Is Contemporary Technology Altering the Way We Imagine What It Means to be Human?

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We are concerned with three topics: human nature, appearances, and technology; and how they determine each other and what consequences they may have. But before discussing these determinations, something about each of the topics must be established. Let us agree provisionally to a few points that will permit our discussion to go forward.

The title refers to *contemporary* technology and by that is meant not only today's technology but technology that has a degree of autonomy such that devices minimally perform tasks without direct and immediate human control and possibly can perform original actions unbidden by human direction, so that devices can make, as it were, decisions, plans, value judgments, and other purposive behaviors that are not specifically programmed. Technology is not restricted to mechanical devices but includes systems and software. The seeming independence from human control is the salient characteristic bearing upon our question.

Appearances are understood in a broad sense without invoking any ontological position: they may or may not be real, but they are nonetheless informative. They occupy our conscious attitude and may be individual, even private, or shared. Appearances may lead to attitudes, beliefs, and opinions. Regardless of their ontological status, we live in a world of appearances; the phenomenal world is the world of appearances.

Human nature in this case refers mainly to what we think or believe it is to be human; it is whatever we believe it is that makes us human. There is not universal belief about what constitutes human nature, we shall consider only prominent examples. For instance, the belief that humans are created in the image of God; another that we are rational animals. Obviously some views of human nature may be more vulnerable to the influence of technology than others.

The question, "*Does technology alter how we imagine ourselves as humans?*" is asked in the context of these specifications. It is posed as a matter of comparison, how humanity has been imagined in the past compared to current, technology induced images of humanity.

Technology has always altered the way humans live, but contemporary digital technology - with its immense image-making power together with its growing capacity to perform, often without assistance, even very sophisticated actions displacing humans, or rendering human action either

redundant or ineffectual, suggests a new status for humanity in the world. Both our appearance and representations of our appearance can be fundamentally altered; the effectiveness of our performance and even the perceived value of our actions in fields as diverse as the arts, financial accounting, medicine as well as the numerous jobs that require a high level of manual dexterity, may now be measured against digital devices. Masahiro Mori's "uncanny valley" phenomenon now less often characterizes the response to surrogate robotic devices that possess human features. Is this phenomenon perhaps due to a greater acceptance of machines as in some way part of the human community? [1]

On one level this is an empirical question, and as such is fairly routine and unremarkable. One only needs, for example, to look at portraits through history to see how humans have represented themselves in visual images. Features such as dress and hairstyle, reveal how external circumstances, including the technology of the day, change our appearances in the sense of how we present ourselves. For example, people will often pose themselves with something that connects them to the latest technology, an automobile, at an airport, in athletic attire or using a tool. We can fairly assume in such instances that the individuals imagine themselves as essentially revealed through the mediation of the associated technology: if a photo shows that I am a pilot sitting in the cockpit of a jetliner then I am someone different than a cowboy riding into the sunset. Or am I?

We understand at once that paintings and photographs, recordings in all media, capture us in a particular place and time, activity, mood, state of well-being, and so on. But we like to think of our identity as enduring through time and that I am the same person who is a pilot, perhaps a weekend cowboy, discerning economic analyst, amateur historian, talented pianist, furniture maker, ceramicist, fashion designer, gourmet chef, participant in marathons on every continent, devoted parent, and in numerous other ways that I appear to the world. In this list we see the emphasis vacillate among competing notions of human nature: homo sapiens, homo faber and homo picter. As Hans Jonas has argued,[2] image making not only indicates a facility to produce images, but also to recognize them as images. Images are not reproductions, exact replications, or complete recreations. Images always lack some features, or abstract from detail, and require imaginative power to perceive what an image represents.

If our proximity to technology says something about who we are *or* how we imagine who we are, we also imagine that we are more than that representation, rather that we can use technology, adapt to or create circumstances, i.e., present ourselves through external paraphernalia while not being reduced to that presentation. In a word we assert our freedom and ability to transcend all manner of circumstances.

But is contemporary technology challenging this assertion? Donna Harraway's question, "are

1. "An Uncanny Mind: Masahiro Mori on the Uncanny Valley and Beyond", IEEE Spectrum: (https://spectrum.ieee.org/automaton/robotics/humanoids/an-uncanny-mind-masahiro-mori-on-the-uncanny-valley).
2. Jonas, H., 1962a, Homo pictor and the Differentia of Man, Social Research, 29, pp. 201-220.

we all cyborgs now?",[3] has been posed from several perspectives and an affirmative answer, depending upon degree or extent, is hard to dispute. The boundaries between human and machine are obviously and increasingly porous. So one way to pose our question might be,"Do we imagine what it means to be human, or what human capabilities are, essentially differently as cyborgs?" Is the physical closeness of mechanical or technological devices a difference that makes a difference in how we imagine ourselves? Let us explore this notion a bit.

The cyborg issue that we need to explore has to do with closeness, not merely or even in the sense of physical proximity, but rather in what we might regard as emotional closeness. In the 2013 hit movie "*Her*"[4] a lonely, separated and soon to be divorced office worker, Theodore Twombly, falls in love with the voice of his new and powerful operating system, Samantha, the name he has given to the artificial intelligence operating system (OS1). Setting aside Theodore Twombly's loneliness which is his purported motivating factor, let us reflect upon what this emotional connection might be in the context of image making. A need or a desire is insufficient to generate an ability and if Theodore's emotional connection is beyond desire we must ask what makes him capable of it. On this question, consider how Hans Jonas characterizes human image-making. According to his analysis, for a subject to make or behold images the ability to behold something *as* an *image* and not merely as an object is required; this ability, Jonas argues, includes the ability to produce an image which in turn implies the ability to perceive an inherent likeness. Which is to say, in the case of Theodore, if he designated the OS1 voice as a loving partner, he perceived in it a likeness or image of his own inner qualities.

The doctrine that humanity is created in the image of God offers a structural parallel: substantively God and humanity are unlike (eternal-temporal, infinite-finite), yet the doctrine proclaims that a likeness as an image does obtain and that mutual love is possible. Is it any more far-fetched to think that we are Godlike and that God loves us than it is for Theodore to believe Samantha is humanlike and that he can love her?

Let us now return to the question of need, set aside above. This time, rather than as a state of desire, let us consider need in purely practical terms, as something we actually need, although we may not acknowledge or even recognize the need. The following scenario suggests a bonding relationship on the part of a human with a robot in such circumstances.

The role we shall imagine, as in the film *Her*, is that of personal assistant, but in this case without any recognized emotional or romantic connotations. The term personal assistant has often been used to describe devices which were essentially for record keeping (appointments, expenses, etc.) even before the digital age when many of the functions were automated. The idea of *assistant* follows clearly from its function to store information ready at hand so that we do not ourselves need to keep it in mind. It assists us by making mundane but necessary tasks less burdensome. The common expression, "Let me write it down so that I don't have to remember it" meant consigning

3. Harraway, D. (1991), "Simians, Cyborgs and Women: The Reinvention of Nature", London: Free Association Books.
4. "Her" (2013), Writer, director: Spike Jonze; Starring: Joaquin Phoenix, Amy Adams, Scarlett Johansson.

an activity or responsibility to a device, relieving me of the effort, and assuring my reliable performance. With such consignments one becomes dependent on the personal assistant. The device was personal in the sense that it was presumed to be private, an extension of my private thoughts or plans, a place where I could confide them and perhaps even work them out without revealing them publically. The personal assistant helped us engage in the public space, but was not itself part of that space; we were strengthened in our ability to function in competitive situations. Technology development has allowed personal assistants to be more powerful in certain tasks than we typically are, by being faster, more reliable, more precise, and with more capacity for retention, eventually by orders of magnitude, than we are even as well trained and scrupulously attentive witnesses and participants in the affairs of life. Thus we are appreciative and increasingly dependent on our personal assistant.

The frequently reported phenomenon of feeling quite uncomfortable and to a degree anxious when one goes out having inadvertently forgotten one's smartphone at home is a testament to this kind of dependency. Ironically this kind of dependency is perceived as a greater degree of independence. Indeed, we depend or rely less upon our fellow human beings while we indenture ourselves to machines. What does it mean if we cannot calmly venture out without our devices, when we are not confident that we can act responsibly in ordinary situations, unless this device is close at hand? Are our smartphones now a definitive part of who we are, both individually and collectively? One observes how smartphones have been assimilated quite differently in different cultures. Although smartphone circuitry now is based upon the equivalent of a billion transistors – it is enormously complex and powerful, but we treat it more like a friend we can manipulate than a powerful machine controlling how we behave and feel in a myriad of circumstances.

These two narratives show humans voluntarily entering into a relationship with robots where the robots are imagined to be enough like humans to stand in for them. We routinely accept the ability of robots to perform manual tasks, including very sophisticated tasks such as surgery; we also allow that intelligent machinery can perform a range of intellectual tasks (mostly based on sensing and calculating) faster and more accurately than can humans; the third level of emotional surrogate now suggests the possibility of cyber-mechanical (artificial) persons.

Can or do we imagine cyber-mechanical (artificial) persons as human?

The term robot originated in Karel Čapek's play, *Rossum's Universal Robots*, or *R.U.R.*, first produced in Europe in 1920 and the first use of the word as we know it today. The play *R.U.R.* tells the story of a company that uses the latest technology to mass-produce biomechanical workers, *robot* workers to perform all the work humans don't want to do. The word itself comes from the Slavonic term *robota*, meaning servitude, forced labor, or drudgery. Thus robots are biomechanical slaves, regarded as sub-humans. Their verisimilitude to humans notwithstanding, they were despised (the uncanny valley) but, in the play, they did not tolerate this subjugation and eventually

rose up to overthrow their masters. The theme of the robot uprising is reminiscent of the stories of the Golem of Prague and Dr. Frankenstein's creation. Why is it that today's robots are not expected to rise up and are trusted not only to perform vital tasks, but to stand in as friends or companions?

It is obvious that today's robots are technically superior to previous generations. This is due to the advancement or improvement of the technology that creates and produces them. It is the technology deployed by humans that produces robots that are more agile, efficient, reliable and *intelligent* and therefore worthy of being entrusted with more responsibilities including, it seems, caregiver and companion. Robots are undergoing a process of emancipation, poised to enter human society as equals, liberated by their master, homo faber.

The irony is that robots may have (or soon will) have acquired the very ability that led humans to grant them their emancipation. If human nature is represented by a conjunction of *homo sapiens*, *homo faber* and *homo picter*, we have evidence to suggest that robots are joining us in the first two categories. What about image making?

In a certain way, not the way of humans, robots --if not think-- at least problem solve. Likewise, in a not entirely in a human way, they make things. We know that robots make paintings and in some sense create art, that is robot computers can produce images and can recognize the image of an individual as her likeness. Thus, in three dimensions that have been at various times, seen as hallmarks of the human condition (rational calculation, fabrication, and image making), robots *appear* to match or exceed the performative capabilities of humans. Is it this kind of performative excellence that endears many to robots?

There are at least two questions that are here tangled together: First, "Does such high performance reliability encourage us to accept the presence of robots as the managers of sometimes essential and crucial activities in our workplaces, homes and hospitals?" And, second, "Does their ubiquitous and dedicated occupation with our tasks lead us to see them as being like ourselves and even, perhaps, see ourselves as being like them?" The answer to the first question seems assuredly yes, but is that a sufficient or even necessary prerequisite to an affirmative answer to the second?

Let us explore two quite different types of relationship, both fostered in the imagination, and ask if either suggests an explanation for the apparent and growing acceptance of intelligent robots as possessing human-like if not actually human qualities.

In the first case we will consider the relationship between a domestic animal, whether a pet or not is unimportant, and in the second a hypothetical response to the portrayal of a *hero* in literature or the media.

An animal is the faithful companion and helpmate to a human who in some ways depends upon the animal. The animal may be a *beast of burden* carrying heavy loads or performing some other task requiring physical strength and stamina. Or perhaps it is a *seeing eye dog* responsible for the safety and well-being of a human with impaired vision traversing the streets of a busy city. Alternatively, it may be a *care pet* whose company and physical presence help to alleviate anxiety and fear in the experience of its charge. In all cases one is tempted to ask of the animal why its

behavior exhibits unwavering fidelity to the task and allegiance to the human dependent upon that fidelity? Maybe the adequate answer is no more than food and shelter, but it seems to be more than that. It is not uncommon to attribute those qualities, virtues, that would explain such faithful service in a human to the animal. In this case we see ourselves in the animal and either recognize or project human traits. But at the same time, we do not see the animal in us, i.e., we do not say "I am like that animal". Indeed, the opposition to Darwinian theories in some quarters is based upon the explicit rejection of the possibility that humanity can be properly understood in animal terms. Descartes' dualistic conception of human nature, with its notion of mathematics as the perfect language and *res cogitans* as the ultimate sign of humanity, asserts an unbridgeable difference between so called *rational man* and our companion animals. And so, while we may appreciate them greatly, we are amazed and pleased to see animals emulate our virtues, but not the other way around.

In the second case we imagine an individual who finds inspiration in the nobility or courage and compassion of a purely literary figure. We understand clearly that the admired being is an author's creation, i.e., artificial, yet we may nevertheless see artificial persons as someone to look up to, try to live like, and to a degree imitate; we may try to meet the standards of the hero who then becomes our ideal. Rather than seeing an animal as imitating our virtues, that is as an inferior human, the situation is reversed: we strive to achieve the virtues of the heroic literary figure.

Can today's sophisticated robots be models for us in the same sense that admirable literary figures can be? There are reasons to think they can. In the case of *modern* robots, they are being designed externally to resemble humans, even to the extent of representing sensors so that they look like friendly and trustworthy faces.[5] We have also given robots through fictional representation (in the movies, for example) human or near human narratives. Even when a robot character such as C3PO is puzzled by human attitudes, the puzzlement is presented in the form of an endearing human discourse. C3PO is at once guileless as well as cognitively superior and emotionally durable. These are traits that we can admire and easily relate to presented in the guise of a device made to look in certain essential ways like a person we feel innately we could trust.

Stepping beyond fiction our actual working exchanges with computing machines are conducted in languages that, unlike the Cartesian ideal or an exactly precise language of logic, contemporary programing languages are *ordinary* or *natural* and *intuitive*; when children learn to program computers they do so successfully in a format that is at once natural and intuitive. This makes it reasonably easy to imagine that you are communicating with a machine on your terms, especially when a programmed machine can follow a novel instruction the first time it is presented (unlike a dog who learns to follow instructions only through repetition).

Let us allow that our understanding of animal abilities is still an emerging science; the cognitive

5. According to NYU psychologists Jonathan Freeman and Erid Hehman, reporting their research in *Personality and Social Psychology Bulletin* (2015): "We can alter our facial features in ways that make us look more trustworthy … a face resembling a happy expression, with upturned eyebrows and an upward curving mouth, is likely to be seen as trustworthy …"

and emotional capabilities of animals are being reassessed with the general result that we have grossly underestimated their linguistic and cognitive capacity in general; that we often do not recognize the kinds of emotions animals express, nor their social and familial ties; it is thus perhaps on the level of manual dexterity alone where humans and animal exhibit differences of kind. We might, at some point in the future, be more amazed at animal cognitive functioning and emotional functioning.

The examples mentioned suggest minimally a growing level of comfort and familiarity with technology based on experiences that perceive analogies between humans and (especially) digital devices. Such factors as quick responsiveness to instructions, untiring fidelity to tasks, predictability, and the uncanny capability to present machine actions in a frame that mimics human activity. The complexity of what is behind this face may not be comprehended, but in a lesson seemingly learned from Turing's rules for the *imitation game*, this is not thought to make much difference.

Is this a reasonable view of modern technology? Is our embrace of technology on this level changing the nature of human action in ways that we do not recognize? And if so, what do such changes portend for the future? Let us address these questions in the light of the analyses of Bruno Latour, Martin Heidegger, and finally Hans Jonas.

We begin with two quotes from Latour:

> (1) Modernity is often defined in terms of humanism, either as a way of saluting the birth of 'man' or as a way of announcing his death. But this habit itself is modern, because it remains asymmetrical. It overlooks the simultaneous birth of 'nonhumanity' - things, or objects, or beasts - and the equally strange beginning of a crossed-out God, relegated to the sidelines. Modernity arises first from the conjoined creation of those three entities, and then from the masking of the conjoined birth and the separate treatment of the three communities while, underneath, hybrids continue to multiply as an effect of this separate treatment. *The double separation is what we have to reconstruct: the separation between humans and nonhumans on the one hand, and between what happens 'above' and what happens 'below' on the other.* [6]

> (2) To understand techniques-technical means-and their place in the collective, we have to be as devious as the ant to which Daedalus attached his thread. … The straight lines of philosophy are of no use when it is the crooked labyrinth of machinery and machinations, of artifacts and *daedalia*, that we have to explore. To cut a hole at the apex of the shell and weave my thread, I need to define, in opposition to Heidegger what mediation means

6. Latour, B., (1991), "*Nous n'avons jamais été , modernes; Essai d'anthropologie symétrique.*

> in the realm of techniques. For Heidegger a technology is never an instrument, a mere tool. Does that mean that technologies mediate action? No, because we have ourselves become instruments for no other end than instrumentality itself (Heidegger 1977). Man --there is no Woman in Heidegger-- is possessed by technology, and it is a complete illusion to believe that we can master it. we are, on the contrary, framed by this *Gestell* which is one way in which Being is unveiled. Is technology inferior to science and pure knowledge? No, because, for Heidegger, far from serving as applied science, technology dominates all, even the purely theoretical sciences. By rationalizing and stockpiling nature, science plays into the hands of technology, whose sole end is to rationalize and stockpile nature without end. Our modern destiny –technology-- appears to Heidegger radically different from *poesis*, the kind of "making" that ancient craftsmen knew how to achieve. Technology is unique, insuperable, omnipresent, superior, a monster born in our midst which has already devoured its unwitting midwives. But Heidegger is mistaken. I will try to show why by using a simple, well-known example to demonstrate the impossibility of speaking of any sort of mastery in our relations with nonhumans, including their supposed mastery over us.[7]

Latour conjoins humans and technological devices in collaborative networks. Modernity is a kind of acknowledgement of the conjunction of humans and non-humans (beasts and machines) while at the same time masking this unity. It is, he says, the masking that has led to the increasing appearance of hybrids. The human – machine (digital device) relationship is occurring together with the decline in modernity of human – divine relations. According to our hypothesis social robots are filling a role for humans similar in various respects to that of gods, particularly an omniscient, powerful and loving god.

In his critique of Heidegger, Latour denies that technology structures our experience and mediates or changes the intent of human action in ways that disable our control over the non-human entities (e.g., tools and machines) that we work with. He does this by an example that considers the meaning of the political slogan, “Guns don’t kill, humans do” to show that the possession of a device like a gun is not a neutral tool that we choose to use in a certain fashion or not, but rather something with which we interact making it serve us at the same time that our range of possible action is constrained by its potential; we now inevitably enter into a relationship with socially contested tools like guns.

Whether one uses Latour’s terms hybrid and actor networks, Donna Harroway’s notion of the cyborg, or Don Ihde’s discussions of the multiple types of possible relations between human and non-human technological devices, it would be difficult to sustain the notion of a human being as an autonomous free agent whose actions are disconnected from technology.

7. Latour, B., (1999), “A Collective of Humans and Non-Humans”, Pandora’s Hope: Essays on the Reality of Science Studies.

But Heidegger's approach is somewhat different. He does not deny, as Latour seems to imply, that technology is instrumental, but rather that its instrumentality, at least in the case of modern, scientific technology, is not what shapes its relationship to humans, nor what may fundamentally alter the nature of human action. In *Die Frage nach der Technik* Heidegger posits the ideal of a "free relation to technology".

His famous essay opens with these words:

> In what follows we shall be *questioning* concerning technology. Questioning builds a way. We would be advised, therefore, above all to pay heed to the way, and not to fix our attention on isolated sentences and topics. The way is a way of thinking. All ways of thinking, more or less perceptibly, lead through language in a manner that is extraordinary. We shall be questioning concerning *technology*, and in so doing we should like to prepare a free relationship to it. The relationship will be free if it opens our human existence to the essence of technology. When we can respond to this essence, we shall be able to experience the technological within its own bounds.[8]

Thus for Heidegger what is of concern is how technology relates to the way of being human, and that way is the way (in the special sense he means) of questioning, thinking and thanking. We are wrong if we think action assisted by modern technology is the same as *poesis* exemplified by that of a traditional craftsman. Heidegger's argument is that modern, calculative scientific reasoning is instrumental in ways that occlude our apprehension of the essence or pervasive nature of technology. It is for this reason that we are in danger of standing in an *unfree* relation to technology and in so doing loose our grounding relationship with nature. In the terms of our inquiry, if we imagine ourselves as essentially like robots, we have abrogated our nature to that of technology.

How might this be of practical concern? Is our willingness to treat or to imagine that we live in an equitable relationship with clever devices, devices that we rely upon, confide to, feign friendship with, a sign that our humanity is diminished? Of course we work with devices (tools, machines, expert and intelligent systems) and these devices shape the character of the work. In many cases they have become indispensable to us. For this let us turn again to Hans Jonas. In his essay, *Technology and Responsibility – Reflections on the New Tasks of Ethics*[9]*,* he argues that particular features of modern technology, technology fortified by science, has altered the nature of human action such that the question of responsibility must be considered anew.

According to Jonas there are five ways in which modern technology has potentially or actually altered the nature of human action:

8. Heidegger, M., (1977), "The Question Concerning Technology", p 3.
9. Jonas, H., (1973), "Technology and Responsibility – Reflections on the New Tasks of Ethics", Social Research, 40, pp 31 – 54.

1. Technology has advanced from tool to machine to automatic device. *Beyond human control.*
2. Technological processes are often not well understood and produce unanticipated consequences. *Degree of human ignorance due to complexity.*
3. Technology produces results disproportionate to human action. *Issue of overwhelming power; we can destroy the world with the simple push of a button.*
4. Technology may alter the environment permanently. *Our actions may be irreversible.*
5. Results of technology may manifest in the distant future. *Issue of the unknown and indefinite future beyond our concern.*

In a later work of his, *Das Prinzip Verantwortung,* Jonas argues that humankind has new and unprecedented responsibilities that follow immediately from our new and unprecedented power to change the world through technology.

When this new power is not simply contained in external devices, but becomes either an augmentation to our bodies, or through emotional bonds or intellectual dependency (often the case in our everyday use of computing devices), we find ourselves in relationships defined by one or more of the limitations recognized by Jonas which undermine our ability to recognize responsible action and therefore act responsibly.

If we through appreciation and needy dependence (Theodore Twombly) see machines as our redemptive future, we may be on the path that leads us to the dire state Stephen Hawking has warned of, the future where robotic artificial intelligence has finally displaced humanity, rendering us superfluous, and no longer at home in the world.[10]

10. Hawking, S. (2014), "I fear that AI may replace humans altogether. If people design computer viruses, someone will design AI that replicates itself. This will be a new form of life that will outperform humans.