

TECHNOLOGY'S CHALLENGE TO DEMOCRACY: WHAT OF THE HUMAN?

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We do not know what our nature permits us to be.

J-J. Rousseau, *Emile*

PART I

Retrieving the normative significance of the question: What does it mean to be a human being?

To say, with Rousseau, that we do not *know* what our nature permits us to be, is to say that our status as natural beings underdetermines our status as normative beings—in other words, that “our nature” does not answer the question of what it means to be a human being, or dictate what it is that we should become. This is somewhat reassuring since it tells us that there is a domain of human freedom not dictated by our biological nature, but it is somewhat unnerving because it leaves uncomfortably open what kind of beings human beings could become. On the other hand, if the question of what it means to be human is unanswerable simply by an increase in knowledge, how is it to be answered? Put another way: What are we prepared to permit our nature to be? And on what basis should we give our permission?

One of the disturbing features of modern life is that we live in times in which it is no longer possible to know what to expect of the future based on what we now know of the past. All we can be sure of is that the future will not be much like the past we have known, and because historical time is constantly accelerating, it is a future that will arrive ever more quickly. The disorientation this causes, the disorientation that comes from living modernity's form of life, can become so intense and perplexing that we find it hard to contain our anxieties. We panic.

Prompted by the successful mapping of the human genome, and the consequent risks posed by genetic interventions into the basis of human life, the late Jacques Derrida, a philosopher renowned for, among other things, his extremely skeptical attitude towards apocalyptic thinking, expressed the following decidedly apocalyptic worry:

the risk that is run at this unique moment in the history of humanity is the risk of new crimes being committed against humanity and not only... against millions of real human beings as was [previously] the case, but a crime such that a sorcerer's apprentice who was very cunning, the author of potential genetic manipulations, might in the future commit or supply the means for committing... against man, against the very humanity of man, no longer against millions of representatives of real humanity but against the essence itself of humanity, against an idea, an essence, a figure of the human race, represented this time by a countless number of beings and generations to come.¹

A crime against the essence of humanity, irreversibly programmed to repeat itself over and over again from generation to generation, and so a crime against the very future of humanity? Now, that sounds pretty apocalyptic. What are we supposed to make of this? Should we say that Derrida panicked, unthinkingly reverting to an anthropocentric essentialism whose fierce critic he once was? Did the hyper-skeptical, hyper-critical master of deconstruction go soft in the end, revealing himself to be a sentimental “humanist,” still attached to the hoary old question, perhaps, the oldest philosophical question—the question of what it is to be a human being? Or is it the case that Derrida, along with a number of other philosophers, social scientists, and public intellectuals have awakened to the power of the new technologies—the power of genetics, nanotechnology, robotics, and synthetic biology—to radically and permanently alter what it is to be a human being, and to make what it was to be human potentially unrecognizable *as* human?_

Until the very recent past, the question of what it is to be a human being was treated as arcane, passé, a question that only thinkers with a conservative, essentialist bent would regard as philosophically obligatory. Today, on the other hand, it is “taking on, here, now, a terribly concrete and urgent form at an infinitely accelerated rate.”² So the question that was once so yesterday is all of a sudden a pressing question, a question absolutely pressed for time—since, evidently, the space in which it can still be meaningfully posed, and thus the space in which a meaningful response could be fashioned, is shrinking at an alarming rate.

The implication seems to be that we are quickly running out of time to retrieve the normative significance of this question, thus at risk of losing something absolutely fundamental to the self-understanding of human beings, and losing it before we even had a chance thoughtfully to articulate what it was. The loss would not be like the loss of a cultural treasure or some important historical document; for it would be something belonging to our self-understanding that we had lost, having become permanently disconnected from what we once were—whatever that was.

But is Derrida, or any other philosopher, for that matter, competent to judge the risks of the new technologies? Isn't this panicked response typical of the Luddite-like worries anxious humanists have expressed ever since Mary Shelley wrote *Frankenstein*? Certainly, Derrida is not the only one preoccupied with these worries. In a widely read article in *The Atlantic Monthly* and in a subsequent book with the same title, *The Case Against Perfection*, political philosopher Michael Sandel argues that if we allow genetic technologies to develop unchecked by anything other than such policies and regulations that minimize their risks and their misuse, we shall lose our sense of the “giftedness” of life, “leaving us with nothing to affirm or behold outside of our own will.”³

On the other side of the political spectrum from Sandel and Derrida, Francis Fukuyama, warns that the “transhumanist” aspiration to transcend the biological limits of human life is “the world's most dangerous idea.” For Fukuyama, transhumanism is not some wacko techno-utopian cult; rather, “it is implicit in much of the research agenda of biomedicine.”

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For the last several decades, a strange liberation movement has grown within the developed world. Its crusaders aim much higher than civil rights campaigners, feminists, or gay rights advocates. They want nothing less than to liberate the human race from its biological constraints. As “transhumanists” see it, humans must wrest their biological destiny from evolution’s blind process of random variation and adaptation and move to the next stage as a species... Nobody knows what technological possibilities will emerge for human self-modification. But we can already see the stirrings of Promethean desires in how we prescribe drugs to alter the behavior and personalities of our children. The environmental movement has taught us humility and respect for the integrity of nonhuman nature. We need a similar humility concerning our human nature. If we do not develop it soon, we may unwittingly invite the transhumanists to deface humanity with their genetic bulldozers and psychotropic shopping malls.⁴

Like Sandel, Fukuyama worries that the aspiration to biologically unfettered freedom expressed in transhumanism threatens us with the loss of something that our self-understanding as human beings requires: humility in face of the natural basis of human life.

There is no question that there is something deeply unsettling about the species altering potential of the new technologies. It was not that very long ago when the vision of the future being sketched by techno-visionaries such as Ray Kurzweil, Hans Moravec, Craig Venter, and Rodney Brooks, would have been treated as junk science, not as the informed statements of notable scientists, which these people are.

It is because the species-altering possibilities of the new technologies are no longer notional but real possibilities that another notable scientist, one of the pioneers of computer technology, decided to speak out in similarly alarming, apocalyptic tones. Bill Joy, co-founder and formerly head of research at Sun Microsystems, published an extremely controversial article early in the decade, entitled, “Why The Future Doesn’t Need Us,” in which he confessed that he hadn’t realized just how imminent was the practical realization of interlocking developments in the new sciences of genetics, robotics and nanotechnology. But a conversation with his friend Ray Kurzweil convinced him that, once again, thanks to Moore’s law, a law postulating and quite accurately predicting an exponential growth in computing power, brought rapidly closer a science fiction future stripped of the fiction. “It is in the nature of exponential growth,” writes Kurzweil in *The Age of Spiritual Machines*, “that events develop extremely slowly for extremely long periods of time, but as one glides through the knee of the curve, events erupt at an increasingly furious pace. And that is what we will experience as we enter the twenty-first century.”⁵ Apparently, we are in the knee of this curve, and what it portends is a not too distant future in which we more or less willingly replace ourselves with post-human beings superior to us.

It all sounds like a plot from something playing at the local multiplex, except that it comes from the mouths of serious scientists. For example, Rodney Brooks, the founder of MIT’s Humanoid Robotics Group confidently anticipates that “[t]hose of us alive today, over the course of our lifetimes, will morph ourselves into machines.”⁶ Hans Moravec, another leading roboticist, states matter-of-factly that biological species “almost never survive encounters with superior species.”⁷ Believing that he has seen the proverbial writing on the wall, Joy, or Kill Joy as he came to be called in Silicon Valley, proposed a policy of “relinquishment,” the purpose of which would “limit development of the technologies that are too dangerous, by limiting our pursuit of certain kinds of knowledge.”⁸ Unsurprisingly, Joy’s proposal sparked an indignant response from the great majority of his colleagues for whom placing limits on scientific and technological progress is a violation of their freedom to pursue truth and knowledge, and un-American, as well.

Joy is particularly terrified of the self-replicating power of a new class of engineered organisms, such as nanobots. The dangers of self-replication, sometimes referred to as the ‘gray goo’ problem, are widely acknowledged to be a frightening problem for which there is yet no solution in sight. It arises from the potentially uncontrollable self-replicating power of nanobots, high-powered micro-computers, capable of manipulating matter at the atomic level, and possessing the “urge” or “will” to preserve and, worse, to perpetuate their own kind. Since their

energy is produced by eating everyday materials, there is the real danger that due to faulty programming or the malicious mischief of “extreme individuals,” they might not just rest after doing what we want them to do, e.g., eat up a toxic tire dump; they might just go on to gobble all tires and all tire binders on the planet—or any other material they find tasty. Or, in the worst of all possible, but not improbable, scenarios, the little buggers could “consume the entire planet in a matter of weeks, including all the organic material on it.”⁹

In response to the ‘gray goo’ problem, nanoscientists have proposed solving it with ‘blue goo’—i.e., policebots that would detect and neutralize the badbots. This solution is riddled with technical problems that might turn out to be intractable. In any case, given that the Western world’s most advanced police and spy agencies have not yet been able to locate Osama bin Laden, a single, non-replicating individual, why should we expect that we could catch and destroy some rapidly replicating renegade nanobots before they could lay waste to the earth (apparently they would be able to do so in about three weeks’ time)?

While it is surely of interest to us when a prominent scientist’s conclusions about the nature of the apocalyptic threat posed by our new technologies accords with the alarmed conclusions of prominent philosophers, we philosophers do not have the competence to make confident judgments about the actual capabilities of the new technologies. As philosophers and as human beings, however, we do have a stake in the question of what it means to be a human being—now, and in the future. As such, we have an obligation to deepen our understanding of what it is that is actually threatened. It is time to initiate a public discussion on what it means to be human, and how reflection on this question can guide us in determining what kind of future we want for ourselves.

Scientific experts, market imperatives, and the culture of liberal democracy all contribute to a conceptual framework from within which it is extremely difficult to think about technological development except as the welcome expansion in the range of choice available to formally free and equal individuals. Individuals who, quite understandably, would like to have longer and healthier lives, who would also like to be smarter and stronger, not to mention more attractive. Individuals who, in general, would like to exercise greater and greater control over their lives, right down to the biological conditions of their existence. This is a powerful and attractive picture, so powerful and attractive that it makes it seem pointless or unnecessary to put into question the pace and direction of technological change.

Philosophers interested in initiating public reflection on the question of what it means to be a human being would not only have to combat this powerful picture, attractively fusing technological innovation with an expansion of the freedom of choice; they would also have to combat the anti-essentialism and anti-humanism that has become the default stance of 20th century European and Anglo-American philosophy. As I believe Derrida himself came to realize, we can no longer afford the luxury of knee-jerk anti-essentialism or unreflective anti-humanism. By remaining complacent and smug, we will let others decide the question of what it means to be a human being for us. Rodney Brooks speaks for just about everyone working in these new research programmes when he declares: “The current scientific view of living things is that they are machines whose components are biochemicals.”¹⁰ If the “current scientific view” is not contested or resisted, then the question of what it *means* to be a human being will be rendered otiose, deprived of all normative significance. When we regard ourselves as “machines whose components are biochemicals,” we not only presume to know what our nature permits us to be, but also that this knowledge permits us to answer the question of what is to become of us.

But even if we go against our late-modern skeptical inclinations and grant that the question of what it means to be a human being does possess normative significance, its practical public value for making sense of how we are to respond to the “dangerous issues now before us” is hardly obvious. Indeed, what normative force can this question have in a world as deeply pluralistic and antagonistic as ours? Given the plurality of visions of what counts as a good life for human beings, and the plurality of visions of what counts as distinctively human, we cannot expect convergence on a single final answer that could be accepted by all. So what can possibly be gained by publicly posing this question? Would it really have more practical value than dealing as soon as we can with the task of instituting the appropriate risk-reducing policies to regulate the new technologies?

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If the proponents of genetic engineering are right, we stand to gain a great deal from genetic science and synthetic biology: we may be able to overcome once for all our vulnerability to injury and premature death, to sickness, to physical deformities and psychological maladies, and, perhaps, to our very mortality. In short, we may be able to transcend the biological limits of human life. So why not drop the apocalyptic tone? Why not just relax, as our transhumanist interlocutors urge us to do, and see where the next stage of human evolution takes us? As a species we have already been through some pretty dramatic evolutionary changes, so why resist the next one? Why not get behind the project of genetic engineering, and focus our intellectual energies on what we must do to minimize the potential risks and harms by instituting appropriate policies and regulations?

Well, we might respond, how can any of us really believe that any of these new technologies will be safely and effectively regulated in light of all the evidence pointing to the inadequacies of our current regulatory systems with respect to the safety of the food we eat, the air we breathe, and the medication we take? These new technologies exceed the reach of any of our current regulatory mechanisms, since such mechanisms would have to be international and global in nature, requiring the agreement and compliance of all the nations on the earth, something we have not seen before. Think, Kyoto. Copenhagen. Or, more concretely, Vioxx, the anti-inflammatory drug that the U.S. Food and Drug Administration was reluctant to regulate during the five years the drug was on the market, until it was proven to have caused anywhere between 88,000 and 139,000 heart attacks, 30 to 40 percent of which were likely fatal.¹¹

Furthermore, there are too many new hybrid technologies to monitor and to regulate. Things are moving much too quickly to anticipate what needs to be done: whatever we do on the regulatory side will always be too late. For example, in the area of genetic engineering the kind of normative regulation that is being debated supposes firm and fixed boundaries between therapeutic and cosmetic interventions. But these boundaries are too fluid to be the basis upon which we could propose let alone enforce effective regulation. As Habermas puts it: “in the very dimension where boundaries are fluid we are supposed to draw and enforce clear-cut lines.”¹²

This is why the debate about these new technologies should not be restricted to a debate over appropriate normative regulation. That would be to lose the battle even before it began. The real debate should be over the question of what is to be human, and what is to become of the human. Otherwise we will have to accept a ready-made, undemocratically formulated answer to these questions. Surely we must be given an opportunity consent to, or dissent from, so spectacular and irreversible change as the alteration of our biochemical nature. But more importantly, we must be given an opportunity to pose the question ourselves, prior to having it settled by “experts,” scientific or otherwise.

PART II

Philosophy and The Future of Human Nature

As in the case of Derrida, faced with the advances in genetic, nano- and robotic technologies, Jürgen Habermas also found himself having to give up one of his strongest philosophical convictions: the “post-metaphysical” belief that philosophy had no business dealing with the question of what it is to be a human being. That question had no place in the modern world, apparently for the very reason that it could not be answered. Awakening from his most recent dogmatic slumber,¹³ Habermas came to realize that this question had now acquired an urgency that no one, at least, no philosopher, could have predicted. Thus, in his book, *The Future of Human Nature*, he breathlessly announced that the new genetic technologies “make a public discourse on the right understanding of cultural forms of life in general an urgent matter. And philosophers no longer have any good reasons for leaving such a dispute to biologists and engineers intoxicated by science fiction.”¹⁴

Most surely, philosophers should be part of “a public discourse on the right understanding of cultural forms of life in general,” and most surely this is “an urgent matter.” But there were *never* any good reasons for philosophy to have given up its interest, its stake, in this question. Having forsaken the question of what it means to be a human being, what can philosophy have to contribute to it now that it is ready to step into the breach

again? Just what does it have to say that is worth saying, and worth hearing? For Habermas, what needs to be said and heard concerns a set of distinctions that he considers essential to the self-understanding of human agents, essential to their understanding *as* agents: the distinction between having a body and being a body, between what is born and what is made, between organic and manufactured life. Genetic interventions into the biological basis of human life made possible by the mapping of the human genome threaten to collapse these distinctions, and, therefore, to also undermine those distinctions upon which depends our understanding of ourselves as peculiarly human agents. Because of the nature of these new and unprecedented interventions “what hitherto was ‘given’ as organic nature, and could at most be ‘bred’, now shifts to the realm of artifacts and their production ... even the human organism is drawn into this sphere of intervention.”¹⁵

Thus, Habermas believes philosophy’s most important response to the challenge of the new technologies is to shore up the threatened distinctions, and to reassert them in a form necessary to keep firm the normative and ontological boundary between “the nature that we ‘are’ and the organic endowments we ‘give’ to ourselves.”¹⁶ Ultimately, what is at stake is the boundary “between persons and things.”¹⁷ However, it appears that Habermas has forgotten just how difficult it now is to maintain boundaries “in the very dimension where boundaries are fluid.” I do not have the space here to treat in detail why Habermas’s attempt to redraw these distinctions fails to be convincing. My impression is that he has rushed, in understandable haste, to answer the question of “the right understanding of cultural forms of life in general.”

We need collectively to go deeper than this, and to reflect more fully, publicly, on what it is that is fundamental to our humanity. To go further with our reflections might just mean taking much less for granted about long-held distinctions. Take for example the boundary between persons and things. Not only has this boundary been progressively blurred since Descartes and the ontology of the emergent sciences of the 17th century. We have accelerated the process insofar as we take for granted that an instrumental attitude toward things as such, to all things, is normatively acceptable. So the Kantian distinction between persons and things, ends and means, already concedes too much to this process which cannot but bring about the thing-like instrumentalization of human nature. What we need to think about, then, is not how to reassert more convincingly the distinction between persons and things, but how to rediscover the rich field of *connections* between persons and things, showing their mutual interdependence and imbrication. It would be ironic, would it not, if it were necessary to redeem the being of things in order to redeem human being?

It is not hard to see that there is an elective affinity between modern naturalism and modern liberalism: the former aims to reduce human agency, mindedness, reason, and the whole realm of the normative to causal laws, appealing to whatever currently trendy science facilitates such reduction—be it cognitive science, cybernetics, sociobiology, or evolutionary psychology; while the latter aims to reduce evaluative questions of the good life to matters of individual choice. Together they are meaning destroying systems.

Part of the proof of this claim can be found in the position of the humanities today, the very enterprises that take the meaning and fate of the human as their object of inquiry. At a time when the legitimacy and value of the humanities are being undermined not so much by self-crippling forms of relativism and skepticism (although they too play a role), as by the insidious commercialization of the university, forcibly accelerated by neo-liberal and neo-conservative regimes, themselves willing agents of market forces, there is now the risk, eloquently stated by Bernard Williams, “that the whole humanistic enterprise of trying to understand ourselves is coming to seem peculiar . . . to a point at which any more reflective enquiry may come to seem unnecessary and archaic, something that is best preserved as part of the heritage industry.”¹⁸

The risk is such that philosophy cannot afford to take its own future for granted: it is as endangered as any other of the humanities so long as it identifies with them. The more philosophy identifies with the lifeworld, and with the merely human, the more it is endangered. But the more philosophy identifies with the merely human, the more able it is to respond to what threatens the human. This does not mean rejecting science, for that would be like those of our colleagues, the majority of our colleagues, who reject the humanities and identify the task

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of philosophy with the task of the sciences. What we need is to work with those in the sciences who are also dissatisfied with the restrictive ontology of naturalism, and who would like to create with us a *counter-science of the human*. While it is true that philosophy cannot provide “generally binding directives concerning the meaning of life,”¹⁹ as one of the humanities it can contribute to disclosing *the life of meaning*, human meaning, upon which we depend to make sense of things and ourselves.

PART III

Towards a Counter Science of the Human: The Concept of the Person

In a fallibilistic spirit, without beginning from ahistorical or essentialist premises, just what can we say is distinctive (but not necessarily exclusive) to human forms of life? And what normative implications could we derive from the unavoidably tenuous and contestable attempt to state what it is? A number of philosophers, e.g., Harry Frankfurt, Charles Taylor, Stanley Cavell, Wilfrid Sellars, and Ernst Tugendhat, among others, have focused on the concept of the person as a key to what is distinctive to human forms of life. Departing from the empiricist tradition for which being a person requires only continuous consciousness and the possession of a body in which it is housed, they propose a non-reductive concept of the person as a being for whom things matter, and matter in a peculiarly human way.

Once “mattering” displaces “consciousness” as the key criterion for personal identity, it is no longer easy to assimilate human beings to living machines, to things that think, for consciousness is no longer primary.²⁰ But it is *easier* to think about the connection between the concept of the person and what it means to be a human being in a new way, free from anti-humanist skepticism and dogmatic naturalism. As Harry Frankfurt pointed out, the empiricist conception of the person which dominates Anglo-American philosophy to this day, not only diminishes the philosophical vocabulary we need for making sense of persons, it is incapable of grasping the intimate connection between what it is to be a person and what it is to be a human being:

It might have been expected that no problem would be of more central and persistent concern to philosophers than that of understanding what we ourselves essentially are. Yet this problem is so generally neglected that it has been possible to make off with its very name almost without being noticed and evidently, without evoking any widespread feeling of loss.²¹

It is a very short walk indeed from the empiricist/naturalist conception of the person to the one presumed by transhumanism's proponents. Consider the neo-Humean view of the transhumanist bioethicist James Hughes. Hughes effectively arrived at Hume's conclusions about the fictional status of the self and of consciousness, not through philosophical thought experiments but “brain research.” Hughes does not entertain even the remotest doubt that the premises of both inquiries are wrong to begin with. This makes his dreamy speculations all the wobblier for remaining conceptually dependent on the very same picture of the person, for which consciousness is primary:

Despite our every instinct to the contrary, there is one thing that consciousness is not: some entity deep inside the brain that corresponds to the ‘self,’ some kernel of awareness that runs the show, as the ‘man behind the curtain’ manipulated the illusion...in *The Wizard of Oz*. After more than a century of looking for it, brain researchers have long since concluded that there is no conceivable place for such a self to be located in the physical brain, and that it simply doesn't exist.

Just as technology drives us to clarify that we value continuous, discrete self-aware persons more than the biological platforms they come on, so it will also force us to acknowledge that continuous, discrete personhood is a fiction.

Neuroremediation technology and brain-computer interfaces will erode the apparent boundaries and continuity of the self, and the autonomy of the individual and her decisions.

Threats to the self will develop in many areas. Our control over the brain will slowly make clear that cognition, memory and personal identity are actually many processes that can be disaggregated. We will have increasing control over our own personalities and memories. Full nanorobotic replication of the mental process opens the possibility of identity cloning, distributing one's identity over multiple platforms, [the] sharing of mental components with others, and the merging of several individuals into one identity.²²

One can only wonder at the motivation that lies behind these speculations. It is sufficiently obvious, however, that the wish that wants to come true here is for a disembodied form of existence, central to the image of the human in Descartes and empiricism. As “ghosts” in ever-substitutable “shells,” happily downloading our “consciousness” across multiple platforms, freed from the prison of our “biological platforms,” we will be as little children again, arranging and re-arranging our personal identities as we once arranged and re-arranged our Lego blocks.

But what if personal identity is not in the head, not in the brain, and not something that can be extracted from the life history of an individual, rendered discrete, and subject to manipulable processes as is any mere “object”? What if personal identity is constituted in, and sustained through, our relations with others, such that were we to erase our relations with our significant others we would also erase the conditions of our self-intelligibility? As it turns out, this erasure, motivated by the wish for painless disembodied existence, is precisely what is experimentally dramatized in the “science fiction” film, *Eternal Sunshine of the Spotless Mind*, a far more philosophically sophisticated meditation on personal identity than is found in most of the contemporary literature on the topic.

So who is dealing in science fiction? we might ask. Indeed, if philosophers had not given up their interest in the question of what it means to be a human being they would have noticed that the future written about by the great science fiction writers from Philip K. Dick to William Gibson is not anything like the “utopian” future imagined by the transhumanists. The great science fiction writers transform the under-complex and naïve utopian dreams of the transhumanists into dark, unsettling dystopias, to give us pause, to make us more circumspect about the future toward which we are being pulled, and the kind of beings we are becoming.

It is not at all the case that the “biologists and engineers” to whom Habermas referred are intoxicated by science fiction, since intoxication is not what is being offered by this genre of fiction. Rather, they are intoxicated by the potential power—material, symbolic, and economic—of the new technologies to release us from the pain of embodiment. They are intoxicated by an old dream, an Enlightenment dream, perhaps, of complete dominion and mastery over nature, through which humans would be finally liberated from nature, once and for all. Perhaps, we could call this one of the *fictions of science*, at least this particular strain of science, captive to a naturalistic ontology whose “unconscious” fantasy life is the corollary of its reductive view of the person.

Habermas, to his great credit, has been keenly sensitive to the way in which the *naturalisation of the mind* that underlies these transhumanist fantasies and the research programmes from which they arise is co-extensive with the *desocialisation of the person*. As soon as we subsume our description of persons into the “extensional concepts of physics, neurophysiology, or evolutionary psychology,”²³ we effectively desocialize the person, removing the person from the very context, the context of a shared form of life, from which the concept gets its sense and only in which it can be meaningfully applied. Put another way: there are no *second persons* in the transhumanist/naturalist ontology, only first persons. It is a thoroughly fictional (and conceptually incoherent) world of *I's* without *thou's*—not a world in which persons “may call upon one another to account for themselves,”²⁴ persons before whom we disclose and justify ourselves. And the site of all this is the *everyday* world in which we encounter one another as second persons:

Understanding the yes or no of the other, the contestable statements we owe and expect from one another, is bound up with this attitude toward second persons. The awareness of authorship implying

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accountability is the core of our self-understanding, disclosed only to the perspective of a participant, but eluding revisionary scientific description. The scientific belief in a science which will not only supplement, but *replace* the self-understanding of actors as persons is not science, but bad philosophy.²⁵

Unfortunately, a lot of bad science follows from bad philosophy. In this case, what they both have in common is the wish to escape the intersubjective conditions of human forms of life. It is as if they both begin from the same premise famously uttered in Sartre's play, *No Exit*: "Hell is other people." And from this premise they arrive at the conclusion that Heaven would mean *no* others, no others who would make demands on us, who would demand we justify ourselves; no others who would challenge us, resist and undermine us, who would stand in our way, and oppress us. Well, yes, Hell is other people, *but Heaven is too*.²⁶ It would seem that the one does not come without the other, for that is what it is to live under the enabling and disabling constraints of a human form of life.

In his quasi-Hegelian vision of human morality, Habermas partially captures the complex intersubjective conditions from which it arises. These are conditions of finitude, we might say, that Habermas acknowledges in his description of human incompleteness and human interdependence:

I conceive of moral behavior as a constructive response to the dependencies rooted in the incompleteness of our organic makeup and in the persistent frailty (most felt in the phases of childhood, illness, and old age) of our bodily existence. Normative regulation of interpersonal relations may be seen as a porous shell protecting a vulnerable body, and the person incorporated in this body, from the contingencies they are exposed to. Moral rules are fragile constructions protecting *both* the *physis* from bodily injuries and the person from inner or symbolical injuries. Subjectivity, being what makes the human body a soul-possessing receptacle of the spirit, is itself constituted through intersubjective relations to others... This dependency on the other explains why one can be hurt by the other. The person is most exposed to, and least protected from, injuries in the very relations which she is most dependent on for the maintenance of her integrity—for example, when giving herself to a partner in an intimate relationship.²⁷

Although Habermas did not intend it to be taken this way, it is easy enough for the transhumanist to read his eloquent expression of the conditions of human life from which this idea of morality springs, not as an explanation of how such moral consciousness emerges but as a *justification* of the transhumanist desire to escape these previously inescapable conditions of merely *human* life, conditions that are now construed as the avoidable contingencies of our inherited biology. Thus, the endpoint upon which these new technologies are expected to converge would involve the obsolescence of the very morality with which Habermas hopes to anchor a response to the threat they pose.

Does that mean he has underestimated the challenge they pose? Perhaps. But the real issue here is not whether such a life as the transhumanists imagine is a practical, livable possibility for beings like us; but, rather, whether beings like us can accept the destructive consequences of sleepwalking our way into a future in which this kind of life is all that life comes to mean. I am by no means sure that an alternative, anti-Cartesian, anti-empiricist conception of the person can offer normative and practical guidance for coping with increasing challenges to our inherited views of human being. If we are to respond effectively, we will need more than one source of resistance to the technological transformation of human being into a being that seeks its satisfaction only in the total transcendence from or complete annihilation of the conditions under which we come to see ourselves and others as *human* beings.

Towards a Counter Science of the Human: Intercorporeality

If the concept of the person comprises one source of resistance, one battleground on which competing visions of human being and human possibility are to confront one another, then the concept of human embodiment comprises another. Of course, the two sources of resistance, these two battlegrounds over the future of

the human, are deeply interconnected. The Cartesian/empiricist conception of the person is inherently disembodied, aspiring to a condition in which the vulnerable human body is inessential to the identity of the human person.

Just how essential to being human are our bodies? Enthusiasts of information technologies and biotechnologies like Kurzweil believe that these technologies will soon allow us to transcend just about all limitations imposed on us by the natural conditions of human embodiment. Whether this is achieved through genetic enhancement or by computerizing the body (e.g. by turning it into a wireless network), the success of this endeavour will confirm the belief that we can get along just fine without our bodies. Not just fine, in fact; better than fine.

This assumption is so deeply anchored in the background understanding of our culture that a great deal of energy and a great deal of ingenuity is required to put it in question. Drawing upon empirical research and the phenomenological studies of Merleau-Ponty, Hubert Dreyfus claims that our sense-making capacities and our capacities for learning arise from the conditions of our embodiment, which he calls *intercorporeality*. I find this term particularly useful, since it makes perspicuous the complementary relation between the conditions of human intersubjectivity and the conditions of human embodiment.

Our philosophical view of human agency is of course shaped by whether we regard ourselves as *having* a body or *being* a body. The more we regard ourselves as having a body rather than being a body, the less concerned we will be about the possible self-instrumentalisation of our bodies that seems to be an inexorable consequence of current technological developments. We will also be less concerned with the imminent fusion of the technologically manufactured and the naturally grown.

This hybrid fusion of the human and artificial (making us ‘part biological, part mechanical, part electronic’) is given its most provocative contemporary expression in the figure of the ‘cyborg’, some version of which has captured the intellectual imagination of scientists (Gregory Stock, Lee Silver) and cultural theorists (Donna Haraway) as well as the producers and consumers of popular culture (e.g., Japanese anime). However, the academic exponents of hybridity and cyborg existence in contemporary technology studies and cultural studies fail to address the question of whether we can actually function as agents if we cannot experience some sense of ourselves as embodied, and experience some sense of intercorporeality. That sense is hard to develop if we regard our bodies as possessions, as something that we contingently have, not as something essential to our identity.

Habermas has posed the question of whether the experience of human freedom presupposes the recognition that the origin of human life is not at our disposal. Following Hannah Arendt, he asks whether being able to ascribe our words and actions to our own agency requires that our coming into the world, the beginning of our lives, is not an event at our technological disposal. With the concept of ‘natality’, central to her theory of action and freedom, Arendt attempted to address this question. She claimed that with the birth of each human child it is not just one more life that begins but a *new* life. The concept of ‘natality’ bridges the potential new beginning that accompanies each human birth with the self-understanding of human agents as the initiators of their words and actions, as beings capable of instituting new beginnings.

So what we have here is a question that touches on our basic self-understanding as agents: Is embodiment a condition of human agency or is it inessential to agency? Of course, this question is hardly new, having been posed in various ways since classical antiquity and in ways more familiar to us since the 17th century. But once again, the pace and scope of developments in information technology and biotechnology give it an inescapable urgency and immediacy. If there is to be a counter-science of the human, it will need the normative and conceptual resources of the concepts of the person, intersubjectivity, and intercorporeality.

TECHNOLOGY'S CHALLENGE TO DEMOCRACY

PART IV

Challenging Technology through Democratic Processes of Public Reflection

To prevent any misunderstanding, I am not of the view that we can give final or definitive answers to the question of what it means to be a human being; that cannot be the goal of this exercise in public reflection. The goal is publicly to thematise the normative significance of the question, and to sustain our engagement with it, reflecting on the answer our technological civilization is *already* giving to it so that we may enlarge our understanding of the implications of living with this or any other definitive answer to it.

As things now stand, the question of the kind of future we as a species wish to have for ourselves is being decided without consultation or consent. For there to be meaningful public debate about the kind of future we want for ourselves at least two conditions would have to be met. First, we need to insure that democratically organized processes of public reflection can take place in both official and unofficial public spheres, maximising the opportunities for citizens to speak and be heard, to listen and learn. Citizens do not usually begin a process of public reflection as already well-informed citizens, so it requires just such public reflection to create ideally informed public participation. It is surely the case that each and every one of us already has some idea of what it means to be a human being, operative in our lives as a background understanding, regardless of its origin. And just as surely there will not be agreement about what it means to be human—or what it should mean. But that, as I have already stated, is not the point of this exercise in public reflection. The point is to see what is collectively at stake when one particular conception, thus far, surreptitiously, becomes the basis upon which is undertaken a profound and irreversible transformation of human being; especially one that might constitute a crime “against the essence itself of humanity, against an idea, an essence, a figure of the human race, represented this time by a countless number of beings and generations to come.” Rather than seeking to settle the issue of what it means, definitively, to be a human being, we would be testing the implications of what it means to live according to this or that conception; and, more importantly, to resist attempts to make any one conception the absolute conception, erasing the plurality of conceptions that reflect (and preserve) human plurality.

Second—and this is far more challenging—we need to develop, and to comfortably speak, evaluative languages not already structured by the presuppositions of the language of progress, which does not allow us to be critical of progress without appearing to be politically and morally conservative, and so, without appearing to be against science and against reason. The sources for such languages lie in richer and more complex views of what it is to be human, languages that do not sell the human short, or decide in advance the question of the human, foreclosing the intelligibility of other conceptions of the human. Most certainly we do not want to be restricted to languages which naturalize the mind as they desocialise the person. What we need, to use Charles Taylor’s terms, are languages of “strong evaluation” and “perspicuous contrast,” languages that already incorporate and draw upon conceptions of the human good, conceptions they seek to make explicit rather than efface. Any genuine public debate about this question will be one into which each participant enters already, unavoidably guided by assumptions about what it means to be a human being. Furthermore, each participant speaking in their respective language of evaluation will also enter the hermeneutic circle, constrained and enabled to move back and forth, dialectically, dialogically, between and amongst the different conceptions of what it is to be human. Conducted in this way under these conditions, a democratisation and pluralisation of conceptions of the human could be achieved, resisting thereby the absolutisation of any one conception.

It goes without saying that we are not accustomed to engaging in such debate with our fellow citizens, anymore than we are accustomed to speaking in a language of strong evaluation and perspicuous contrast when we debate such difficult issues. This is why I am not only concerned with the question of how to organise the requisite processes of public reflection, but also the question of which languages of public reflection are the most appropriate for dealing with issues of this kind. If we are prepared to acknowledge cultural pluralism, and thereby the existence of plural languages for engaging in public reflection, then we will also be prepared

to acknowledge just how fateful is our choice of evaluative language when the question of the future of human being is at stake.

Democracy is not only a political system—a set of normative rules, and legal and political institutions, constituted in accord with those rules. It is an ideal, an aspiration, really, intimately connected to and dependent upon a picture of what it is to be human—of what it is a human should be to be fully human (whatever that might mean). If we become more aware that in living out the practices of our form of life we are also living out a certain idea or ideas of what it is to be a human being, we will see more clearly that, whether we like it or not, intend it or not, we are fatefully defining what it is to be human *through* our practices. When we realize just what our practices are doing, we will be far more ready to respond to technology’s challenge to democracy. We may even learn the value of keeping open the question of what it means to be a human being; preserving its openness allows us more freely to frame alternatives to what heretofore seemed like its only possible answer. This is not a question we were meant to answer, but, rather, a question to which we must remain answerable²⁸ ■

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NOTES

1. Jacques Derrida, *Negotiations*. Trans. Elizabeth Rottenberg. Stanford: Stanford University Press, 2002, 207-08. *Ibid.*, 209.
2. Michael Sandel, "The Case against Perfection" *The Atlantic*, April, 2004.
3. Francis Fukuyama, "Transhumanism" *Foreign Policy* 144, special issue on "The World's Most Dangerous Ideas," (2004), 42-43.
4. Ray Kurzweil, *The Age of Spiritual Machines*. New York: Penguin, 2000, 4.
5. Cited in Bill McKibben, *Enough: Staying Human in an Engineered Age*. New York: Henry Holt, 2003, 68. Like many other of the futurist gurus of the new technologies, Brooks is not interested in the question of how their development will not only exacerbate existing socio-economic inequalities, but also create a new kind altogether: biomechanical inequalities!
6. *Ibid.*, 68.
7. Bill Joy, "Why the Future doesn't Need Us" *Wired*, 8:04, April, 2000 (<http://www.wired.com/wired/archive/8.04/joy.html>) The fact that Joy published this article in *Wired*, the bible of Silicon Valley, tells you to whom it was directly addressed.
8. Colin McGinn, "Hello Hal" *New York Times*, January 3, 1999.
9. Rodney Brooks, "The relationship between matter and life." *Nature* 409 (2001), 410.
10. Karha J and Topol EJ. The sad story of Vioxx, and what we should learn from it. *Cleveland Clinical Journal of Medicine* **71**:12 (2004), 933-939 (<http://en.wikipedia.org/wiki/Rofecoxib>)
11. Jürgen Habermas, *The Future of Human Nature*. Trans. Hella Beister and William Rehg. Cambridge: Polity Press, 2003, 19.
12. See Nikolas Kompridis, *Critique and Disclosure: Critical Theory between Past and Future*. Cambridge, MA: MIT Press, 2006.
13. Habermas, *Future of Human Nature*, 15.
14. *Ibid.*, 12.
15. *Ibid.*
16. *Ibid.*, 13.
17. Bernard Williams, *Philosophy as a Humanistic Discipline*. Ed. A. W. Moore. Princeton: Princeton University Press, 2006, 180-199.
18. Habermas, *Justification and Application*. Trans. Ciaran Cronin. Cambridge, MA: MIT Press, 1993, 75.
19. Charles Taylor, "The Concept of the Person" *Philosophical Papers. Volume 1*. Cambridge: Cambridge University Press, 1985, 97-114.
20. Harry Frankfurt, *The Importance of What We Care About*. Cambridge: Cambridge University Press, 1988, 11-12. Not all that much has changed in the nearly four decades since this essay was first published in the *Journal of Philosophy*. The naturalistic, reductive naturalistic, conceptions of the person remains comfortably entrenched. For example, see this recent entry on personal identity in the *Stanford Encyclopedia of Philosophy*: <http://plato.stanford.edu/entries/identity-personal>.
21. James Hughes, "The Death of Death," <http://icet.org/index.php/IEET/more/hughes20040210/>
22. Habermas, *The Future of Human Nature*, 107.

23. *Ibid.*, 108.

24. *Ibid.*, 107-108.

25. I am now writing a paper with this very title, in which I will be developing this more complex conception of the intersubjective conditions of human life.

26. Habermas, *The Future of Human Nature*, 33-34.

27. I want to thank Robert Sinnerbrink and Matheson Russell for kindly inviting me to give the keynote address at the 2008 meeting of the Australasian Society for Continental Philosophy, on which this revised paper is based.