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## **Cyborgs/Power + Cyborg/Art = Race, Gender, Class**

*Ciborgs/poder + ciborgs/arte = raza, género, clase*

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### **ABSTRACT**

A detailed discussion of the role of art in understanding cyborgs, and the power of art in shaping us. A contextualization of the articles of the special issue of Teknokultura on cyborgs, power, art, race, gender and class is made. Particular attention is paid to The Acceleration, Prefiguration, and Participatory Evolution.

### **KEYWORDS**

Cyborgs; hybrids; art; the future; cyborgology.

## **RESUMEN**

El artículo presenta una discusión pormenorizada del papel del arte en el análisis de los ciborgs y del potencial del propio arte en moldearnos a nosotros mismos. También incluimos una presentación contextualizada de los artículos incluidos en este número de Teknokultura que versa sobre los ciborgs, el poder, el arte, la raza, el género y la clase social. En este quehacer prestamos especial atención a los conceptos de "aceleración", "prefiguración" y "evolución participativa".

## **PALABRAS CLAVE**

Arte, ciborgología, el futuro, híbridos.

## **SUMMARY**

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## Hybrid Power: Steel Drums to Composite Drones

In reality we will have the power to manipulate our own bodies in the way we currently manipulate the design of machines. We will have the keys to our own existence. There is no need to worry about mere robots talking over from us. We will be taking over from ourselves with manipulatable body plans and capabilities easily able to match that of any robot...The distinction between us and robots is going to disappear.

Rodney Brooks (2002: 262)

“We want to make Google the third half of your brain.” – Google co-founder Sergey Brin explaining the new search feature that guesses what the users want.

(*San Francisco Chronicle*, Sept 12, 2010: E10)

Machinic-organic systems go by many labels, but whatever one wants to call them, they are proliferating. The traffic between machines (as objects and as metaphors) and humans (and groups of humans) is so intense and so ubiquitous it is useless to pretend they are still fundamentally different systems. The natural propensity of humans to alter our environment and to make tools and machines has created one integrated whole: the Earth is hybrid. We can call this *The Fourth Discontinuity* (Mazlish), *The Vital Machine* (Channel), *The Flesh Machine* (Brooks 2002), *Metaman* (Stock 1993) or *Cyborg Gaia* (Haraway 1995).

This human-machine integration, this cyborgization, is seen in contemporary cyborg weapons (suicide bombers and drones), but also at all levels of modern conflict, from asymmetrical war to the nuclear imaginary (Gray 1997). Businesses are explicitly cyborg systems (Piazza 2008); ubiquitous computing, convergence, and the explosion of social media have permeated post-industrial society, producing both exotic (inheritable genetic engineering,



artificial organs, biocomputers) and mundane (vaccinated, car driving, iPhone obsessed) cyborgs (Peterson 2009; Mentor 2012). Now we have thousands and millions of mundane cyborgs where before the idea was cyborgs were few, futuristic and extraordinary.<sup>1</sup>

Several eons ago (in computer-and cellphone-version time) it became possible to download a media player that allowed the user to play with the graphical user interface. One soon got tired of changing the look and feel, called *skins*, from default to Klingon to steam-era to whatever was next on the list, but the term *skins* remains interesting. The first *skins* were simply appearance, but later *skins* allowed us to shift the features in ways that made sense for us, the users (or didn't end up making sense, but you were playing with the damn thing and learning through failure!).<sup>2</sup>

The skin idea was, well, only skin deep in most ways. But it led to the notion that average humans (that is, ones that did not regularly code or build such machines) could reach "across" the human-machine gulf and interact deeply with the machine. More and more humans begin leaning more and more into the computer boxes (or smart phones) in front of more and more of them across the globe. Designers invited it.

We live in a complex cybernetic world of code and system architectures increasingly intimate with our user-centered machines. 21st century mundane cyborgs seem at ease with the idea that a photograph can not only be taken and shared, but it can be run through filters to achieve every conceivable nuance of effect. There are more than a few people who spend a full 24-hour-day a year choosing the filter for their Hipstamatic or Instagram photos. Implantation is coming, sure, but the phones are already under our skins.

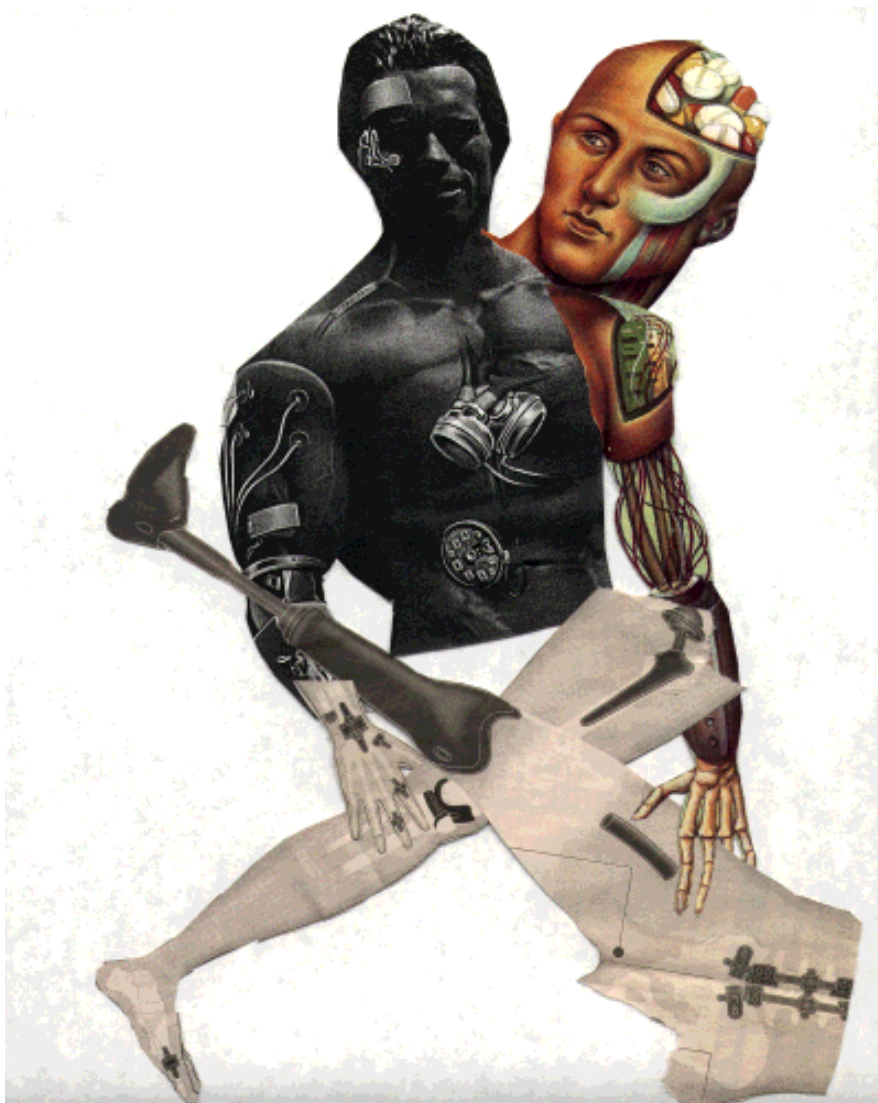
As evolving organisms, humans trespass more and more across the human/machine divide, as we not only consume images (the pushy TV one-way model with a mostly passive audience) but also make things and share things. The personal computer revolution, the massive

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<sup>1</sup> Technically, cyborgs are homeostatic systems that integrally include evolved and artificial subsystems. To be vaccinated is to be made a formal cyborg, for example. Mundane cyborgization isn't necessarily formal, the human-machine relationship can be intermittent, yet it is always intimate, so much so that it can seem normal while more cutting-edge cyborgizations are clearly transgressive. But in the long run, the mundane is as transformative as the exotic.

<sup>2</sup> Skins represent a transition to object oriented programming and design patterns that separate content and function from context. The implementation of skins would have been difficult or impossible with earlier forms of coding such as Fortran.

ubiquity of cell phones and other smart machines, the drop in the cost of coordinating people and texts from expensive to practically free, all mean that in this lifetime the notion of cyborg has gone from NASA fantasy and sci-fi futuristic staple to mundane reality for huge numbers of humans every single day. Donna Haraway's recent work on companion species reminds us that our dogs are also technologies with whom we share our lap and lives, and who by proximity are also peering into these networked screens (Haraway 1985, 2008).



What if there was a lens filter for your iPhone (ok, for your Android) called 'cyborg'? Using this lens means that any photo you take shifts subtly, to highlight the human-machine element, the massively-networked element, the shift in embodiment and material practice element, made invisible by other filters. In some ways, the articles in this collection, and the thousands of cyborg texts (whether by name or otherwise) that orbit around key cyborg themes and trends, all do this one thing: they offer the reader a cyborg filter for looking at contemporary societies. It changes your sense of global warming and climate change to see it as a cyborg issue, just as the questions you ask about your phone shift when you call it a prosthetic, or imagine it as a virtual part of you, as most of us, our students and our friends now do. It defamiliarizes things like Iraq war vets with prosthetics, professional athletes involved in complex technologies of drugs and drug-testing, mobile phone use shifting from conversation to texting, domestic drone purchases by police and local government, and interacting with virtual maps. It creates a larger space in which we can see these otherwise disparate trends as connected, as mutually reinforcing. And we need to create this larger space, in order to understand how humans may yet find a way to step away from the unsustainable technological and industrial practices that threaten to make of the globe a desolation.

It isn't about rejecting technology, it is about using technology to enhance our lives, not constrain or degrade them. Consider the history of the steel drum. The British banned stick fighting and African drums in the late 1800s in Trinidad because of their role in the cultural (and physical) resistance to colonialism (a project dependent upon constraining and degrading technologies). In the 1930s, musicians and activists started using frying pans, garbage can lids, and oil drums for percussion instruments. In the next few decades, a number of musical geniuses (Anthony Williams, Bertie Marshall, Alan Gervais and Ellie Mannette, among others) invented the current range of steel drums that allow for consistent playing and tuning. To this day, it takes great skill, and years of apprenticeship, to become an expert in making and repairing steel drums. And not only do these instruments play a central role in life in Trinidad, but they have spread around the world, enriching the music of dozens of other cultures. So, this technology, starting as politically driven recycling, has become a major musical form through a constant interchange between humans, steel, and music, just one of billions of stories of human-technology interaction that is the fabric of human culture.

This proliferation of actual cyborgs, typographies of cyborgs, and different artistic expressions about cyborgs reiterates how completely our cyborg society (especially our self-cyborgization) is the result of a wide range of techno-social practices that are over determined on many levels, because at the most fundamental level they are expressions of the human. But there are surprising resistances and rejections of technologies or, more often, a refusal to recognize their real nature (Fukyama 2002). The fear behind this denial is palpable, and it is a very interesting symptom. When we deny something important, then the repressed inevitably returns. Phantom limbs always come back to haunt us.

The term “cyborg” isn’t necessary, but it can be crucial for flagging certain kinds of denial. Even though it is a technical term (Clynes and Kline 1960), some people who certainly meet the specific criteria keep insisting that they are not cyborgs. It is as if someone would claim not to be *homo sapiens sapiens*. You certainly may object to evolutionary classifications, but you can’t just rewrite them. You might object to the term cyborg (or hybrid or whatever) but to fit the definition and yet deny it is revealing.

To be crude, denial implies repression, but repression isn’t driven by just one thing. It is the disruption of the strange, the shock of the future, the fear of the other, and resistance to accepting our identity bricolage, and other aspects of refusing to admit, as Donna Haraway (1985) first insisted we must, that we are cyborgs.

Our confusion as to our cyborg nature is revealed in other denials as well. Take the idea of the drone, which in 2013 has become a central public concern on many levels. While the term “drone” is borrowed from biology (sterile male bees), and drone systems are often called “robots” (from the Czech and Polish word for indentured servant), they are hardly the autonomous systems real robots are. Their very essence is that they are human-machine systems, directly controlled by human intelligence. This is not unusual. Many remote controlled systems are called robots by media and experts alike, especially when they extend humans in violent situations (military bomb disposals systems, police entry systems armed with shotguns). The Voyager I probe now leaving the solar system and Curiosity, the Mars Rover, are both called robots, while only one of them actually is.

So this confusion about agency, about human involvement, is common but something even greater seems to be happening with the public discourse around drones. Long a fascination of hobbyists (model airplanes, toy boats, etc.) they have been used in combat since the 1960s in

Southeast Asia (Vietnam, Cambodia, Laos) and the Middle East by Israel, the first country to successfully militarize drones (Gray 1997). There is now an incredible proliferation of military drones which dominate the US Terror war, even as they contribute to the defeats in Iraq and Afghanistan. They range from no bigger than a hand (already deployed in Afghanistan) to car-size stealth planes and sea models and insect-sized spies (all still under development). Drones are how the US exercises its airpower and spacepower (remote controlled satellites are drones) dominance. Drones are becoming an integral combat platform for all the militaries of the world. There are many domestic projects as well, from police tracking lost cows (an early domestic deployment) to farmers wanting to monitor moisture levels in crops to pizza delivery plans.

But, clearly, it is more than this. It seems drones have become a catalyst for a wide range of human anxieties about the role of machines in our lives. Perhaps this is because they are social media, extending us physically as Facebook and Twitter extend our personalities. Unlike the last wave of social media, drone development is military in its origins, as was the first generation of social computing, file transfers, email, even the web coming from high energy physics. But all of them, the interweb as a whole, are part of our morphing into a more pervasive cyborg society.

Which brings us to this issue of *Teknokultura*. As academics we are, of course, committed to the careful analysis of new and important phenomena such as the increasingly intimate integration of humans with our machines. But analysis is not enough. In order to govern our cyborgization, as opposed to just submitting to it, we need activism and art as well. Obviously, *Teknokultura* is not a venue for activism, but it is a place we have chosen to do analysis that serves it. And it is certainly a place for engaging artistic interventions and trying to understand how art can help us shape our futures.

## **Cyborgs, Art and Power: The Issue at Hand**

How does cyborg art help us see cyborgs in other realms? Works of art are lenses that allow us to see the different styles and genres of cyborgs in the different styles and genres of art. Some cyborg art is an experiment in itself (Zylinska 2002), and can even be prefigurative, as when Stelarc or Orlan hijack medicine for their own aesthetic ends (Gray 2002), Steve Mann



builds cyborg activist technologies and artworks (2001), or Orlan, Gomez-Peña, Dominquez and Coco Rica perform cyborg citizenship (Gray 2012b).

But it need not be so interventionist to be profoundly useful. Elizabeth Borst, in the first full reading of the sweep of cyborg art, draws many fascinating insights from the dozens of artists she surveys (2009). She sees cyborg art as being *udopian*, occupying an oscillating space between the poles of utopia and dystopia, fear and yearning. Cyborgs are not just hybrids, but are often tribrids and quadbrids. She argues convincingly that we can best understand cyborg art as part of a permeative gaze, which focuses on “how human skin no longer serves as a boundary and barrier to the inner corporeal realm.” (Borst 2009: i) A cyborgian gaze for a cyborgian age.

Our particular interest in art is pragmatic. We want it to help us deal with our cyborgization. So as the use of killer drones spreads, as the surveillance drones proliferate, as the types of drones multiply so do the protests and the sousveillance, which includes art and theory about drones. One of the earliest (2012) interventions of this nature was the conference/art exhibit “Drones at Home” organized at the University of California at San Diego (Domínguez 2012[insert link: <http://visarts.ucsd.edu/~gd2/event/drones-home>]).

In many ways, this fine event manifests the concerns that inspired us to organize this special issue of *Teknokultura: Cyborgs, Power and Art*. Each article add something important to our understanding of this triad and to our production of all three. And all strongly engage questions of difference, especially around gender and economic status. This tells us something about the point-of-view of most cyborg artists and theorists, with our concerns about justice economics and feminist epistemolo-



gies. We also noticed that in art, as in theory, the implications of cyborgization as it intersects the ancient and dangerous discourses about race were under theorized, and we particularly sought people who wanted to put race at the center of their analytic.

The first article in this collection does exactly that. It is a wonderful contribution toward understanding the politics of identity. In “Cultural Robotics: On the intersections of Identity and Autonomy in People and Machines,” Audrey Bennett and Ron Eglash, both at Rensselaer Polytechnic Institute, explore human-machine relations in the context of robot design and how racialized assumptions shape actual machines and the way they are used, drawing especially on the living technical world.

The second article is "Make me a (Wo)Man. Make me a Cyborg" by Prof. Remedios Zafra of the University of Seville. It examines the political potential of myth in feminist cyborg art. The next essay engages art's relation to cyborgization itself. “Contemporary art as a process of cyborgization: Aesthetics and reflections on our cyborg society” by Aixa Portero (Professor of Fine Arts at the University of Grenada) and Agustín Linares (Professor of Fine Arts at the University of Malaga) looks at art as interaction, fundamentally contextualized through the technopolitical shaping of society through culture.

Literature is not all imagined. Perhaps the best account of personal cyborgization is examined in detail by Kevin Thayer in his close reading of Michael Chorost’s *Rebuilt*. Thayer introduces the important rhetorical concept of “morphos” in his essay “A Cyborg Debates Donna Haraway on Metapathology” which describes how Chorost transforms himself from “other” to the unmarked “us”.

“Cyborg Symptoms,” is an art show and interview by Angeliki Malakasioti, artist and architect, doing a doctorate at University of Thessaly in Greece, on her 3-D explorations of the psychology of cyborgization. Architects led the way in conceptualizing virtual reality and other hybrid spaces, and here and architect-artist leads in demonstrating manifest symptoms of the cyborg. What we see about cyborgs is an integral part of the making of the next generation of hybrids.

Our exploration of cyborgs, art and power ends with Sonia Reverter Bañón's review of cyberfeminist theory and practice, from the virtual to the political.

What we say about cyborgs is just as integral. Sophia Vackimes, a curator herself and Exhibitions Director at the Fundación Zúñiga Laborde, writes about this in “Exhibiting the

Human/Exhibiting the Cyborg: ‘Who am I?’ at the Science Museum, London.” Art exhibitions on cyborgization are not as common as one would expect, but they have been an important part of our “reflexive” cyborgization.

We have learned a great deal from these articles, and from the art they have engaged, but this is only a beginning. Even though we can trace the impulse of humans to modify ourselves back to before civilization, and we can track the myth of the human-machine from ancient Greece and India through its explosion in modern science fiction (Gray 2001), and while the technical ideas behind cyborgization go back to Norbert Wiener, cybernetics and other systems theories of the mid-20th Century, and despite the fact that even the term is over 50 years old (Clynes and Kline, 1960), this is only the beginning. We are really just formulating the questions, even if we are replying more with a plethora of morphs and mods than consistent answers.

## Some Questions

We will change ourselves to a more Lamarckian sort of species wherein we will be the product also of our own technology.

Rodney Brooks (2002: 260-1)

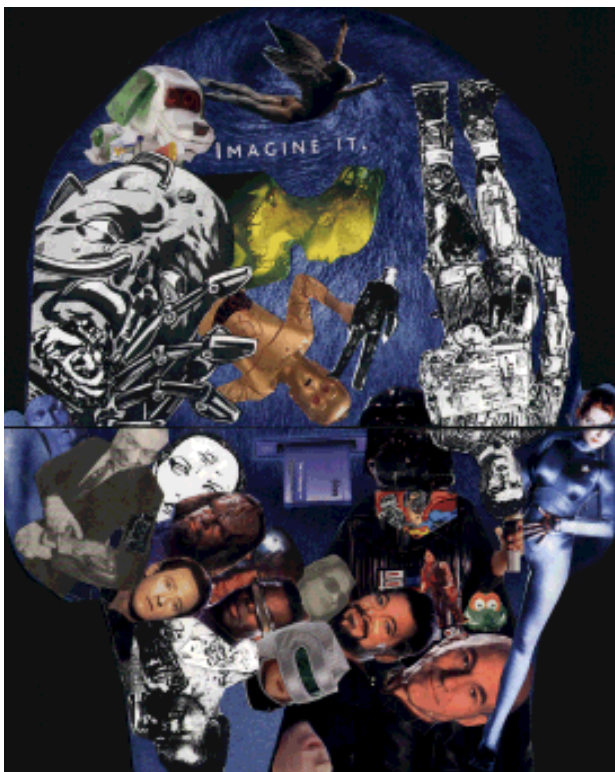
In “Lessons From Hurricane Irene on Cell Phone Reliability” Edward Tenner (2011) argues that improving that network may be less expensive than maintaining and upgrading landline infrastructure, that at some point a decision will be made to put funds into cell infrastructure and pull them from landlines, as has already happened in Africa. This is a kind of cyborg decision that is complex enough and ubiquitous enough to be discussed as such, although since it is about emergencies we tend to ignore the lessons as the actual disaster recedes from media attention and thus public memory and view.

We are a strange monstrous many-eyed beast throwing its images across our own media eyes, deciding things by what captures our attention, the attention economy itself. Politically, this means that the world thinks together as never before, and it thinks across cultural and geographical lines as never before. But also, even as humanity’s world-wide linkage becomes

more intimate than since our very beginnings, there is a proliferation of (sub)cultures not bound by geography, as most have been in the human past.

Our Balkanized media means a wider range of voices. It means millions of people deciding whether they would watch, or not, the massacre of children in a quiet suburban school, and the inevitable and yet incredible set of “public” discussions: gun control is way overdue, gun control is Satan, how can we “prevent” mental illness, a whole host of generic calls and responses that represent a new battleground for our attention, not only what is not shown, but what is shown and how, and when what is shown is replaced by some next thing, that does its part to erase our memory. “Win the news cycle” is the current way of expressing this.

The idea behind this, that the attention economy is partially financial but mainly political, ought to be obvious. Technologies, from human beginnings have made this so. Human culture (which is as natural as anything) is fundamentally the ideas between us. Of course, it is driven by technologies of space (the house, the village, the city, the agora, the polis, the interweb) and power (weapons, tools, artificial selection, machines, cyborgs) and a plethora of powerful creations (language, story, and so on).



This is our nature. Our culture is our nature. The old culture-nature distinction is false and dangerous. We are humans the makers. And we make culture, we make machines, we make ourselves cyborgs. We invented artificial selection and use it on ourselves. Unless we become good cyborg citizens, and claim our right to participatory evolution, we will have no say in our future. Our evolution continues never-the-less, always-the-more (Gray 2005; 2012a).

This process is not a stately progress. It is speeding up. Geometri-

cally. Go on line and look up “geometric progression” and: human population, lethality of weapons, computational power, recent extinctions of species, spread of social media, consumption of energy, ability of the technosciences to manipulate matter (including life), and humanity’s impact on the global climate. All these curves are trending steeply. Something has to give. We can get a glimpse of what might give way by looking at science fiction, where much of the best cyborgian theory is performed.

In *Glasshouse*, Charles Stross (2006) has his 27th Century neo-humans look back on the insufficiently understood period we are currently living through for clues about their current problems (which are legion but spread across galaxies). These future hominids call our 21st Century *The Acceleration*. In some ways a “dark age”, *The Acceleration* was also when human-machine mergings became complete, changing forever the very meanings of life, death, and most of all, identity. These “post” humans swim in a massive sea of manipulatable data that allows them to construct new bodies and worlds, virtual and physical.

We are wading into this sea now. Digital technology is now ubiquitous, and is increasingly social. In many corners of the world it seems everyone is walking around like cyborg monks, looking down at their folded hands, as information comes in that they must, must attend. And these decisions are made by billions of humans with over a billion computers and on seven-plus billion phones.

If the media are some of our cyborg eyes, then we need to understand how their filters work and be thoughtful about how these could be reconfigured to maximize our ability to solve problems. This implies seeing as a cyborg. What we see depends on the filters and prosthesis we use. Media cameras and web sites are transmitting some, but not all, of what we need to address the problems that threaten the biosphere and our children. Most of us patch together information nets, but we still “know” that the higher the production values the more important and powerful the things thus represented.

So reconfiguring these sources involves reorganizing our attention economy. We need to move from a passive attention economy to... Then networking with others to form larger cyborg bodies aimed at important clear and present dangers such as global climate change. But note how the cyborg-POV changes our understandings. The systems involved are all part organic and part machinic, from fracking operations in Alberta to green washing media campaigns to “teaching the controversy.” It is as cyborgs that we need to resist these systems.

Humans are prosthesis for the carbon economy, dependent, like a bionic woman in an SF novel needs her organization to rebuild her after she is damaged.

But there are limits. Our capabilities are limited. Yet, as our society continues its technosocial acceleration we are deluged with more and more. It is an attention economy of excess. We reach out for machines to augment our abilities to link, think, and act.

*Guy in a bar orders a beer; bartender sees that there is a very small man sitting on the guy's shoulder. He decides not to ask, but instead pour the guy a beer. But before he can drink it the small man runs down the guy's arm, kicks the beer over, then runs back up the arm with a nasty smile on its face. The bartender now asks, and the man answers: "I rubbed the lamp, the genie asked me what I wanted, and I said "A 12-inch prick."*

Today fewer and fewer people are without, not a small man on their shoulder, but a cellphone on their body. Many of us show off the newest phones as if they were our new child, a wanted child. And yet, via the "revenge of unintended consequences (Tenner) they turn into a four-inch prick. Admittedly, we are beginning to see the emergence of cell phone use 2.0, where users evolve strategies to deal with some of the worst downsides: driving and texting and dying, obviously, but also phone-to-social media features combined with bad judgment (sexts and compromising pictures posted immediately to the net, for example).

The numbers are, and are not, staggering: 1 billion users, but who cares? Well, if our inflicting a raft of genetically engineered foods onto an unsuspecting US population counts as a bad experiment (no control, no real way of looking at the results), how about an experiment that seems to alter basic patterns of human communication in less than a generation, applied to one tenth of the people on the globe? Much neurological research suggests that one inevitable byproduct of mobiles, phantom ring, reflects the way the mind "remaps" itself when faced with amputation. This shouldn't be a surprise; soccer balls do the same thing to soccer players. Phantom ring, phantom leg vibrations, and other cell phone/body overlaps suggest that our almost constant interaction with technologies like "smart" cell phones and laptops may also remap the brain in nontrivial ways. And they are designed--as gambling machines are, as video games are, as sex toys are—to insinuate themselves into our souls. (Schüll 2012)

So if the brain can remap itself, creating templates/filters (another metaphor) that then become habitual, the phantom vibration might lead to other discoveries about the ways we interact with, and adjust to, continual use of a whole panoply of gadgets and mundane prostheses. We incorporate our phones and laptops, and this incorporation is literally embodied in the brain's neuroplastic response. Not only is the cell phone not simply a tool we use; it may be an example of a wide range of shifts in the human brain generated by the increasingly intimate connection of humans and postwar machines.

If the massive experiment of linking masses of individuals to smart phones, laptops and iPads reflects a cyborg effect on users, then a question arises: we often speak of restoration and augmenting, but what about performance inhibiting, instead of performance enhancing, prosthetics?

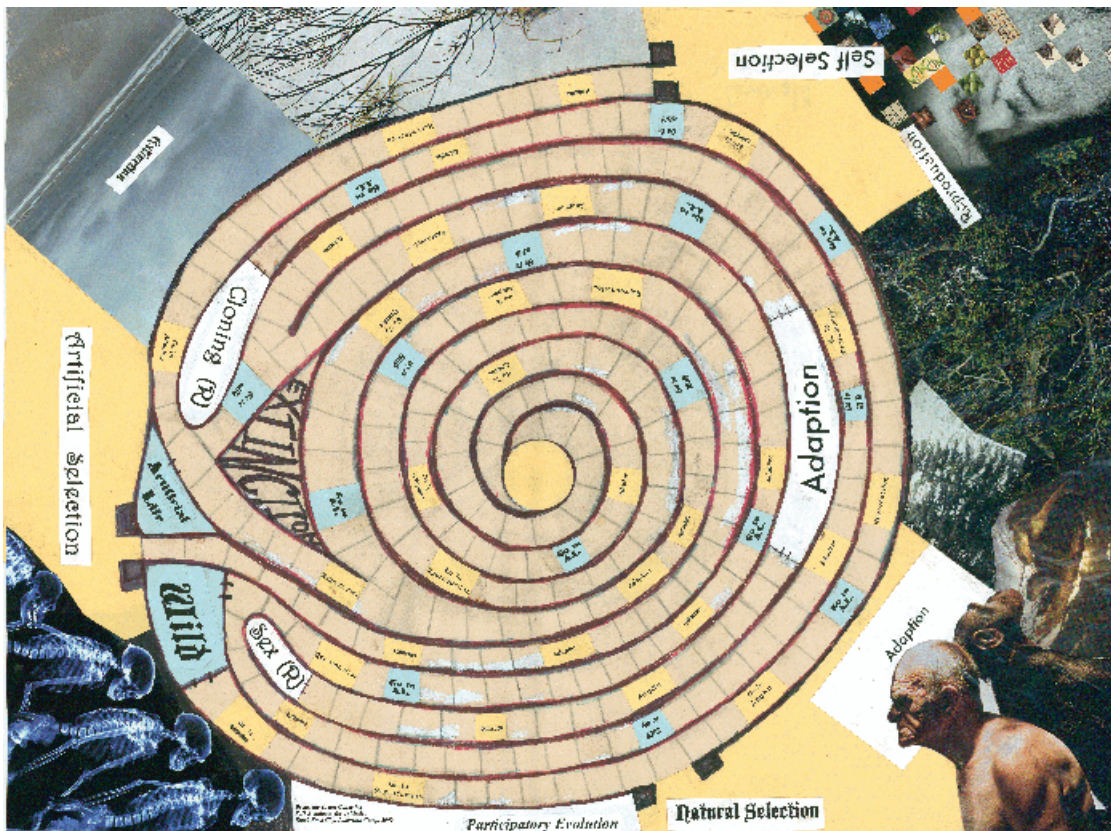
Humans have put a great deal of energy into perfecting addictive substances. The artificial selection of opium and marijuana breeders, the many beautiful intentions of alcohol brewers and distillers, the high tech (illicit or not) wizardry of pharmaceutical drug production. It happens with machines as well as Natasha Dow Schüll shows in her analysis of gambling machines, *Addiction by Design*. As one gambler says, explaining why she keeps gambling even though winning isn't exciting anymore: "To keep playing—to stay in that machine zone where nothing else matters." Schüll explains that it is an "existential no-man's land" where the sacred machine-human connection is preserved. After all, many of us long for "intimate entanglements between people and technology." (Quoted in Wescott 2012)

What gambling machine designers aim for is what media companies lust for and video game makers seek, it is what novelists get paid for and academic writers dream of: "time-on-device". So we are back to the politics and economics of attention. So much to attend to, so little time.

To much attention has been paid to Deep Blue, the IBM chess "robot" that beat Garry Kasparov, the reigning human chess champion, in 1997. But in reality, Deep Blue was a human-machine system, and it cheated besides. Every night a team of technicians and three hired-gun grand masters reprogrammed Deep Blue to deal with Kasparov's moves. The program had full access at all times to Kasparov's chess history and, in fact, all recorded chess matches, something prohibited to human players. In 2005, the web site chessBase.com staged an open chess tournament that allowed players to consult computers during their play. It was

won by two amateurs from New Hampshire who combined their knowledge with the opinions of three computer programs (Silver 2012: 292-3). Hybrid systems are often best for complex problems. As the postmodern armies of the world have decided, war is too complicated for machines to understand, but humans are too frail to fight it alone now. Human-machine systems, be they killer drones or suicide bombers, are considered ideal.

But what might really be ideal is the match between decentralized digital networks and horizontalist politics. Ask the revolutionaries in Tahrir, ask Los Indignados, ask Basta Ya! And Idle No More. Closed epistemologies are so susceptible to open systems of all sorts. 1984 is possible, a Brave New World seems most likely, and utopia is indeed nowhere, impossible and unwanted. But there is a good chance, if we take responsibility for our powers, that a real, weird, messy future can be won. A future such as the one Stross writes about, where creatures somewhat like us strive for justice and love, untroubled by illusions of dualism.





Donna Haraway said it first and best, in her manifesto, telling us that we need to take...

...responsibility for the social relations of science and technology means refusing an anti-science metaphysics, as demonology of technology and so means embracing the skillful task of reconstructing the boundaries of daily life, in partial connection with others, in communication with all of our parts. It is not just that science and technology are possible means of great human satisfaction, as well as a matrix of complex dominations. Cyborg imagery can suggest a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves. This is a dream not of a common language, but of a powerful infidel heteroglossia. (1985, p. 100)

Since we are inevitably complicit in this cyborgization, we might as well get good at it. Totally apprehending reality is beyond us. We can only know parts of the real (which now can be virtual) spinning around us and through us. But cyborg epistemology tells us it is dynamic and the rules are ever changing the rules: thesis, antithesis, synthesis, prosthesis. And not always in that order. And again. And again (Gray, Mentor, Figueroa-Sarriera 1995). Much is out-of-control. Certainly, out-of-our-control. But not all. Remember, we make the prosthesis.

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## **IMAGES**

1. Two Masculine Cyborgs Dance, collage, C.H. Gray
2. Drones at Home, collage, R. Dominquez,
3. Cyborg Goddess, collage, C.H. Gray
4. Participatory Evolution, collage, C.H. Gray
5. Imagine Unity, collage, C.H. Gray

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