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## **Robots Bowling Alone: Evolving Post-Technological Humans**

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### **Abstract**

*It is clear that some are more adaptive to the rate of technological progress than others. Popular culture and homes across America are rife with angst and alienation. Look for the flashing “12:00” beacons on underused DVD players, or more likely, VHS players – or maybe even Betamax. Our technology is not comfortably integrated with our lives if we fear programming a mere clock. Even among those of us who feel comfortably integrated with our technologies, it is safe to say that there is creeping alienation in the sense that the technology sometimes overwhelms the “human” in uncomfortable ways. Things move too fast, we become inundated, our senses are overwhelmed, and our face-to-face human relationships take a back seat, sometimes.*

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### 1. Introduction

It is clear that some are more adaptive to the rate of technological progress than others. Popular culture and homes across America are rife with angst and alienation. Look for the flashing “12:00” beacons on underused DVD players, or more likely, VHS players – or maybe even Betamax. Our technology is not comfortably integrated with our lives if we fear programming a mere clock. Even among those of us who feel comfortably integrated with our technologies, it is safe to say that there is creeping alienation in the sense that the technology sometimes overwhelms the “human” in uncomfortable ways. Things move too fast, we become inundated, our senses are overwhelmed, and our face-to-face human relationships take a back seat, sometimes.

### 2. What do we mean by alienation?

Alienation occurs in a number of forms. Most typically, we are estranged from our friends, families and communities. There are various ways in which this occurs. Work may overwhelm and exhaust us, leaving us little time for communing with others. Modern life in the US separates friends and families. The average worker now entering the workforce can expect to have 10 jobs by the time she is 30. Our civilization is mobile, and families do not move together. Childhood and school friends cannot expect to remain physically close. Physical separations have become the impetus for some technologies meant to bridge time and space, but we are getting ahead of ourselves.

Alienation refers not only to relationships among people, but also to the relationship of people to their environments. While we seem to be, as a species, highly adaptable to differing environments, there does seem to be limits of tolerance. Thus, even dense cities have green spaces, and we travel to the countryside for our vacations when we become overwhelmed by the din and speed of city life. An open question remains: what do we require in our environments besides the bare essentials of air, food and water? Without whatever essential other environmental necessities there may be, what happens to us? Are we injured? What do we require as humans, from one another and from our environments, if anything?

### 3. The Myth of Transhumanism

James Hughes is best known for his book *Citizen Cyborg*, and takes a rather radical view of humanity. Beloved by transhumanists, he opposes human-centric notions of rights, and believes that humanity is nearly infinitely malleable. While I am drawn to utopian visionaries like Hughes, and largely disagree with Leon Kass’s methodology, I agree with Kass’s conclusions about humanity, to a degree.<sup>1</sup>

We are not infinitely malleable, and there is considerable anxiety and angst, as well as alienation in our society. It seems probable that a fair amount of these woes are tied

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<sup>1</sup> James Hughes, “From Human-Racism to Personhood: Humanism after Human Nature,” *Free Inquiry* 24, no. 4 (June/July 2004): 36–37, critiquing Leon Kass’s anthropocentrism and opposition to modifying humans.

to our technology as well as our culture, and to both to the degree that our technology informs our culture. There are biological limits to human capacities. Obvious limits include the needs for energy and metabolism. Of course, we can dream of altering the modes of delivering these, for instance via photosynthesis (as in Margaret Atwood's *Oryx and Crake*). We might even genetically engineer humans to withstand harsh environments, low or high pressures. I take Hughes' point when he suggests that we would make significant moral errors to deny rights and moral status to such genetically engineered future beings, or even artificial intelligences. These are science fiction scenarios, which is not to say that they will not be realised eventually. But there are significant issues that confront us now, and alienation causes real human dilemmas and suffering in this world.

US population just passed 300 million this past year, and world population topped 6.5 billion. The largest mega-cities now top 20 million people. In the United States, homogenous urban sprawl is replacing villages and towns. We are becoming more mobile, less tied to our particular geographic communities. Our interactions are heavily mediated – when they happen. The average US adult watches three hours of television per day, and internet usage will soon top that. We travel in cars an average of an hour a day, and those of us in major metro areas can expect to spend twice that amount. Cell phones and text messaging abound, and there are very few places left where we can be away from the ever-present threat of intrusion into moments of true solitude.<sup>2</sup>

Alienation, in response to these pressures, manifests in isolation and loneliness, feelings of detachment, and actual detachment from networks of friends and families with whom we once were connected historically. It results at its worst in antisocial behaviors, and at least in impacting psychological well-being. I see in the expanding market for mood-altering, designer pharmaceuticals a technological response intended to fix some of the results of technology. This is utterly natural, as our technologies have long been responses devised by us to combat external pressures, such as environment and predators, to preserve conditions necessary to us as humans.

In sum, our technology surrounds and infuses us. But this is not necessarily so new, nor is it anything we should mourn without reflection. In fact, humans have been technological creatures ever since inventing tools, and even language. Our evolution has been altered due to our tools, as we have enabled our survival in climates previously deadly to us, through the development of clothing and shelter. Technology enabled the migrations of humans out of Africa, and every stage of our culture and development since then has been enabled and guided in part by technologies. Agriculture, tools for hunting, languages, mathematics, and every innovation that has lifted us beyond reactionary instinct has been technological. We owe our present lives to technology, and at various times in various cultures, no doubt there have been similar qualms about the direction our lives have taken thanks to technologies.

The myth of transhumanism exists at two levels: 1) since the dawn of civilization, we have been more than biologically “human” and so transhumanism is nothing new, and 2) that there are not essentially human qualities that must at all costs be preserved even as we continue to co-evolve with our technologies. In fact, I contend that there remain essential human needs that must be met *despite* our technologies in order for

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<sup>2</sup> See James Gleick, *Faster: The Acceleration of Just about Everything*, (Pantheon 2003 reprint)

us to be whole, functioning, healthy human beings. In fact, much of our history, culture, and evolution has centered around preserving those necessities. Our technologies, at their best, are directed toward fulfilling human needs.

#### 4. *Meeting Human Needs*

I have sought to identify certain human needs that are either fulfilled or impeded by technology – sometimes both. Among these have been the needs for human community and family, aesthetic needs (including those fulfilled by both nature and artifice), needs for leisure and work, as well as the basic needs of food, health, security and let us not forget love.

Technology itself is neutral, it is neither good nor bad. Even the atomic bomb and its deadlier cousin the thermonuclear bomb are neutral. Their uses and the intentions that humans have in producing and stockpiling weapons can be criticized as immoral, but the tools themselves are neither moral nor immoral. Technology instantiates two things, 1) laws of nature, and 2) human intentionality. But the extent of the human intentionality embodied by a tool is the tool's existence, not the tools uses, which may be multiple. I am comfortable in saying that where technology is put to uses that impede human needs, the act of impeding those needs is immoral.

Can we judge the impact of our technologies by their impact on human needs, and more importantly, devise future technologies, or uses for current technologies, more in keeping with those needs? In fact, it seems that we do this, or rather we judge ourselves and the manners in which we use and adapt, and technology evolves along a curve that roughly tracks necessities.

I contend, and developmental psychology is showing, that there are certain necessary preconditions to human health, both mental and physical. We are social animals. We need both social and physical contact with others. Numerous experiments have shown the negative effects of lack of physical or social contact on primates, and there is little reason to believe that humans do not suffer similarly from lack of appropriate contact with other humans.<sup>3</sup>

What I am proposing is that we extend the reach of what has come to be known as *human factors analysis* into the realm of the psychological and social. Human factors analysis in engineering was made most famous by the work of Donald Norman, whose seminal book *The Design of Everyday Things* explains why some products catch on and others fail as a consequence of the fit between design and human physiology and psychology. In that book, Norman defines numerous factors that must be taken account of in design, including: perceived affordances, causality, visible constraints, mapping, transfer effects, idioms and population stereotypes, and conceptual models. Designs that take into account these factors make for friendlier products, more easily used, fraught with less user anxiety. I would suggest another dimension be added to the design of new technologies, one that takes into account the human needs of community and personal contact, as well as harmony with environment described above.

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<sup>3</sup> Bruce E Wexler, *Brain and Culture: Neurobiology, Ideology, and Social Change*, (Branford Books 2006).

Should technologies take into account social needs as well as the physical, personal needs addressed by Norman, and psychological expectations he describes? Perhaps, but the responsibility for addressing these needs goes beyond the design of technologies. A cell phone, for instance, is a technology which is naturally meant to encourage and promote social interaction, but in many ways it also interferes with it. Subway riders text messaging or chatting with loved ones nonetheless fail to interact socially with others in the subway car, and may even become annoyances to those forced to overhear their conversations. Clearly this is not the fault of the technology, but rather the result of a lack of accepted social norms regarding the use of that technology. One could envision technological fixes that would discourage these behaviors, and even promote face-to-face social interaction as part of the technology, but more is necessary. A comprehensive discussion of the culture and manners of cell phones and text messaging might well be in order. Let us not only design product for human factors, but devise our technologies comprehensively for *humanistic* factors, taking into account human needs at every level.

### *5. Humanistic Factors and Technological Development*

It is time for us to reconsider our general relationship with our technologies. In many ways, this process has begun. Spurred perhaps by the recent resurgence in environmentalism, and growing scientific evidence for global climate change, the new environmentalism seeks to balance human development with sustainability in energy and other resources. Part of the sustainability movement has been a recognition that technology and development can work hand-in-hand for progress even while attempting to meet both human and ecological needs. Green technologies are preferable to back-to-the land Luddism, and create new markets. They tap into existing human needs and humanistic desires for long-term progress and societal well-being. Other technologies may well follow suit.

The new urbanism also seeks to reintegrate community and green space with dense population living. I would argue that this movement captures “Humanistic Factors” principles in technological development, recognizing human needs of family, community, and some integration with natural environment. This aesthetic is not transhumanism. Transhumanism, taken to its extreme, is a stance that denies that there is an inherent human nature, or if there is one it can be overcome. The valid part of the transhumanist argument extends to a thesis I accept: that rights attributed to human persons ought not necessarily be denied to non-human persons. The invalid part denies certain necessary and immutable preconditions to being human, which may in fact be necessary to all primates or even mammals.

New technologies gain acceptance unpredictably, but as they do, we ought to be more mindful of how they meet these *humanistic* factors, just as those who develop those technologies are mindful of human factors when designing them. I am frankly encouraged in many ways by how these factors are being accounted for by end users, who adapt technologies to suit their needs for connection and community. Take, for instance, the rise of so-called “social networking” sites on the web. The web could well be, and in many ways still is, a highly alienating technology, encouraging a one-to-one relationship with a machine that even TV does not encourage. That is to say, television can be watched in groups, and often is, leading to a form of community interaction that the web typically does not. However, the emergence of social networking through the web has brought about new methods for otherwise alienated

and occasionally isolated people to overcome that isolation, to build new modes of affiliation, and form new communities in both virtual and physical spaces.

### 5.1 *iPods and Zunes*

By way of a real-world example, let me take the iPod, a tool which is dear to me. I own two, and was an early adopter, as I have been with my iMac and iBook. But the iPod is a clearly alienating technology. We have seen the pod-people, earphones drowning out the external world, their neighbors and families. They walk in their own worlds, surrounded though they may be by crowds of would-be fellow commuters, perhaps unknown, unmet potential friends or even soul mates. Conversations that could have been had are lost, subsumed to the internal, personal sound-track the iPod generates. This is the quintessence of an alienating technology as I have attempted to define it. It pains me to admit it, but Microsoft has gotten it almost right, and the iPod should take the hint.

Microsoft's would-be iPod killer, the "Zune" advertises with the catchphrase "welcome to the social." This captures the humanistic factor of *community* I have attempted to describe above. iPod owners who yearn to reach out, to share, to spread their soundtrack or tune into that of others might be lured to the Zune for this reason.

It pains me to admit that the Zune fits the concept of humanistic factors in technology that I am urging much better than does the iPod. The Zune, of course, has some drawbacks. The sharing it allows is not in real-time. Files can be transferred back and forth, but the sharing is not complete in this respect. It edges gently toward the notion of community and sharing, but misses the critical part of the "social": shared immediate experience. Nonetheless, the idea is good. Of course, one might argue that consumers do not share my concerns with humanistic factors, and this is why the Zune is not really threatening the iPod. That is possible, but it seems more likely that two other factors weigh heavily: 1) it is a Microsoft product, and 2) the iPod already has permeated the market and the Zune is not cost-competitive.

It will be interesting to see if Apple catches on to the "social" factor. It seems to me that given rising anxiety and alienation, perhaps expressed in a culture of growing violence and isolation, we must begin a two-pronged approach to regain the humanistic factors I argue are necessary for a healthy society. Our technologies ought to embody these concerns, considering and embodying the means to bring together families, friends, and communities in ways we need and desire. Moreover, we as consumers of technology must continue to try to integrate our tools with our needs. This means cultural norms, and sometimes codes of conduct, that discourage complete isolation, that use public spaces in part as a means of socialising in person, face-to-face, and occasionally just turning off our gadgets and recognising our needs for touch, communal activity, love and unaltered natural environments lest we all devolve into mere robots, bowling alone.