

Towards the Cybernetic Mind

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Abstract

Humans naturally interface transparently with tools, thus extending through them. Advancing technology has finally produced tools that begin to match our capacities, integrating them more transparently with our minds. We move from tool users towards cybernetic minds, taking our unique human neuroplasticity to the next level.

Key words

Cybernetics, Sartre, extension, mind, tools

Introduction

This article starts with a Sartre-influenced view on the formation of the self, utilises this dynamic view to argue that humans are uniquely positioned to integrate transparently with tools, and then moves on to exploring potential issues resulting from the extension into today's and tomorrow's technologically advanced tools. The article adheres to Clark's position that we are natural-born cyborgs (from the book of that name, 2003). The term cybernetics was originally coined by Wiener (1948), signifying a merger of the human mind, the human body and machines into one communications network. Clark (2003; 2008) takes this idea one step further, arguing that humans have always merged with tools, and that the difference between now and 100,000 years ago is simply a matter of the degree of complexity of the tools.

The Sartrean dynamically layered self

Our coherent and continuous experience of sense of self and the world are so obvious and innate to us that the illusion of having a fixed self is rarely broken – Sartre calls this belief in a solid self 'bad faith' (1943/1956). It is only when the mirage is looked at head on – when we, for example, sit down in silence and stillness for an hour and direct our awareness on awareness itself – that we realise the selectiveness of our selective experience, indeed the elusiveness of this 'self' (Batchelor, 1997). There is also research in the cognitive sciences on how unreliable our perception of reality is, how we constantly fill in the gaps in our perception, how our preconceptions taint our perception (Sekuler, 1994). My 'self' is not fixed, though my mind is trying to convince me that it is – my self is trying to

convince my self that my self is permanent – and usually my self is convinced.

From a Sartrean viewpoint, as the human infant first experiences the world, it isn't really the infant that is having the experience, there is just experience (Pearce, 2011; Sartre, 1943/1956). As experiences repeat themselves, and tend to be centred on the epicentre of these experiences, the infant begins to have a perspective, begins to be an experiencer, a manipulator of experiences. Eventually some form of self has been created from layers and layers of experiences – a self that is, of course, continually shifting as experience unfolds. One word is important here – manipulator – the hand that touches the toy is not initially seen as belonging to the infant, the infant does not have a fully transparent interface to his hand. The care for one's self, one's experience of self, gradually extends to the body. Indeed, the care is gradually layered into the self. Since our sense of self is so dynamically evolved and changing, it has correspondingly dynamic boundaries of this sense of self.

Extending through transparent interfaces

The hazy boundaries of our selves make us include objects and concepts outside our bodies into our experiences of self. Merleau-Ponty speaks of the blind man's cane (1945/1962, p245), Heidegger speaks of his hammer:

The ready-to-hand is not grasped theoretically at all, nor is it itself the sort of thing that circumspection takes proximally as a circumspective theme. The peculiarity of what is proximally ready-to-hand is that, in order to be ready-to-hand, it must, as it were, withdraw in order to be ready-to-hand quite authentically. That with which our everyday dealings proximally dwell is not the tools themselves. On the contrary, that with which we concern ourselves primarily is the work – that which is to be produced at the time; and this is accordingly ready-to-hand too. The work bears with it that referential totality within which the equipment is encountered.

(Heidegger, 1927/1962: p99, German original omitted by me.)

They both refer to transparent equipment, instances when canes or the hammers become transparent, when we hammer nails instead of swinging hammers. A more current example would be when I play *Call of Duty* or *Halo*. Looking at me from the outside, you would see me highly agitated, flinching and leaning in my chair, shortening muscles in my finger thus depressing buttons on my mouse, making leaf switches in the mouse transmit signals to my computer, which displays subsequent pixels on my screen. This is of course not my experience – I'm trying to take out that guy behind the shack over there with my RPG. Ergo, we have a case of

humans gradually extending their experience of self to include the body, then simple tools, and finally a virtual world.

Trust and reliability are crucial for this extension (Clark, 2003; 2008), and the invisible mouse in my example above becomes immediately visible when a piece of lint or dirt on its surface makes it less responsive. Indeed, this is a similar experience as when we drive our cars, interacting smoothly, extending into them, when however a slightly misbehaving gearbox or clutch immediately makes the car apparent in our experience again. It then takes a while until we re-establish our trust and return to driving instead of being aware of moving the wheel and depressing the clutch. Another example would be when I write, I do not experience pushing my pen around, I write.

Does extending into a pen or a computer game make us that pen or that computer game? Where is the real me? The short answer is that there really isn't any you, only an experience of you. You are the bowl of porridge you had this morning, and indeed the farmer that harvested the oats, according to the domain of Buddhist interdependence and ultimate arbitrariness of where we begin and end (Thich Nhat Hahn, 1998). My point is that your experienced self includes the pen, and that the ability to see through this pen, of creating a transparent interface, seems to be something uniquely human.

Thinking in tools

Not only do we integrate tools and our bodies into our sense of self, we think in tools and body. My brain alone can't really think that well, it needs to off-load information onto notepads or into the body in order to engage and manipulate the information. The body's central role in cognition is documented in, for example, Thompson (1993) and indeed Merleau-Ponty (1945/1962). A classic example of how we also use tools in order to think would be Nobel Prize winner Richard Feynman's conversation with Charles Weiner – Weiner commented upon Feynman's notes from his work as being simply a record of the work:

Feynman: 'I actually did the work on paper'

Weiner: 'Well, the work was done in your head, but the record of it is still here.'

Feynman: 'No, it's not a record, not really. It's working. You have to work on paper and this is the paper. Okay?'

(Gleick 1993: p409, quoted in Clark, 2008)

This is similar to the extension of the mind through language – when we started using language, our minds could expand radically. We used an

abstract external object, internalised it, used it to categorise the world and even interact with the world. We used it to impose control over the world as it appeared to us. And now language has gone so far that it is the house of being (Heidegger, 1947/1998; p239), that it determines what we can and cannot think, as I'm sure many here have experienced in the narratives, labels and groupings that we dance with when we explore our clients' lifeworlds in psychotherapy.

As I used to interact with my notepad in order to think, I will soon interact with information that is in some way even more integrated with my body – be it through implants or voice recognition-capable glasses that display information. This means that I will think differently, because my mind will be different, because my mind will include the implant (just like it, at the moment, includes the notepad at times).

Technology 2.0 rather than humanity 2.0

Sharks have had their excellent teeth and livers for 400 million years, perfectly matched. The technology that we extend into is finally catching up with us, becoming as effective as we are, finally beginning to match us. Heidegger's concept of the hammer related to the hand extending through a quite basic hammer, indeed one could argue that the hand is very crude compared to the brain or our mental capacities. Information technology on the other hand extends the brain, the mental capacities, the mind itself, making the extension so much more potent. We become one with our iPhones, we talk to them. There is nothing unnatural about this, indeed I would call an iPhone much more appropriate for a human than a rock or an axe. Our innate propensity to integrate, to make interfaces transparent, is integrating technology with us. We already have two-way communication between electronics and the brain. These are not cochlear implants, these are devices that receive information from the brain, manipulate and then send appropriate information to other parts of the brain, ergo taking part in a dynamic process. Tel Aviv University has already managed to restore lost function in parts of the cerebellum of a rat (a very basic, early and crude part of our brain, but still) with electronics (Mintz, 2011). Rather than moving beyond evolution into humanity 2.0, I'd say that our technology has just about managed to catch up with evolution. This is not the culmination; this is the beginning. This is not transhumanism (Pepperell, 2003) where we move beyond humans, this is us being quintessentially human, now that we finally have some proper tools – technology 2.0.

Crucial choices in four worlds

The availability and subsequent integration with appropriate tools will change how we engage with our environment and ourselves, and I will

utilise the traditional existential four worlds (van Deurzen, 1997) to explore some of these changes. The worlds or dimensions are the spiritual, social, physical and psychological ones, and it is interesting to note that body and technology have traditionally been filed under the physical dimension, whilst my argument above would indicate that they could equally well be seen as a component of the psychological instead.

Central to all issues discussed below is the primacy of choice, more than ever. With increased power comes increased responsibility. It is also imperative that we do not panic. Though many changes seem frightening, unprecedented and overwhelming, I hope to show both below and above that it is often a change in degree rather than category, or indeed simply a new incarnation of an old issue.

The spiritual dimension

I see solitude as the place where I am confronted with myself, where I can't hide from my being. I need to take responsibility for my solitude, my peace, not only turning off my phone, but also closing my book and leaving the football stadium. And simply walk or sit. Only then can I ask myself if I can live with me; if I can accept or even rejoice in my situation and choices. Technologies and civilisations, not only our new ones, afford us a temporary respite from asking questions of existence, but they only afford us them, we can choose to ask anyway. I have always been able to escape myself using a book, but with an increasing integration into the book – if the eBook is accessible with but a thought or a word, and it will be read to me with much less effort – I must be more vigilant and choose solitude.

Having chosen to value solitude, information technology can actually be useful in leading me towards it. I can research breathing exercises on the net, have my iPhone deliver daily emails of spirituality to me (I recommend Tricycle – do sign up at www.tricycle.org), my GPS can lead me to a deserted forest where I can think. I just have to know when to turn the thing off – ‘You have reached your destination, now turn me off!’.

The social dimension

What about dangers to our relations – the extended powers of perception that a continually connected network of phones and computers via social networking gives us? When I grew up, my blunders were watched by few, and possibly retold to some others, but they weren't retold to thousands. So, in a sense, the youth of today are much more watched, much more seen and evaluated than I was. Sartre's gaze of the other in *Being and Nothingness* (1943/1956) reduces us to things, with much less focus on internal validation and being. Is the answer to close down Facebook? Or are we perhaps being a bit centred on our own era here? Indeed, for

perhaps 99,000 of the perhaps 100,000 years that humans have been around, most of us lived in communities where everyone knew everything about everyone. Small villages left little to hide. Indeed, what happened was that the population explosion and urbanisation created alienating huge communities, and it is only now that technology has caught up and again allows us to know everything about everyone.

I think both the worries and acceptance are valid reactions; my point is that we are helped by seeing a sense of normalisation as opposed to feeling that all is alien. Facebook alienates and shames, but it also validates, comforts and supports. It is nothing new, just a new incarnation of something old.

The physical dimension

If information is available in our connected/wearable/implanted silicon-based memory, why should we waste energy storing it in our carbon-based brains (given that the associative nature of our sequentially evolved brain makes us much less proficient at exact storing than the purpose-built computers)? I think that we are already moving towards focusing on being skilful at retrieving rather than being skilful at remembering. We used to have to remember information – Nietzsche had to remember Goethe – now we have to know how to access, or maybe more importantly know how to think, how to engage with information.

Though this idea of shifting focus to manipulating as opposed to storing information attracts me, I think that we need to be extremely wary. I've been speaking of technology as a neutral tool so far, as something I can choose in order to augment myself, something that connects to information that is unbiased and in some way true. This is only marginally the case at the moment, and even less so unless we are vigilant. I do not fear the integration of technology into my being, but I do fear the companies that own the technology and information. If governments or companies remove information from the Internet, and my mind is closely interwoven with the net (if I choose to rely on it as a significant information store, as argued above) they are removing parts of my mind. If I can't Google it, it doesn't exist.

The psychological dimension

What about the danger to ourselves? Will we become 'computerized' and think like computers, all boxy and linear? I don't think so. Indeed, using Merleau-Ponty's discussion of art and Cezanne (1948/2008), I hope to offer an opposite possibility. Merleau-Ponty saw the movement from the soulless landscape paintings (that depicted the world out there) to something that depicted the world as it was experienced in here, in me, in Cezanne's art. One describes the world accurately; the other one engages

us and draws us in. Levinson (1997, p47) also talks about this, when he discusses photography and impressionism rising together in the late 19th century: ‘How, then, did painting not only survive but thrive? By focusing on the one thing it could inevitably do better than the photograph—by further developing into an art form its very subjectivity in the conception of the image, the very subjectivity that photography eliminated’.

How can we apply this to our situation? The exact depiction of reality by mechanical devices didn’t make us exact – indeed it made us more blurry. Photography taking care of exactness afforded the exploration of the subjective, even created a reaction towards the subjective. There was no need to smash cameras; indeed we got both vivid displays of objective and subjective realities. How can we make a leap similar to the impressionists – how can we benefit from our integration with exact technology in order to become even more human? I think through choice. Through accepting and benefiting from technology, as the cyborgs we have always been, not rejecting it nor forgetting our being, our uniqueness and potential.

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