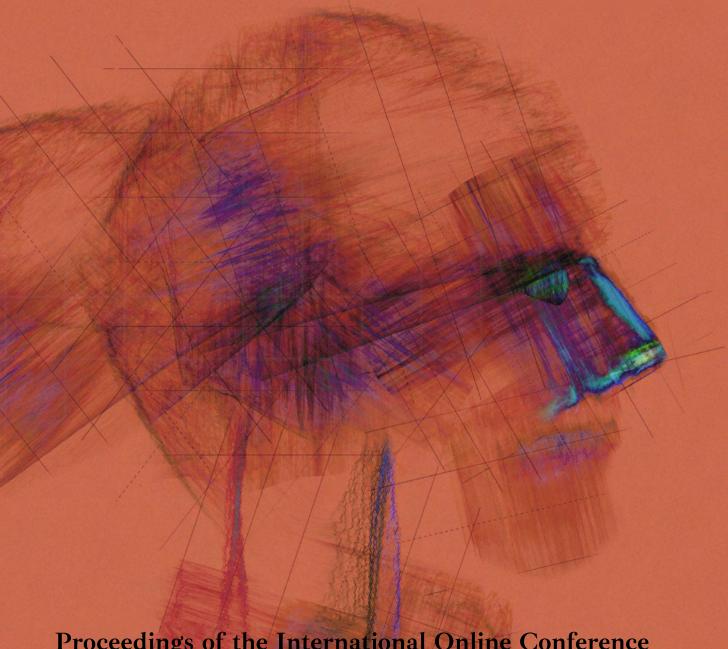# Crossing the Border of Humanity
Cyborgs in Ethics, Law, and Art

Proceedings of the International Online Conference
December 14–15, 2021
Medical University of Łódź, Poland

Edited by

Monika Michałowska

Cyborgs and Their Limits

Klaus Gärtner

Introduction

For a long time, sci-fi culture has entertained the thought of crossing humans and machines, giving rise to the idea of cyborgs. This is often portrayed in animes like *Ghost in the Shell* or movies such as *Star Trek*. However, with recent advancements in technology, we are now seeing actual developments towards enhanced or cyborg-like human beings. One instance of this new development is cyborg activist Neil Harbisson who implanted an antenna into his skull to be able to "hear" colors. This is one of many examples that makes it clear that we are not dealing with the question of whether or not humanity is becoming the "Borg," but with those cases of humanity slowly inter-tangling with technology.

In the light of these changes, the question about what cyborgs really are is gaining more and more importance. In this paper, I seek to provide one small, limiting condition for what can count as a cyborg. To do this, I will first introduce an array of ideas of what could fall under the cyborg-concept. In a second step, I will frame the issue of a cyborg-concept within the recently introduced Mind-Technology Problem (Clowes, Gärtner and Hipólito, 2021). This successor problem to the Mind-Body Problem (Descartes, 1991, 1998) claims that we need to re-conceptualize the nature of mind and its relationship to technological artifacts by asking ourselves how the mind is transformed, extended, enabled or even diminished by our advancing (smart) technologies. I will then limit the scope of my investigation to one element of the mind, i.e., consciousness. Here, I will not rely on just any generic notion of consciousness, but the idea of phenomenal consciousness or "what it is like" to undergo experiences (Nagel, 1974). I think that this idea of consciousness is particularly helpful because it allows me to investigate an essential part of complex carbon-based minds including humans. Finally, I will explore the question how consciousness and human technological enhancement interact. The goal is to think about possible limits of how (phenomenal) consciousness can be transformed, extended, enabled or diminished by our (smart) technologies which may also provide a possible limit for our cyborg-concept.

The (Science-Fiction) Concept of Cyborgs

When we talk about cyborgs in everyday life, most of us may think about the Borg Queen from *Star Trek* or the Major character from *Ghost in the Shell* (or the like). It seems,

however, obvious that we are not turning into the Borg any time soon and technology is not advanced enough to transplant a human brain into a humanoid robot, but this does not mean we are not on a road to humanity's technological enhancement. According to futurism.com, cyborgs today look closer to, for instance, Neil Harbisson, a cyborg activist who is enhanced with an antenna on the back of his skull that allows him to "hear" colors. Another example is Zac Vawter, who is a software engineer and received the first mind-controlled bionic limb after his leg was amputated above his knee in 2012. This begs the question of how we should think about cyborgs. In the next sections of this paper, I will investigate this issue starting out by framing the matter in the next section.

The Mind-Technology Problem

So far, we could say that any generic idea of a cyborg includes somehow the original conceptual notion of Manfred Clynes and Nathan Kline, i.e., the idea of some entity with biological and technological parts (Clynes and Kline, 1995). But as we have seen in the last section the actual instantiation of such an understanding is rather broad. One strategy to make this problem more tangible is first to set up a reference frame and then to limit the scope to one specific phenomenon, in this case (phenomenal) consciousness.

The context—which I will set up in this section—I have in mind is the so called Mind-Technology Problem (Clowes, Gärtner and Hipólito, 2021; Fuller, 2021). This problem is born out of the more traditional Mind-Body Problem (Descartes, 1991, 1998). The Mind-Body Problem stems from the dualistic idea that, on the one hand, there is the physical body and, on the other hand, there is the mind which is essentially different form the body. The Mind-Body Problem, as we know it, entails a multitude of issues. For instance, there is an epistemological question of why we supposedly have privileged or secure knowledge about our minds and why knowledge about the world is only contingent. Another issue, which is of metaphysical character, concerns the question of what the nature of the mind is (since it is essentially different from the physical body).

The Mind-Technology Problem succeeds the Mind-Body Problem. Here the question is not how the mind and the body relate, but how the mind and the ever more available smart technologies are linked. Consequently, the Mind-Technology Problem claims that we need to re-conceptualize the nature of mind and its relationship to technological artifacts by asking ourselves how the mind is transformed, extended, enabled or diminished by our advancing (smart) technologies. Essential questions include: What characteristics of the mind might be enabled and which might be diminished by smart technologies? Where does the mind stop and where does technology begin? Basically, the Mind-Technology Problem refers to a constellation of problems we need to answer when we want to find out what the limits of the mind are and how smart technologies bear on these limits (Clowes, Gärtner, Hipólito, 2021).

Phenomenal Consciousness

Now that I have set up the context in which we want to discuss the concept of a cyborg, let me briefly introduce the particular phenomenon of the mind – i.e., phenomenal consciousness – I will consider here. Phenomenal consciousness refers according to the famous article "What it is like to be a bat?" by Thomas Nagel to the following idea:

> Conscious experience is a widespread phenomenon. (...) No doubt it occurs in countless forms totally unimaginable to us, on other planets in other solar systems throughout the universe. But no matter how the form may vary, the fact that an organism has conscious experience *at all* means, basically, that there is something it is like to *be* that organism. There may be further implications about the form of the experience; there may even (though I doubt it) be implications about the behavior of the organism. But fundamentally an organism has conscious mental states if and only if there is something that it is to *be* that organism—something it is like *for* the organism.

(Nagel, 1974, p. 436)

So, basically phenomenal consciousness refers to the type of consciousness we entertain when we are, for instance, enjoying a walk on the beach or a sip of wine. It is the qualitative feel of undergoing a specific experience.

In my view, this is a particular well-suited phenomenon to think about what a cyborg is. One important indication can be found in Susan Schneider's 2016 TEDx talk "Can a Robot Feel?". In the context of her presentation, Schneider asks us to imagine what would happen if humanity and AI merge, and, in the process, the new hybrid entity would lose phenomenal consciousness. In a nutshell, her question concerns the issue of whether or not we, as humans, should aspire for this outcome. Even though the question is normative—i.e., what the value of phenomenal consciousness is—it hints at an important insight about the mind. How essential do we think phenomenal consciousness is for the nature of the mind in general and in complex carbon-based life forms—including humans—in particular? This is obviously especially difficult to answer when we talk about a cyborg-concept.

In the context of the Mind-Technology Problem, we should ponder how much of phenomenal consciousness can be transformed, extended, enabled or even diminished by our smart technologies. If phenomenal consciousness, on the one hand, is something we want to be preserved, then, at least, we cannot let it be diminished to the point of its non-existence. On the other hand, if we think that phenomenal consciousness is just a contingent property of the mind and it is not worth saving, then we could simply get rid of it.

Are Their Limits to Being a Cyborg?

What should we do? In my view, this is rather an eccentric question. We know that there are various concepts and types of consciousness that could be taken into account—for instance consciousness as a monitor or conceptual self-consciousness (Van Gulick, 2021). Also, we can imagine that some of these types of consciousness could theoretically be instantiated by purely computational systems. However, does this circumstance meet the criterion of being a cyborg? We should keep in mind that these kinds of consciousness could also theoretically be instantiated by any robot equipped with sufficient computational resources. So, do we want to allow any robot to become a cyborg by, say, adding a biological limb to its body?

In my view, this is putting the cart before the horse. As far as I can see, cases such as Neil Harbisson and Zac Vawter have one thing in common: they start with a human being and only then become about enhancing this human with (smart) technologies. Of course, enhancement can mean many things. For instance, we can imagine creating incredible new experiences such as hearing colors or using a bionic leg. However, we usually do not imagine losing phenomenal experiences altogether. In my view, this means that if phenomenal consciousness ceases to exist due to technological enhancements—may it be through brain implants, or something else—then we need to ask ourselves whether or not we have come to the limits of transforming, extending, enabling and especially diminishing consciousness, i.e., something that may be essential to complex carbon-based minds. As a consequence, we need to ask ourselves whether or not such a limit of transforming, extending, enabling and particularly diminishing (phenomenal) consciousness also results in a limit of what we can call a cyborg. This means, we need to ask ourselves whether or not cyborgs should have phenomenal consciousness.

References

Clowes, R.W., Gärtner, K. & Hipólito, I. (2021). The Mind-Technology Problem and the Deep History of Mind Desing. In Clowes, R.W., Gärtner, K. & Hipólito, I. (Eds.), *The Mind-Technology Problem – Investigating Minds, Selves and 21st Century Artifacts*, Studies in Brain and Mind 18 (pp. 1–45) Springer: Switzerland.

Clynes, M., Kline, N. (1995). Cyborgs and Space. In C.H. Gray (Ed.), *The Cyborg Handbook*, Routledge: London.

Descartes, R. (1991). *Principles of Philosophy*. V.R. Miller & R.P. Miller (Trans.), Kluwer Academic Publishers: Dordrecht, Boston, London. (Original work published in 1644).

Descartes, R. (1998). *Discourse on method*. D. Cress (Trans.), Hackett: Indianapolis. (Original work published 1637).

Fuller, S. (2021). The Mind-Technology Problem. *Postdigital Science and Education*. https://doi.org/10.1007/s42438-021-00226-8.

Futurism.com accessed on 26.12.2021: URL = <https://futurism.com/six-of-todays-most-advanced-real-life-cyborgs>.

Nagel, T. (1974). What is it like to be a bat? *The Philosophical Review*, 83, 435–450.

Schneider, S. (2016). Can a Robot Feel? TEDx Cambridge, URL = <https://www.youtube.com/watch?v=k7M4b_9PJ-g>.

Van Gulick, R. (2021). Consciousness. In: *The Stanford Encyclopedia of Philosophy* (Winter 2021 Edition), Zalta, E. N. (ed.) URL = <https://plato.stanford.edu/archives/win2021/entries/consciousness/>.

Klaus Gärtner studied Philosophy at the University of Regensburg. He obtained his PhD at the Instituto de Filosofia da Nova (Universidade Nova de Lisboa). Currently, he is a Researcher at the Departamento de História e Filosofia das Ciências and member of the Centro de Filosofia das Ciências da Universidade de Lisboa in the Faculdade de Ciências da Universidade de Lisboa, Portugal. He is also a founding member of the Lisbon Mind and Reasoning Group. His research interests include Philosophy of Mind and Cognitive Science, Philosophy of Science, Epistemology and Metaphysics.

Contact: kgartner@fc.ul.pt