 1.54; *SCG* 2.95; *SCG* 4.35.

²³ *Commentary on the Sentences*, 1.44.1.1 co.

²⁴ *ST I-II*, q. 18, a. 10.

²⁵ However, transhumanists are interested in the subtraction of animality and the retention of rationality through uploading minds to computers. This, as we have said, would entail that the uploaded mind would no longer be human, since its rationality will not be animal rationality. In fact, it will not even be the same individual. Even though the continuum between the two, the subject of the change, is identified by rationality being possessed before and after the upload, the rationality of the computer exists through a different determination and thus will not even be the same rationality. If this is a different individual power of rationality, it will be a different individual, assuming that a “rational” computer can be called *per se unum* in the first place.

²⁶ *ST I*, q. 76, a. 5; Cf. *ST I*, q. 85, a. 7

²⁷ *Scriptum super libros Sententiarum*, 1.44.1.1 co.; Cf. *ST I-II*, q. 67, a. 3.

²⁸ Cf. Aristotle, *Categories*, 9a14-28.

²⁹ Bostrom, “Why I Want to be a Posthuman,” 29.