

Citizen Cyborg is an excellent survey of the promises and fears of technological developments that will drastically alter humans and human nature itself. The author, James Hughes, is a sociologist at Trinity College in Hartford, Connecticut, and, as Executive Director of the World Transhumanist Association, well qualified to survey "transhumanist" issues, issues that include modifications of the human genome and developments in biotechnology, nanotechnology, and artificial intelligence. Hughes aims to counter fears of both left and right "bioLuddites" who would forestall these developments. He attempts to reassure them that radical new technologies can be regulated democratically to secure safety and widespread access. He proposes what he calls "democratic transhumanism," which steers a middle ground of "regulation between resignation and relinquishment," between the resignation that comes from whatever market forces decide and the relinquishment that comes from prohibitions of technology from either left or right. He seeks to capture, in other words, what Arthur M. Schlesinger, Jr., called "The Vital Center" in his 1949 book by that title (Boston: Houghton Mifflin). Schlesinger meant by that phrase the broad middle ground between the extremes of left and right, though he in fact ruled out a very large portion of the political right as being extreme.

The vital center for Hughes is closer to the median of sociology professors than to the American public, just as it was for Schlesinger, and his scheme of things would involve far more redistribution than exists in American today. Indeed, he states that "no country in the world is as democratic as it should be" (p. 51) and later that "no society is anywhere close to an ideal democracy" (p. 190), which seems to refer not to inadequate constitutional safeguards, imperfect *processes* in other words, but to imperfect *products*, namely a too-concentrated distribution of income. He is concerned by what he sees as inadequate participation, but he is not clear what an *adequate* participation would consist of or what the constitutional defects are in countries that have a universal franchise. By and large, however, Hughes supports the rights of parents both to adopt

and to refuse to adopt technology to improve their children, improvements, that is, from the parents' point of view. He balks, however, at the rights of deaf parents to engineer deafness in their children so that they can belong to the deaf subculture. This puts him more at the vital center than to the left of sociology professors. Still, he is closer to the center of American electorate than are libertarians, who make up a large fraction of transhumanists, whose views he considers in detail, in his excellent short history of transhumanism.

What is missing from his book is just this constitutional perspective of democracy as process. So, in a case about whether to terminate life support, the constitutional procedure is not to consult bio-ethicists in arriving at some ostensibly objective "truth" on the matter, but rather to consider how a representative individual would assess the costs and benefits. In my own personal case, I feel that, should I be mostly in pain and my children say, "Pop, it's time to go," they are probably right, especially considering that, in my own case, my wealth will consist primarily of my pension, which will terminate after both myself and my spouse have died. But my pension situation and my own attitudes are peculiar to me. Though I can use persuasion, I have only one vote.

The constitutional issue is for the legislature to aim at what the median voter would regard as the appropriate trade-off and how to build safeguards into the law of which the median voter would approve. But the existence of pressure groups means that the legislature will not automatically enact what the median voter would want in this particular situation of terminating life support, or in any other case. All constitutions will be imperfect and subject to manipulation: the task of constitution makers is to find a system of legislative rules, which define the areas in which the legislature is empowered to act, and overarching rules, such as a Bill of Rights, which will command universal consent over the long run.

Such constitutional rules and safeguards are far more basic and important than specific laws. I wish Hughes had addressed constitutional procedures more and had informed us less of his personal values and favored laws. This is all the more important because subgroups within our country are going to be deeply divided. Happily, Americans move an average of every seven years. Over time, Americans will sort themselves by moving to states that give them their preferred mix of taxes, benefits, and regulation, including those regulations that are germane to transhumanist issues. Hughes, however, does not take a federalist perspective (few people do), but here's hoping that he will realize that transhumanist issues do not need to be settled, one way or another, at the national level, but rather that states will attract movers that offer policies that allow and promote transhumanist developments.

All this said, there is a powerful constitutional case for redistribution that has little to do with Hughes's strong personal preferences on the matter. This case is what economists call the Pareto criterion, which states that major changes should render no one worse off while making at least some better off. A firm outsold by a competitor is worse off, certainly, but only in the short run, for the losers benefit in the long run by having rules of a competitive market order in place. Hughes is not a foe of capitalism, as such, unlike some left bioLuddites. What is the case, or rather the prospect, is that technological development may render large swaths of the population worse off, the most noted prospect being mass unemployment due to the proliferation of robots and artificial intelligence, but also the prospect of wealthy individuals purchasing cognitive enhancements for themselves and their children. From the perspective of a constitutional agreement that would be accepted unanimously, legislative procedures allowing for

minimum incomes and subsidies for cognitive enhancements could be built into the constitution. But note again that such constitutional empowering is a matter of *process* and only secondarily a matter of *product*. When Hughes complains that "no society is anywhere close to an ideal democracy" (p. 190), he is referring to *product*.

These criticisms of a lack of attention to constitutional and federalist issues aside, *Citizen Cyborg* offers a thorough discussion of the prospects for transhuman developments, mostly near-term prospects having to do with health and bodily betterment--from better medical care and life extension, palliating and removing disabilities and mental disorders, to cognitive enhancements and happiness pills--but rather little to more distant prospects of cyborgs, brain uploading, man-machine interfaces, and the Singularity, all terms well familiar to transhumanists. Hughes does discuss the rights of subhuman animals, particularly when they get cognitive upgrades, and those of robots, a discussion that I hope will receive more extensive grounding in a future book.

BioLuddite objections from the right are detailed in the book and answers given. For the most part, these objections stem from a view of natural rights that holds that people, including embryonic people, have a very specific nature that is not to be tampered with, most often on the grounds that human nature was designed by the God of the Bible, without, Hughes fails to note, giving chapter and verse, which we would be hearing endlessly if they existed. The usual arguments about embryos and abortion will continue, with little movement toward agreement. Hughes's own arguments give ammunition to those who already agree with him but are unlikely to change the minds of those who do not. This is very common, and the solution would be federalism, if only that the rightist bioLuddites have long ceased to be federalist.

A more serious bioLuddite objection from the right, serious to those who do not share their views on embryos and abortion but need to be addressed, is that valuable aspects of human nature are at risk of being lost if human nature is transformed. Suffering and death give meaning to life. The virtue of courage will be weakened, inasmuch as courage often consists of overcoming fear. If one's brain can be modified to suppress fear, then the hero in battle will not be such a hero. (I doubt this applies to intellectual courage, a far more important kind of courage.) And the issue of genetically engineered athletes will only exacerbate arguments over fairness that already plague arguments over blood doping and the like. (Again, is athletics very important?)

The most serious objection, not discussed at length by Hughes, is that human nature may become emotionally flat like that of the robots of innumerable movies. I say that only those who love Brahms know the full price that might be paid if human nature loses certain traits. If Brahms-loving transhumanists are willing to pay the price that there will never be a proper successor to Brahms, then this counts far more than a similar statement from a stereotypical repressed computer nerd. I support transhumanism because I don't think the social conditions that allowed Brahms to write his music will ever be duplicated and because, carefully guided, upgraded humans could have more emotional depth than current ones. A federalist pluralism is again a possible answer, for subsocieties could arise that engineer deeper emotions. What I don't know is whether there can be enough isolation, lasting long enough, possibly many generations, to make this dream of a plurality of subsocieties feasible. Hughes certainly hopes that transhumanist technologies will not be used to perfect warfare, in which case the first society that adopts genetic engineering, state directed or not, will take over the world and may turn out to be made up of emotionally flat robots.

Hughes implicitly assumes that reproduction will continue to be among discrete organisms. Most humans, indeed all animals above the level of corals, reproduce in this manner. When artificial intelligence comes along, it may not be meaningful to speak of reproduction at all. When is one computer the child of another? This sort of speculation goes far beyond the short-term focus of *Citizen Cyborg*, but the future may be upon us within the time period Hughes addresses. Again, a topic for his next book.

Left-wing bioLuddism overlaps with that on the right, but its big complaints are hated capitalism and fears that transhumanist benefits will be unequally available. Hughes says that the fears that intelligence amplification will exacerbate inequality are correct but rather hopes that more intelligent people will come to agree with his democratic transhumanist vision (p. 41) and furthermore that measures can be taken to assure, not necessarily exactly equal access, but more than the market will provide. This can be handled, as argued above, not by being particularly "left-wing" but by invoking the Pareto criterion that no one be made worse off by broad changes. This is not the same as the stronger demand that any change should benefit everyone by the same amount. Giving in to that demand would stop all change, as Hughes notices, and not just transhumanist improvements of the human condition.

The case against capitalism, on the other hand, can be more serious. Jeremy Rifkin, a leftist who has teamed up even with Christian bioLuddites, is opposed to the commodification of life by nefarious capitalists (pp. 63-66) and with feminists is aghast at "uteruses for hire." It is quite true that societies prohibit certain actions from entering the "cash nexus," contracting for one's own slavery being the most obvious example, and every society regards gift giving as lying outside the nexus of contract. Indeed, employers in every nation are required to place part of their employee compensation out of their reach in retirement programs. No society allows freedom of contract for marriage and greatly restricts the kinds of marriages that will be permitted, in particular provisions for disinheritance or divorcing a spouse.

Conservatives fully join leftists in this regard of restricting what may be the subject of contract, and both groups protest, not unreasonably, the increase of activity that has come to fall under contract. The French, concerned with the invasion of their culture by Disney and other American purveyors of culture, restrict the number of American movies, even if rather ineffectually.

In fact, globalization of capitalism has contradictory effects. On the one hand, nations will increasingly share cultural products, especially imports from the United States; on the other, powerful trends to cultural diversification emerge *within* countries. The number of subcultures is exploding in every country with a more or less free economy, as profit-seeking businesses seek to invent and exploit niche markets, the largest by far being that for Christian Evangelicals. This is problematic, for evangelicalism has become one more lifestyle choice, to which one can accede or recede from at will, the very opposite of the restoration of a monoculture, in which those refusing the Christian offer of salvation are marginalized. Being born again in a pluralistic society is, and is felt to be but a simulacrum of the salvation of old.

This is the post-modern dilemma, a topic I hope Hughes deals with more fully in his next book. He will have no solution to the dilemma; rather he might observe that conservative fears that society will come unglued are no longer nearly so serious, the reason being that a general acceptance of capitalistic exchange *replaces* much of the social glue that used to be provided by religion and other forms of social control. Not as much social

glue is needed as it once was. Hughes might also explore whether the network of communication provided by the Internet is also providing enormous social glue. Businesses, despite what leftists think, are generally opposed to armed conflict, for they disrupt production and exchange. With increasing communication across countries, people, and not just businessmen, will resist armed attacks on their friends in other countries.

The hatred for capitalism among leftists is, therefore, greatly exaggerated. The alternative to capitalism, namely central planning, has failed in the eyes of all but a few stalwart diehards. Hughes merely wants to use the state to regulate capitalism and to redistribute income, including income that could be used for transhumanist upgrades for self, spouse, and children. Again, the problem is one of institutional design, of constitutional *process* rather than specifying one's personally preferred *products*. Here is hoping that his next book will reconsider his "vital center" approach from the standpoint of institutional design.

Hughes states, "The political terrain of the twentieth century was shaped by economic issues of taxation and social welfare, and cultural issues of race, gender and civil liberties. The political terrain of the twenty-first century will add a new dimension, biopolitics" (p. 55). This is quite true, but I suggest that a more general shift is occurring, namely that the *principal* left-right political axis is going to change from central planning vs. free market in the earlier part of the twentieth century and equality vs. inequality in the later part to pluralism vs. universalism in the current century. There are several minor axes, to wit, secular vs. sacred, self-expression vs. self-restraint, change vs. tradition, cooperation vs. competition, tender-minded vs. tough-minded, relativism vs. absolutism, and many more, some perhaps subsumed by others. (The left tends to be less interested in virtue and moral education generally than the right, and Hughes, being on the left, does not consider how children should be brought up in a world of mass unemployment, how moral education will instill other habits besides those of being a productive member of society. Here's hoping that his next book will address the matter.) There is a general clustering, not at the level of any high theory that reduces political preferences to a single dimension, but a clustering in fact. Left-wingers tend, albeit often quite incompletely, to be on the left side of each axis, not always because they have thought out each opinion, but because their co-left-wingers also have them. Right-wingers do likewise. For myself, I am a left-wing secularist, moderately to the right as far as self-restraint goes, much to the left in favoring change, mixed on cooperation, tough-minded more in rhetoric than in practice, and fairly much an absolutist (evolution limits the feasible *pace of change* quite a bit). For the major axes, I am a twentieth-century rightist for both the free market and inequality. What's more important is that I am decidedly a *twenty-first* century leftist in favor of pluralism.

Of course, my own preferences count for no more than those of Hughes: we each have one vote, mine counting for less, in fact, since he reaches a greater audience. But he is very much a pluralist and is sorely reluctant to interfere with reproductive freedom, except perhaps in the case of deaf parents making sure that their children will have deaf genes and become part of "deaf culture," thus parting from his more extreme leftist friends. On the other hand, he speculates that pressures, perhaps from the state, will be brought to bear on parents who refuse to enhance their children. This collides with his general pluralism, which opposes any universalist conception of what enhancement means absolutely. Still, the tension remains and will remain.

Cyborg Citizen deals very little with heated foreign policy debates, but much as he admires many aspects of America, he is probably opposed to using the American military to spread "democratic capitalism" and "American values" to countries in the Islamic world. He deals not at all with foreign trade policy or the spread of American cultural products. For my own part, as a *twenty-first* century leftist pluralist, I am not pleased with the McDonaldization of the world, but as a *twentieth* century free marketer, I can see no solution worth its cost besides urging subscribing to *Adbusters* and making other acts of what Jean Baudrillard called "micro-resistance."

Hughes is not in the "vital center" of sociology professors in at least one important respect. He states, "Contrary to the vacuous assertions of Francis Fukuyama and Bill McKibben that we are all biological equals, a lot of social inequality is built on a biological foundation, and enhancement technology makes it possible to redress that source of inequality" (p. 195). Risking a threat of expulsion from leftist circles, he states: "Gene therapy brings us back to Galton and the eugenicists, who were half right about the inheritance of intelligence, although not about its relationship to race and class.... These findings and other accumulating evidence give strong support to the idea that there are a finite number of genes that determine general intelligence, *g*, and not just separate genes determining individual intellectual capacities like memory, spatial visualization or verbal skills" (p. 39).

Intelligence is quite bound up in the equality issue, but let us depart from that *twentieth* century preoccupation and hope that there has been so much culture-gene coevolution, even along racial lines, that there will be major *internal* resistance to a universal culture, thus keeping the world safe for pluralism. I keep looking for and finding signs that leftists are indeed shifting to pluralism as the principle left-right political axis, that the failures of egalitarian programs to make people more equal though environmental manipulation are now so apparent to leftists that they are no longer pushing them, just as they are no longer pushing centrally planned economies. Their hatred of capitalism is no longer grounded on the lost opportunity to centrally plan the economic system, and not even that much any more over its generation of inequality, but rather because of its supposed cultural hegemony. Hughes's egalitarianism is not greatly concerned with the generation of inequality but with what he sees as unacceptable *products* of that generation. Yet this outcome can be handled by the Pareto criterion in a renegotiated social contract, which will include provision of income transfers--remember he gets only one vote on how much--part of which may be devoted to using new transhumanist technologies. His next book should consider more carefully whether only a generalized transfer should be made or whether certain technologies should be provided for all, whether they want to pay for them or not, as is already the case for much of health care.

I keep urging the author of *Citizen Cyborg* to write another book. A major omission is that he does little to argue that democratic transhumanism *must* be offered in order to be accepted, as opposed to his just telling us "this is how I want the world to be." He is confident that, as intelligence is boosted, more and more people will come to agree with him. Replace him with me, please. But no, more intelligent people will tear up any blueprints we make for the future and replace them with far better ones. I want enough pluralism for this to happen, if only because my own culture, based as it is in Europe, just as it is for our author, has changed so much over the course of its history that only a universalist could pretend that all answers have been found.

Most of all, I urge Hughes to move out of the twentieth century and into the twenty-first: "At the turn of the century most working people in the industrialized countries worked

3000 hours a year from their early teens to the day they died" (p. 215). Gotcha! (He was referring to the beginning of the *last* century.) Here's hoping that his next book will take up constitutional design, process against products, and the shift to pluralism vs. universalism as the major political divide between transhumanists and bioLuddites. The vital center is shifting, and he should shift along with it.

The citations are available only online, at <http://changesurfer.com/resources.htm>, which should be consulted as well. I deplore what would have tacked on at most an extra fifty cents to the cost of the book, but resources online can always be updated, the last updating as I write this being March 14 this year.

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