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Natural law ethics derives moral norms from human nature. Transhumanism seeks to change human nature. So, could transhumanism change the norms of natural law? And if so, how, why, and in which ways? Natural law ethics is one of the major ethical approaches used in Catholic Christianity. Natural law rests on the fundamental axiom that *agere sequitur esse*—that is, “action follows being.” In other words, by knowing what something is (its nature), we can know something about how it should act (its ethics). Natural law’s theological assumptions include the idea that nature as a whole is God’s good creation and that the natures of particular creatures manifest divine providence. Beings should act in accord with their natures because, in following God’s providence, doing so leads toward virtuous excellence and happiness. Contemporary natural law has been considered by several major schools of thought, including rationalist and physicalist interpretations.

Transhumanism’s proponents argue that we should change humans into technologically enhanced forms with powers that normal humans do not have. For example, humans could be genetically or cybernetically enhanced to be smarter or stronger. Some transhumanist thinkers even propose “uploading” the human mind into a computer, thereby freeing humanity from embodiment and its limits. An uploaded mind could theoretically travel across space through computer networks or duplicate itself at will. We already have humans who can control computers with their thoughts, and computers that can provide input into human brains. What if researchers created an animal or human with a largely or completely artificial brain? How much artificial brain would be enough to qualify one as “transhuman”? These issues call into...
question the connection between mind and matter, and much that is built upon this connection, including Catholic natural law. If something as basic as the connection between mind and matter were altered in humans, how would this affect human nature? And how would natural law theory deal with these changes?

In this chapter I propose a preliminary response to the transhumanist challenge to natural law by investigating six basic questions: (1) Is human nature relevant to morality? (2) Is human nature mutable? (3) How would we know if human nature had changed? (4) Could cultural evolution replace biological evolution? (5) How would human nature and human will relate to each other under these new transhuman conditions? (6) Is it possible to construct a dynamic ethic to fit a dynamic nature, and if so, what might that ethic be?

Overall, I argue that it is possible to maintain a natural law ethics approach in the face of transhumanist changes to human nature and that, in fact, doing so remains a very useful approach, albeit one with some difficulties. The norms of natural law are another matter: I think moral norms will need to become either stricter than in the past or different in ways that are difficult to anticipate.

This chapter concentrates on the philosophy and theology of the 13th-century Roman Catholic saint, Thomas Aquinas, who developed Aristotle's ideas in a Christian context. Aquinas's claims that action follows being and that human nature is a composite of first nature and second nature are combined with ideas from the philosopher Hans Jonas about the increasing scope of human action and the consequent necessity to update ethics. I propose that there a new form of natural law ethics might be capable of responding to changes in human nature.

IS NATURE RELEVANT TO MORALITY?

The idea that nature is relevant to morality has a long history, dating back at least to Aristotle. Nevertheless, many philosophers of the modern and contemporary periods have disagreed with Aristotle. For example, David Hume's "is-ought" dichotomy, sometimes called Hume's law, says that "one cannot derive an 'ought' from an 'is,'" which, of course, is exactly what most forms of natural law ethics try to do. Natural law, then, might sound like a non-starter for contemporary ethical analysis, which has for many decades taken Hume's law for granted. However, due to the rejuvenation of virtue ethics, there has been a growing movement to reject the is-ought dichotomy and reassert the moral relevance of nature. This movement includes such diverse thinkers as Larry Arnhart, William Casebeer, Terrence Deacon, Daniel Dennett, Philippa Foot, Hans Jonas, Alasdair MacIntyre, Martha Nussbaum, and Joan Roughgarden.

How, then, should we understand the relationship between the "is" of nature and the "ought" of ethics? Aristotle grounded his ethics in natural
teleology, and Alasdair MacIntyre argues persuasively in *After Virtue* that there is no way to do ethics without at least some sense of telos. MacIntyre resolves the is-ought problem by restoring teleology to ethics. He articulates the connection between ethics and teleology within a three-part structure: “untutored human nature, man-as-he-could-be-if-he-realized-his-telos and the moral precepts which enable him to pass from one state to the other.” In other words, ethics mediates both nature and telos. To achieve a purpose, one must move from beginning to end by taking certain actions that delineate the path between these two places. These delineating actions are ethics. Modernity, informed by Hume and others, removed the sense of normative goal seeking in human nature, thereby leaving the “nature-ethics-telos” system corrupted because it had no telos—no purpose for human life, no concept of excellence and flourishing. The system then becomes only the “is” of nature and an ethics with no point, which quickly yields a disbelief in ethics (since it seems pointless), and finally only science and technology remain.

By taking the teleological perspective, we can see that nature is very much relevant to ethics because all creatures naturally seek certain ends. For example, plants naturally seek light and animals naturally seek food. For these entities, seeking these things constitutes a purpose and a good. While these are natural goods, they become moral goods in humanity because we are conscious, rational agents with free will and have a reflective power to perceive these goods and to choose for or against them. For example, for humans, health and learning are goods that we naturally seek. In our actions we can choose for or against these goods—for example, by eating well or poorly, or by practicing skills or not. In choosing for or against these goods, we make moral choices insofar as we benefit or harm our health or develop or stunt our learning. We may choose, if freedom grants us the opportunity, to become more fully flourishing humans; likewise, by our choices we may choose the opposite. Of paramount importance here is simply the point that these natural goods exist, and that they are relevant for morality.

**IS HUMAN NATURE MUTABLE?**

The next question is whether human nature is mutable, and if so, in which ways and to what degree? If human nature is mutable, then the ethics derived from it may have to change as human nature changes. While contemporary postmodernism, feminism, and evolutionary theory tend to be anti-essentialist and take human mutability as a given, this tends not to be the case with natural law theory.

In the *Summa Theologiae*, following the ancient philosophers, Aquinas divides human nature into first nature and second nature. First nature is the part of us that we share universally with all other humans. In modern terms, first nature would be what metaphysically and biologically makes us members
of the species Homo sapiens. First nature is also something over which we have historically had little or no voluntary control.

Second nature, by comparison, is more open. It is not universal. It varies between groups over geography and history, and in individuals over their lifetimes. It can be thought of as culture, as expressed in the group and the individual. The processes of acquiring culture are enculturation (or socialization) and habituation. For example, children learn to speak the language to which they are culturally exposed, but may develop particular good or bad habits when speaking. Most importantly, we possess some measure of voluntary control over second nature and so are responsible for our individual virtues and vices.

I think Aquinas is being a bit too simple by separating human nature into only two parts. Arguably, first nature and second nature could be further separated into metaphysical first nature (pertaining to human being and identity as, for example, “rational animals”) and biological first nature (pertaining to our biology—for example, as genetic organisms with metabolism and physiology), and cultural second nature (pertaining to our culture—for example, our language) and individual second nature (pertaining to our personal habits—for example, mumbling). The distinction between metaphysical and biological first nature is especially important to this discussion.

In the *Summa Theologiae*, Aquinas argues that the general principles of natural law (i.e., those derived from our first nature) cannot vary between human groups because the principles are universal to all humans. In contrast, the particular determinations of natural law will vary between groups because they are more context dependent.

To summarize, second nature is variable and the morals of different cultures can legitimately vary in limited ways according to the specifics of their social and physical environment. Translating Aquinas into the more modern parlance used by Jean Porter, we might say that humans are undetermined. Our biological inclinations are insufficient to guide our behavior, so our cultures take up the genetic slack and guide our behavior through moral codes. For example, by nature humans will pick up a language, but culture determines which one. Morally speaking, by nature humans will desire food, but by culture we are told what is good or not good to eat (e.g., is meat permissible?) and how we are allowed to get it (e.g., not by stealing). Not every moral code will work; cultures are selected by natural selection just as biological organisms are. Societies that do not function well either adapt or are replaced. Adaptation relies on mutation, whether biological or cultural, which raises our central question: is human nature mutable?
The answer for second nature is clearly “yes.” Human cultural nature is mutable, as cultures vary widely over space and time. The answer for first nature was formerly “no” (excluding the issue of the very slow changes due to biological evolution), but is now becoming “yes,” at least for biological first nature (and possibly for metaphysical first nature). Furthermore, first nature is growing in mutability with technological advances.

Medicine is a major field in which technology has led to dramatic changes in human life, and it provides a clear case study of how human nature has changed. Medicine is a manifestation of second nature specifically directed at the control of biological first nature. This cultural phenomenon has dramatically changed human health, especially lifespan and reproductive behavior. As medicine advances, more and more of first nature will come under the control of second nature. This shift goes beyond medicine into many other fields.

The scope of human power has grown through the growth of technology. This is a key point: if action follows being, and human action has changed, then our being may have changed as well. I say “may have” because there remain relevant questions regarding act and potency, as well as ontology and epistemology, as discussed in the next section.

Human biological first nature and second nature are now mutable not only through biological and cultural evolution, but more particularly through the application of technology. Technology can act not only on our second nature, in our culture, but also now on our biological first nature. Humans have indeterminacy (freedom) built into our biological nature that allows us to acquire a culture, which then completes us. In other words, our biology needs culture or we are incomplete. Our freedom necessitates that we have a culture with moral norms because we are not programmed by instinct as deterministically as other animals are. As our technological power grows, including power over our biological nature, our indeterminacy will grow with it. More of our behavior will then become subject to free will rather than necessity; thus the realm of morality will grow as well. This is what has happened in the last few decades with new technologies. For example, advances in reproductive technology have forced us to ask whether conception via donor gametes and pregnancy via gestational surrogacy are morally good.

Human second nature is growing in scope relative to human biological first nature. Our scope of voluntary action has increased, and with it our power and freedom. If action and being are related, then as technology increases our scope for action, what we are as beings may be changing. On the scala natura, the Great Chain of Being, despite our materiality, perhaps we are no longer quite so close to the animals and are now a bit closer to the angels—we have clawed our way up a little bit. With the flip of a switch hundreds of millions can be killed in a nuclear war, and by polluting the atmosphere we can warm the earth. These are not the actions of simple apes; they are the actions...
of creatures more akin to minor deities. This is a true novelty of history, albeit a very dangerous one. Thus we have immense power with inadequate ethics; we have an ethics for apes, but not demigods.

Jonas makes this point earlier in non-Thomistic terms in his book *The Imperative of Responsibility*. In his first chapter, Jonas asserts that "the nature of human action has changed" over time due to our growth in technological power; since ethics concerns action, the nature of ethics must change as well. Jonas lists some ways in which ethics must change to fit the contemporary context. Ethics, he says, must consider the vulnerability of nature to human action. Our ethical actions are now aggregate (collective of all our actions), irreversible (as in extinction of species), and cumulative (effects build up over time). Unlike in the past, when actions were more discrete, with global civilization consequences now compound both spatially and temporally, and future effects are unpredictable. Ethical decision making must take this unpredictability into account. This leads to Jonas's "imperative of responsibility": "Act so that the effects of your action are compatible with the permanence of genuinely human life"; or expressed negatively: 'Act so that the effects of your action are not destructive of the future possibility of such life.'

Technological second nature is growing to encompass biological first nature. Human nature has never been stationary; it has always been evolving, but what was once a crawl has accelerated. If action follows being, and our capacity for action has changed, then this implies that our being may have changed as well.

HOW WOULD WE KNOW IF HUMAN NATURE HAD CHANGED?

At the simplest level, if transhumanism succeeds in changing humans, then natural law dictates that these new creatures could have different moral requirements than do current humans. From a Thomistic perspective, if an entity dramatically changes its behavior, it has not necessarily changed its substantial form, but is merely actualizing potencies that it already possessed, as when a caterpillar changes into a butterfly. But in what sense could this be true for transhumans, who might technologically modify their bodies or attempt to upload their consciousness? While in a physical sense action follows being, in an epistemological sense being follows action. We can classify what something is by what it does. In reversing the axiom, a being is known through its actions.

If transhumans obtain new powers for action, we might have to classify them as possessing different natures from current humans and as having different ethical expectations. Whether a reclassification of being is necessary is the crux of the problem: will transhumans be new beings or just plain old humans
actualizing latent potencies? Furthermore, how do biology and metaphysics relate on this question? How far must second nature grow into first nature before biology is completely absorbed? And what do these human changes mean metaphysically? Because ethical responsibility is proportional to the capacity to act, if transhumans became, for example, extraordinarily strong or smart, they would become more culpable for their actions and failures to act, or in religious terms, for their sins of commission and omission. We already have this moral expectation for the powerful, of course, so is this really a change?

In considering morality, a definition of human nature that includes our potential for action is appropriate, because it reflects the axiom that action follows being. However, including this element in a definition of human nature does create a problem: humans are already capable of vastly different actions than we were in past times. So are we already transhumans?

As mentioned earlier, Jonas argues that humans have, through technology, already expanded our scope of action and, therefore, we must expand the scope of our ethics. Applying this idea to natural law, if our scope of action has changed over history due to culture, then perhaps our being (as bioculturally composite creatures) has in some sense changed as well. Deeper investigation into this point (which is not possible here) requires examining the relationships between efficient causality and substantial form, biology and culture, the individual and society, and potency and being.

Compared to our ancestors, our biology is nearly the same, but technologically speaking, our capacity to act is vastly different. Relative to the ancients, we perform magic. The ancients did not need to worry about the ethics of human cloning, nuclear war, synthetic biology, nanotechnology, space exploration, or artificial intelligence. Moreover, they never had to entertain the question of whether they should—or have—become transhumans. But we do. We have far greater potential for action than did our ancestors. Transhumanists are simply pursuing this trajectory with intention and intensity. Where does quantity change quality? Where does biology become metaphysics? Where do we cross the threshold between actualizing potentials we have always had and becoming new kinds of beings? We know this transition seems to have already happened to humanity once in the past, when we transitioned from ape to human. Will it happen again if we transition from human to transhuman?

Different schools of natural law will vary in how they understand transhumans to be “different” from humans. Rationalist natural law theorists might find transhumans to be no different at all from normal humans because both possess a rational faculty that is understood as the seat of moral relevance. In contrast, physicalist natural law theorists might find transhumans and regular humans to be very different, because the body itself has normative teleologies built into it. For now, these schools of natural law are in disagreement.
on many issues, such as sexuality, precisely because humans have gained technological control of reproduction like never before. These disagreements will grow and spread into new fields of inquiry as technology continues to increase our control over human nature.

COULD CULTURAL EVOLUTION REPLACE BIOLOGICAL EVOLUTION?

Humans are bioculturally composite creatures; will transhumans also be? As technology grows in power over biology, will it eventually edge biology out entirely? Will second nature come to completely absorb first nature, precisely as brain "uploaders" desire to do, living free of biological substrate? In these extreme scenarios, biological evolution ceases and cultural evolution becomes the sole form of transhuman evolution.

How would natural law operate in a purely cultural system, with no biological "nature" to determine ethics? Would natural law become completely relativized? Up until now human nature has always implied at least some foundational biology. But perhaps even purely cultural/technological creatures will still have a metaphysical first nature (e.g., reason and will). Perhaps these traditional categories, which distinguish us from the rest of the animals, will be enhanced, or perhaps other categories added.

The schools of natural law theory would engage this situation differently. Rationalist natural law would likely see uploaded transhumans as still being essentially human or at least person, given that they consider the morally relevant aspect of human nature to be mental. In Christianity, rationality and personhood are not exclusively human traits: we share these traits with God, and the angels and demons—and so perhaps we could share them with nonbiological transhumans, too. Transhumans would be a new category of rational creatures, similar to humans by existing in physical matter, but unlike humans in that matter is a nonbiological artifact. As long as transhumans remained rational, rationalist natural law might not need to be fundamentally revised.

Conversely, physicalist natural law theorists would likely see uploaded transhumans as essentially different from normal humans because the uploaded entities would lack a biological body in which the biological parts have intrinsic teleologies. Instead, transhumans incorporating (or substituting) hardware into or for their beings would be radically physically underdetermined and morphologically open, even if they shared a continuity of mind with humans. Some physicalist natural law theorists might conclude that these transhumans share very little essential nature with humans or no longer have an essential nature, as they might change the physical aspects of their nature at will. Moral evaluation would be related to the full range of
possible actions, thereby greatly expanding moral responsibility—in Jesus’s words, “to whom much is given, much is expected.”

HOW WOULD HUMAN NATURE AND HUMAN WILL RELATE UNDER CONDITIONS OF RADICALLY MANIPULABLE NATURE?

Recalling the argument made by MacIntyre, ethics mediates nature and telos. Nature is our origin, telos our destiny, and ethics the way to move from the first to the second. But transhumans may have very different natures, and their destinies (bracketing out their supernatural ones) will be subject to their own choices. Does ethics become meaningless when origin and destiny are both subject to human will? Or does ethics merely become the subjective judgment of the individual transhuman, who is capable of shifting morphologies and teleologies at will?

For natural law to work, the entelechies (the built-in natural purposes or teloi) of creatures must be known. Being determines action because natural being is intrinsically teleological—nature aims toward something. If we can determine that transhumans still have a natural entelechy, then their ethics could be read from their natures, not their wills.

Most likely, the teloi of these new creatures will be survival and flourishing, as are the teloi for all life. But what is “flourishing” for transhumans? Natural law ethics posits some clear criteria for flourishing, presupposing the mandate that human will should be subordinated to nature, which expresses God’s providence. In our individualist and authority-resisting contemporary culture, higher authorities are often rejected, and subjective will becomes the measure of right and wrong, yielding a world of relativized morals. Under this relativistic ethic, nature and telos are subject to will, and morality would be whatever transhumans decide it to be. In most schools of natural law, in contrast, individual will does not actually affect one’s telos. In other words, individual expressivist self-actualization—a driving force behind transhumanism—would attract little consideration in the moral evaluations of most types of natural law. For example, one transhuman might desire enhanced mental capacities to pursue theoretical mathematics, but a natural law evaluation might conclude that this mental power instead ought to be used for helping the poor.

But let us not too hastily dismiss transhumanist aspirations as immoral abuses of the human will over nature. Some transhumans might want to help the poor. In our capacities to act, we are already at some distance from the ancients, and transhumanists are merely pursuing this historical trajectory. Power applied to nature is not intrinsically immoral. Rather, power just gives us more indeterminacy of action and need for our will to guide us in places where our nature formerly did. The questions are how far to go and whether human nature is changed.
Aquinas identifies five inclinations in human nature: survive, reproduce, educate the young, live in society, and seek truth. Transhumanists might not share all these inclinations as they have been traditionally understood. For example, they may not need to reproduce biologically. They may just need to copy themselves electronically, thereby eliminating the need for education as well. Would their lack of need to fulfill this basic human inclination be "evil" or just unnecessary? Because they could have different natures, these inclinations might simply no longer apply to them. Whether transhumans would live in society is an open question. If they did not, then survival and truth seeking might be the only inclinations transhumanists have in common with regular humans. One could even survive without truth seeking (whatever "truth" might mean to transhumans), especially if one had sufficient entertainment. In contrast to a flourishing human society that fulfills these five inclinations, might a flourishing transhuman simply be one who is surviving and being entertained?

How would will and nature relate for transhumans? Will would be elevated to the level of a force of nature, like evolution, because will would have control over the transhuman's own nature. Transhumans would create themselves in their own images. Transhuman nature could become so malleable that nothing of biology is left, only cultural artifact and "being" itself, easily extinguished by willing suicide. This radically underdetermined nature would leave vast spaces for exploration by the human will. With open fields for origin (nature) and destiny (telos), ethics—at least natural law ethics—becomes very vague indeed.

Rationalistic natural law, similar to Kantianism, might still make sense in this context. Physicalist natural law, by comparison, would be very challenged to deal with this indeterminacy of nature. Kantian and utilitarian ethics might actually be more appropriate for transhumans than virtue ethics or natural law would, since under conditions of radical will and indeterminacy, habits of action and nature might become reduced. Theoretically, transhumans could be designed as non-habit-forming, purely rational, purely pleasure-seeking, or otherwise quite different beings from current humans. In turn, transhuman ethics might resemble contemporary attempts to create ethical codes for robots, especially military robots programmed with rules of engagement. Due to the peculiarities of our own neurophysiology, humans might be best suited to natural law and virtue ethics. However, robots, or analogously structured transhumans, having rather different natures (as entities programmed to follow rules), could find Kantianism and utilitarianism workable ethical systems. Would this make them more capable of wielding power responsibly, more vulnerable to strange errors of programming, or simply more alien and inscrutable?

Anthropologist Terrence Deacon, in a different context (the determinacy of brain plasticity), has called humanity "the degenerate ape," because we
need culture to complete our biology. Transhumanism seeks to extend this evolutionary trend toward lack of natural specificity and toward indeterminacy. In Thomistic/Aristotelian terms, the movement of the transhuman toward potency and away from actuality is not necessarily a gain in ontological stature, but instead could be a reduction. It can be interpreted as movement toward the feralness and wildness of indeterminacy, and away from being like God, who is actuality (Being) itself. In Aristotelian terms, the transhuman, in gaining power and reducing determinacy of action, tends toward nothingness instead of existence, because prime matter is pure potency, pure power, but with no actuality. Prime matter is, in fact, nothing at all—it does not exist. God, in contrast, is pure being, existence itself, pure act.

In exploring the power of the will, indeterminacy, and movements toward and away from God, it may be helpful to recall the story of the Garden of Eden and the Fall. In the story, humans grasp at what seems good, only to have it ultimately very seriously harm us. The power to “know” or to think that one knows and decides good and evil—to be indeterminate and free of limits, whether in the human or transhuman case—can be interpreted as making us worse off we are. Is transhumanism merely continuing the Fall? By choosing to “improve” upon nature, one effectively denies the goodness of God’s providence. God then becomes at best an unfamiliar question lost in the noise of power and at worst an adversary to be opposed at all costs. When one believes that one has become a god, what use is belief in a higher God? Yet how can one stand the idea that a higher God may yet exist that remains unattainable to the lower god that one is? The only solution is to pursue yet more power, in a never-ending quest to make the snake’s lie true. Regarding this pursuit, God rightly asks has humanity gone astray, “Where are you?” As we endeavor to make ourselves more like God, we simply slip further away.

A DYNAMIC ETHIC FOR A DYNAMIC NATURE

Given the possibility of this Edenic danger, what are humans to do? Practically speaking, the fruit is too tempting; it will be seized. After all, with the discovery of nakedness after the fall, technology (clothing) seemed the automatic response. What can be done to mitigate the dangers that will come with seizing this power and indeterminacy? What should be our new ethic?

First, we need to know ourselves. We can do this by synthesizing data and theory from psychology, anthropology, and evolutionary biology, as well as history, culture, and the humanities. This is not a task with a clear conclusion. We will not get a perfect idea of human nature, only a “good enough” idea—and even then, differing conclusions will be possible.

We also need to think about our human telos. What is the human telos? As mentioned earlier, Aquinas supplies five basics: survive, reproduce, educate the young, live in society, and seek truth. A functioning society that fulfills
these bare minima has achieved a minimal telos. Beyond that, fulfilling them virtuously is the next step, culminating for those humanistically inclined with the good political community, and for those theologically inclined, with God.

With nature (as found by science) and telos (as found by philosophy) in hand, and despite the likelihood of continuing disagreements between factions, we can return to theological ethics—specifically, the virtues necessary to pass from nature to telos, from who we are to who we are meant to be. For the near future, at least, these virtues will be similar to the ones we already know, but with expanded scope for action and, therefore, responsibility. For example, for the sake of prudence we will need not only to look to our actions here and now, but also to seek the good in our collective actions over long periods of time. Conversely, our vices will become more destructive. In the past, gluttony was merely stuffing oneself with food; now, with fertilizers and feedlots, we first fatten our corn, then our cattle, and finally ourselves, in a growing cascade of consumption.

Likewise, notions of sin will need expansion to match the expanded scope of potential for sin. Sins of commission will likely become more or less serious depending on at least two factors. They will become more serious as our power makes us more capable of committing gravely wrong acts. Also, as our knowledge of the effects of our actions grow, we will become more responsible for our sins because we ought to know better. Conversely, our sins of commission may become less serious because the effects of our actions will become less predictable (especially in aggregate and cumulative form), therefore lowering our culpability (although we ought to anticipate this unpredictability and plan accordingly), at least until we realize what we are doing (as has occurred with knowledge of anthropogenic climate change). Similarly, as the effects of our collective acts become clearer to us, every act may end up becoming mildly evil, including, for example, eating and driving. Sins of omission will become more serious as well, because in our expanded power, failure to act makes us more responsible for the evils we fail to prevent.

What are the potential new directions for natural law ethics in this dynamic context? Based on the discussion in this chapter, I suggest three needs for a future natural law ethic. First, we should watch human nature itself, particularly human potential for action. Because action follows being, as our potential for action changes, our being may be changing as well. Second, we should keep our eyes on the minimal telei: survival, reproduction, education, living in society, and seeking truth. Without these guideposts, we will not know where to direct our moral efforts. Third, if ethics is a journey from nature to telos, from origin to destiny, then as the metaphorical locations of our natures and telei change, we will need new maps and routes to proceed from origin to destiny. This is ethics like space travel, where both origin and destination are in motion, so the course must be set with great care.
As we proceed on this journey, Hans Jonas's imperative of responsibility—to protect the very possibility of morality itself, by protecting the existence of humanity from existential dangers—should be our first commandment. Our second commandment, as Jonas notes, should be to live well—that is, to live morally flourishing lives. This goal requires that we look for new dangers to avoid as well as for new opportunities for new goods to pursue.

The idea that action follows being, combined with our modern technology changing our scope of action, means that human nature may be changing, and that ethical norms should also change. Natural law's particular norms may be unstable, yet this will not likely loosen the strictures of natural law's norms, making more things permissible (as we grow in power). Rather, it will necessitate that norms be tightened as our power grows, forbidding more actions, lest we cause unimaginable harms. Ultimately, words like "looser" and "tighter" may just be misleading; ethical norms might simply need to be different, as befits creatures with different natures.

CONCLUSION

When considering how transhumanism and natural law ethics relate and whether transhumanism will force changes in natural law theory, the answers to the questions depend on what one means by "natural law." If one means the approach itself, then no, it will remain immutable; action will always follow being, and ethics can always be based on that, no matter how indeterminate nature may become or how relatively useless (given that indeterminacy) the method may become. Conversely, if by natural law one means the normative conclusions of natural law, then these will indeed change in their specifics, depending on just how different transhumans become (as Jonas asserts that human norms already should have changed). Individual schools of natural law will also need to adapt differently to various transhumanist manipulations, with rationalist natural law adapting more easily than its physicalist counterpart.

Aquinas never had to worry about what the implications of changing human nature would mean for natural law, so he never had to think about what to do if human nature actually did start changing. We no longer have that luxury; we need to figure out what to do or we may accidentally destroy ourselves and devastate the earth. Anthropogenic global warming and nuclear weapons are symptoms of this power without thought, and nanotechnology, synthetic biology, artificial intelligence, and other technologies are fast joining that list. We seek these powers because we find God's providence insufficient, but is the insufficiency in God or in ourselves, in our own choices and second natures gone astray? How we answer that question may determine how sympathetic we will be toward transhumanism. Transhumanism, at the very least, presents incredible thought experiments for ethical theorists,
but as we continue to grow in power some of these thoughts will become realities.

NOTES


7. Aquinas, Summa Theologiae, 1009–1015 (I–II, 94.2, 94.4, 95.2).