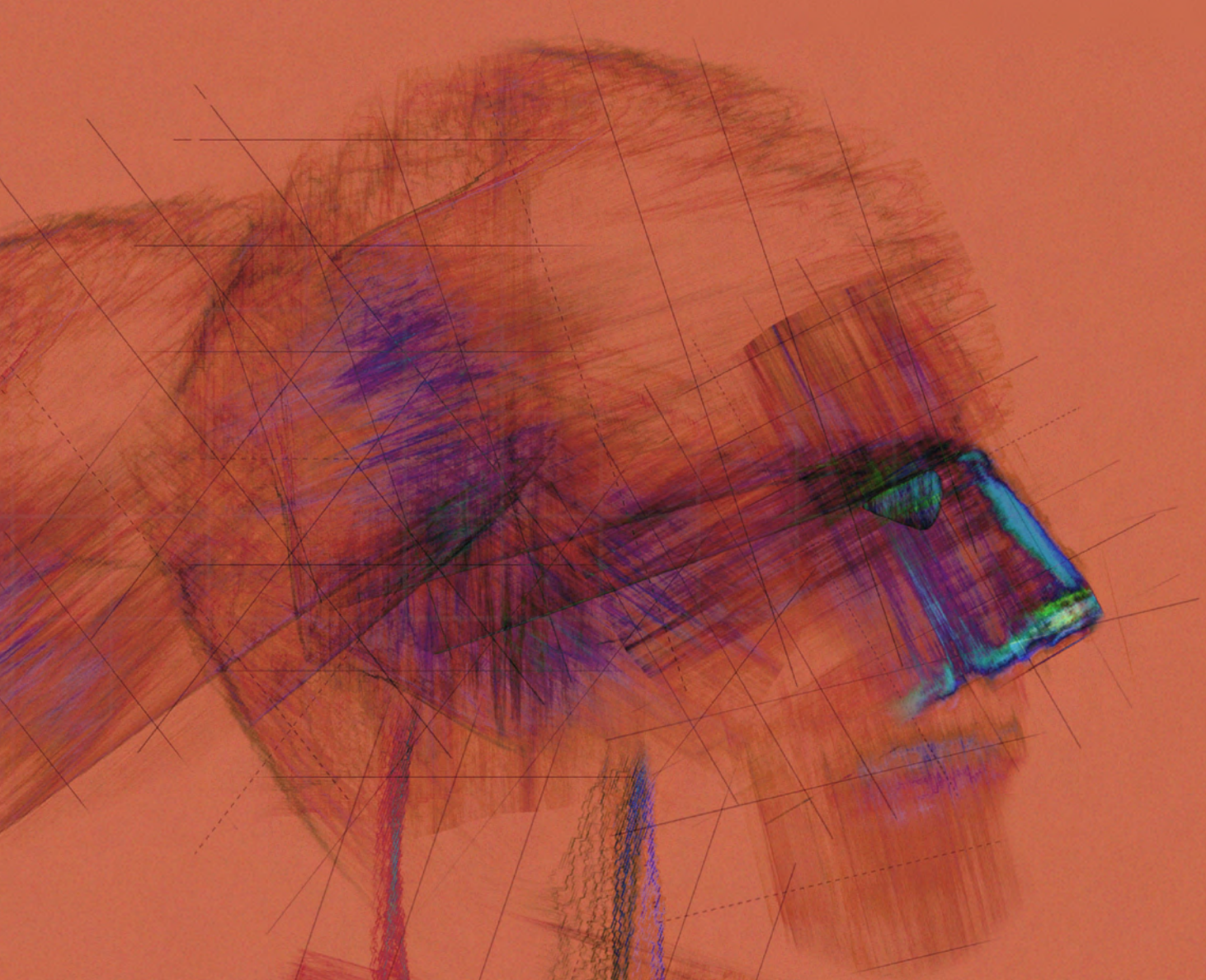
Crossing the Border of Humanity
Cyborgs in Ethics, Law, and Art



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cDNA: Designating the Cyborg

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One of the problems we face when defining the cyborg, is that, by doing so, we create the expectation that there is something fixed about its form that we can identify and which enables us to distinguish it from other beings or objects. Moreover, a crucial component of this determination is the desire to determine it as a being, rather than an object. Cyborgs are invoked as agentic beings, where this agency is located in some interaction between biology and technology. This applies to the loosely characterised bicycle as a cyborgian assemblage, as it does to the mobile phone, the nanomolecular robots, or even the contact lens and the contraceptive pill. Indeed, the problem with the cyborg as a cultural construct - which explains the relative apathy that exists about its ascendance - is that it is easily categorised as all things. Even our environment can become designated as a cyborgian entity, for its capacity to transform the category of nature into something that is denaturing.

This definitional mutability is a crucial characteristic of the cyborg and a critical element in its stealth-like ability to incrementally assert its prominence in the world, analogous to a small piece of DNA, which gradually inserts itself into larger strands, replicating and, eventually, infusing itself across an entire organism, thus transforming it into something else. It is this capacity to transform nature—and specifically, human nature—which has been the focus of political and sociological concern about the cyborg. The anxiety spoken of in Francis Fukuyama's *Our Posthuman Future* was of an indescribable "Factor X," which would be lost, if we allow science to take humanity to its logical extreme and secure an endless, suffering free, and ultimately superhuman existence. Indeed, these themes are present in so much literature about the superhuman. The loss of vulnerability that the superhero enjoys is often treated as a loss of humanity and something that urges us to be cautious and even maintain the superhero as an outsider to our human community.

When I look back on the last 25 years of cyborg theory and practice, I observe an expansion of the scholars who seek to draw upon the idea of the cyborg to advance, often, poststructuralist theories about the state of the world. From the desire to challenge the relentless pursuit of technological advancement in such endeavours as space exploration or the metaverse, to the desire to urge that we attend to those of greatest need in our utilisation of scientific knowledge, the cyborg is treated as both hero and villain, a core narrative arc in a story about what humanity wants for its future. The cyborg symbolises an end state of human evolution which consists of going beyond nature in ways that can lead

to the posthuman turn in how we think about ourselves and apply categories of meaning and systems of organisation that would, fundamentally, shift away from our deepest pillars of human existence. The cyborg calls for cyborgian rights, not human rights. The cyborg shifts our gaze away from DNA to what we may call cDNA—cyborgian DNA—which is necessarily an evolved state, enabled by technological discovery. This is why contemporary cyborgian notions accommodate such technologies as gene editing, as today's cyborg is less defined by the integration of artifice or mechanics into biology and more a product of these nanomolecular devices, which have succeeded in harnessing and modifying nature.

The challenge we face as scholars is that the original definition of the cyborg was made for a different time, which was largely based on a mechanical view of technology. We thought about the cyborg as a being that involved humans becoming intimately connected to machines, but where we could still, reasonably, identify the point of connectivity, where machine meets biology. It was also a concept that was a product of the industrial era, where the growing encroachment of the machine led to greater anxieties about humanity's place in the world and, to some degree, the cyborg was invoked as a symbol of caution.

Today's cyborg is not like this (although it still gives cause to consider how it relocates our position in the ecosystem) and so our definition of the cyborg must evolve. Everything we have learned about nanotechnology, biotechnology, information technology, and cognitive technologies over the last 25 years speaks to a new generation of the cyborg, where it is reconstructed from a deeper knowledge of nature and how we may use biochemical activators to renature biology and where this renaturing is the critical component of the cyborg.

Presently, the term cyborg is still used in a way that is similar to the word "human" and, as we find countless variations of the human, so too, do we find countless variations of the cyborg. Yet, in all of those human variations, we do not speak scientifically, yet, of how these variations undermine the species category of *Homo sapiens*. With all of our variations, this definition persists as an overarching label attached to all homo sapiens and this is why we must further distinguish the concept of the cyborg, as its mutability is so varied as to make similar claims impossible.

Thus, the first principle we should acknowledge when determining the cyborg's place in history is that it is an inherently species fluid concept, to the extent that the determination of a thing as a cyborg is to do it a definitional disservice. It would be like designating all life on earth as essentially the same thing, with simply species labels expressing minor variations. Of course, there may be some merit in holding such a view. For example, we know that species variation can arise through very small differences in DNA and to approach the cyborg as a species fluid concept would elevate our appreciation for how humanity is intimately connected to all forms of life on earth, perhaps leading to a greater degree of care for non-human nature.

In this way, the cyborg concept immediately invalidates itself as a label that can identify specific things, as it encompasses all that is possible to locate as being a hybrid of biology and technology. If we can call a person a cyborg when they are using a mobile phone, or riding a bicycle, or communicating through neural links, or when they are genetically enhanced, then we should conclude not that the sense of cyborg lacks meaning, but that its meaning is comparable to, say, carbon or DNA. The term cyborg is the connecting concept across these new forms of species classification, not a label attached to any specific thing or being. This does not mean the absence of a cybernetic component to the cyborg. It is just that, the closer we get to artifice, the clearer it becomes that it makes sense also to treat it as nature.

At this point in history—where we are all cyborgs now—we risk losing sight of the provocation that the cyborg brought to humanity by generating useful conversations about what kind of life is worth living. At its core, the cyborg is a concept that leads humanity to consider the characteristics of a good life. Is a good life characterised by living forever, being always connected, having unbound freedom to assert our agency, or to reimagine our relationship to all other forms of life on earth? These are the questions which persist in our interrogation of the cyborg as a symbol of humanity's trajectory, which is why, also, the cyborg will persist as a subject of sociological and philosophical concern.

It may be more helpful to designate the cyborg as cDNA to secure its future as a species fluid life form, which is non-human centred, capable of encompassing its definition as both the fusing of bio and biotechnological materials, while also accommodating the historic, mechanical definitional categories. Yet, I find it more likely that, in the future, this Cyborg 1.0 definition will cease to have meaning in designating a subject of concern and everything that has happened in the last 25 years of cyborgian technologies seems, on balance, to confirm this. We are all cyborgs now and we love it.

Reference

Fukuyama, F. (2002). *Our Posthuman Future: Consequences of the Biotechnology Revolution*. Farrar Straus & Giroux. Princeton, New Jersey: Princeton University Press.

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