



Transhumanism and Marxism: Philosophical Connections

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Abstract

There exists a real dearth of literature available to Anglophones dealing with philosophical connections between transhumanism and Marxism. This is surprising, given the existence of works on just this relation in the other major European languages and the fact that 47 per cent of people surveyed in the 2007 Interests and Beliefs Survey of the Members of the World Transhumanist Association identified as “left,” though not strictly Marxist (Hughes 2008). Rather than seeking to explain this dearth here, I aim to contribute to its being filled in by identifying three fundamental areas of similarity between transhumanism and Marxism. These are: the importance of material conditions and particularly, technological advancement, for revolution; conceptions of human nature; and conceptions of nature in general. While it is true that both Marxism and (especially) transhumanism are broad fields that encompass diverse positions, even working with somewhat generalized characterizations of the two reveals interesting parallels and dissimilarities fruitful for future work.

This comparison also shows that transhumanism and Marxism can learn important lessons from one another that are complementary to their respective projects. I suggest that Marxists can learn from transhumanists two lessons: that some “natural” forces may become reified forces and the extent to which the productive apparatus is now relevant to revolution. Transhumanists, on the other hand, can learn from Marxist theory the essentially social nature of the human being and the ramifications this has for the transformation of the human condition and for the forms of social organization compatible with transhumanist aims. Transhumanists can also benefit from considering the relevance of Marx’s theory of alienation to their goals of technological advancement.

1. Transhumanism

The term “transhumanism” was coined by evolutionary biologist Julian Huxley in 1957. In a short paper bearing the same neologism as its title, he asserts that:

The human species can, if it wishes, transcend itself – not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity. We need a name for this new belief. Perhaps transhumanism will serve: man remaining man, but transcending himself, by realizing new possibilities of and for his human nature. (Huxley 1957)

This early formulation contains the kernel of transhumanism, which is the desirability and feasibility of the self-directed evolution or transcendence of humanity beyond its current form or nature. Recently, philosopher Max More has offered this more precise definition:

Transhumanism is both a reason-based philosophy and a cultural movement that affirms the possibility and desirability of fundamentally improving the human condition by means of science and technology. Transhumanists seek the continuation and acceleration of the evolution of intelligent life beyond its currently human form and human limitations by means of science and technology, guided by life-promoting principles and values. (More 2009)

Transhumanism indicates a transitional state on the road to a posthuman state. This transition is to be accomplished primarily by technological means in a transfer of control over the process of evolution from natural selection to conscious human direction. The possibility of taking control of evolution is not a specifically transhumanist belief. Diverse non-transhumanist thinkers such as political scientist Francis Fukuyama and sociobiologist E.O. Wilson acknowledge the coming reality of “volitional evolution” or “a species deciding what to do about its own heredity,” as Wilson puts it (1998, 299). What is distinctly transhumanist is the optimism with which the prospects of volitional evolution are regarded. Fukuyama calls for “humility” regarding human nature and fears that transhumanists will “deface humanity with their genetic bulldozers and psychotropic shopping malls” (Fukuyama 2004). Transhumanists, by contrast, desire to use such new and emerging technologies as genetics, robotics, artificial intelligence, and nanotechnology to achieve ambitious goals: the elimination of disease; radical life extension (even immortality);¹ the creation of substrate-independent minds (capable of being uploaded to non-biological systems);² augmented or virtual realities; and enhanced intellectual, physical, aesthetic and ethical capabilities. Some transhumanists even aim at the abolition of all forms of suffering for all sentient life.³

This is not to say, as many critics have, that transhumanists blithely dismiss the prospects of technological advancements going horribly wrong. Nick Bostrom, in particular, has written much about “existential risks” or the possibilities that new technologies present for the extinction of life on earth (Bostrom 2002). Nonetheless, many transhumanists prefer a “Proactionary Principle” of rational risk-assessment, as More (2005) puts it, as opposed to a “Precautionary Principle” of excessive safeguarding regarding technological developments.

Politically, transhumanists have covered the spectrum. Proto-transhumanists such as molecular biologist J.D. Bernal and geneticist/evolutionary biologist J.B.S. Haldane were Marxists, Bernal being a member of the Communist Party of Great Britain, while Haldane was an external supporter of the Party. Riccardo Campa, chair of the Associazione Italiana Transumanisti (AIT), expresses “only conditional confidence” in the power of markets and asserts that if “market mechanisms do not deliver, we should have to consider socializing what are, from the transhumanist point of view, the key sectors” (Campa 2008).

On a different note, Max More and most of those subscribing to his brand of transhumanism (known as Extropianism) originally espoused anarcho-capitalist views. However, in the past decade More has tended more toward liberal democracy. Ray Kurzweil has not written explicitly on his political stance, but one can safely assume that his views lie somewhere not far from liberal, capitalistic democracy, given his entrepreneurial career and frequent assertions of liberal democratic rights. H+ (formerly The World

Transhumanist Association), of which Nick Bostrom is a co-founder, is explicitly a liberal democratic organization.

In the past few years, rumors and accusations concerning transhumanist fascists have been buzzing about the Italian transhumanist community. The “overhumanists” or “sovrumanists” (from the Italian “sovrumanismo”), a group of members within the ITA, have been accused of fascist tendencies.⁴ As I have not been able to read any of the purportedly fascist texts (Stefano Vaj’s *Biopolitica* being the most prolifically accused), I leave this discussion untouched. Suffice to say that the allegations lend some support to an appearance that transhumanists range widely across the political spectrum.

James Hughes (2001) suggests that leftist thought and transhumanist ideas parted ways after the experience of Nazi eugenics and that the two are only beginning to meet up again indirectly: through Donna Haraway’s cyborgology, speculative fiction, some radical green movements, and various other dispersed projects. Hughes, himself a transhumanist sociologist, argues for a “democratic transhumanism.” He writes: “For transhumanism to achieve its own goals it needs to distance itself from its anarcho-capitalist roots and its authoritarian mutations, clarify its commitments to liberal democratic institutions, values and public policies, and work to reassure skittish publics and inspire them with Big Projects” (Hughes 2001). Yet as the WTA survey shows, 47 per cent of transhumanists surveyed identify as “left,” so transhumanism and the left would seem to have already been reunited. Perhaps the pertinent thing to do now is to search around “inside” the left for useful political bits and pieces that do not originate from liberal democracy – particularly, Marxism.

2. Technological advancement and revolution

2.1

Marxism is a staunchly materialist philosophy. It rejects all notions of higher realms, “spirit,” and immaterial substance. Marx’s philosophy is an appropriation of the Hegelian dialectical form, but Marx rejected Hegel’s assertion that the subject of the dialectical movement is abstract spirit or mind that exists above humans and achieves its true form as Absolute Knowledge. For Marx, thought must begin with “real premises from which abstraction can only be made in imagination ... [from] real individuals, their activity and the material conditions under which they live” (Marx 1978, 149). “Life is not determined by consciousness,” says Marx, “but consciousness by life” (Marx 1978, 155). Marxism is concerned with the concrete, material details of the lives of individuals. The material conditions of the relations and means of production produce the situations and systems in which individuals live and by which their conceptions of reality are determined. The social problems of private property and alienation arise from the material reality of the means of production being owned by the capitalist class. Thus Marx’s projected socialist revolution has as a necessary condition a change in the material conditions of society.

We can note two key aspects of revolution for Marx. First, revolution must be eminently practical and not merely theoretical. Marx writes: “all forms and products of consciousness cannot be dissolved by mental criticism ... only by the practical overthrow of the actual social relations ... that not criticism, but revolution is the driving force of history” (Marx 1973, 164). The socialist revolution will not occur because scathing critiques of capitalism are written, or even by widespread understanding of the contradictions of capitalism – the actual relations of production must be overturned by real people. Workers must seize the means of production. This, however, can only be achieved, Marx says, through the advancement of the productive forces.

Thus the second key aspect: that technological advancement is a necessary precondition for revolution. Marx holds that to achieve a socialist society one of the first priorities of the revolutionary proletariat must be to “centralise all instruments of production in the hands of the State ... to increase the total of productive forces

as rapidly as possible” (Marx 1978, 490). Through automation and new technologies, the productive forces should be enhanced so that less and less actual human labor is required to produce the goods necessary for satisfying human needs. The idea is that humans need to have easy access to and abundant quantities of the necessities of life (including time itself) if they are to seek a way of life beyond mere survival. Marx holds: “slavery cannot be abolished without the steam-engine and the mule and spinning-jenny, serfdom cannot be abolished without improved agriculture ... people cannot be liberated as long as they are unable to obtain food and drink, housing and clothing in adequate quality and quantity” (Marx 1978, 169). It is thus only in a society in which machines perform much of the labor required for human survival that humans can achieve revolutionarily new ways of living.

2.2

Most transhumanists are also materialists. The 2007 WTA Survey shows that 64 per cent of those surveyed identify as secular/atheist, while 31 per cent are spread widely across several subcategories of “Religious or spiritual” identifications and 5 per cent describe their beliefs as “Other.” Even the non-secular transhumanists agree that changes to the material conditions of the world are instrumental to the achievement of transhumanist revolution. Indeed, The Mormon Transhumanist Association (MTA) proclaims that humanity’s power over the material world is what will lead to a realization of the objects of traditionally spiritual yearning. The MTA website lists “affirmations” such as:

We believe that scientific knowledge and technological power are among the means ordained of God to enable [the spiritual and physical] exaltation [of individuals and their anatomies, as well as their communities and environments] including realization of diverse prophetic visions of transfiguration, immortality, resurrection, renewal of this world, and the discovery and creation of worlds without end.⁵

It is therefore safe to say that all transhumanists agree that technological development is necessary for revolution, although it is true that for transhumanists what counts as advanced technology is considerably beyond anything imagined by Marx. Many transhumanists posit the technological Singularity as a necessary precondition for their sense of revolution, which is the transition to a posthuman state. On one popular interpretation, the Singularity is the projected moment in the future when artificial intelligence (AI) reaches human-level capabilities. Since technology evolves at an exponential rate far exceeding biological evolution, the theory is that AI will quickly outstrip human intelligence by several magnitudes and will continue to evolve at blinding speed. This explosion of intelligence will produce unimaginable change, advanced technologies, and ideas that will be essential in the creation of the posthuman. Ray Kurzweil calls the advent of human-level AI an event of importance equaling the advent of biology itself (2005, 296).

While not all transhumanists are Singularitarians, it is always the prospects of advanced technology that make a transhumanist revolution feasible. Goals such as radical life extension, increased cognitive capacity, and increased well-being are generally not sought through spiritual or mystical means such as transcendental meditation, revelation, or divine communion, but through the increasing sophistication of technology. Thus transhumanists support research programs and/or business ventures they believe will advance the human ability to revolutionarily modify the material world. Nick Bostrom emphasizes the narrow locus of transhumanist change:

As you advance, the horizon will recede. The transformation is profound, but it can be as gradual as the growth that made the baby you were into the adult you think you are. You will not achieve this through any magic trick or hokum, nor by the power of wishful thinking, nor by semantic acrobatics, meditation, affirmation, or incantation. And I do not presume to advise you on matters theological. I urge on you nothing more, nothing less, than reconfigured physical situation. (Bostrom 2010, 4)

Also evident here is a call for practical, rather than merely theoretical, revolution in the transhumanist openness to synthetic augmentation of the biological body and brain. Nanotechnology, for example, is a commonly cited way of augmenting the material condition of the body: it has been suggested that digestion, healing, and synaptic processes will be augmented or taken over by nanobots that will perform these functions better. Says Bostrom: “The roots of suffering are planted deep in your brain. Weeding them out and replacing them with nutritious crops of well-being will require advanced skills and instruments for the cultivation of your neuronal soil” (2010, 6). The idea is that practical modification of the human condition at the bodily level is needed to produce social change – theorizing is not enough. We may have to download our consciousnesses to synthetic systems to conquer death. In Bostrom’s words: “Your body is a deathtrap ... You are lucky to get seven decades of mobility; eight if you be Fortuna’s darling. That is not sufficient to get started in a serious way, much less to complete the journey. Maturity of the soul takes longer” (2010, 4). Ignoring the poeticism of “the soul” here, the notion is that augmented bodies that are less susceptible to disease, hunger, and decay could give people more time to concern themselves with their freely chosen life-activities instead of the vagaries of quotidian existence and the demands imposed by capitalism.

Nanotechnology also presents the theoretical possibility of assemblers that can manipulate matter at the molecular and atomic levels to construct anything conceivable by the laws of physics.⁶ Such machines would need only a supply of raw materials to work with, coupled with a power supply and instructions, to produce all kinds of human needs and wants, ranging from computers to tools to the very *Star Trek*-esque possibility of food and drink. Echoing Marx, transhumanists might say that the abolition of (paid) slavery is impossible without a superabundance provided by molecular assemblers or that liberation from the bodily death trap is impossible without strong AI.

2.3

Here is the first point that Marxists should take note of: the extent of technological development required for a revolutionary shift in human existence might be much higher than merely the massive automation of labor. Advanced or theoretical technologies such as molecular assemblers might be required to wrest production from the hands of the capitalists. Molecular assemblers present the possibility of very cheap production of almost any product. It is surely too optimistic to say that molecular assemblers might lead to the total destruction of the commodity form, but it seems likely that even a moderately wide spread of such technology would seriously undermine the capitalist system.⁷ There would simply be no need for the industrial production of most products if families or communities were able to produce those products themselves.

Advanced technological development not only presents the possibility of the elimination of dehumanizing labor. It presents more fundamental changes in the material basis of production – the potential elimination of the feasibility of large-scale centralized production and potentially the destruction of exchange-value. Marx understands exchange-value as an abstraction, determined solely by market forces, tacked onto an object that obscures its actual qualities or use-value (Marx 1978, 307). With widespread molecular assembling technology available, the cost of a product would be reduced almost to the cost of information – the instructions required for the assembler to build that product – since raw materials would be of minimal cost and the machine would perform the labor of assembling. Of course, if information remains commodified then a capitalist system could continue to thrive. However, we are currently witnessing the difficulties with commodifying information in the Global North’s “war on piracy.” It seems unlikely that anything short of an openly totalitarian regime could effectively stamp out information piracy. In short, transhumanism contains an exhortation to Marxists to keep abreast of the particulars of new technologies and to engage with them critically, looking for the unique revolutionary (and counter-revolutionary) potentials they hold.

Transhumanists should here consider that Marx argues that the centralization of the productive apparatus by the revolutionary proletariat is of fundamental importance to the acceleration of productive capacity. This is because, for Marx, capitalist production divorces or alienates the worker from the activity she engages in, subjecting her instead to “alien” powers – her employer’s need for profit. Marx elaborates:

the division of labour offers us the first example of how ... as long as a cleavage exists between the particular and the common interest, as long, therefore, as activity is not voluntarily ... divided, man’s own deed becomes an alien power opposed to him, which enslaves him instead of being controlled by him. For as soon as the distribution of labour comes into being, each man has a particular, exclusive sphere of activity, which is forced upon him and from which he cannot escape. (Marx 1845)

Her labor, which is all the worker owns, is divorced by capitalism from her interests and goals – she is alienated from herself and her essential ability of self-determination. Transhumanists, by leaving technological advancement in the hands of profit-driven capitalist enterprise, are analogously alienating the human that is to be transcended from itself. Capitalism enslaves humans to economically profitable, but, in terms of transhumanist goals, conservative or regressive endeavors. Think of the production of cheap, disposable dollar-store toys or the infinite cycle of the military-industrial complex. Centralization of production offers the prospect of stripping away those endeavors that do not serve to advance the technological apparatus necessary for transhumanist goals. In short, I suggest that the advance of technology, if divorced from human self-determination, may not present revolutionary opportunities, but rather the opposite.

3 Human nature

3.1

For Marx, humans have a dual nature: both active and passive. He offers this description:

Man is directly a *natural being*. As a natural being and as a living natural being he is on the one hand furnished with *natural powers of life* – he is an *active* natural being. These forces exist in him as tendencies and abilities – as *impulses*. On the other hand, as a natural, corporeal, sensuous, objective being he is a *suffering*, conditioned and limited creature, like animals and plants. That is to say, the objects of his impulses exist outside him, as *objects* independent of him; yet these objects are *objects* of his *need* – essential *objects*, indispensable to the manifestation and confirmation of his essential powers. (Marx 1978, 115)

We can note three important points in this passage: that humans are “natural,” that humans are active or determining – that we can change ourselves and the world, and that humans are also passive or determined by a particular biological nature.

The passive aspect of human nature refers to the fact that humans do not exist purely of themselves like omnipotent deities. To exist, humans must fulfill certain needs that are external to their bodies and are not aspects of their selves. Obvious examples are food and drink, but as Herbert Marcuse notes: “‘need’ is not be understood only in the sense of physical neediness: man needs ‘a totality of human manifestations of life’” (1973, 23). For example, having all one’s physical needs met, but being completely isolated from all contact with other humans is not a situation in which human needs are being met. That humans are needy means that they are in a large sense passive beings. One is necessarily dependent on the water’s being there before one can drink it – and without it, death is certain. Thus, Marcuse holds that for Marx: “Distress and neediness here do not describe individual modes of man’s behavior at all: they are features of his whole existence”

(Marcuse 1973, 21). Marx holds that since external objects are essential to life, they are actually parts of human life. The passivity of humans means that their lives are determined to the extent that they must meet certain needs to continue existing – there are certain constraints on human life. These limits constitute a fundamental connection to the natural. But as Marcuse noted above, human needs are not only physical needs. There are also what might be called social needs which constitute a fundamental connection between the individual and other individuals in society. Humans need other humans for non-material needs such as education, friendship, and culture. Uniquely human (as far as we can tell) qualities, such as culture, require human beings to be social beings; thus sociality is part of human nature.

But humans are also active, self- and world-determining beings. Humans have the ability to relate to objects “universally,” through labor. Human labor produces objects: buildings, computers, medicines. All of these creations we regard as created by “us” – as humans – out of the raw materials found in nature. In producing such objects we constitute a world in which we see ourselves everywhere. Says Marx: “Man is a species being, not only because in practice and theory he adopts the species as his object (his own as well as those of other things), but – also because he treats himself as the actual, living species: because he treats himself as a *universal* and therefore a free being” (Marx 1978, 75). While animals produce nests and dams these are only for “immediate physical needs,” while “man produces universally ... man produces even when he is free from immediate need and truly produces in freedom therefrom” (1978, 76). The endless creation of new objects and technologies supports Marx’s claim: we do not produce technologies solely for survival – we produce in an aesthetic mode, as well as a profiteering mode. Indeed, and this is Marx’s most important claim about human nature, we actually produce ourselves in other objects. Marx’s proclamation that “man produces man” does not refer solely to biological reproduction (Marcuse 1973, 25). Humans produce a world in which every object has some amount of human involvement in it – the human species becomes universally present.

But what is the distinctive stamp of humanity, the “essence” that it imparts to objects? Marx’s sense of essence must be recognized as wholly material. He holds that what philosophers have called the substance or essence of the human is a “material result” ... [a] sum of productive forces, capital funds and social forms of intercourse, which every individual and generation finds in existence as something given” (Marx 1973, 165). At any moment how humans conceive of themselves is a product of the social and material conditions that previous generations of humans set up. Human “essence” is a historical phenomenon. But this does not mean that humans lack a true nature. Marx writes: “The animal is immediately identical with its life-activity. It is *its life-activity*. Man makes his life-activity the object of his will and of his consciousness. He has conscious life-activity ... his own life is an object for him” (Marx 1978, 76). The “essence” of the human shifts over time because it is not a static form. It is, rather, a self-transformative function or an evolving process. The human is the animal whose nature is to change its own nature.

We are thus led to another relevant aspect of Marxian human nature – its open-endedness. Marx describes the new kind of “wealth” that socialist society will produce as the “absolute working-out of [human] creative potentialities, with no presupposition other than the previous historic development, which makes this totality of development, i.e. the development of all human powers as such, the end in itself, not as measured on a predetermined yardstick” because he is not committed to a particular form of human life or metric by which to judge it (Marx 1973, 488). István Mészáros elaborates, asserting that never “can there be a point in history at which we could say: ‘now the human substance has been fully realized.’ For such a fixing would deprive the human being of his essential attribute: his power of ‘self-mediation’ and ‘self-development’” (Mészáros 1970, 119). It is impossible to posit an ideal ending to the saga of human history as that would constrain the freedom of the human by not allowing her very nature of self-determination to be expressed.

3.2

Transhumanists generally agree with the natural being of the human but they tend to differ from Marx on the significance of humanity's active and passive aspects, emphasizing the active nature of humans and downplaying the significance of the passive and needy aspect.⁸ Most transhumanists agree that humans are natural beings and are products of natural processes like natural selection. Humans are distinguished from other animals primarily by their level of complexity (biological and social) and ability to modify their own ways of living. It is material aspects that make humans different: our particular brains, bodies and technological capabilities.

Transhumanists do not deny the passive and needy aspects of human nature, although they do question the permanence and desirability of human needs. Nick Bostrom argues that: "not just any aspect of present human nature ... is worth preserving. Rather it is especially those features which contribute to self-development and self-expression, to certain kinds of relationships, and to the development of our consciousness and understanding" that should be preserved (Bostrom 2005). Some human needs may be eliminated entirely through technology. The nutritive aspect of eating might, for example, be separated from the gustatory, just as the pleasurable aspect of sex has largely been separated from its reproductive function through contraceptive technologies. Nutrients and calories could be supplied through smart drugs, supplements, and nanotech delivery systems, and nanobots might filter out unwanted aspects of digested food, making eating a wholly aesthetic experience.

The need for human social interaction is already being partially met through technological alternate-realities such as the online worlds Second Life and World of Warcraft and myriad social networking sites. Such virtual worlds, while currently primitive, are being increasingly seamlessly integrated with "real reality." Courtship, funerals, marriages, and complex economies already occur in virtual worlds. Kurzweil suggests that we might find living in virtual worlds preferable once they reach a high level of sophistication (1995, 29). The idea is that human needs are subject to change and even disappearance as the human being develops.

It is clear then that transhumanists generally give precedence to the active aspect of human nature. More invokes "Perpetual Progress" as a transhumanist tenet that "captures the way transhumanists challenge traditional assertions that we should leave human nature fundamentally unchanged in order to conform to 'God's will' or to what is considered 'natural'" (More 2009). Neither social institutions nor moral intuitions should be taken as reasons for not modifying human nature. Currently alien and even unimaginable forms of existence can all be stamped with the mark of humanity, or whatever it is that humanity will call itself in the transhuman and posthuman stages of its existence.

The important point is that transhumanists consider some aspects of human nature to be of negative value and seek their elimination. Some transhumanists even cite an ethical duty to future generations of the species and hold that it is morally irresponsible not to alleviate suffering and death as much as possible for these future beings.

But transhumanists do not seek only the alleviation of perceived lacks. They also aim for the expansion of human qualities and abilities and new levels of existence that are currently unavailable to humans. Bostrom (2001) speaks of new "modes of being" that cannot be imagined by current humans. Kurzweil holds that technology will allow us to map, extract and upload the patterns of energy that constitute our consciousnesses. Through this technique we will ultimately "transcend" the material nature of humanity: "We can 'go beyond' the 'ordinary' powers of the material world through the power of patterns ... It's through the emergent powers of the pattern that we transcend. Since the material stuff of which we are made turns over quickly, it is the transcendent power of our patterns that persists" (Kurzweil 2005, 388). Despite

this rather mystical language we can discern a concept of human nature not unlike the Marxian one. Human nature is not any set of limits, conditions or needs; rather, it is an evolving process that constantly breaks through perceived limits. Humans can perceive themselves in all kinds of alien objects and forms – humanity is “universal” in Marx’s sense.

Kurzweil describes a transhumanist sense of human essence: “the essence of being human is not our limitations – although we do have many – it’s our ability to reach beyond our limitations” (Kurzweil 2005, 311). Mészáros echoes these sentiments in his reading of Marx: “Nothing is therefore ‘implanted in human nature.’ Human nature is not something fixed by nature, but, on the contrary, a ‘nature’ which is made by man in his acts of ‘self-transcendence’ as a natural being” (Mészáros 1970, 170). Humans are nature “coming out of itself” and transforming itself – a process.

The transhumanist conception of human nature is also, like the Marxian conception, an open-ended one. Whether due to the unforeseeable ruptures with the past that the Singularity will produce, or more modestly, due to human beings’ abysmal track record at predicting the future, most transhumanists do not commit to hard and fast images of the future. Speaking as a hypothetical future self, Bostrom explains: “I can pass you no blueprint for Utopia, no timetable, no roadmap. All I can give you is my assurance that there is something here, the potential for a better life” (Bostrom 2010, 7). All that can be done is to fix what we know now is broken (e.g. short life spans, genetic disease) and envision, rationally, future possibilities.

Despite frequent (and often understandable) accusations of utopianism, most transhumanists do not, in fact, aim for a technological heaven of perfection. While Kurzweil’s far-future projections do sometimes sound something like this, the practical import of the transhumanist project is about making human life better in ways that are possible and comprehensible to us now or in the near future. Thus Riccardo Campa holds that “only when a technology exists and is experimentally proved should it become part of immediate transhumanist policies and action programs aimed at obtaining their implementation and broad accessibility. Until then, it can only be a working hypothesis for scientists in their laboratories or of science fiction writers in their literary works” (Campa 2008). Projections should be recognized as being defeasible, though useful, ways for informing our current actions, which will undoubtedly lead to at least some unforeseeable consequences.

The open-ended nature of human development means that qualitatively different forms of life lie in the future of our species. While the “meaning” of such a radically different life will no doubt be unlike that of our current lives, this is no call for alarm, transhumanists argue. It may not be possible to judge the “meaning” of transhuman or posthuman lives by the values we currently live by. As Bostrom holds: “Our own current mode of being ... spans but a minute subspace of what is possible or permitted by the physical constraints of the universe ... It is not farfetched to suppose that there are parts of this larger space that represent extremely valuable ways of living, relating, feeling, and thinking” (2001, 2).

3.3

We have seen that for both transhumanism and Marxism openness to redefinitions of the human are called for by human nature itself. The similarities are significant, but there is a striking difference between the two: sociality. Most transhumanist thought tends to place little emphasis on the social nature of the human – and this is where transhumanists should take a point from Marx. The transformation of the human seems to be regarded by most transhumanists as a process undergone by atomistic individuals who each exist in no more than a loose aggregate with others. Transformation is of the self, by the self, with social considerations tacked on afterwards – “technological self-transformation” (More 1993). While material conditions in the form of technological apparatuses are certainly an essential aspect of transhumanist revolution, the material aspects of social structures are not usually taken into account beyond assertions that the “freedom” of liberal

democracy and/or capitalism provides optimal productivity. While Bostrom advocates equal or wide access to the trans and posthuman realm, he does not touch on the social hierarchy that underlies the current capitalist system and how it will impinge on such egalitarian access (Bostrom 2001, 7). Marx pointed out that in a capitalist society (and this applies now more than ever) individuals can be bestowed with formally equal rights while simultaneously being differentiated and stratified by the underlying economic structure (Marx 1978, 34). An impoverished fisherman in Newfoundland and a CEO of a multinational corporation formally have the same rights as citizens of Canada, yet it is practically true that the millionaire CEO is able to perform actions that the fisherman cannot, through the hierarchical powers inherent in the possession of the means of production.⁹ Now imagine that the fisherman and the CEO are both given, through an equal distribution of rights, radically extended lives. Would this in any way change the social asymmetry between them? It seems unlikely. The fisherman will still be dependent on dwindling fisheries for his livelihood while the CEO thrives on the extraction of surplus value.

Technological developments occur in a society that has the power to determine to what end those technologies are used and to what extent their equal distribution benefits the transhumanist project. While some proposed technologies, such as molecular assemblers, do present possibilities of undermining or upsetting social structures, it is also possible that oppressive social structures will inhibit or corrupt the optimal utilization of new technologies. A recent (and depressing example) is the internet; the democratic potential of which is currently under sustained assault by governments and multinational corporations worldwide.¹⁰ There is also the suppression of the General Motors EV1 electric vehicle by a combination of corporate and governmental forces.¹¹

Transhumanists should take note of Marx's insistence on what is often recognized as the fundamental contradiction of capitalism, the contradiction between the forces of production and the social relations of production. Marx writes:

At a certain stage of their development, the material productive forces of society come in conflict with the existing relations of production ... with the property relations within which they have been at work hitherto. From forms of development of the productive forces these relations turn into their fetters. (Marx 1978, 4)

The capitalist system of production's sole aim is to extract ever greater surplus value from labor through the increasingly intense exploitation of workers, sophistication of machinery and lay-offs, but at a certain point, Marx holds, these techniques begin to turn back against production and inhibit it. A simple, abstract example: increasing productive efficiency through the use of the above-mentioned techniques means that more product is produced by less workers who receive less wages. Therefore there are less and/or poorer consumers to consume ever more product. With no one to buy up all of the product and thus produce a profit, the capitalist must develop his extraction of surplus value through the same techniques that further shrink the pool of potential consumers, producing a stagnant economy that is cured only when a new market is found or demand for the product resurfaces. The property relations of capitalism – the capitalist owns the means of production, while the worker owns only his labor power – become anti-productive once the productive forces are sufficiently developed.

This ponderous method pays little heed to needs of the people in the society it exists within, operating solely by the capitalist directive of "maximizing shareholder profit," to use contemporary terms. We are now well aware of stratagems such as planned obsolescence (automobiles) and novelty-mongering (Apple excels at this) that capitalist organizations deploy to keep consumption going. The question for transhumanists is whether they want revolutionarily life-changing technologies to be produced and distributed by the clumsy and brutal hand of capitalist production.

Surely, we can only expect molecular assembling technology to come to the public, if it does, from the non-profit sector, because from a capitalist perspective, selling assemblers would be identical to selling off ownership of the means of production.

In summary, transhumanists need to take into account the fact that, while technology does restructure society, the structures of society – which are social relations between humans – also influence the deployment of technologies. If the ultimate goal of transhumanism is the flourishing of the evolving being that is currently called “human,” current social relations between humans cannot be bracketed out. The “freedom” to compete and accumulate wealth under capitalism is not equivalent to the freedom to reach beyond limits for all individuals. From a Marxian angle: “What is to be avoided above all else is the re-establishing of ‘Society’ as an abstraction *vis-à-vis* the individual. The individual *is the social being* ... Man’s individual life and social life are not different” (Marx 1978, 86). Society is an association of individuals, not just a neutral space in which technological development will bring about changes in the human condition. The transformation of the individual and the transformation of society are inseparable.

4. Nature

4.1

In the previous section we saw how, for Marx, humans are inseparable from nature due to their passive and needy nature. We saw also how the human is linked to nature through the action of human labor, which imparts a stamp of humanity on natural objects. However, humanity’s active relation to nature is deeper than this. In the stamping of objects with human essence, humans refashion nature into a “humanized” nature. For Marx, nature is produced just as the human is. He proclaims that “trade and industry ... this unceasing sensuous labor and creation ... is the basis of the whole sensuous world as it now exists” (Marx 1978, 171). The sensuous world is:

not a thing given direct from all eternity, remaining ever the same, but the product of industry and of the state of society; and, indeed, in the sense that it is an historical product, the result of the activity of a whole succession of generations ... Even the objects of the simplest “sensuous certainty” are only given [to man] through social development, industry and commercial intercourse. (Marx 1978, 170)

Nature is socially constructed all the way down, Marx argues. All human ways of knowing and relating to the world are mediated by the relations of production and resultant social structures. Even sense perceptions do not perceive reality immediately. Thus György Lukács claims that, for Marx, “nature is a social category” (Lukács 1971, 130). This assertion has garnered much criticism and is often dismissed as a return to the idealism that Marx repudiated. While there is not space here to engage in a defense of Lukács’ reading, there are good reasons not to side with Alfred Schmidt in dismissing it entirely because it absurdly posits humanity as the “creator of nature” (Schmidt 1971, 70). Nature can be socially constructed all the way down while not actually being brought into being for the first time by humans.

For Marx, nature does have an existence independent of human thought and will. There exists a “material substratum ... which is furnished by Nature without the help of man” (Marx 1978, 309). Humans, however, never have immediate access to it. Humanity does not bring nature into existence, but it does create nature as far as humans can be concerned with it. By depicting nature in this way, Lukács emphasizes the extent to which we are confronted by false immediacies – not just in the social realm (the phenomenon of reification under capitalism) – but in our basic epistemological relations with the world. As one commentator puts it, Lukács’ radical move is:

to criticize the category of immediacy as such, to reject (that is) the idea that mediations must always be mediations of some pre-existing immediacy, and to insist instead that every supposed immediacy can be shown to be the result of previous constructions, thus dynamizing and dissolving all static givens into the social processes that make them possible. (Vogel 1996, 34)

Nature, as far as we can know it, consists of social mediations that mutate and are replaced by new mediations over time. “Facts” are one-sided abstractions that fail to fully capture reality. Lukács calls facts: “nothing but parts, the aspects of the total process that have been broken off, artificially isolated and ossified” (Lukács 1971, 184). The total process consists of the “developing tendencies of history” which “constitute a higher reality than the empirical ‘facts’” (1971, 181).¹² Relying on facts leads to one being “trapped in the frozen forms of the various stages [of past forms of thought]” (1971, 181). Nature is inadequately represented in the form of static facts because it is an evolving heterogeneity of processes, of which humans are an integrated and contributing part. Thus we can see from another perspective why it is for Marx that human nature cannot be static: to be static it would have to somehow stand outside of nature. In other words: “without making man himself dialectical ... man himself is made into an absolute and he simply puts himself in the place of those transcendental forces he was supposed to explain, dissolve and systematically replace” (1971, 187).

Only by recognizing that nature and the human are developing processes and by taking control of those processes can humans attain a free existence, Marx argues. “Freedom,” he holds, “can only consist in socialized man, the associated producers, rationally regulating their interchange with Nature, bringing it under common control, instead of being ruled by it as by the blind forces of Nature” (Marx 1978, 441). In order to achieve revolution, the forces of nature must not, as with the reified forces of capitalism, be allowed to direct the course of human life-activities. While the human is part of nature, she is nature become conscious or “turned back on itself” and is able to manipulate and control the forces of nature that she is subject to.

4.2

Transhumanists generally do not deny that there exists a material “substrate” independent of human mind, but this substrate is taken to act as an ultimate constraint on future possibilities rather than a true or ideal form that must be preserved or recovered. Kurzweil, for example, recognizes the substrate as representing the only real limits on the conversion of the matter of the universe into computing power for a posthuman super-intelligence (Kurzweil 2005, 139). The material substrate consists of building blocks out of which objects and theories might be constructed, but it does not contain natural laws in the Aquinian sense, and nor does it consist of Edenic ideals.

There is, therefore, warrant to attribute a socially-mediated conception of nature to most transhumanists. As discussed above, most transhumanists reject any kind of hard nature/human dichotomy, and instead regard nature as a complex, reflexive process from which the human emerges as one reflexive circuit among many others. As a result, even the most fantastically outlandish modifications to the human or the world (if feasible) must be regarded as wholly natural. Campa elaborates:

The advocates of self-directed evolution, more than challenging “nature,” intend to favor the deployment of its possibilities. The sense and the direction we refer to are ultimately those at the origin of our species, our emergence as more sophisticated organisms in comparison with our immediate predecessors. This is the reason why, if we reason in evolutionary rather than static terms, transhumanism cannot be considered as “unnatural” ... “Human nature” has always been a product of a self-domestication, combining the “human” with the “living” and the “technological”, and human nature was therefore already, to some extent, a self-directed evolution, albeit at an

unconscious level. (Campa 2008)

In this view, nature is a product of human efforts, and humans are a product of natural efforts, having evolved from simpler forms of life. The developmental trajectory of volitional evolution is understood as a continuation of undirected or blind evolution, or perhaps as an “evolution of evolution.” There is simply no way to construct the human/nature dichotomy because the human has been inextricably involved in all human relations to the natural.

Nature, like the human being, is a process, not a fact. And also like the human, nature is seen by transhumanists as necessarily an imperfect process that control must be wrested from. Max More expresses this in “A Letter to Mother Nature”:

Mother Nature, truly we are grateful for what you have made us. No doubt you did the best you could. However, with all due respect, we must say that you have in many ways done a poor job with the human constitution ... You held out on us by giving the sharpest senses to other animals. You made us functional only under narrow environmental conditions ... What you have made us is glorious, yet deeply flawed ... We have decided that it is time to amend the human constitution. (More 1999)

He goes on to criticize “the tyranny of aging and death” and our enslavement to our genes (More 1999). The notion is that transhumanist revolution can occur only if the blind forces of nature are supplanted by consciously-directed human forces.

This implies a sort of disrespect for what have traditionally been considered facts of nature. Since transhumanists “reason in evolutionary rather than static terms,” as Campa said above, we can see how the Lukácsian rejection of static facts of nature is actually a staple of most transhumanist thought. This is most evident in the derision of death as natural fact. Kurzweil asks not whether death is necessary, but rather if it is desirable. If the abolition of death becomes available as a genuine possibility, “we will no longer need to rationalize death as a primary means of giving meaning to life” (Kurzweil 2005, 326). The future of the human and the natural realm itself are currently unknowable, but since our current “facts” are only stages in an on-going process transhumanists remain open to revisions to (and dismissals of) the “facts.”

4.3

Transhumanist thought thus sheds new light on something that Lukács emphasized – the social mediation of nature – but expresses its continued development. Marxists should realize that the distinction between natural and reified forces is growing consistently fuzzier. Marx rails against the reified social forces of capitalism because they strip away the human’s unique ability to consciously direct his life-activity. While human action may indeed be constrained by the laws of “the substratum” it seems increasingly likely that many natural forces (e.g. death, blind genetic variation) will be revealed to be “reified” forces in that once they are shown not to be necessary, they will continue to exist only if humans decide they should. Technological means to overcome such forces present a materially grounded, non-idealist form of radical social mediation of nature. Death, regardless of what sort of meaning it imparts to life, will be revealed as a blind force that impinges upon human nature. Yes, human life will take on a different “meaning” if death is eliminated, and such an existence is currently unimaginable, but these are not sufficient grounds for remaining subject to death’s inevitability. The human is but one stage in a process that potentially extends to the heat death of the universe.

Transhumanists can also learn something here. It pertains again to the social nature of the human, but with respect to the control of natural forces. Marx emphasizes that it is only in society that humans gain the means

to take control of the blind forces of nature. In a simple sense, this means that a lone human cannot formulate new technologies and build factories to produce them on her own. But the same idea should also be understood in a deeper sense. The social mediation of natural forces needs to be exactly that: social.

Transhumanist neglect of this principle is evident in Bostrom's assertion that: "Since technological development is necessary to realize the transhumanist vision, entrepreneurship, science, and the engineering spirit are to be promoted" (Bostrom 2001). The social structure in which these values are to be promoted goes unmentioned.

The history of Marxist thought suggests that perhaps the whole of society should be incorporated in the use of advanced technologies to mediate the natural, if that mediation is to reflect the interests of the society as a whole. Stalin's vanguard party is an example of a small group trying to direct the complex dynamics of a society down to the minute details. The case against vanguardism for transhumanists is even stronger in light of the threat of existential risks posed by advanced technologies. Transhumanists should take note and be wary of leaving the reshaping of the natural realm to a tiny corporate elite. If the Soviet party found centralized administration of one country's economy impossible, and if that endeavor produced some horrific results, it does not take much speculation to envision the potential for horrors if the control of nature at a fundamental level is left to an elite motivated primarily by turning a profit.

Conclusion

It is clear that transhumanism and Marxism have some fundamental philosophical similarities. This comparison is admittedly composed of broad strokes and the extent to which the two fields differ is not here emphasized. I hope, however, to have contributed generally to the furtherance of a dialogue between the two fields, and particularly, to the socializing of transhumanism.

Notes

1. See "The Immortality Institute": <http://www.longecity.org/forum/page/index.html>.
2. See "Carbon Copies": <http://www.carboncopies.org/>.
3. See "The Hedonistic Imperative": <http://www.hedweb.com/>.
4. See "The Complicated Politics of Italian Transhumanism: Part 2": <http://ieet.org/index.php/IEET/print/3733/>.
5. See Mormon Transhumanist Affirmation: <http://transfigurism.org/pages/about/quick-facts-handout/>.
6. See Eric Drexler's *Engines of Creation* (1986) and *Nanosystems* (1992).
7. Of course, nanotechnologies present all kinds of novel dangers (e.g. "grey goo" scenarios) and I'm not trying to gloss over those here. The dangers are, however, beyond the scope of this discussion.
8. Not all Marxists emphasize the passive aspect of the human as much as Marcuse, whom I have cited, does. György Lukács, for example, places much more emphasis on the active aspect, as we will see in the section regarding nature.
9. Avoiding punishment for law-breaking and the restructuring of the legal realm itself through lobbying, for example.

10. In Canada, Bill C-11 is the government's most recent step toward exhaustive internet surveillance, under the guise of policing piracy and child pornography. The conviction of Peter Sunde, of The Pirate Bay, is another horrifying example of the capitalist system's intolerance for the free sharing of information: <http://falkvinge.net/2012/07/06/aftermath-of-the-pirate-bay-trial-peter-sundes-plea-in-his-own-words/>. Edward Snowden's case also comes to mind.

11. See Paine, Chris, et. al. *Who Killed the Electric Car?* Culver City, California: Sony Pictures Home Entertainment, 2006.

12. What constitutes a tendency for Lukács must go unexplored here. May it suffice to say that tendencies are processes of development.

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