

Plus ultra! Or: To enhance, or not to enhance?

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"Why did you not come when I called you?" said the blind man. "Must you be led like a child? Cannot you hear the path as you walk?"
Nunez laughed. "I can see it," he said. "There is no such word as *see*," said the blind man, after a pause. "Cease this folly, and follow the sound of my feet."

The Country of the Blind (1)

Can I interest you in a new and dangerous idea? It's called ontological enhancement. We can pick up its trail in Philip K. Dick's novel *Do Androids Dream of Electric Sheep?* on which the film *Blade Runner* was based. The hero of this tale is Rick Deckard, a hunter of runaway androids. Unlike in the film, the Deckard on the page has a wife, Iran. At one point we find the Deckards together at home, in an intimate but restless moment. Rick suggests to Iran that she watch television, but she doesn't feel like it. Why not use their Penfield mood organ? Dial 888, "The desire to watch TV, no matter what's on it." But Mrs. Deckard says that she doesn't want to dial anything. Deckard: "Then dial 3." Here is Iran's reply...

I can't dial a setting that stimulates my cerebral cortex into wanting to dial! If I don't want to dial, I don't want to dial that most of all, because then I will want to dial, and wanting to dial is right now the most alien drive I can imagine; I just want to sit here on the bed and stare at the floor. (2)

Life is simple enough when one has desires, and possible means to achieve them. But in their absence, as we sit on the bed and stare at the floor, the question of what to desire and what to aspire to can be hard.

What we should want becomes a quite bewildering question when considering so-called enhancement technologies. These are medical technologies reapplied to enhance human traits or capacities, sometimes in illicit ways. Take Viagra, for example. Marketed for treating erectile problems, it was soon used in other ways - for one, it helps to revive an erection sooner after orgasm. Likewise, plastic surgery straightens noses and makes breasts more luscious, wind instrument players pop anti-hypertensives to becalm jitters and play more sweetly, and Tour de France cyclists boost their staying power on the sly by upping their blood count with anaemia remedies. Yet these are really just little things when compared to real future possibilities - such as enhancements of longevity, perception, and mental ability.

Is all this good news - or madness? The truth is, enhancement technologies present us with a profound challenge, an embarrassment of freedom. What do we want from them? Or: what sets the limits to the forms of enhancement that we might want? I always found the boundaries of desires and aspirations mystifying. For example, a female friend of mine listens a lot to the music of Benjamin Britten, which leaves me cold. I would like to like it, to discover what I am missing, and will keep trying to develop a taste for it. She also likes to sleep with men. But there I have no wish to discover what I am missing. In fact, even the possibility that I am missing something makes me uneasy. Why is that?

Suppose that a drug were available that could act on gender-determining centres in my brain - something from Penfield, perhaps - to give me the sexual desires of a woman, in addition to my own male desires. Would I take it? Probably not. But that's how I feel now: if I took the drug I would feel differently. So would I take it?

This is an example of what I call *ontological enhancement*, a type of profound enhancement with three eerie properties, superfluity, directionality and

identity transformation. This might all sound a bit academic, let me show you what I mean.

Let's start with superfluity. On the face of it, I really would not want to take the gender-extender pill. Other enhancements, perhaps - say, of intelligence or longevity - but extending my gender is not anything that I aspire to. To me such a drug would be *superfluous* to my desires.

Yet suppose that I took the drug: some days later I might be saying: "What I've been missing all these years!" or "Gender-wise, I have seen the light!" This being so, how would I respond if I was then offered an antidote? Assuming no unpleasant side effects, probably with a No, thank you. This is the second feature: *directionality*. Ontological enhancements may be superfluous and unimportant before they have happened, yet once they are done their loss will be experienced as a diminution, a bereftment, even a disability. To someone born blind, their blindness may be a matter of relative indifference, and likewise the possibility of sight. Yet to those accustomed to seeing, becoming blind is a catastrophe.

Finally, in becoming a bisexual man I would undergo a distinct change in identity: a transformation, a metamorphosis. In all likelihood my circle of friends, my tastes, my clothes would all alter: I would be a different person. And some of my old friends might feel they no longer knew me.

Why *ontological* enhancement? Sight for the sightless, hearing for the deaf, the birth of sexual desire *ex nihilo* at puberty: such changes represent extensions of being, of existence - that is, ontological enhancements. Of all the imaginable forms of enhancement, these are the most radical, since they open up new domains of the self, such that there is more of one than there was before. By contrast, other forms of enhancement merely extend or embellish existing qualities.

The superfluity of ontological enhancement sets a boundary to what each of us could become. Yet at the same time,

we are each of us free to choose it, just as we choose to have or not to have children, to do something or nothing with our lives, or even to go on living or to commit suicide. To take or not to take the gender-extender pill? That is the question.

Natural history as a menu of ontological enhancements. The animal kingdom is a rich sources of ideas for biologically feasible ontological enhancements. The sense organs of many animals are very different to our own. Take eyes, for example. Honeybees can see ultraviolet light and experience colours in flowers that we cannot. Innes Cuthill at Bristol University has made a detailed study of colour vision in the European starling, which can also see ultraviolet. Human colour vision is generated by three types of colour-sensitive cones in the retina of the eye. By contrast, starlings have five: three cones similar to ours, plus an ultraviolet-sensitive cone, and an enigmatic fifth cone, called the double cone. Thus, starlings have, at the very least, four dimensional (tetrachromatic) vision, and a colour world unimaginably more complex than our own. While their plumage looks relatively dull to us (not to mention, greasy), to one another they appear dazzling, and the ultraviolet hues of their plumage, invisible to us, is a major determinant of mate choice in this bird (4).

Beyond the other end of our visible spectrum, some animals can sense see into the infrared. The Australian python, for example, can detect infrared light via sensors in pits in its snout and lips (5). The human sense of smell is, of course, notoriously poor, and in a similar league among mammals as the eyesight of pigs, and the reasoning ability of kangaroos.

In terms of hearing, a dramatic example of capacities far beyond that of humans is the ultrasonic hearing and sonar "vision" of bats, discussed by Thomas Nagel (6). For a person to gain sonar vision would represent a severe ontological enhancement, since it would involve

creation of an entirely new sensory modality, rather than the extension of an existing one. The muddling of modalities of our existing senses, or synesthesia, can occur either as the result of neurological disorders (7), or through the use of psychedelic drugs such as LSD (8). Or consider the tiny, soil-dwelling nematode worm *Caenorhabditis elegans*. Here, the male of the species has a complex genital structure on the end of its tail, called the tail fan, equipped with a battery of sense organs called rays. However, the nerve endings in these sensory rays are not touch sensitive, but rather, *taste* sensitive (9). For mammals, this would be like having pleasure-generating genital taste-buds, which is just about possible to imagine, and I suppose could be quite nice. No doubt, once one had got used to them one would feel sorry to lose them.

Ontological enhancement and ontological diminution. Are prelingually deaf people (i.e. who have never known hearing) disabled, or are they just different? Recent decades have seen the increasing emergence of a Deaf community (the capital D signifying the Deaf culture rather than the absence of hearing), with a rich and highly distinctive culture of its own, centring on the use of sign language (10). Arguably, to the prelingually deaf, the main reason that deafness is a disability is that most hearing people do not know how to sign. Hence, Deaf people occasionally refer to the hearing as "signing impaired". I had a distinct sense of this recently when a smartly-dressed deaf woman stopped me in the street in Central London and asked me the way to the Sadler's Wells Ballet. Something about the quizzical way she looked at me left me feel distinctly inadequate for not speaking sign.

For a prelingually deaf person, becoming fully able to hear would represent an ontological enhancement. Do prelingually deaf people wish they could hear? Apparently, if we consider those who are integrated into the Deaf community,

they often don't. It has even been suggested that in some cases deaf couples might elect to use pre-natal screening to ensure that their children would be deaf, if this were possible. A number of prominent members of the Deaf community were born into deaf households (10), and deaf parents may therefore conceive of their plans of child-rearing in terms of giving their deaf children the proper Deaf upbringing that they themselves were denied. Thus, to at least some members of the Deaf community hearing is superfluous. (Of course, people who become deaf after having been able to hear are a different matter, and are far more likely to experience their loss as a disability).

The self seems to be dimensionless: our self fills the new space produced by ontological enhancement as exactly as it filled the old. There is no "increasing" the self. Thus, it is really makes little sense to view the prelingually deaf as disabled, or missing anything - at least, not those that are happily Deaf. This is what is nice about the ontological enhancement idea: it grants us a view of human difference that is more humane, but which does not deny the value of enhancement.

The relationship between the absence of hearing, the emergence of the Deaf community and Deaf culture around the common use of sign language, the sense of identity as a Deaf person, and the resulting superfluity of hearing: this provides insight into the relationship between identity, authenticity and responses to enhancement technologies. Clearly, in many cases the value of an ontological enhancement, x, will be limited as long as there is no X community with an X culture. Throughout his life H.G. Wells was troubled by his own story of a sighted man trapped in a blind society unable to conceive of sight (1). He wrote of "the spiritual isolation of those who see more keenly than their fellows and the tragedy of their incommunicable appreciation of life." (11). What would it be like to be the only person in the world with sonar vision? What

sort of language (if any) would one use to describe what one saw?

Identity transformation, self and others.

Why would one reject or embrace what one perceived as identity transformation?

Identity transformation has a two-fold effect: one may cease to recognise oneself, and one may become unrecognisable to others. Arguably, it is only the latter that most people really worry about. Nietzsche once wrote:

Pseudo-egoism. - Whatever they may think and say about their "egoism", the great majority nonetheless do nothing for their ego their whole life long: what they do is done for the phantom of their ego which has formed itself in the heads of those around them and has been communicated to them; - as a consequence they all of them dwell in a fog of impersonal, semi-personal opinions, and arbitrary, as it were poetical evaluations, the one for ever in the head of someone else, and the head of this someone else again in the heads of others: a strange world of phantasms - which at the same time knows how to put on so sober an appearance! (11)

The capacity to disrupt relationships with others and place in the community is a strong feature of ontological enhancements, and is an important determinant of their superfluity. Consider the two examples employed here: hearing for the deaf, and gender extension. Insofar as identification with the Deaf community involves pride in one's condition as deaf, and self-definition based on difference to a somewhat oppressive culture of the hearing, the sudden acquisition of hearing could initially result in alienation. And as for gender extension: what would my wife say? Yet, while disruption of social identity and status might contribute to an aversion to ontological enhancement, they do not fully account for its superfluity, which remains even for the outsider who is relatively free of normative constraints.

Identity, community and ontological enhancement. The philosopher Carl Elliott has wondered about the emphasis on authenticity in many people's responses to enhancement technologies (13). On the one hand, it is often argued that enhancement technologies are bad because they are a way of faking it. I was once discussing with some sixth form girls in South London the possibility of using the amphetamine Ritalin (methylphenidate) as a study aid. I was surprised how vehemently and unconditionally they opposed the idea. As they saw it, how well you do in school should reflect your own native abilities. By this view, someone who uses an enhancement technologies in this way is a phoney, pretending to be something that they are not. Yet in other accounts of enhancement technologies the possibility of transcending one's limitations, and transforming one's identity is seen as a good, allowing the freedom to be whoever one wants to be. Coming from a close-knit community in South Carolina where the cultural identity of the American South is very strong, Elliott is especially interested in the question of authenticity and alienation in relation to cultural identity.

I would like to suggest a model to describe the relationship between personal or cultural identity, and authenticity, which centres on an account of personal ontogenesis: how we become who we are. Each of us is born with a certain number of predispositions and limitations: for example, we might be male, or deaf, or predisposed to shyness. Our development from infant to adult as a human being is only possible through our interaction with our parent culture. Feral children, for example, do not acquire language, despite their predisposition to do so. As we develop, our bodies grow and transform, and we interact with our culture, drawing extensively from it. Yet it is important to understand that personal development does not merely involve piling nurture on top of nature. In a dynamic fashion, one's innate features will continue to affect not only how

one responds to one's cultural milieu, but more actively: affecting not only whether or not one adopts given aspects of one's parent culture, but also influencing that parent culture: nature and nurture interact. For example, more than a girl, a small boy might prefer shooting birds out of a tree with a catapult than looking after his little sister; a shy girl might prefer watching television than going to the Brownies and singing songs around a campfire; and a deaf child might prefer using sign language to lip-reading and cochlear implants (14).

One way to understand authenticity is as a component of the process of negotiation, during ontogeny, between our predispositions or limitations, and our cultural milieu. In other words, authenticity is the perceived compatibility of a given cultural element with one's pre-existing self. By this view, early in child development, issues of authenticity are likely to relate more directly to biological issues. For example, say a small girl is adamant that she can do anything that her little brother can, and insists that she can pee standing up. In essence, her selection of the cultural element "peeing standing up" is an inauthentic one. We would understand her little brother if he accused her of being pretentious.

I remember once asking my sister, who has Down's syndrome, what she wanted for Christmas. She replied without hesitation: "Leg irons" (i.e. metal leg braces). I assume one of her friends at the community where she spends the greater part of the year wore leg irons, and she had taken a fancy to them (her legs are fine). The business with wanting leg irons went on for several years, as I recall. But I don't think anyone in my family seriously considered getting them for her - we just used to laugh about it. Arguably, if we had got them for her, and she had gone out in them feeling well adorned, she would have been rather phoney.

If I am right in looking at authenticity in this way, a good way to understand the roots of authenticity would

be to study the development of conceptions of authenticity during childhood. The older one becomes, the deeper one's original predispositions become buried within specific cultural structures. For example, the native speaking of, say, Finnish will overgrow an original capacity to develop any first language. With time, the relative contributions of the cultural determinants of one's identity will steadily increase, and contribute increasingly to the judgement of authenticity in decisions involving personal ontogeny. Yet in a sense the biological roots of one's authenticity represent a link to a real self: one assumes Nietzsche's phantasms would be little concerned with authenticity.

What leads one to reject one's own culture or to feel alienated from it? Here are three possible reasons. Firstly, one's own predispositions or limitations may be at odds with one's native culture. For example, a gay youth from a Scottish fishing village might well decide he was better off moving to Glasgow, and becoming a restaurateur rather than following in his father's footsteps and becoming a mussel fisherman. Likewise, a young deaf woman might give up trying to lip-read her family members, and spend all her time instead with her Deaf friends. Secondly, core elements of one's native culture might come to appear factually untrue. For example, doubts about the existence of God will create problems for someone living in a religious community. Probably the most common problem with cultural authenticity results from contradictions or heterogeneities that exist within the culture itself. Or to put it another way: elements of one's cultural identity can come to seem inauthentic as the result of the eroding effects of cultural relativism.

But here we are concerned with the relationship between biological enhancements and authenticity. Why is it that the use of enhancement technologies is sometimes viewed as inauthentic? One possibility is that this sense arises from the fact that until now the biological

determinants of identity were immutable. In the past, issues of authenticity always involved selecting appropriate cultural elements to match the biology, rather than making choices about the biology. By this view, accusations of inauthenticity are the result of confusion about the nature of enhancement. A more interesting answer is that the judgement of inauthenticity is actually a judgement about efficacy. Treatments of illnesses may be either curative or palliative; likewise, one can think of enhancements as being either genuine or palliative. Thus, one might take a selective neurotrophic drug that promoted nerve cell growth in the brain, resulting on one becoming permanently smarter - a genuine enhancement; alternatively, a lazy student might use Ritalin to study for an exam, and achieve better grades - arguably, a palliative enhancement, such that his grades would be inauthentically high.

Ontological enhancement and cultural relativism. Could we understand the uneducated and educated in terms of the values of ontological enhancement? Or - and here's a suggestion that will raise some hackles - what about "traditional" versus "developed" societies? In both education and cultural development, something akin to ontological enhancement is taking place... we can see its hallmarks - superfluity, directionality and transformation of identity. In the case of cultural development, this is a kindly idea. It is painful to have to consider some societies as advanced and enlightened, and others as primitive. To do so seems to doom us to being cultural chauvinists, sneering at backward "natives", and talking of societies in terms "civilised" or "barbarian".

The magic properties of ontological enhancement rescue us from such arrogance without forcing us to deny the value of intellectual and cultural development. Let me rehearse the argument once again. Ontological enhancements are superfluous, so the condition of a hearing person is not better than that of a deaf person. Yet to a

hearing person becoming deaf is a dreadful loss. Now, consider the Wa of the forests Myanmar, a very traditional society - head-hunters until recently. The bright young Wa who found himself at a university might easily grow to view his own people as backward and primitive. Not because of the betel nut chewing or the snacking on rats (cultural relativism, that). But rather, the illiteracy, the obscured view of the world.

Through the prism of ontological enhancement we can view Wa society, without hypocrisy, as simultaneously equal to and less than our own. This is thanks to the strange nexus of superfluity and directionality. One seems to have to say "it is better to have more, *when* one has more, but not before". Thus, we who can hear and read cannot view the deaf or the Wa as having less, although we have more.

But... how to respond to superfluity? One possible response is a new ethic, one that says, go further. Or as the early transatlantic sea-farers would have it, *plus ultra*. So then, enhancement technologies: too much trouble? Or *plus ultra*!

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- (2) Philip K. Dick, "Do Androids Dream of Electric Sheep?" (1968), Granada Publishing Ltd., London.
- (3) You can demonstrate this with a pair of sharpened matchsticks. With the subject's eyes closed, prod their skin with the two

points simultaneously. How far apart do they need to be before they can distinguish between one and two points?

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