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Transitional Humanity

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> *It is a loathsome and cruel trick that nature takes such an exquisitely wondrous creation as the human brain and imprisons it inside the weak, inefficient, fragile, and short-lived structure that is the human body.... The body you now inhabit, however remarkable it may be, is not the product of intelligent design. It was not created for any purpose other than survival and reproduction.*
>
> –Mike Treder

> *They who wait for the LORD shall renew their strength,*
> *they shall mount up with wings like eagles,*
> *they shall run and not be weary,*
> *they shall walk and not faint.*
>
> –Isaiah 40:31

If you're under age 30, it is likely that you will be able to live as long as you want." That was the message *Reason* magazine's Ronald Bailey took away from a Longevity Summit convened in November 2009. Bringing together "scientists, entrepreneurs, and visionaries"—all of them dedicated to achieving indefinite extension of human life within the next few decades—the Summit included reports on a wide range of possible means to that goal. The desirability of the goal was, of course, taken for granted.

The idea is to survive long enough to be around when hoped-for technological advances will make possible indefinite extension of life. Bailey reports that Ray Kurzweil, one of the visionary thinkers committed to this goal, stated at the summit that within roughly fifteen years we may have advanced to a point where we can add "more than one year of longevity per year to remaining life expectancy"—thereby getting out in front of time's relentless arrow. This is what Aubrey de Grey, another prominent advocate of biotechnological life extension, has characterized as "longevity

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escape velocity": when one's projected date of death moves farther away rather than nearer. The same idea is captured in the subtitle of the 2004 book *Fantastic Voyage*, coauthored by Kurzweil and Terry Grossman: *Live Long Enough to Live Forever.*

For the moment, this means taking some rather conventional steps—diet, exercise, stress reduction—though, to be sure, taking them with intensity. But if we are fortunate, these steps will keep us in good health into a coming era of biotechnological advance, in which regenerative medicine can ceaselessly repair the accumulated damage in our bodies that is the mark of aging. This repair may take many forms—chromosome replacement, regenerative medicine using cloned stem cells, drugs that mimic the effects of caloric restriction or that lengthen telomeres. Finally, these forms of biological repair may, we are told, help us survive into a time when the human body as we know it will have become obsolete—a time in which it will be possible to map the brain and preserve its information (and, thereby, our identity) in ways no longer dependent on organic bodies, which will then give way to a "virtual" existence.

These hopes and expectations are captured succinctly in the Transhumanist Declaration, first drawn up in 1998 and most recently revised in 2009: "We envision the possibility of broadening human potential by overcoming aging, cognitive shortcomings, involuntary suffering, and our confinement to planet Earth." Were this vision actually to play out in our history, we would live through a transitional humanity on its way to something that would truly deserve to be called posthumanity. I confess to doubting the likelihood of at least a good bit of what is promised by such visionaries, but we will not waste our time if we think about their hopes. For even if much of this turns out to be a pipe dream, the fact that some among us think it desirable is reason enough for us to pay attention. What we hope for tells us a great deal about who we are.

Some of these attempts to extend life probably fall under the rubric of "enhancement," a by now familiar topic in bioethical discussion of issues such as cosmetic surgery, mood-brightening drugs, and "designer" babies. Once, however, our target becomes not only the average but also the maximum life span, it becomes harder to think that we are simply enhancing capacities already in place. On the contrary, we are aiming at something genuinely new, something it is difficult to contemplate or evaluate with our normal ways of thinking, focused, as they are, simply on benefits and harms. We are forced to think about the kind of people we are and should strive to be—about what will truly help us to flourish as human beings. Most importantly, perhaps, we must come to terms with our nature as

organisms, as bodies that limit us in countless ways and limit our days. Is that just an unfortunate (and, we may hope, temporary) fact, to be overcome first in ageless, organic bodies and then even in virtual, inorganic ones? Or shall we say, as the Creator of animals and man does in Genesis, that this embodied life is "very good"?

Posthuman Persons

Duke University literature professor Katherine Hayles has captured the idea of posthumanity nicely, characterizing it in her book *How We Became Posthuman* (1999) as assuming (1) that "informational patterns" (such as those in the human brain) are more important than their "material instantiation" (in the brain itself); (2) that consciousness is an epiphenomenon caused by and reducible to brain activity; (3) that the body is our first prosthesis (that is, something used by the self rather than integral to our selfhood); and (4) that there is no essential difference between bodies and computer simulations, between organisms and mechanisms.

Pushed to its limits, the idea is that we should think of the computer as a model for humanity and think of life itself as (at least potentially) artificial. We ourselves, therefore, are essentially patterns of information. For the time being those patterns are housed in bodies—though, alas, bodies that age—which serve as our prostheses, as artificial limbs used by our brains. A day may come, however, when the particular information pattern that is you or me can be carried by some new prosthesis, a "body" that, being inorganic, will not age and will offer us the chance for a kind of immortality. Indeed, if the information stored in the brain could somehow be extracted and transferred to a computer, we might even imagine making backup copies of ourselves. This would, in transhumanist blogger and activist Mike Treder's words, "make us effectively immortal, as we could store copies of ourselves in places all over the solar system, the galaxy, or eventually even beyond."

Although I doubt the feasibility of such visions and do not expect them to be realized, I do not think they are as strange or unusual as one might at first suppose. Already in the first decades of the twentieth century, thinkers such as H. G. Wells, George Bernard Shaw, J. B. S. Haldane, and Julian Huxley thought seriously—and optimistically—about the pursuit of immortality. C. S. Lewis was less optimistic, and his alternative vision pinpoints the crucial disagreements.

In *That Hideous Strength*, Lewis envisioned a research institute, the National Institute of Co-ordinated Experiments (N.I.C.E.), whose research

aims, though not its methods, anticipate visions of posthumanity. The leaders of N.I.C.E. believe that the modern scientific project of controlling nature has reached a point at which humanity itself must now become yet another natural object to be reshaped in service of our desires. This project involves the overcoming of all organic life. Professor Filostrato, a physiologist, looks forward to a day when, for instance, artificial metal trees will replace living ones. This strikes him as a far more rational approach. If one tires of a tree in one place, one simply has it moved to a new location. "It never dies. No leaves to fall, no twigs, no birds building nests, no muck and mess."

Applied to humanity, the lesson is clear. Organic life, having done its work in producing mind, is no longer needed. Death must be overcome and reproduction transformed into a technological project. For Lewis, of course, this is hardly a desirable future, and N.I.C.E. is satirized throughout *That Hideous Strength.* Beyond and beneath the satire, however, is a serious concern. "Dreams of the far future destiny of man were dragging up from its shallow and unquiet grave the old dream of Man as God." Over against that old dream Lewis sets a vision of human dignity that accepts the limits of organic life—including aging and death—as limits to be affirmed and honored. Human beings are not simply isolated principles of will committed to indefinite self-transcendence.

The alternatives and the fundamental argument remain much the same today. We have, in recent decades, increasingly taught ourselves to think in ways that cohere with transhumanist aims. For example, it has become quite common (especially in discussions about the beginning and the end of life) to distinguish between the class of *human beings* and a narrower class of *persons* (who are thought to be characterized by certain capacities dependent upon the higher, neocortical functions of the brain). If one thinks that way, and if one thinks it is persons that really matter, one might say, with Roland Puccetti in a 1978 essay, that "conquest of death" requires "indefinite prolongation of neocortical function." For without such function, Puccetti thinks, one's continued existence would have no value.

The catch is, of course, that for now a body is required to sustain those brain functions, and that body will grow old and eventually die. "But must we have bodies?" Puccetti thinks not: "an intact human brain kept *in vitro* but nourished by a properly oxygenated and glucose-supplied blood flow mechanically pumped into it through the severed arteries could support conscious life." (This is exactly the stage of technological experiment to which the N.I.C.E. has advanced in Lewis's story.) Of course,

such an isolated brain, though it could have memories of its past (bodily) history, could have no future—could not continue to act and engage the world—unless it had some prosthesis, some new "body" through which to carry on exchange with its surrounding environment. But if this were a material body of the sort we now inhabit, it would still age and die. Hence, Puccetti is drawn to hope for something different. "The idea of escaping the evolutionary limitations of our present bodies by having our brains transplanted at postmaturity into bodies which, being inorganic, do not age or deteriorate, has a *prima facie* attractiveness about it."

This vision of personhood draws on deeper roots in the modern liberal tradition, which has taught us to think of ourselves as *possessing* rather than *being* a body. "Although," as Katherine Hayles notes, "in many ways the posthuman deconstructs the liberal humanist subject, it…shares with its predecessor an emphasis on cognition rather than embodiment." And, as Francis Fukuyama observes, Kant believed that the moral norms authorized by his ethical theory would apply not just to human beings—embodied creatures of a certain sort—but also to any and all rational agents. The body both locates and, simultaneously, limits us. Desire is bound to time and place, to the nature of organic life, and cannot be entirely free. It becomes apparent, therefore, that the desire to live forever is, in fact, a desire to be located "everywhere and nowhere." The modern alternative, which Kant so brilliantly developed, unfetters desire and focuses on the freedom of disembodied will to realize itself over against all the ordinary marks (sex, kinship ties, stages of life) of human, personal identity.

But the target of transhumanists is not simply death. More precisely, the target is death we have not chosen. The introduction to *The Scientific Conquest of Death*, the Immortality Institute's reader, puts it succinctly: "The mission of the Immortality Institute is to conquer the blight of involuntary death." Not to be in control, to suffer the limits of a fate we have not chosen—that is the enemy. The goal of indefinite life extension is not so much in service of particular loves or projects as it is in service of one indefinitely expansive desire—to become agents who are not at the mercy of forces beyond our own control, in particular, the forces of decline and decay that are built into the very nature of organic life.

Beings and Brains

The desire for such total control draws us into thinking of ourselves in a way that misses important aspects of our humanity. The posthumanist

vision begins with a thoroughgoing commitment to materialistic reductionism, in order to re-imagine human beings as immaterial—as utterly disembodied. We are, according to this view, what our brains do. Mind and personal identity are located in the pattern of information housed in the brain, and our memories and emotions are simply the behavior of its nerve cells. Having reduced mind to that, we can then imagine the possibility of transferring it to a computer program, where the "self" would remain in entirely immaterial form.

Philosopher Alva Noë has noted that this way of thinking presupposes that consciousness is a process internal to the brain in the way digestion is to the stomach, and he graphically captures what it means for our conception of humanity: "What are we then? If the truth be told, we are brains in vats on life support. Our skulls are the vats and our bodies the life-support systems that keep us going." I will follow him here in noting three closely related reasons why this way of thinking about the identity of human persons cannot be adequate.

Brains in vats with bodies for life-support systems, for whom consciousness is more like digestion than dancing, cannot have our experience of being purposive agents in the world. For, as Noë puts it, consciousness is the way we live in and respond to our surrounding world; it is something we achieve, not something that just happens to us or in us. Human beings—in fact, living organisms generally—are not simply mechanisms but are relational from the start. Even so simple a being as a bacterium can be understood only when we "appreciate its integrity as an individual agent, as a bearer of interests and needs." It "has a world; that is to say, it has a relationship with its surroundings." Hence, rather than thinking of it as just a place where physical and chemical processes take place, we have to discern "its primitive agency, its possession of interests, needs, and point of view"—which is to say, its "incipient mindfulness." Surely, then, the more complex organism that is a human being is not simply a mechanical process to be understood in terms of physics and chemistry alone. Even if one eliminates all teleology from the universe and supposes that our world and its evolutionary history have no purpose, it seems to have produced living beings who do have purposes and who act as agents in the world.

A second way to come at this same point is to remind ourselves that it is not the brain that thinks, though we may often talk in ways which suggest that it is. After all, we also often talk as if we see with our eyes, when, in fact, it is the living being who sees, not simply a pair of eyes. More than a century ago, William James already noted that we should not think

of the brain producing thought in the way a tea kettle produces steam. Rather, James suggested, we might think of how the keys of an organ open its pipes to let air through but do not produce the columns of air through the pipes or the sounds. Or, to take an analogy offered by philosopher Stephen Clark: If we damage the internal workings of a television set, the programs shown will be affected. That does not mean, however, that it is the television that is generating those programs.

As sight is not located in the optic nerve, so thought is not located in the brain. Hence, Noë argues, when we picture the brain somehow examining its own contents in order to process that information (and, in effect, think about itself), we tacitly smuggle into the picture something else, some subject that transcends itself. But that's what consciousness is! "The mind is not in the head," and the self-conscious, self-transcending subject is constantly engaging with, living in, and responding to the world around him. There, and not in the brain's nerve cells, is the thinker.

Finally, suppose we thought it possible to upload into a computer the pattern of information that constitutes our mind, thereby preserving our identity in a new form. In thinking that way, we adopt toward ourselves and others a position of detachment—as if "we" simply were, without remainder, a physiological pattern of behavior that could be observed and charted. But this is a theory that cannot be lived. We cannot think about ourselves or others from that detached standpoint while simultaneously sharing life with them as we do. To see this, we need only imagine the impossibility of loving another person while, at the same time, trying to think about ourselves loving them. Lover and beloved share a world, and in that world they know each other as mindful persons, not as patterns of behavior. "Like the baby in relation to her mother," Noë writes, "we are involved with each other. It is our joint cohabitation that secures our living consciousness for each other." To suppose that we could preserve our identity in the form of a computerized pattern of information is to adopt toward ourselves the kind of detached standpoint that loses this living, bodily engagement with the world that simply *is* the mindful self. Hence, we cannot coherently think of ourselves in the way the posthumanist project recommends.

Life's Banquet

These epistemological failings should spur us to anticipate related moral failings. If the transhumanist project were the only route to more life, to an indefinitely prolonged existence, the price of success might be the loss

of our humanity. Even on purely naturalistic grounds we might wonder whether the indefinitely extended existence for which transhumanists hope does not lose important aspects of a characteristically human life—in particular, its shape and contours. To have parents, as we all do—or to be the parent of sons and daughters, as many of us are—is to be embedded in a series of temporal relationships that involve not only coming into being but also going out of being. The relation between the generations shapes a life in which moments of time are not simply identical. Some are more "moment-ous" than others, giving to life a trajectory that has a beginning, middle, and end. Thus, our lives have a narrative shape, making our experience something other than a succession of bare, momentary presents. This means that growing old is not just a matter of biology; it has social, psychic, and religious dimensions. Memory and anticipation have their primary bodily location in our connection to our parents and our children, and it is hard to know what human experience would look or feel like—or whether it would really be *human* experience—were our lives not embedded in the bonds that produce stages within life and give the whole of it a narrative shape.

One very old way of depicting that shape is to picture life as a banquet, with a succession of courses through which one proceeds—and also, to be sure, having a stopping point beyond which the banquet cannot be prolonged without destroying its pleasure. Both host and guest at such a banquet must be able to acknowledge limits—recognizing that, while these limits may suffuse the end of the banquet or even the whole of it with a touch of fragility and sadness, they cannot destroy its goodness. Consider professor of religion David H. Smith's depiction of the good host:

> A couple invite friends to dinner. Food and drink are pleasant; the conversation bubbles. The good host is hospitable and courteous to his guest, no matter what his shifts in mood. But there comes a time when the party "winds down"—a time to acknowledge that the evening is over. At that point, not easily determined by clock, conversation, or basal metabolism, the good host does not press his guest to stay, but lets him go. Indeed he may have to *signal* that it is acceptable to leave. A good host will never be sure of his timing and will never kick out his guest. His jurisdiction over the guest is limited to taking care and permitting departure.

When we think of life as such a banquet, a death that comes neither too soon nor too late—neither when the banquet is just getting started nor long after all have eaten their fill—may be thought fitting. It is, at

least, recognizably human in a way that posthumanist visions may not be. Moreover, this picture of a complete human life, with its acknowledgment and even affirmation of human limits, will have an undeniable nobility that is displayed in patience and humility. Its haunting beauty can be seen in a story Sydney Eddison recounts (in a book about gardening!) of the violinist Itzhak Perlman, who as a boy was struck with polio and who as a man must walk with the aid of leg braces and crutches:

> At a concert on the night of November 18, 1995, at Avery Fisher Hall in New York City, one of the strings of his violin suddenly snapped during the performance. Stunned, the audience held their collective breath, expecting Perlman to stop and leave the stage. Instead, he paused, then continued playing—adjusting, creating, compensating as he went along, and when he put down his bow at the end of the concert, a mighty roar of applause filled the hall. When it had died down, he spoke to the audience: "You know, sometimes it is the artist's task to find out how much music you can still make with what you have left."

One aspect of our nature is, however, missing from such a vision of life's banquet: namely, the eros that longs for God. Grounded in our freedom to transcend the natural course of organic life, this eros suggests a sense in which the banquet of life is never quite complete. When human life, in all its limits and vulnerability, remains open to the divine life, we can begin to see the power and meaning of the virtue of hope, which is quite different from transhumanist optimism about the future. Hope's ground is, to take up theologian David Kelsey's term, "eccentric." It looks for completion not to the natural course of life, nor to the achievements of human progress or history, but to the genuinely creative and re-creative power that is God's.

Humanity and Hope

"We are the creature that hopes," the political scientist Hugh Heclo writes. The importance—perhaps the necessity—of hope for human life has long been known. The Victorian painter G. F. Watts's *Hope* depicts a blindfolded woman holding a broken lyre on which only one string remains; yet that one string is evidently intended to evoke hope in those who view the painting, hope that there is music still to be made. Watts is drawing on classical mythology's depiction of Pandora's jar, in which only hope remained after she had released into the world the evils inside it. Whatever precisely the myth means—and it may mean many things—hope can help us to flourish only if it is something other than mere expectation, optimism, or confidence. What we hope for tells us a good bit about who we are.

Confidence in progress has marked the modern period. The French *philosophe* Nicolas de Condorcet, one of the great thinkers of the Enlightenment, memorably expressed this confident expectation in his *Sketch for a Historical Picture of the Progress of the Human Mind.* (It is one of the ironies of history that he had to complete it while hiding from leaders of the Revolution, which had begun to devour its children.)

> We feel that the progress of preventive medicine as a preservative, made more effective by the progress of reason and social order, will eventually banish communicable or contagious illnesses and those diseases in general that originate in climate, food, and the nature of work. It would not be difficult to prove that this hope should extend to almost all other diseases, whose more remote causes will eventually be recognized. Would it be absurd now to suppose that the improvement of the human race should be regarded as capable of unlimited progress? That a time will come when death would result only from extraordinary accidents or the more and more gradual wearing out of vitality, and that, finally, the duration of the average interval between birth and wearing out has itself no specific limit whatsoever?

The historian Carl Becker famously argued (in his *Heavenly City of the Eighteenth-Century Philosophers*, 1932) that, despite some obvious differences, there was significant continuity between a faith such as Condorcet's in a good ending and the hope a thirteenth-century thinker such as Thomas Aquinas had for future salvation.

Where Becker was struck by continuities, we might, though, be more impressed by differences. Enlightenment thinkers such as Condorcet placed their hope not in God but in future generations of humanity—in, that is, more of the same. "Posterity would complete what the past and the present had begun." This is not a minor difference, for the hope in posterity was a confidence in human capacities and possibilities—in the expectation that we ourselves could overcome the fragility and vulnerability of human life. That sort of confident expectation about our future historical accomplishments loses something that was once central to—and may still be needed for—the virtue of hope.

St. Thomas distinguishes between a *comprehensor* and a *viator*. A *comprehensor* possesses—and cannot lose—the happiness he desires. A *viator*, by contrast, is always and only on the way to that desired end. Hence, we can only hope for what is not yet a permanent and present condition. Hope is possible only for those for whom life, however long, always seems less than complete—"those who are still en route" (*in viatoribus*).

En route to what? How we answer that question makes an enormous difference in how we understand hope. For Aquinas—as for the Christian tradition on which he drew—what human beings hope for is a lasting union with the God Who has shared our vulnerability and overcome it. Only the beauty and goodness of this God can catch the heart and hold it still, answering its deepest desire. Such Christian hope for beatitude is not a desire for more of this life, wonderful though it is; nor is it a desire even for a "complete life," however precisely we picture its shape; nor is it a desire for any human or posthuman future that we ourselves might fashion. Only if we were to stifle the human eros for God could we suppose that an extended longevity of our own making could ever lead us to imagine that we had arrived at the desired goal.

The relentless temporality of human life means that we are always incomplete, always *in viatoribus*, always on the way. Hope is the virtue that sustains us on the way toward the divine beauty and goodness—protecting us against a presumption which supposes that any of us could here and now become a *comprehensor*, as if an indefinitely extended earthly life, whether organic or virtual, could quench our longing; protecting us also against despair, against the temptation to make of our vulnerability a virtue. It moves us to desire something more than life's banquet, sumptuous as it may be, something other than just indefinitely more of the same life, and something more than the achievement of "longevity escape velocity." It enables us to wait for the strength to run and not be weary, to walk and not faint—a strength no research project can produce and which can only be received as a gift.