

The Humanity of the Human Body: Is Homo Cybersapien a New Species?

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ABSTRACT

The importance of the human body within traditional bioethical debates is amplified within the field of technoethics as scholars attempt to grapple with conflicting views of what it means to be human and what attributes are core to human beings within the era of human enhancement technologies. A technoethical perspective of the human being is presented to highlight defining characteristics of humans within a technological society. Under this framework, symbolic capacity and technical ability are assumed to be grounded within the free and ethical nature of human beings. Ideas from Modernity and Postmodernity are used to demonstrate the need for a more encompassing view of humans which accommodates both its technical and ethical dimensions. The concepts of homotechnicus and cybersapien are introduced to help provide a more unitary vision of the human being and the priority of ethics over technics within this technological society.

Keywords: Freedom, Human Body, Modernity, Postmodernity, Science, Technoethics

TRANSHUMANISM AND THE POST-HUMAN DREAM

In recent years, new advances in human enhancement technologies have stimulated academic interest about the future of human-technology relationships. Transhumanist scholarship is one major area where the transformation of the human condition through technological enhancement is being discussed. However, the transformation of humanity proposed within popular transhumanist writing is not a new notion and harkens back to the story of the

Great Flood found in the Book of Genesis. In this story God provides Noah with the tools to survive a great flood that will wipe out everything and provide opportunity for a re-birth (or transformation) of humanity:

And God said to Noah, "I have decided to put an end to all mortals on earth; the earth is full of lawlessness because of them. So I will destroy them and all life on earth. Make yourself an ark of gopherwood, put various compartments in it, and cover it inside and out with pitch. This is how you shall build it: the length of the ark shall be three hundred cubits, its width fifty cubits, and its height thirty cubits. Make an

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opening for daylight in the ark, and finish the ark a cubit above it. Put an entrance in the side of the ark, which you shall make with bottom, second and third decks. I, on my part, am about to bring the flood (waters) on the earth, to destroy everywhere all creatures in which there is the breath of life; everything on earth shall perish. But with you I will establish my covenant; you and your sons, your wife and your sons' wives, shall go into the ark.” (Genesis 6:13-18)

Common to both transhumanist speculations and the story of the Great Flood was the idea of human longevity beyond normal human parameters. In the story of the Great Flood, human lifespan prior to the Great Flood was much longer than within contemporary society. Noah was noted to have lived nine hundred and fifty years, an unfathomable lifespan for humans today.

What is unique about the current context of human transformation focused on by the transhumanists is that the means of this transformation are not viewed in terms of divine intervention or concrete historical terms of post-industrial advances in technology that have allowed humans to survive and harness control over the environment. Rather, within the current context of human transformation there is a focus on the advancement of human enhancement technologies that directly affect the human body and mind. This “inward turn of technology” (Luppicini, 2010) presents new ethical challenges to address that humans have never had to deal with in real life circumstances at any other point in human history. Prior to this inward turn, such considerations were restricted to the arts and entertainment domain where science fiction writing and film sparked the imagination without the social responsibility to worry about any real life implications. However, the inward turn of technology has closed the gap between the imagination and the real as we struggle to grapple with new technologies that could potentially threaten how human beings are conceptualized and (de)valued. This is the problematic with which this article is concerned. To this end, a technoethical framing is offered

which attempts to provide a conceptualization of human beings that accommodates the complexity of human, technological, and ethical relations present within a technological society.

THE BODY AS TECHNOETHICAL MATTER

In the past decade, the discussion of the nature of the human body has been the basis of bioethical debate, conditioning the form of judging many of the emerging biotechnologies, both in medical and surgical fields. Bioethics has lost the body (Meilaender, 1995). One of the most significant examples is a recent book by Campbell (2009), in which the need “to re-establish the importance of the human body in bioethics” (p. 1) is indicated. The author shows the need for such a rediscovery in the biomedical sciences and the humanities and social sciences to combat possible risks of reducing the body of the person to a mere instrument, “a branded body” (p. 75). The risk does not concern the alteration or elimination of the human body but rather a substantial loss of its anthropological significance as a result of inappropriately applying new human altering technologies.

One must recognize that within the technological society we live, the human body is not only subject to alteration through biotechnologies. There are many other human altering technologies to consider, including prosthetic appendages, neurotechnologies, and nanotechnologies. Thanks to the development of new techno-sciences, scientists are able to integrate the organic and inorganic in new and powerful ways. Thus ever-increasingly, a plethora of new technologies are becoming available to integrate into our physiological make-up, opening new topic areas not covered in traditional bioethics.

In our current world where technological enhancement of humans is possible, we treat the human body as a technoethical subject, largely because we need to question the, more or less, intrusive presence in the organism of devices with different degrees of autonomous functioning. This includes simple tools as well

as cybernetic machines driven by powerful AI systems which show a very high level of autonomous ability which could interfere with human agency and how human beings are defined. This could affect how much we do for ourselves versus how much is programmed to be done for us at work and even in everyday life interactions.

Transhumanist writings are one particularly popular areas of contemporary scholarly work that addresses the transforming role of technology in defining the future of humanity. One tenacious transhumanist position holds that the human body acts as a necessary wrapping, but is not essential to the constitution of a human being. There is the assumption among many transhumanists that if one could find a better way to contain a human, a human could get along without a biological body, perhaps by downloading oneself from a decaying body to a computer or some type of robotic body. This type of stance highlights the evolving interaction between living organisms and cybermachines in terms of a new species (a *tertium quid*) in transition- the posthuman.

Unfortunately, this type of redefinition of human nature can run the risk of removing much of the value and meaning we attribute to being human. In our view, regardless of the human enhancement technology that comes along, we believe it is unwise to accept visions which push the human body into a background. We assume that humans take care of their bodies, not just as tools, but as expressions of themselves, alive or dead. Even in the case of death, humans do not easily dispose of the bodies of their dearly departed. Despite all the human efforts to get rid of the body, it seems not possible to have experience of being without a body. In the discussion that follows, key concepts are drawn upon to help highlight important aspects of what it means to be a human being living within a technological society.

WHAT IS A HUMAN BODY?

First of all we would like to clarify this section title “what is the human body,” in order to

avoid a dualistic assumption that it is possible to question the human body without including a consideration about the human being. No one among us discovering a never seen animal would question “what is the body of that animal?” but rather one would say “which animal is this?” In the case of a human being, “biped without feathers acting autonomously, quite weird,” a Martian would ask “what is this?” instead of “what is the body of this?” So the title of this section could be better expressed into “what is the human being,” considering this question as a result of a simple phenomenological contemplation and of corporeality.

At the beginning of one of his works Robert Spaemann (1991) dialectically expressed that the question “What is a sparrow?” is a different kind of question from “What is human?” In line with this provocation, we would like to specify that the expression “human body” includes a meaning of the word “body” which is not shareable with a concept of inanimate bodies or with the body of plants and animals. The meanings of the word “body” are at least threefold. First, there is the “body” of the matter of which is made whatever animated or inanimate being. Second, there is the concept of “biological body” (alive) that designates any living being able to develop on its own accord as a self-producing system (different compared virus that depends on a host body to spread). Third, there is the idea of a specific type of living body, the “human body”. The human body shares with other living bodies the processes of living as a being like getting sick and dying. However, how it is that humans experience life and derive meaning from it is different and much more complex compared to other living beings. The human body utilizes a unique symbol system that allows it to express externally an internal reality. Lain Entralgo (1991, 1995) has proposed an analytic scheme of the external perception of the human behaviour which could be resumed in the following points:

- *Free will*: Through observation human seems to be able to act or not, make deci-

- sions or not, and follow principles which are not deducible from external elements.
- *Symbolic capacity*: Humans communicate freely using signs which become symbols through a conventional decision taken by individuals or groups;
 - *Inconclusiveness*: The human being extends his or her actions to the future, he/she may desire to improve them, and he/she is able to promise;
 - *Self-reflection*: A human is able to self-reflect on in his/her own personal subjectivity;
 - *Awareness of reality*: To be in the cosmos for animals is to be related to external stimuli, but for the human person part of what makes up reality depends on the actions of human beings within it.

In other words, external perception of the human behaviour reveals the human being as constituted by a body and a mind (soul) with a unique capacity to decide his/her own fate in a free way independently from following the laws of "nature." Beyond natural actions, there are actions specific to each human's personal condition that are considered to be culturally shaped (Polo, 1993) and beyond any rules governing nature. That is, a natural action is the same and can be generalized for all living beings of the same nature, whereas a cultural act is unique and non-transferable between different groups of individuals of the same nature.

HOMO TECHNICUS

Human reality is constituted, in part, by an individual's ability to modify his/her environment and adapt it to himself/herself in life changing ways. This kind of relation with the environment is specific to the human species. Although animals do adapt themselves to the environment where they live, through mutagenesis; they are linked to their environment and the adaptation to other environments requires a long period of biological evolution. Humans, instead, are not related to the environment in the same way.

For instance, when food of a specific habitat is too hard to eat, an animal has two options: starving to death or developing a more functional mastication system. Humans instead learn to cook (Polo, 1996). This is one of the first characteristics which define humans, and what we refer to when describing their *technical capacity* (see description of technical processes in Luppardini, 2010).

Animals in themselves do not have such technical capacities. Sometimes their capacity to create tools is superior to the human beings, if we consider the complexity of a bee hive or some bird nests. However, these are operational capacities coming from nature (biological evolution) which may contribute to survival, but these capacities cannot be transferred to other individuals, unless through a very long evolution process. In the case of the human beings such capacities could be transferred and integrated in the common experience of the specific species by virtue of being derived through their technical capacities. In other words, technical human beings (*homo technicus*) generate a technological culture.

As technical humans, we are part of a species which owns a body which is not only material and alive, but which allow us to be free and symbolic, and cultural. The inclusion of the three corporal levels, required by the uniqueness of being (Wojtyła, 1982) gives rise to a unique nature and personal condition for humans. There is not an opposition between being natural and being personal, because humans are *naturally personal*. Therefore, from the link we previously expressed between one's personal condition and human technical capacity we can conclude that the humans are naturally artificial since technical capacities are an important component of the human personal condition.

In some scholarly circles there has been resistance to the inclusion of human nature and the human personal condition due to the longstanding dualist tradition of splitting the uniqueness of the human being into biological bodies and minds (soul). However, long before dualist views became popular, non-dualist views of the human condition were available. It is a

non-dualist relational view which comes closer to providing a cohesive conceptualization of the human condition that aligns with the position espoused in this article (see Luppincini, 2008, 2010, for a more detailed description of the relational perspective). For instance, as Guardini said (1994), the Platonic splitting between *physis* and *psyche* does not correspond to the Jewish-Christian tradition: the story of the Adam's creation in the second chapter of the Genesis doesn't report a biological body and a soul instilled by God, but an inactive reality which God moulds through clay. This is not a human being as long as God would blow in it his living spirit. The divine blow of Genesis is what the Christian tradition intends as "soul", but the starting act of a new being is all body and all soul from now on. Biblical tradition does not contemplate a dualistic vision as the Platonic one; the sculpture modelled by God was not a human body, but a representation of the communion of humans with the rest of the material world (Galvan, 2008).

It is, hence, useful to appreciate the importance of the body entrenched in the Jewish-Christian tradition where Christianity overcame any need to rely on any kind of dualism and the view that what in human is spiritual is good and what is material is evil. The relation between body and soul was considered as substantial unity (Fabro, 1955). Pulling together the ideas drawn from reflections on early human civilization, homotechnicus appears to provide an adequate explanation of the human body and mind with technical capacities entrenched within the human condition as a substantial unity. The next section introduces key terms to further articulate the technoethical perspective on the relationship between human bodies and minds entrenched within a technological society where human values and interests are at play.

HOMO CYBERSAPIENS AND TECHNOSELVES

Besides being known as a modern proponent of dualism, Descartes can also be attributed a

precursor to the notion of "humanoid" for his treatment of the truth problem when he engages in methodological doubt calling into question held assumptions concerning truth and certainty of human understanding. The truth problem can be summed up as an attitude where subjective knowledge is reduced to a matter of human consciousness, and where objective knowledge can be treated as a mathematical topic and scientific activity. Under this view, the physical body should be treated as something to which can be applied physical rules (and thus mathematics) of the *res extensa*; Its origins are knowable from the *res cogitans*, which will be able one day to understand and reproduce that which is derived from the *res extensa*. Descartes argues in his *Discours de la méthode* that humans (thanks to their technical capacities), will be able one day to reproduce their *res extensa*, generating in this way the first mechanical human being. In this respect, Descartes was a prophet of the humanoid!

In the last two centuries under Modernity, the entrenchment of Cartesian model has helped ground a scientific consideration of the body and the dominion-paradigm, typical of modern mentality (Galvan, 2004). In Modernity, *the body is different from the person*. The immediate consequence is the elimination of the person. That is, if it is necessary to distinguish between body and person, it is also clear that the person defies any scientific definition; the realm of the person is that of the a-rationality, or, in a very recent expression of Bibeau (2011), that of the *genomythology*. The dominion-paradigm becomes a technological imperative: *tutto ciò che si può fare è buono*. Much of the modernity oriented scholarship on technology and ethics prioritizes experimental sciences over technics, and of technics over ethics. The body is not viewed as having any special axiological dimension and the machine becomes an amoral agent. Perhaps this is the intention behind Bunge's proposal for the creation of the field of Technoethics: "Technologists should contribute to the overhauling of ethics, attempting to construct a technoethics as a science of right and efficient conduct" (1977, p. 107).

In response to Modernist views of the body, postmodern writings opposed the dominion-paradigm and advanced views that align with an emergent relational-paradigm that highlights the body, not as an object to be dominated, but rather as the destination of a positive interweaving of the body and the person which are taken together. Under this view, the body manifests the relational nature of the person. This view grounds the ethical significance of the human body and the need to address the personal human condition (including human values and technical capacities) in considerations of the human body and human reality.

In our view, this paradigm-shift includes the reversal of priorities attributed to Science and Technics. During the era of the dominion-paradigm, experimental sciences had the leading role of providing knowledge about humanity and cosmos, whereas in the relational-paradigm, science still remains of paramount importance as a source of knowledge about reality, but this is only a first step in providing an adequate description of humans which requires an inquiry into human values and technical capacities.

To take this discussion on step further, in postmodernity *the body is the person*. But is it possible to say that *the person is the body*? A positive answer (including the total reversibility of the proposition) entails the non-existence of a formalizing action beyond the material dimension in the human person. Under this condition, the relational model would be related only to the technical capacity of human beings. As in the dominion-paradigm, Technoethics was reduced to Technics over Ethics and there was no other way to human perfection other than the technological enhancement of the body. In our opinion, this is the way in which many of the transhumanist theories understand the changing nature of human beings through technological enhancement (Galimberti, 2000; Signore, 2006). They apply the concept of transcendence (transhuman) to describe the end product of this coupling.

Alternatively, if the answer to the question is that the person is the body, but not only the body, a principle (not separated) of formalizing

activity is stated as present in the human, and this principle grounds the relational value of the whole person. The body is always seen as the subject of technological enhancement, but the framework of ethical reference, and therefore the key for human perfection, is given by the (so-called) spiritual dimension of the human being (Elliot, 2011). Technoethics highlights the central role of ethics in the overhauling of technics, giving to technology the possibility of respecting and promoting the whole person. It aligns with scholarly efforts to provide a more encapsulating multi-perspective inquiry into technology consistent with general ethical principles, historical knowledge, psycho-affective integrity, and values of justice and solidarity. This implies the need for a proper assimilation of the technical element in the human structure (Galvan, 2011) in aspiring towards a technologically enhanced mankind as species (not a new species--transhuman or cyborg), but rather, the same species with the proposed denomination *homo cybersapiens* (De Andres, 2002). This approach to the study of the human condition is growing in popularity and is encompassed within new interdisciplinary research on the "technoself," which focuses on the study of human identity and technological enhancement within an evolving technological society (Luppicini, in press).

REFERENCES

- Bibeau, G. (2011). What is human in humans? Responses from biology, anthropology, and philosophy. *The Journal of Medicine and Philosophy*, 36, 354–363. doi:10.1093/jmp/jhr025
- Bunge, M. (1977). Toward a technoethics. *The Monist*, 60, 96–107.
- Campbell, A. V. (2009). *The body in bioethics*. New York, NY: Routledge-Cavendish.
- Choza, J. (1988). *Manual de antropología filosófica*. Madrid, Spain: Rialp.
- De Andres Argente, T. (2002). *Homo cybersapiens: la inteligencia artificial y la humana*. Pamplona, Spain: EUNSA.

- Elliot, C. (2011). Enhancement technologies and the modern self. *The Journal of Medicine and Philosophy*, 36, 364–374. doi:10.1093/jmp/jhr031
- Fabro, C. (1955). *L'anima*. Roma, Italy: Studium.
- Galatino, N. (2005). Koerper e Leib: tra determinismo biologico e determinismo culturale. In Sanna, I. (Ed.), *La sfida del post-umano. Verso nuovi modelli di esistenza?* (pp. 49–65). Roma, Italy: Studium.
- Galimberti, U. (2000). *Psichè e tecnè*. Milano, Italy: Feltrinelli.
- Galvan, J. M. (2004). On technoethics. *IEEE Robotics and Automation Society Magazine*, 10, 58–63.
- Galvan, J. M. (2008). Creation and causality: The case in Christian theological anthropology. In M. Negrotti (Ed.), *Yearbook of the artificial: Nature, culture & technology, Vol. 5: Natural chance, artificial chance* (pp. 129–141). Bern, Switzerland: Peter Lang Verlag.
- Galvan, J. M. (2011). La tecnoetica e le speranze umane. In Barrotta, P., Longo, G. O., & Negrotti, M. (Eds.), *Scienza, Tecnologia e Valori Morali. Quale futuro?* (pp. 175–185). Roma, Italy: Armando Editore.
- Guardini, R. (1994). *Ethik: Vorlesungen an der Universität München, 1950-1962*. Padenborn, Germany: Matthias-Gruenewald Verlag.
- Lain Entralgo, P. (1991). *El cuerpo humano. Una teoría actual*. Madrid, Spain: Espasa.
- Lain Entralgo, P. (1995). *Alma, cuerpo, persona*. Barcelona, Spain: Circulo de Lectores.
- Luppardini, R. (2008). Introducing technoethics. In Luppardini, R., & Adell, R. (Eds.), *Handbook of research on technoethics* (pp. 1–18). Hershey, PA: Idea Group. doi:10.4018/978-1-60566-022-6.ch001
- Luppardini, R. (2010). *Technoethics and the evolving knowledge society*. Hershey, PA: Idea Group. doi:10.4018/978-1-60566-952-6
- Luppardini, R. (in press). *Handbook of research on technoself: Identity in a technological society* (Vols. 1-2). Hershey, PA: IGI Global.
- Meilaender, G. C. (1995). *Body, soul, and bioethics*. Notre Dame, IN: University of Notre Dame Press.
- Polo, L. (1993). *Presente y futuro del hombre*. Madrid, Spain: Rialp.
- Polo, L. (1996). *Ética. Hacia una versión moderna de los temas clásicos*. Madrid, Spain: Union Editorial.
- Signore, M. (2006). *Lo sguardo della responsabilità. Politica, economia e tecnica per un antropocentrismo relazionale*. Roma, Italy: Studium.
- Spaemann, R. (1991). *Moralische Grundbegriffe*. München, Germany: C.H. Beck Verlag.
- Wojtyła, K. (1982). *Persona e Atto. Città del Vaticano*. Vatican State, Italy: Libreria Editrice Vaticana.

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