Obsolescence and body technologies

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Obsolescencia y tecnologías del cuerpo

ABSTRACT: One of the most consequential advances in sciences and technology is the increasing generation of bodily enhancement products that enable a culture of, demand for, and acceptance of improving and modifying the human body (structure, function, abilities) beyond its species-typical boundaries. A lively discourse exists around the rights and wrongs of human genetic and other forms of enhancement. Many treat the species-typical human body as an obsolescent technology in need of serious improvements. This raises various questions. This paper addresses the following questions: a) can one refuse the upgrade, b) who has access to the upgrade, c) is there a way to revert to the obsolescent state after the upgrade, and d) what is the impact of perceiving oneself as obsolescent.

KEYWORDS: Ableism, Enhancement, Disability, Obsolescence.

RESUMEN:Uno de los mayores avances de la ciencia y la tecnología lo constituye la creciente generación de productos para la mejora corporal que dan lugar a una cultura, demanda y aceptación de la mejora y modificación del cuerpo humano (su estructura, su función, sus capacidades) más allá de sus típicas fronteras. Existe un discurso intenso acerca de las ventajas e inconvenientes de las diversas formas de mejoramiento humano, genéticas y otras. Muchos tratan el cuerpo humano típico como una tecnología obsoleta que precisa de importantes mejoras. Ello conlleva varias cuestiones. Este trabajo aborda las siguientes: a) ¿se puede rechazar la mejora?, b) ¿quién tiene acceso a la mejora?, c) ¿existe la posibilidad de volver a la situación obsolescente después de la mejora?, y d) ¿cuál es el impacto de percibirse a uno mismo como obsolescente?

PALABRAS-CLAVE: Ableísmo, Mejora, Discapacidad, Obsolescencia

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Introduction

> *Un outil, une machine ce sont des organes, et des organes sont des outils ou des Machines* (Canguilhem, 1952).
> (*Tools and machines are kinds of organs, and organs are kinds of tools or machines*; translation from (Hacking, 1998)).

One of the most consequential advances in sciences and technology is the increasing generation of human bodily enhancement products in many shapes and forms enabling a culture of, demand for, and acceptance of improving and modifying the human body (structure, function, abilities) beyond its species-typical boundaries (Wolbring, 2009d; Wolbring, 2008d; Coenen et al., 2009; M.Roco, 2003; Wolbring, 2005; Nature, 2008; Williams, 2006; Beck, 2007). In a 2009 "Human Performance Study", written for the Directorate General for internal policies, Policy Dept. A: Economic and Scientific Policy Science and Technology Options Assessments of the European Parliament, one reads:

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> "New human enhancement technologies and trends provide opportunities for individuals and for society. They also pose new risks and tend to create new needs and social demands. This tendency in itself puts a strain on solidarity and healthcare systems. The issues touch upon matters that are relevant at EU level, such as health budgets, research policies, and economic issues. Differences among member states will probably lead to tensions in the future. In addition to interventions by nation states, EU policies will have to address these issues. Currently however, the EU has no platform for monitoring and discussing human enhancement issues. Arenas are lacking where the normative issues can be politically deliberated and the gap between the needs and the concerns of the broader public and the practitioners and experts bridged" (Coenen et al., 2009).

A lively discourse exists around the rights and wrongs of human genetic and other forms of enhancement (for many arguments pro and con see (Wolbring, 2005)), see also[1] with no consensus in sight.

The favoritism for certain abilities and ableism is one social dynamic that shapes the demand for such enhancements (Wolbring, 2008b). Individuals, households, communities, groups, sectors, regions, countries and cultures cherish and promote certain abilities while viewing others as non-essential (favoritism of abilities). A step beyond favoring certain abilities is the dynamic of ableism where one not only cherishes certain abilities, but where one perceives certain abilities in oneself or others as essential. Ableism leads to an ability-based and ability-justified understanding of oneself, one's body and one's relationship with others of one's species, other species and one's environment (Wolbring, 2008b). Ableism often leads to disablism (Miller, Parker, & Gillinson, 2004); the discriminatory, oppressive, and non-supportive behavior arising from the belief that certain abilities are essential.

Transhumanism is a second concept that shapes the demand for such enhancements. It is according to Humanity+ formerly the World Transhumanist Association, "The intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities" (World Transhumanist Association, 2003). In this case, one favors abilities that go beyond the species-typical. The ever increasing speed of appearance of human bodily enhancements and the desire to transhumanize one's body paves the way for such transhumanized form of ableism (Wolbring, 2008c; Wolbring, 2008b) where people perceive the improvement of human body abilities beyond species-typical boundaries not only as desirable but as essential. However, arguments around enhancement rarely take the social dynamic of ableism into account.

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Disabled people play a key role in the enhancement reality of today and the future (World Transhumanist Association, 2004; Hughes, 2004; Wolbring, 2009b; Wolbring, 2004; Wolbring, 2008e). However the impact of the living situation of disabled people on the enhancement discourse and vice versa as well as the impact of laws such as the UN Convention on the rights of people with disabilities on the use of enhancement and vice versa are two areas of inquiry mostly missing from the enhancement discourse. Furthermore, disabled people themselves are vastly underrepresented in the enhancement discourse (Wolbring, 2009b; Wolbring, 2004; Wolbring, 2008e).

Another aspect that is not visible in the enhancement discourse and which is the main topic of this paper is the issue of obsolescence as it pertains to body technology products. New body technology products are developed and consumed at an ever-increasing speed; the body itself becomes a commodity with the body technology products being a value-added proposition for and of the body. The commodification of the body through the use of body technologies[2] plays a role in many discourses such as organ transplant (DeCastro, 2003; Goodwin, 2004; Savulescu, 2003), disability (Fitzgerald, 1998; Mitchell & Snyder, 1997; Inahara, 2009), ethnicity and race (Collins, 2006; Bridges, 2002; Cervulle, 2008), health, medicine and care (Stern, 2003; Ungerson, 1997), immortality and aging and the elderly (Rubavicius, 2008; Tulle, 2008), cosmetics (Negrin, 2002; Davis, 1995; Swami, Chamorro-Premuzic, Bridges, & Furnham, 2009) and especially the posthuman/cyborg discourse (Hacking, 1998; Kwok, 1996; Haraway, 1991; Canguilhem, 1952; Wiener, 1965; Bostrom, 2005). As the body is defined increasingly by its value-added consumable techno-parts, it makes the body and its wearer part of the obsolescence dynamic. Products and visions are made obsolete in an ever-shorter timeframe whereby the consumable techno add-ons for the body become part of the same obsolescence dynamic. In the case the 'obsolete' techno add-on cannot be replaced the obsolescence label might be transferred to the very wearer of the techno add-on. The wearer becomes an obsolete model.

This paper covers the obsolescence aspect of body technologies and the impact on their disabled and so-called non-disabled people wearer, focusing on the ability-to-refuse and irreversibility aspect of many body-technologies-to-come. The paper contends that there is a pressing need for society to deal with the a) lack of access, b) lack of refusal ability and c) irreversibility aspects of body-technologies.

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Body Technology

Body modifications have a long history (Featherstone, 1999) and have cultural components (Balsamo, 1995); an active body morphing community exists. The term homo technicus used in earlier years to highlight that humans are different from other species because they can generate and use tools (Nagchaudhuri, 1988; Wylie, 1971) is used in recent times to highlight the fusion of technology with the body (Bishop, 2007), the "fusion of the biological and technological at an atomic level (Bishop, 2007). Cyborg-cell is another term used (Robert Austin et al., 2007) to indicate the irreversible merger of human and technology, the merger on the very level of cells and body organs. Nanoscale products and process are envisioned to change the body and its abilities in many ways. (Wolbring, 2005) Artificial arms, artificial blood, artificial blood vessels, artificial ears, artificial eyes, artificial gut, artificial heart, artificial legs, artificial organs, artificial retina, artificial skin, bionic knee, spinal cord prostheses, cranial, neural, and other implants, artificial joints, artificial muscles, artificial noses and tongues, nose on a chip, bio-artificial kidney, artificial liver, artificial lungs, artificial discs. diagnostic sensors, drugs, artificial hippocampus (a chip implanted under the skull that can act as a memory repository), brain machine interfaces (implanted or non implanted version that allow the control of objects by thought through a computer link), cogniceuticals (cognition modifying drugs) emoticeuticals (emotion modifying drugs), sub vocal speech (allowing the translation of thought into speech through a computer without a need to actually speak) are just a few body parts envisioned to be modified or generated by new, emerging and envisioned sciences and technologies. Many such as the transhumanist treat the species-typical human body as an obsolescent technology in need of serious improvements (Wolbring, 2008c). If the human body is an obsolescent technology this raises questions such a) can one refuse the upgrade, b) who has access to the upgrade and c) is there a way to revert to the obsolescent state after the upgrade.

The Ability to refuse

Use of obsolescent technologies can reveal resistance to the onward march of technology as the 2009 call for papers for the obsolescence theme of the M/C Media and Culture journal states (Jacobs & Wilson, 2009). A Sunday Times article from 2005 states that one in three refuse technology (Kinnes, 2005). What is the situation with body enhancement technologies? The journal *Nature* published in 2008 the results of a survey on cognitive enhancement taken by 1427 Nature readers. One

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of the findings was that although 86% felt that healthy children under the age of 16 should be restricted from taking these drugs one-third of respondents said they would feel pressure to give cognition-enhancing drugs to their children if other children at school were taking them (Nature, 2008). Indeed, peer pressure susceptibility is known to have an impact on the ability to refuse (see for example (Flannery, Vazsonyi, Torquati, & Fridrich, 1994)).

Donovan, Egger, Kapernick and Mendoza investigated in 2002 what might generate a climate of achieving Performance Enhancing Drug Compliance in Sport (Donovan, Egger, Kapernick, & Mendoza, 2002). They developed a framework with six major inputs to an athlete's attitudes and intentions with respect to performance enhancing drug usage namely a) threat appraisal; b) benefit appraisal; c) reference group influences; d) personal morality; e) legitimacy and f) personality factors. Risk factors for peer pressure susceptibility included low self esteem, uncertainty about ones place within a given peer group and lack of belonging (Donovan et al., 2002). The likelihood of drug use will be highest when a) threat appraisal is low (e.g. low risk of being tested, penalties not severe); b) benefit appraisal is high (e.g. significantly enhanced performance, high financial or social rewards); c) personal morality is neutral (e.g. 'drug use is a personal decision – there are no victims'); d) perceived legitimacy of the laws and enforcement agency is low (e.g. test procedures and selection of athletes for testing are seen to be inequitable); e) relevant reference groups are supportive of drug use (e.g. friends/family encourage drug use) and f) high vulnerability on personality factors (e.g. low self-esteem, risk taker, pessimist)(Donovan et al., 2002).

Many disabled people see themselves as not having a positive place within society; feel they do not belong, are not accepted, respected and accommodated for who they are, and are not treated as full citizens (Denison Jayasooria, 1999; Jenny Morris, 2005; Rapp & Ginsburg, 2001; Barton, 1993; Meekosha & Dowse, 1997). Keeping this reality in mind, it seems reasonable to expect that the deterrents to the use of enhancements as developed by Donovan, Egger, Kapernick and Mendoza will not apply. Disabled people will perceive enhancements as highly beneficial and not immoral. The relevant support groups very likely will be supportive. The disabled person is highly vulnerable to the enhancement sales pitches. Laws and regulations will be seen as having no legitimacy to prevent enhancements, as enhancements will be seen as therapeutic social and otherwise. Indeed the UN Convention on the rights of persons with disabilities (United Nations, 2007) demands that disabled people are given access to assistive devices and

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the convention does not draw a line between assistive devices that lead to species-typical or beyond species-typical abilities (Wolbring, 2009b).

If disabled people are indeed not accepted, respected and accommodated for who they are, if this option is taken off the table and if the disabled person believes that he/she only receives respect and access to society by employing body technologies to modify oneself it seems nearly impossible for disabled persons to stay with their as 'obsolescent' as defective labelled body.

So far, the only body technology option that disabled people could opt for was to be fixed to the species-typical norm. However, another option becomes increasingly a practical possibility where the disabled person can opt not to be fixed to the species-typical norm, but to be fixed (enhanced) beyond species-typical boundaries (Wolbring, 2004). If 'fixes' towards or beyond the species-typical are the options, and if social accommodation for the 'non-fixed' body is not an option it seems to be rational for disabled people to choose the enhancement option. Indeed, it would be hard to refuse disabled people the choice of using enhancement body technology. In addition, once disabled people perform beyond the abilities of the so-called non-disabled people, many of the so-called non-disabled will feel pressured to enhance their abilities in order to stay competitive in the area of employability and other areas of life. So in the end it will not be only the so-called impaired, sub species-typical person that might find it impossible to be content with their 'obsolescent' sub species-typical body, but species-typical 'normal' person might find it impossible to be content with their 'obsolescent' species-typical body and feel the pressure to move towards a beyond species-typical body.

The pressure to enhance oneself is generated by the adherence to certain forms of ableism. The author explained the concept of ableism in detail in a recent article published in this journal (Wolbring, 2010) and elsewhere (Wolbring, 2008h; Wolbring, 2008g; Wolbring, 2008c). In short, the term ableism evolved from the civil rights movements in the United States and Britain during the 1960s and 1970s (Various, 2006) to question and highlight the expectations towards certain body abilities and the prejudice and discrimination persons experienced whose body structure and ability functioning was labeled as 'impaired', as lacking essential body function abilities. However, the issue of ableism is a much broader phenomenon. Every person cherishes certain abilities and finds others non-essential. Favoring certain abilities often morphs into ableism where one not only cherishes certain abilities but

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where one sees certain abilities in oneself or others as essential. Ableism leads to an ability-based and ability-justified understanding of oneself, one's body and one's relationship with others of one's species, other species and one's environment (Wolbring, 2008b). Indeed, according to the summary report of a 2006 invitational workshop called *Good, Better, Best: The Human Quest for Enhancement* convened by the scientific freedom, responsibility and law Program of the American Association for the Advancement of Science (AAAS) "polls indicate that personal interest in or aversion to using human enhancement technologies depends on one's perceived social status, and how human enhancement would affect his/her competitive advantage"(Williams, 2006). The report highlights the ability to be competitive, to be able to deal with national security concerns and the ability to maintain quality of life and consumer life-style demands as key abilities that support the uptake and acceptance of enhancement products.

Assuming that enhancements through body techno add-ons will be pushed, one issue will crop up increasingly for the ones who have access to them - namely the issue of no return.

The way of no return?

> "How did parents endure the shock [the birth of a thalidomide baby]? The few who made it through without enormous collateral damage to their lives had to summon up the same enormous reserves of courage and devotion that are necessary to all parents of children with special needs and disabilities; then, perhaps, they needed still more courage, because of the special, peculiar horror that the sight of their children produced in even the most compassionate. Society does not reward such courage… because those parents experience represents our own worst nightmare, ever since we first imagined becoming parents ourselves." (Stephens T and Brynner R, 2001)

The thalidomide story makes for an interesting case study. Thalidomide was a drug used in the 1950's/1960's for various purposes that led to various issues during the development of the embryo and the fetus, one being that many thalidomiders were born with non-normative body structures like without arms or legs. In tune with the sentiment of the Stephens and Brynner quote many parents, physicians and society as a whole felt something was faulty with thalidomide children (Wolbring, 2009e). Therefore, a lot of effort was placed by non-thalidomide people on outfitting thalidomide children for example with artificial legs and arms to normalize the child's ability and body structure. However, what was the sentiment of thalidomiders? Thalidomiders had no preset experience with a 'species-typical body. Did they perceive these add-ons such as artificial arms and legs as essential? Did they ask for them?

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History tells us that selling these add-ons to thalidomiders was indeed a hard sell. It was in the end an impossible sell. Many thalidomiders did not see artificial arms and legs as essential to their body image (personal experience of the author having been on the board of various thalidomider organizations in different countries). At best, thalidomiders saw artificial legs and arms as tools to be used if they were useful and replaced by other tools if they offered better solution to a given problem. At worst, they saw them as a hindrance to themselves and their perception of their body and their self-identity in general. The thalidomide story highlights that perception of parents and society did not necessarily match the perception of the child. Indeed today, the author knows very few thalidomiders who still use artificial legs and the author does not know anyone who still wears artificial arms. As soon as thalidomiders were able to assert themselves against their parents or whoever told them to wear these add-ons, most decided not to wear them. This outcome of the thalidomide story was possible because these add-ons were reversible. The add-ons could be made obsolete when it became clear that they simply did not fit with the self-identity of thalidomiders and the perception and expectation many thalidomiders had of their body. The author submits that reversibility and the ability to disengage from a body technology should be seen as a key feature for being able to rectify something done to oneself, to refuse after the fact so to speak and to rectify what one did to oneself. Irreversibility might lead to various problems for the 'consumer' of body technologies. From the majority rejection of the artificial add-ons by thalidomiders the author submits one can predict that thalidomiders might have felt alienated from their body if they would not have been able to remove the add-ons. The importance of addressing the prevention of body dissatisfaction as a public health issue is increasingly being recognized (Richardson, Paxton, & Thomson, 2009). Various authors covered the perfectibility angle of body modifications (Monaghan, 1999; Sherry et al., 2009). However, the discourse is around people using body technologies to obtain perfectibility. The way of no return is not really discussed. The example of thalidomiders is a good one for highlighting the problem of giving irreversible body technology add-ons to young people based on other people's perceptions. However, the irreversibility is not just a children's issue but also an issue for adults. Body image experiences are influenced by a host of personal and contextual/environmental variables as was shown by the summary report of the 2006 American Association for the Advancement of Science workshop *Good, Better, Best: The Human Quest for Enhancement*. (Williams, 2006) and are not a stable variable (Pruzinsky, 2004). Indeed we all the time change our sentiment as to what abilities are essential to us as does society change their sentiment towards essen-

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tial abilities, and with changing ability desires come changes in desired solutions. However, the issues attached to reversibility/irreversibility are rarely covered. Although some mention that certain body modifications are irreversible (like tattoos)(Sweetman, 1999) if one searches Google and Google scholar with the phrases "Cyborg irreversible", "cyborg irreversibility", "bionic irreversible" and "bionic irreversibility", "irreversible body modification" "irreversibility of body modification" one obtains very few if any hits.

Where to go

According to Pruzinsky one of the editors of *Contributors to Body image: A handbook of theory, research and clinical practice* which provided a comprehensive review to date of body image concerns in medical conditions believes that relieving body image suffering associated with medical disease is the single-most neglected area in the study of body image (Pruzinsky, 2004). However if we move outside traditional species-typical 'medical diseases' the same neglect exist for the possible case of the species-typical non-enhanced people labelled as techno poor impaired and for the possible case of the irreversibly body technology enhanced person. The World Professional Association for Transgender Health (WPATH) has eligibility criteria for hormone therapy and/or genital-reconstructive surgery because of its irreversibility nature (at least one will not go without severe difficulties through multiple procedures of this kind). The criteria include participation in psychotherapy, the requirement to live at least one year full-time in the preferred gender role to develop resilience in coping with the inevitable psychosocial challenges (Bockting, 2008). According to Bockting, who is the president of the WPATH (2009-2011), the tasks of the mental-health professional include assessment of gender identity and the impact of stigma on psychological adjustment; treatment of coexisting mental-health concerns; confronting internalized transphobia and grieving for the left behind gender identity (Bockting, 2008). The author submits that many of the issues of concern to the WPATH could also be of concern to the 'irreversible' enhanced people. The author submits further that a "Satisfaction with Abilities scale" is needed that covers among others new abilities linked to the intervention and the consequences attached to them such as possible change in relationship of the enhanced person to his/her former friends and social circles that are still non-enhanced. It should also take into account other possible irreversibility aspect to ascertain how much a person who plans to have the enhancement performed can cope and accept the changes that might be attached to the intervention. The author submits that, policy-wise, one is well advised to deal with various dangers such as

> that species-typical and so called sub species-typical people who

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cannot afford body technologies and people who have to live with 'obsolete' body technologies or no body technologies will be a second class to the once who have the newest version;

that the ones who cannot afford the body add-ons generate a negative body image of oneself and build up resentment against the ones who can afford the 'cool' the 'needed' body technology;

that the normative so far as non-impaired perceived people who cannot afford the enhancements will be seen as the techno-poor impaired (Wolbring, 2008c) competing with the 'traditional as 'impaired' labelled 'sub-normative' people for the enhancements;

that accommodating the needs of people we call today as impaired and future techno-poor impaired people with their 'obsolete' body abilities will be seen as a waste within the framework of body technology enhancement;

that the enhancement of a few people we label as impaired people will increase the negative image of the rest of the non-enhanced sub species-typical people. This dynamic is similar to the impact of the supercrip on the 'average' disabled person such as raised expectations of the 'average disabled person'(Myers Hardin & Hardin, 2004). The supercrip is seen as an oppressive dynamic and concept for the non-supercrip disabled person (see ref in (Myers Hardin et al., 2004). What we have here now is in essence the appearance of the techno-supercrip version with the possible same effect as the one caused by the supercrip narrative.

It is essential that the discourses around enhancements even on a case-by-case basis have to address the elephant in the room namely the favouritism of certain abilities over others and the different forms of ableism and disablism exhibited. The author submits that Ability and Ableism Studies, Ableism Ethics and Ableism Governance (Wolbring, 2008b; Wolbring, 2009c) are fields of inquiry in need of much more thought and prominence.

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