

A Marxist Transhumanism?

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ABSTRACT: Transhumanism is a philosophical, cultural and political revolutionary movement. It proposes a radical transformation of the human being and the society in which it develops. Transhumanism is revolutionary on a philosophical level because it collects ontological traditions of the past that posed this transformation, from British Marxist and non-Marxist left-wing thinkers of the 19th and 20th centuries to Soviet and Russian cosmism. But going further back one can find proto-transhumanist proposals from Christian theologians and Enlightenment philosophers. And it is revolutionary at a political level because it can be traced back to proto-transhumanist ideas in political revolutionaries of the past. The revolutionary doctrine par excellence of the 19th and 20th centuries is Marxism. Marxism also influenced certain transhumanist authors, although there are no transhumanist movements that claimed to be Marxist themselves, because none of them put into question capital as the basic social relation of capitalism. In the texts of Marx, Engels and Lenin there can be found proto-transhumanist ideas. Philosophical connections between Marxism and transhumanism are numerous. But beyond this, in this article we suggest that it is possible to develop a Marxist transhumanism movement that exceeds the actual individualistic and pro-capitalist prism on transhumanism. Also, we suggest transhumanism can serve to revitalize Marxist materialism in this 21st century and for the future. Marxist transhumanism would comply with the definition of communism of Marx and Engels, and it could even be said that Marxism is, essentially, transhumanist in its foundations, even when it defines posthumans as New Men, or Men Made In Property. And it could even be said that transhumanism is, in essence, Marxist. In this article, we present a historical cartography of inherent class relations in techno-scientific development and try to show the ideological impact that these relations made on transhumanists. We describe actual transhumanism as transcapitalism, and analyze its theoretical influences, proposing a theoretical itinerary for Marxist transhumanism, from Marx to more contemporary authors that would pave its political and philosophical roots. In addition, we define transcapitalism as BTA-Politics – biopolitics, thanatopolitics and anatomopolitics – in the sense of Michel Foucault. Finally, we propose that it is precisely the inherent contradictions of current Transcapitalism that set the paths for the construction of Marxist transhumanism.

KEYWORDS: Transhumanism, Marxism, biopolitics, capitalism, communism.

Introduction

On May, 25 to 27, 2016, the 8th Beyond Humanism Conference was held, in Spain, at the Complutense University of Madrid's College of Philosophy. The conference's subtitle was "Posthuman Studies and Technologies of Control." This international transhumanist and posthumanist congress is organized every year by Metabody, a postmodernist pan-European organization managed by Spanish contemporary artist, musician and writer, Mr. Jaime Del Val.

Every year, a huge number of philosophers, sociologist, media artists, etc., from all around the globe, join together to offer their own ideas about the prob-

lems of the use of high technologies with sophisticated scientific advances on many fields on contemporary societies. And everyone tries to bring "solutions" to those problems. But not everyone has the same intellectual background, and this is the most important reason for the plurality of their efforts. But, mainly, the vast majority of the solutions to the problems of the unstable relations between *human nature*, the development of societies and the spectacular techno-scientific development in recent years, were ethical and moral solutions based on individualist ontological foundations. Most transhumanists and post-humanists

theoreticians are defenders of individualist and subjectivist philosophical postulates. And when these people try to connect their transhumanist and posthumanist views with politics, economic theories and political philosophies, also the vast majority of their proposals follow the ideological range that goes from libertarianism to liberalism (in the North-American meaning, European contemporary social-democracy or labourism in the United Kingdom), or even more, some offer transhumanism from a religious point of view (Christianism, Islam, Mormonism and Buddhism are some of the known religious fields that have been mixed with transhumanism at some point) (Hughes 2004). In an economic theory sense, many transhumanists are following Austrian economics, monetarism, agorism, Keynesian-Neokeynesian-Postkeynesian economics, collaborative economics, and so forth. (Hughes 2002). But all those efforts, all those proposals, have one thing in common: they don't question capital as a social relation between people in political societies.

Why does this matter? When a religious, political and/or economic ideology doesn't question capital as the fundamental social relation in capitalism, as the basis of capitalist mode of production, this ideology cannot analyze, for example, economic crisis as an essential phenomenon for the recurrent rotation of the capitalist economic system. Because those ideologies understand economic crisis as a result of wrong decisions on economic policies: problems of monetary expansion, liquidity problems, problems arising from the monetary monopoly of State Central Banks, problems arising from budget balances, problems arising from the excess of State control of markets or, on the other hand, arising from the lack of State control of markets, and so on. Every single school of economics, from Austrian to neoclassical, believes that crisis could be stopped if their recommendations were taken seriously. But none of those schools understand economic crisis as an essential historical phenomenon of the capitalist mode of production. And what does this have to do with contemporary transhumanism? Most transhumanists think that the derived problems of resource allocation in the economic field, also the technological and scientific resources for everyone, depend on the implementation of the cited economic actions. So, for them, transhumanists have nothing

to say about capital as a social relation and try to defend that their most beloved ideas could be implemented following the "invisible hand" of markets or, if market problems should be solved with some regulation, those must follow liberal Keynesian points. Or, even, only political development of religious ethics, or laicist ethics as the theory of justice by late John Rawls (Bailey 2009). In short, the transhumanist agenda could avoid the imbalances arising from the economic crisis following the recommendations of Neoclassical – or Austrian – economics.

These points of view were the vast majority of the speakers at the 8th Beyond Humanism Conference too, an illustrative symptom of what the so-called international transhumanist movement advocates in our times. However, some conservative analysts noticed some connections between transhumanism and Marxism, but as something pejorative, as we will see below. On the other hand, some progressive transhumanists established those connections in positive way. As we said at the Conference, and as we are going to develop in this essay, the strong connections between transhumanism and Marx's historical materialism could allow us to defend the argument that if transhumanists want to carry out their plans to their last consequences, they must embrace Marxism. Because transhumanism, until now, is only another ideology that justifies capitalist social order and the unequal appropriation and development of productive forces. Thanks to the amazing advances in science and technology, everything can be transformed into productive forces, even humans. Transhumanism focuses on that, also Marxism. So we propose transhumanist Marxism would be the definitive transhumanist proposal, and also the ultimate Marxist battlefield.

State of the Art of Transcapitalism: The Search for Immortality of the Great Bourgeoisie

In 2002 Peter Thiel, founder of PayPal, sold his company to eBay for US \$1.5 billion (Ayuso 2016a). Since then, he has dedicated himself to several investment funds with a single aim: to avoid death. He is not an isolated case. Like many of his contemporary bourgeois, Thiel invests huge amounts of his capital in anti-aging industry. According to Global Industry

Analysts (Global Industry Analysts 2016), anti-aging businesses move nearly €60 billion per year, despite the fact that many of their products are even intangible and unsaleable. Thiel, and others, think that the advances of biotechnology will be an unprecedented revolution in the History of Mankind. In his own words: “It is possible, and necessary, to eradicate aging, or even death.” These capitalists invest hundreds of millions of dollars in anti-aging companies with the hope that they might reconstruct, regenerate and reprogram vital organs of the human body, and even the DNA, in order to live better and longer.

The following news is thus perhaps not surprising. Italian surgeon, Sergio Canavero, is planning the world’s first head transplant – in reality, first body transplant – reanimating human corpses. He told the *Daily Mail* (Naish 2016) that many elder capitalists and trillionaires phoned him interested in being his patients. Achieving immortality is an obsession for many capitalists, and hence the money that investment funds invest in people like Canavero.

Another example. Dimitry Itskov, bourgeois founder of New Media Stars and the 2045 Initiative, in order to implement *cybernetic immortality*, is planning to create cyborgs that could store human consciousness after organic death and allow “living” without biological lashings. Itskov, as Thiel, is convinced that “it is possible and necessary to eliminate aging or, even, death, as well as to exceed the limits currently set out by the restrictions of the physical body” (Ayuso 2016a). Like Thiel and Itskov, Larry Ellison, founder of software company Oracle Corporation, has donated more than US\$4 billion to research on anti-aging. What he wants is to avoid his own death, because he really believes death could be avoided. Another *Transcapitalist* (the mainstream transhumanist ideology) is Bill Maris, neurologist and founder and ex-CEO of GV, first known as Google Ventures, specialising in funding high technology companies. He invests more than US\$4 billion per year on anti-aging. Since 2014, GV investment in health business increases 135 per cent. Maris’ bedside book is *The Singularity is Near: When Humans Transcend Biology*, by Ray Kurzweil (Kurzweil 2006), co-founder of Silicon Valley’s Singularity University and one of the best-known transhumanist thinkers. Kurzweil is followed by Maris, Ellison, Itskov and Thiel.

For Kurzweil – and, in this, Itskov follows Kurzweil to the letter – around 2045 the capacity of computers will surpass human brains, and the only way we could overcome that critical moment is to improve our human biology. The Singularity University’s individualistic and neoliberal philosophy can be seen on its official webpage, where Peter Diamandis is quoted: “Creating abundance is not about creating a life of luxury for everybody on this planet; it’s about creating a life of possibility.”

Diamandis, author of some transhumanist books (Diamandis and Kotler 2012), is also, founder of non-profit technological development organization the X Prize Foundation, co-founder and executive chairman of Singularity University, vice-chairman and co-founder, with pioneer of DNA decoding Craig Venter, of Human Longevity Inc., ex-CEO of Zero Gravity Corporation, vice chairman of Space Adventures Ltd., co-founder of asteroid mining Company Planetary Resources and co-founder of International Space University, whose Chancellor is astronaut Buzz Aldrin. As Spanish Marxist economist Diego Guerrero has said: “If some day, in the future, capitalists could dominate the Moon or other planets, powerful interplanetary associations of capitalists would exist” (Guerrero 2010).

For Kurzweil, as the ideologist of transcapitalism, the investment of huge amounts of money by futurist bourgeois visionaries will allow a tremendous technological advance that improves physical, intellectual, psychological and, even, *spiritual* human capacities. So the human of the future, and the future transhuman persons – for them, the next step of Mankind, if the transhumanist agenda would be implemented from their ideological worldview – will have a younger appearance, smarter, stronger and better than us. The bourgeoisie, embracing transhumanism, could be free of biological limitations, because they’re not simple mortals. So they need to control and expand the development of synthetic biology and neuroscience. That is the reason why Diamandis, Maris, Ellison, Itskov, Thiel and others, like Elon Musk, a physician, inventor, investor and co-founder of PayPal, Space-X, Tesla Inc. and OpenAI (former economic adviser of the 45th President of the United States of America, Donald Trump) are investing in Kurzweil, Canavero and other start-ups, initiatives and companies that

want to “change the World.” As a social class in relation with means of production, the bourgeoisie now needs to live long enough not to die.

Every day there are more biotech companies. They spend a lot of time and money in risky investments. They have agreements with companies specialized in clinical trials and pharmaceutical companies. But it is not a question of investments to see results in the short term. Could we see those libertarian bourgeois as the definitive philanthropists of the twenty-first century? While another bourgeois, Bill Gates, focuses his philanthropic efforts on offsetting, in part, the health conditions of people in developing countries, the Transcapitalists do something else in connection with the neo-liberal extreme individualism that reigns today, specially in the so-called “Western World”: seek to improve their own lives to levels only imagined in earlier periods of history. Silicon Valley bourgeoisie are more focused on becoming immortal than on fighting hunger, epidemics, the absolute and relative poverty or social inequalities of the planet. Even more, they deepen it. And they don't think about a better technological and scientific development. They want a faster development, focused on individualist philosophies. Sean Parker, co-founder of Napster, suffers from a terminal autoimmune food disease. That is the reason why he invests millions of US dollars in research fields about his disease.

Such investors are reflected in Ridley Scott's 2012 film *Prometheus*, in which billionaire Peter Weyland is shown as the founder and CEO of Weyland Corporation, which recurs in the *Alien* series' universe. Portrayed by Australian actor Guy Pearce, the elder Weyland funds scientific expeditions across space in order to find the Engineers, a very developed alien civilization, only in order to ask them to extend his life-span.

For bioethics professor at Northwestern University, Laurie Zoloth, and for the director of Gerontology at Harvard Medical School, Preston Estep III, Transcapitalist investment is based, not only in egoism and individualism, but also on pseudosciences that scientists can't take seriously (Ayuso 2016a). Probably, Transcapitalists think that their investments will be allowed to all mankind in the future, after they avoid their own biological death. But the main reason behind

this belief is the same we discussed above: the allocation of resources on the economic field is entrusted to institutions that do not question capital as the basic social relation of production. It means that transhumanism, for them, is the coherent ideology of the next step of capitalism. And it is even coherent with capitalism itself.

Political Power and Transcapitalism

The investment operations of great companies on anti-aging and anti-death research programs have multiplied over the years. And, of course, the interweaving between capital movements in this field and political and military power has increased. One year after the 8th Beyond Humanism Conference, in Madrid, David Roberts gave a speech to the Rafael del Pino Foundation, a non-profit private organization dedicated to promoting the formation of company leadership, entrepreneurship, improvement of health and life conditions of Spanish citizens, knowledge of the history of Spain and the protection of its national heritage and to drive and promote individual initiatives on business and on civil society, the principles of free market, free business and free companies (Ayuso 2016b). Roberts was a special agent of the Intelligence service and honoured officer of the United States Army. Now he is the vice-president of the Singularity University and one of the ideologists of Silicon Valley's transcapitalism, future social tendencies guru and expert on *Disruptive Technologies*, those technologies that allow radical changes of productive processes in companies. These are, in summary, the technologies that Marx studied in *Capital* – Machinery, Great Industry – applied to transform agriculture, cattle raising, feeding and human biology itself (Marx 2013, 261-357).

Roberts focuses his recent research and studies not only on the mentioned *Disruptive Technologies*, but also on education and health. The mission of the Singularity University, in his own words, is to make the world a better place for everyone, following the governmental rationality of (neo)liberalism as Foucault said:

This, it seems to me, is what characterizes liberal rationality: how to model government, the art of government, how to [find] the principle of rationalization of the art of government on the rational behavior of those who are governed. (Foucault 1979, 312)

Neoliberalism understands governmental rationality and individual rational behaviour with the same basis, and always considers rational behaviour the same way Max Weber understands marginal utility theory, beyond its relation with Weber-Fechner laws of psychophysics, related in the nineteenth century to magnetism and phrenology, and used today to explain the increasing levels of public expenditures:

Marginal utility theory, in order to attain specific objects of knowledge, treats human action as if it ran its course from beginning to end under the control of *commercial calculation* – a calculation set up on the basis of *all* conditions that need to be considered. It treats individual “needs” and the goods available (or to be produced or to be exchanged) for their satisfaction as mathematically calculable “sums” and “amounts” in a continuous process of bookkeeping. It treats man as an agent who constantly carries on “economic enterprise,” and it treats his life as the object of his “enterprise” controlled according to calculation. The outlook involved in commercial bookkeeping is, if anything, the starting point of the constructions of marginal utility theory. Now, does its procedures rest upon the Weberian-[Fechnerian] law? Is it an application of any propositions concerning the relationship of “stimulus” and “sensation”? For its purposes, marginal utility theory treats the “psyche” of all men (conceived of as isolated entities and regardless of whether they are involved in buying and selling) as a *merchant’s soul*, which can assess quantitatively the “intensity” of its needs as well as the available means of their satisfaction. It is in this way the theory attains to its theoretical constructions. But all this is certainly *opposite* to the procedure of any “psychology”! (Weber 1975, 31-32)

Following these individualistic philosophical roots, Roberts, Kurzweil and others at the Singularity University want to solve what they called the “Global Grand Challenges,” which are the following:

1. Feeding the growing world population;
2. Bringing education to all corners of the Planet;
3. Ensuring access to potable water throughout the world;
4. Monitoring global security;
5. Ensuring basic health services;
6. Promoting a sustainable access to energy;

7. Caretaking of environment;

8. Putting an end to poverty.

Of course, these are approached always from the perspective of corporations and executives and/or startups and entrepreneurs. Speaking to the Rafael del Pino Foundation, Roberts assured that those “Global Grand Challenges” will be resolved in the next twenty years, following the Transcapitalist agenda of the Singularity University. How? Creating interesting and innovative technology companies that make money, that could resolve any of those “Grand Challenges,” because those “Challenges” are Huge Markets.

According to Roberts, the end of poverty and illiteracy will help to adjust the global demography to a population growth of zero, as it already is the case in western capitalist democracies. And this will be achieved because billions of people will connect to the Internet in the next two decades. And for Roberts, billions of people connected to the Internet represent billions of new business ideas, and billions of new buyers of those ideas. This will make the universities unusable, except for those who want to educate themselves by paying large sums of money. The Massachusetts Institute of Technology (MIT) has already put online all their subjects of teaching. And in several capitalist countries the children of working class families have seen how university fees have tripled, as in Spain since 2012. Roberts believes that initiatives such as Udacity, a company specializing in Massive Open Online Courses (MOOC), that is to say, *microundergraduate programs*, that will be sufficient to form “high quality workers.” This new Transcapitalist international division of labour requires *more specific learning than academic formation*, which will be a luxury. University learning is already expired by the time of graduation, according to Roberts. And therefore, the academy, in the Platonic sense of the term, has its days numbered for free and open access to the majority.

Roberts has very much in mind the meaning of the development of the productive forces on a historical level. According to Moore’s Law, by Intel-Inside co-founder Gordon Moore, every two years the number of microchips on computers are doubling their number and capacity. Roberts applies Moore’s Law also to diodes, valves, and in fields like biotechnology and synthetic biology, the design of biological systems that

don't exist in nature but will have functions as micro-computers. The development of productive forces in the post-Fordist production model interweaves integrally with Moore's Law applied to every technological research project:

Flexible accumulation doubles as a synonym for post-Fordism and there are flexible workgroups, flexible manufacturing systems, flexible work schedules, and flexible market responses. The burst of innovation spurred by the high-technology boom in the late twentieth century and the parallel explosion of communications and media resulted in a volatile market environment. Technology competition keyed a circuit of almost instantaneous obsolescence in all things digitally electronic. The master commodity here was the computer chips. As firms raced to produce faster chips, each generation of proprietary chips was eclipsed at a rate that approximated Moore's Law – the prediction by Intel's co-founder Gordon Moore that the number of transistor on each chip would double every two years, and with that doubling would come exponential increases in computing power. A proprietary chip, under the conditions of intellectual property law, remained the exclusive domain of the company that introduced it for a limited time. When the protection ends, the proprietary chip becomes a commodity and profit margins erode dramatically as competitors copy the design. Proprietary chips drove higher stock prices while commodity chips drove commodity prices down and ushered in wider patterns of consumer adoption. The integrated circuit of production technologies and licensing agreements drove a dialectic of adoption and obsolescence. The promise of budding consumer markets drove stock prices higher while the actualization of consumer adoption could never sustain growth rates for long. From the marketing side the explosion of sign values attached to short-lived digital commodities created a clutter that posed a major hurdle for advertisers. (Goldman and Papson 2013, 36)

The same processes would be applied in other technological fields, following Roberts. For example, when Craig Venter and Peter Diamandis, of Human Longevity Inc., decoded DNA, it cost more than US\$500 million. In 2017, it cost no more than US\$800, and its costs of production will be less and less expensive through

the years. If we could impress DNA with 4D-Printers – allowing the impression of auto-transforming objects – biotechnology and synthetic biology companies would expand their capital and their businesses more than actual computer, pharmacy or neuroscience companies, interweaving all these industries creating new interdisciplinary companies. This is the basis of transcapitalism: capital as the engine of the merger between biological life and technology. The *photoshopping* of life, that will allow us to write, copy, and edit our own DNA to make older-younger human beings or to paste it in other places, to impress virus's DNA to study its properties in order to cure diseases, and to copy and edit seaweed DNA and put it into a cat's DNA, making it glowing in the dark. Or, even, use seaweed DNA properties to change city lightning from electricity to powerful bioluminescence. As Marx and Engels said:

The bourgeoisie cannot exist without constantly revolutionising the instruments of production, and thereby the relations of production, and with them the whole relations of society. Conservation of the old modes of production in unaltered form, was, on the contrary, the first condition of existence for all earlier industrial classes. Constant revolutionising of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new-formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real conditions of life, and his relations with his kind. (Marx and Engels 1848, 16)

When we mentioned above the business opportunities Roberts has seen in the universal expansion of the Internet to everyone, the meaning of his hope for the worldwide expansion of the Internet is based, of course, on capital as the basic social relation of production of capitalism. People living in absolute poverty, on Roberts' futurology, will leave this situation thanks to virtual reality, synthetic biology, etc. The social division of labour, and therefore, social classes, won't disappear, but the Third World will leave absolute poverty thanks to the increase of political power and

wealth that Transcapitalism will ensure to the Great Bourgeoisie. In spite of this, for Roberts, technology can benefit everyone, as long as it is something decided as a species. But, who can lead a species that is divided into classes, states, professional labour, gender, or religion? Those who have economic and political power, and the easiest access to the techno-scientific benefits of Transcapitalism. This can be seen in Neil Blomkamp's 2013 film *Elysium*, which shows a state-class struggle between a Space Station-State called Elysium, populated and governed by transhumans, and an overpopulated Earth, with a vast majority of mortal cyborg proletarians.

Roberts wants to avoid poverty, but he wants to do it, in fact, following an idea for eradication of poverty which was already discussed by, among others, Michel Foucault:

I think we should make a few remarks about absolute poverty. It should not be understood, of course, as a sort of threshold valid for the whole of humanity. Absolute poverty is relative for every society, and there are societies which will have a fairly high threshold of absolute poverty and other, poor societies where it will be much lower. So, the threshold of absolute poverty is relative. Second, and this is an important consequence, you can see that this reintroduces that category of the poor and of poverty that all social policies, certainly since Liberation, but in reality all the policies of welfare, all the more or less socializing or socialized policies since the end of the nineteenth century, tried to get rid of. All these policies – the German state socialist type of policy, a welfare policy like that programmed by Pigou, the New Deal policy, and social policy like that in England or France after Liberation – did not want to know the category of the poor, or, at any rate, they wanted to ensure that economic interventions were such that the population was not divided between the poor and the less poor. Policy was always situated in the spread of relative poverty, in the redistribution of incomes, in the play of the gap between richer and poorer. Here, however, we have a policy defining a given threshold which is still relative, but which is absolute for the society and which distinguishes between the poor and those who are not poor, between those who are receiving assistance and those who are not. (Foucault 1979, 205-206)

Foucault defined the governmental neoliberal rationality as *biopolitics*, and the one prior to neoliberalism as *thanatopolitics*. Before the eighteenth century, Foucault explained, the *anatomopolitics*, based on the human body itself, changed into *thanatopolitics* in the nineteenth century, throughout classical liberalism, the colonial expansion of the United Kingdom, United States of America, France, Belgium, and Germany, and the popularization of eugenics and social Darwinism. The turning point of *thanatopolitics* happened in Germany, 14 July 1933, when the German National Socialist parliament passed the Law for the Prevention of Hereditary Diseases. As a technical device of political power, *biopolitics* came into the twentieth century with an essential difference with respect to *anatomopolitics* and *thanatopolitics*:

This new technique of disciplinary power does not apply to the lives of the men and, even, is intended, so to speak, not man/body but to the living man, the man living being; in the limit, if they prefer, the man/species. (Foucault 1976, 208)

Contemporary transhumanism, in the specific sense, Transcapitalism, is, at the same time: 1) *biopolitics*, a disciplinary technique of the human species; 2) *thanatopolitics*, which ends with the individual human being and its specificity, not killing him or her, but transforming it into an alleged superior species; 3) and also *anatomopolitics*, which manages the human body in an individualized manner by means of the “invisible hand” of the capitalist market. The contradictions of Transcapitalism are the same that Marx and Engels pointed out on the capitalist mode of production, with the addition of the *bio-thanato-anatomo-political* dimensions (*BTA-Politics*, for short) that techno-scientific progress has entailed. That is what Foucault noticed. But the political implications of transcapitalism are not only these.

Prestigious universities such as Cambridge, Oxford or MIT, have created specialized departments in “existential risks.” Cambridge has a department called the Centre For Study of Existential Risks, co-founded by Estonian physicist and programmer Jann Tallinn, also co-founder of Skype, one of the creators of FastTrack/Kazaa P2P protocol, and also co-founder of MetaMed, a company specialized in personalized medical research

services. MetaMed was co-founded, along with Tallinn, by Michael Vassar, ex member of Singularity University. Jann Tallinn is also founder of the Future of Life Institute at Oxford University, with members such as the previously mentioned Elon Musk, North American actors Alan Alda and Morgan Freeman, British physician Stephen Hawking, and Swedish transhumanist philosopher at Oxford University Nick Bostrom, among others. The mission of these centers is to anticipate situations to which the technology can take us in the coming decades, trying to avoid what they understand as *wrong ways*. Their main concerns are Artificial Intelligence, nanotechnology and bioengineering. And they are concerned that the improper development of the same could put in question the established order up to the human species itself. They are, therefore, BTA-Political think tanks. That is to say, Transcapitalist think-tanks. Tallinn has invested in both institutes over US\$2 million.

A very influential book on these BTA-Political think tanks is Bostrom's *Superintelligence: Paths, Dangers, Strategies* (Bostrom 2014). In this book, Bostrom warns about the danger that AI could surpass human intelligence, turning itself into the dominant species on Earth, causing even our extinction. There is no way back in this techno-scientific development, and everything depends on the political-economic domain of the AI. And not only on it, but also on issues such as bioterrorism, climate change, etc. Apart from Tallinn's investments, these BTA-Political think tanks receive annual investments of over US\$4 million, coming from both public and private sources.

Alienation and Transcapitalism

Nevertheless the BTA-Politics of Transcapitalism only focuses on issues that put in danger human species in its relation to the improvement and care of the individualized bodies and existential risks in our biosphere. Transcapitalism never questions the socio-economic order that would allow, according to them, the nurture and improvement of individualized bodies that make up the human species. But it always questions all that doubt of the socio-economic and BTA-Political order, which is equivalent for it, to doubting the future of the human species. Here lies the importance of the utopian speeches on the science of tomorrow and the civiliza-

tion of the *Übermensch* for the neo-liberal society, a misunderstood *Carpe Diem* (Echarte Alonso 2012, 37-51). BTA-Politics are effective strategies to control human actions related to the Marxist term, alienation. Not only in Hegel's and Marx's sense of alienation, as *Entfremdung* (estrangement) and *Entäuserung* (expropriation) of the human being through the enhancement of value through the capital, but also in Foucault's sense, social alienation as a condition of mental alienation in the Late-modern Period (Samuel Huntington's Great Divergence period, from the nineteenth century till now), or what the Spanish Marxist philosopher Gustavo Bueno called *Floating Individuals*, the product of the acute crisis of the connection between the individual purposes and plans or programs of the Society (Bueno 1981, 12-39). Floating individuals in a Transcapitalist age, victims of the new habits of consumption of the psychopharmacological society and its generation of passivity, are not matters for BTA-Political think tanks.

The identity of human nature cannot be adversely affected by a technological change of the body. Not even by technology itself. We can operate on ourselves, something shown by the historical evolution of our societies and our socio-cultural habits. The same is true for the improvement of the body, such as medicine has historically shown. Our body participates actively in the reception of modifications, this being the essence of both the idea of *homo faber* and the idea of Aristotle's *zoon politikon*. The central nervous system is plastic, that is true. The configuration of the brains of different people is not the same at all. But that does not imply that the human brain is a *tabula rasa* that allows us to do everything with (and on) it. Yet this is what Transcapitalists think, in aiming to make every little atom of our body a productive force. Because in Transcapitalism, as the actual phase of the capitalist system, and coherent with Marx's analysis, everything that can be manipulated by men, from quantum foam to large sets of antimatter in the observable universe, are potential productive forces. And in a philosophical materialistic sense, to manipulate is to operate, and the observation of a phenomenon and its classification in a scientific discipline is already an operation (Bueno 2013). Here lies the great power, and the great danger, of the Transcapitalist phase in which we have entered.

The offered options of individual depersonalization in transcapitalism are varied, and as important as surrogate pregnancy, organ trade or human trafficking. An example:

Imagine a person who has been offered five million euros with the condition that, forgetting who he was, he should adopt a new personality, a new family, a few new habits. Who would accept the treatment? The offer may be even more radical: what if the money is in exchange for a transformation that clear limits that make us belong to the human species? (Echarte Alonso 2012, 40)

In this particular case, this *negative eugenics* would happen when someone, considering himself or herself less suitable, agrees to destroy himself or herself because of that. However, at the same time, it is a case of *positive eugenics*, because this process allows the emergence of someone, or *something*, considered by himself or herself, or by society, by capital and/or by state, more suitable. So:

Self-eugenics commits who is [for nothing, or for money] destroyed to favor the advent of someone better, which does not yet exist and that will never be known (Echarte Alonso 2012, 40).

The problem with the BTA-Politics of transcapitalism is that they want not only to improve mankind using science and technology. Not all manipulation of nature is a manipulation of the identity of mankind. The point is that the BTA-Politics of transcapitalism will create a minority of very economic and political powerful beings, proud of their way of living, apart from the rest of human beings with less improvements, only developed to maintain capitalist property appropriation, capitalist division of labour, capital as the basic social relation of production of capitalism and, last but not least, to maintain them, us, as floating individuals with cyborg implants. It is easier, for Transcapitalist thinkers, to take a pill, or to have a robotic new arm installed, than to leave a job or a habit harmful to oneself or others. And it would also be easier to robotize or cyborgize productive processes of the relations of production before suffering strikes. Marx was not an enemy of robotization, as we will see later, but he never stood for it in the sense in which it would

be defended by the Great Bourgeoisie. Therefore, one of the tasks to undertake is to expose the charlatans of the Transcapitalist *scientific fundamentalism*, those who believe that science will solve all the problems of mankind – even sexual problems (Preciado 2008, 20-90), without ever questioning capital. This is because the BTA-Politics of transcapitalism reduces human life to nature, something as dangerous as reducing human life to culture, like certain postmodern schools in the social sciences and humanities do. We are both nature and culture, and the disjunction between the two, functional as abstraction, is fictional in reality.

Variable Capital on Transcapitalism

The body transplantation proposed by Sergio Canavero, cited above, is not the only example of the renewal of variable capital in Transcapitalism. In 2015, Oskar Aszmann, at the Medical School of the University of Vienna, cut off unused members of some patients to replace them with new bionic members. These bionic arms are connected to the muscles and allow the cyborgs the opening and closing of their new hands just by thinking about it. The new arm is already operational six weeks after the implant. Although some colleagues of Aszmann think that there should be alternative ways to recover and repair biological tissues, even malformed or destroyed in an accident, the voluntary amputation that Aszmann offers seems to be the best alternative for patients, because they prefer to end years of unnecessary surgeries that end up leaving them as they were (Aszmann *et al.* 2015, 2183-2189).

This type of renovation is not confined to the motor operation of individuals. Spanish neurosurgeon at San Carlos Clinic Hospital in Madrid, Juan Antonio Barcia, and Spanish neuropsychologist Paola Rivera, have applied a new technique in five patients with brain tumours with which they have moved brain functions from one place of the brain to another, in order to operate and remove a higher percentage of tumour tissues. The doctors intervene at first to see how much of the tumour can be removed, and then place a blanket of subdural level electrodes in the areas where it can affect brain functions. In the following three or four weeks they implement a progressive process in which the blanket produces electric shocks of artificially increasing intensity to virtually override the

function, allowing the brain to transfer this function to adjacent areas. Through intensive rehabilitation, the patient exercises continuously that function, and returns to the same functional capacity. Only this time, the function has moved to new areas of the brain and groups of neurons not affected by the tumour. Once this is done, the surgeon can return to operate and remove the affected area, which no longer deals with its natural functions. The idea occurred to Barcia and Rivera by observing the effects of the tumour itself on brain plasticity in patients. For example, when cancer damages brain areas for speech, scientists observe how the adjacent areas are assuming these functions as they move the damage. This process shows that the brain's primary areas are not predetermined. Ergo the interweaving between brain areas is quite plastic (Barcia *et al.* 2016, 1-11).

Of course, these types of medical advancements have an undeniable ethical and moral connotation of perpetuation and improvement of the quality of life of individuals. But in Transcapitalism and its BTA-Politics, these advancements are associated with the social division of labour, the private ownership of the means of production and the relationship of these with the prolongation of life. The constant renewal of the productive forces, as we have defined above, requires the constant renewal of the labour force and of the reserve army of labour. This renewal is no longer just generational, through new births or through migration, but also through the improvement of the physical, psychological and biological abilities and properties of the cyborg worker, which can be cured of a brain tumour by moving the plastic brain functions at the same time he or she has deployed a new bionic arm. This includes, as a parallel process and interwoven with it, the perpetuation of biological life through the merger of cyborg-human DNA with animal or vegetable DNA, such as that of the Greenland boreal shark, the most long-lived vertebrate of the planet, with a life expectancy of up to 400 years (Nielsen *et al.* 2016, 702-704). Or maybe DNA for plants such as llareta, a very dense shrub relative of the parsley that lives in the Atacama Desert, in Chile, for up to 3000 years. Or maybe bacterium like Siberian Actinobacteria, the oldest organism on Earth, that for some 500,000 years has been constantly repairing its DNA while living under permafrost

(Willerslev *et al.* 2004, 9-10). Or maybe copying and editing human DNA with parts of the DNA of very elder and endurable animals, such as the American lobster that can live for 140 years, the planaria flatworm that can restore lost tissues or become a fully independent organism when it is divided, tardigrades (amazing eight-legged microscopic organisms that can survive in any condition: from intense radiation, low pressure from the depths of the sea, temperatures ranging from -50°C up to 250°C , live in deserts or jungles or survive the cosmic void; they can monitor and stop the metabolism, drain almost all of the body water content and stay dehydrated for almost ten years), tortoises that can live more than 200 years, hydra that have stem-cells characteristics (if we grab a hydra and cut it into several parts, each part will regenerate a head in its original apical side and one foot in his side basal), or the *turritopsis nutricula*, a kind of hydrozoa that can evolve to a polyp in its sexual reproduction stage and then use a process of differentiation by which it relives the cycle over and over again, repeating the process indefinitely when it gets older. Although it can die because of illness, the *turritopsis nutricula* is the first living being known that, because of the process described above called transdifferentiation, is biologically immortal (AnAge: Animal Ageing and Longevity Database). For transhumanism, biological immortality can be combined with techno-scientific immortality – another test of the fictitious disjunction between nature and culture. The examples in the previous paragraph, concerning the copy and editing of combined human-animal DNA, can be combined, or added, to other ways to promote longevity and avoid death. And all of these can be combined with transplants, bionic limbs and brain plasticity for curing tumours.

A last ditch option to avoid death is cryonics, that is, preserving people whose lives can no longer be maintained through the current technological-medical means with the goal of resurrecting them in the future. There are already several companies dedicated to the cryonics business, such as Alcor Life Extension Foundation, based in Scottsdale, Arizona. Already Alcor has 69 customers in cryonic suspension, and 773 on the waiting list (in the whole world, in 2019 there were 300 people in cryonic suspension). Whole body preservation at Alcor costs US\$200,000. The president

and CEO of Alcor is the libertarian British philosopher Max More, founder of The Extropy Institute, a Transcapitalist think tank that defended extropianism,¹ a Transcapitalist ideological family that combines utilitarianism (Benthamism), optimistic views on future and the defense of free capitalist markets as the best way to reach *extropy*, an antonym to entropy, the degree of irreversibility reached after a process that involves the transformation of energy. Max More, now is more a mainstream liberal than a libertarian extropianist.

Cryonics can be applied only when the person is clinically, and legally, dead. Only when they have ceased to have any signs of life they may be frozen, always in liquid nitrogen and at -196°C. And there is no guarantee that, once thawed, the person can be revived. It all depends on future technology and scientific advances. No animal that has been frozen has been returned to life.

There are alternatives to cryonics, such as scanning the brain to make a copy of it and uploading it into a hard drive of a computer; a kind of “virtual immortality,” in which a copy of our consciousness is inserted into a computer simulation. The problem is that the copy of the consciousness, although created to be self-consciousness of the individual, is not. The individual may be biologically alive, frozen, or already dead. Companies like GV, dedicated to mind uploading, do this with a view of the so-called *neuro-economics* and *psycho-economics* neuronal studies applied to marketing economics (Caballero de la Torre 2013, 4), in order to gain a foothold in the market when planning the distribution of certain products among consumers (Walton 2010). This is an attempt to give scientific sustenance to the theory of marginal utility (Armesilla 2015).

Surely, the only viable way to extend life indefinitely has to do with what is mentioned above about biology and DNA. In all healthy organisms every day millions of cells die. This is a biological mechanism of survival to avoid, among other things, death from

cancer. However, sometimes there are cells that refuse to die, like cancer cells, because they put their own survival above the survival of the organism in which they are located. With cancer, cells begin to grow out of control, without dying, and, by reproducing, give rise to new cells that also refuse to die. Cancer cells have the ability to divide indefinitely because they can keep their telomeres forever young. Telomeres are the ends of chromosomes whose function is to protect the genetic material from deterioration. When the telomeres of a living being are spent, their cells begin to grow old. This process concludes either with degenerative diseases that end up being lethal, or with death by old age. Telomeres of all living organisms are spent little by little, but without ever stopping. However, the cancer cells avoid this process, thanks to telomerase. Telomerase is found in cancer cells, but also in germ cells (the precursor of the gametes, that is to say, egg cells and spermatozoa), in foetal tissues and in some stem cells. Is not found in the rest of known cells. Their function is to keep the telomeres young. If it were possible to turn on, in a controlled way, telomerase in human cells, these cells could avoid the deterioration of the telomeres, and could lengthen the life of people to indefinite limits, thus achieving the biological immortality in the human species. And if telomerase could be turned off, cancer could be eradicated. Through treatment of telomeres with telomerase, Spanish molecular biologist María Blasco managed to increase the life of mice by 40 per cent (Blasco *et al.* 2012, 691-704). This technique could be applied to humans in a few decades, depending, of course, on the price of the treatment.

The possibilities offered by the development of the productive forces that current sciences and technology enable were unimaginable before, except in science fiction. Such developments redefine the relationship between man and nature that Marx saw in *Capital*:

Labour is, in the first place, a process in which both man and Nature participate, and in which man of his own accord starts, regulates, and controls the material re-actions between himself and Nature. He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order to appropriate Nature's productions in a form adapted to his own wants. By thus acting on the external world and changing it, he

1 Extropianists believe that transhumanism is the best tool to reverse the entropy of matter and energy, but always in a Transcapitalist way (More 1996, 1-7). Although More has evolved from libertarianism to social-liberal thought, many extropianists are, still libertarians, such as professor of Law at University of Tennessee, Glenn Reynolds, or CATO Institute philosopher, Ronald Bailey. The most famous client of Alcor is late baseball player Ted Williams. But only his head, because many cryonic companies have available the possibility to preserve only the brain, something that is cheaper to preserve than the whole body.

at the same time changes his own nature. He develops his slumbering powers and compels them to act in obedience to his sway. (Marx 2013, 127)

Variable capital, support of the labour force, is at the same time constant capital. Or better said, each of its formal-anatomic parts (body parts, tissues) and of its *material*-atom parts (telomeres, rhizomes, atoms) are productive forces, as well as any living organism, such as before any material entity:

An instrument of labour is a thing, or a complex of things, which the labourer interposes between himself and the subject of his labour, and which serves as the conductor of his activity. He makes use of the mechanical, physical, and chemical properties of some substances in order to make other substances subservient to his aims. (Marx 2013, 128)

The process by which the productive forces are reconfigured through the operations of the workers is described with such mastery by Marx that his description is valid for any historical mode of production, including the current Transcapitalist phase that is being born:

A particular product may be used in one and the same process, both as an instrument of labour and as raw material ... whether a use-value is to be regarded as raw material, as instrument of labour, or as product, this is determined entirely by its function in the labour-process, by the position it there occupies: as this varies, so does its character. Whenever therefore a product enters as a means of production into a new labour-process, it thereby loses its character of product, and becomes a mere factor in the process. If then, on the one hand, finished products are not only results, but also necessary conditions, of the labour-process, on the other hand, their assumption into that process, their contact with living labour, is the sole means by which they can be made to retain their character of use-values, and be utilised. Labour uses up its material factors, its subject and its instruments, consumes them, and is therefore a process of consumption. Such productive consumption is distinguished from individual consumption by this, that the latter uses up products, as means of subsistence for the living individual; the former, as means whereby alone, labour, the labour-power of the living individual, is enabled to act. The product, therefore,

of individual consumption, is the consumer himself; the result of productive consumption, is a product distinct from the consumer. In so far then, as its instruments and subjects are themselves products, labour consumes products in order to create products, or in other words, consumes one set of products by turning them into means of production for another set. (Marx 2013, 129-130)

But Transcapitalist BTA-Politics continues to operate with some bases, conjugated with legal-political superstructures, which can tell us where the pathways of the productive transformation looming in transcapitalism will go. A phase of capitalism in which every single productive force could produce disruptive technologies, and every element that biotechnology could operate with it could help to produce value and surplus value:

The labourer works under the control of the capitalist to whom his labour belongs; the capitalist taking good care that the work is done in a proper manner, and that the means of production are used with intelligence, so that there is no unnecessary waste of raw material, and no wear and tear of the implements beyond what is necessarily caused by the work. ... The product is the property of the capitalist and not that of the labourer, its immediate producer (Marx 2013, 131).

In Transcapitalism, and with its BTA-Politics, everyone, especially those who are not of the Great Bourgeoisie, will be, at the same time, owners of labour-power and sellers of productive forces from their own bodies.

About the Possibility and the Necessity of a Marxist Transhumanism

We have commented above on some of the families of transhumanism, such as Transcapitalist extropianism or libertarian transhumanism. There are several works that have studied these various families (Cardozo and Meneses Cabrera 2014, 68-88), so here we will adhere to articulating them:

1. Democratic transhumanism or Techno-progressivism: left-wing Transcapitalists supporters of the Welfare State, social-democracy and progressive liberal ideas (such as American sociologist James Hughes and Max

More; on this tendency it is possible to find postmodern leftist activists, like Queer activists, futurist feminism activists, LGBTI activists, social justice activists, *Third-Worldism* activists, cyberpunks and biopunks, Free Software activists, World Basic-Income activists, etc.; many of them are called *anticapitalists* but not many of them in a Marxist way);

2. Extropianism: Transcapitalist supporters of the supposed *spontaneous order* of capitalism, the counter-entropy and anarcho-liberalism (early Max More and Glenn Reynolds and Ronald Bayley);
3. Christian transhumanism: including its varieties of Protestant, Catholic or, even, Mormons, this family of transhumanists defends the compatibility between spiritual transcendence and techno-scientific progress, seen as a divine gift by God (there exists a Christian transhumanists Association, led by Protestants, like American programmer Micah Reding and Reverend Christopher J. Benek);
4. Singularity transhumanism: supporters of the union between machines and biological organisms in order to produce what they call *post-biology* (Ray Kurzweil);
5. Technogaianism: ecologist transhumanists;
6. Posthumanism: transhumanists that argue that transhumanism is only the transition between the human and the post-human;
7. Overhumanism: the fascist Transcapitalist tendency, born in Italy, that mix transhumanist ideas with Nietzsche's *Übermensch* theory, futurist arts and radical nationalism, even racism. Overhumanism is heavily influenced by French neofascist philosopher Alain de Benoist and his philosophical school called "Nouvelle Droite" and the Italian neofascist Giorgio Locchi. The most important contemporary author of overhumanism is Italian author Stefano Vaj (IEET 2009).

These are all the main transhumanist tendencies right now. None of these tendencies are Marxist, and none of them puts into question the social relations of production derived from capital. Some of them even are, in essence, anti-Marxist, like overhumanism, Christian

transhumanism, extropianism, and even tecnogaianism and techno-progressivism. On the opposite side, however, there are the anti-transhumanists, the majority of whom are in the conservative ideological spectrum. Anti-transhumanist conservatives associate transhumanism with Marxism. But there is no Marxist transhumanist school of thought. Some associations of this type have been made by Joshua Fox (Fox 2011), who says that, despite the similarities, transhumanism cannot be socialist, even less Marxist. Or by Wesley J. Smith (Smith 2013), who claims that, despite the future fact that transhumanism won't ever create post human species, the values underlying the movement require conservative opposition because, like Marxism, transhumanism is philosophically materialist, rejects human exceptionalism, claims to be based on eliminating suffering, seeks to supplant true spiritual values of organised religions (in this argument Smith agrees with Timothy Winter, dean of Cambridge Muslim College, who converted to Islam with the name of Abdal Hakim Murad, Muslim Shaykh) and with Peter Lawler (Lawler 2013), who affirms that transhumanism and Marxism are destructive forms of scientificism that will never achieve anything they fancifully describe for the future of Mankind, but are still *ideologies* to fear.

But there are other interesting analysts of the convergence of transhumanism and Marxism, like that of British sociologist at Warwick University Steve Fuller (Fuller 2015). For Fuller, Marxism and transhumanism have always and forever will try to implement their goals in a maximalist sense. But the bourgeoisie, or the economic and political establishment, will take the parts of both that could be used for them in order to preserve their social preponderance and their political dominance. Otto von Bismarck, in Germany, did it with Marxism, implementing in the last quarter of the nineteenth century the basis of the Welfare State, collaborating with social democrat parties and trade unions. That strategy was copied by national bourgeoisies of many west European countries, but failed in Russia, because of the coming into view of the Bolsheviks and Leninism, which led to communism as an established political movement and gave a definitive *plot-twist* to Marx's thoughts. Anyway, for Fuller, transhumanist thoughts and thinkers will develop

into something similar to Bismarck's appropriation of Marxism. How it will happen is explained by Fuller as follows:

The Bismarckian move in the face of this dialectical tension is the precedent set by the US National Science Foundation's 2002 'Converging Technologies' agenda, which established a programme of anticipatory governance, whereby social researchers would attempt to gauge the likely public response to the realization of these predictions. The tools of anticipatory governance are drawn from market research but raised to a new level, since the products in question remain speculative. ... The effect of such research is to create a demand for broadly 'transhumanist' products while neutralizing the worst fears surrounding them. So, even if the current transhumanist projects do not turn out as planned, a culture is being nurtured that wants them to be true and hence is willing to support their continued funding. ... A Bismarckian move to short-circuit the transhumanist narrative might involve, say, channelling the modest advances made across the relevant sciences and technologies into mainstream healthcare, education, production systems, etc. – while cutting off funding for the more visionary projects. After all, even such modest advances amplified across the entire economy might result in a step change in the standard of living that might cause people to forget about the Singularity, especially if it does not involve a massive disruption of lifestyles already seen as desirable. (Fuller 2015)

But how does Fuller recommend avoiding neo-Bismarckian policies against Transcapitalism? By taking a more positive attitude towards military business and technologies:

One way to make the connection between the military and Transhumanism tighter would be by casting the transhumanist biomedical agenda as a matter of national security. ... Many mass medical innovations – from public hygiene reform to vaccinations – were introduced with this sense of 'civilian preparedness,' with the likes of Louis Pasteur and Robert Koch emerging as 'national heroes' of their respective countries in the Franco-Prussian War. In more general historical terms, major public funding for adventurous research has typically been done

against the backdrop of a sustained external threat or 'permanent state of emergency' (think of the US v. USSR in the Cold War). A political party that says living 200 years is an inherently nice idea is not as persuasive as one arguing that living 200 years is necessary to maintain our position in the world. The activities of China's Beijing Genomics Institute can help focus the mind on this issue. This public-private partnership aims to sequence the genomes of thousands of high-IQ people to find interesting transferable molecular patterns. ... The focus on the military would help shift tenor of transhumanist political discourse from one of personal freedom to one of geopolitical necessity. (Fuller 2015)

Bismarckian politics helped greatly capital accumulation, allowing Germany to become a colonial power. France, the United Kingdom, the United States of America and Russia copied, more or less, this model, which helped strengthen financial capital and its exports, the concentration of production in associations of capitalists and the World division among them and among the States of which those bourgeoisies were the ruling class. Bismarckian politics also helped capitalism to evolve into imperialism, as Lenin defined (Lenin 1917). So Steve Fuller's recommendations would allow transcapitalism to evolve into something that can be defined as *transimperialism*.

As for feminism and environmentalism, transhumanism shares with them common elements, but is also at loggerheads with both, whose origin is bourgeois. As with feminism and environmentalism, the roots of transhumanism go deep in history, before modern ages. As everybody knows, British biologist Julian Huxley (Aldous Huxley's brother, the author of science fiction classic novel *Brave New World* (Huxley 1932), a book that could be described as a *Transcapitalist dystopia*) was the first person who used publicly the term transhumanism (Huxley 1957). But centuries before we could find forerunners (Cardozo and Meneses Cabrera 2014, 75-79), like Italian medieval-Renaissance humanist Pico della Mirandola (1996), French philosopher and mathematician René Descartes (Descartes 1628), the *Marquis de Condorcet* (Condorcet 1794), American politician and one of the founding fathers of the United States of America, Benjamin Franklin (Bostrom 2005, 3), French atheist

Julien Offray de la Mettrie (La Mettrie 1748), among others.

We can find examples of what could be defined as *Marxist transhumanism* after Marx. One example was British geneticist J. B. S. Haldane (Haldane 1923). Haldane was a member of the International Brigades during the Spanish Civil War and was an active militant of the Communist Party of Britain since 1942. Haldane was also a Marxist-Leninist and a fervorous partisan of Dialectic Materialism, the Soviet official philosophy. Another is Irish philosopher of science and physicist John Desmond Bernal (Bernal 1929), member of the Communist Party of Britain since 1933. In the Soviet Union, thanks to the background of the tradition of Russian Cosmism initiated by philosopher Nikolai Fiodorovich Fiodorov (Fiodorov 1990), there were a lot of communist thinkers that could be called Marxist transhumanists, like Vladímir Vernadsky, inspirator of the idea of *noosphere* (set of beings endowed with intelligence) (Vernadsky 1998), but in a materialist sense, adapted from the idealist notion of French Jesuit priest Pierre Teilhard de Chardin. Another example was Soviet pioneer of astronautics Konstantin Tsiolkovsky who affirms:

Even now a Man hopes not only to subdue nature, but also to travel among planets and stars of the Universe, so how inconceivably high will his real power be – and, the more so, power of mature planetary creatures? (Tsiolkovsky 1939, 1)

In the Soviet Union, men's evolution thanks to science, technology and socialism-communism was a recurrent idea of *Diamat* philosophy (Esquinas Algaba 2015). Soviet philosophy was, because of its materialism, totally dependent on technology and science. Most examples of people who could be considered *Soviet transhumanist communists* were scientists. Two more examples: astrophysicist Nikolai Kardashev, author of the so-called *Kardashev Scale* (Kardashev 1964, 217-221). In this scale, Kardashev theorizes on the possibility of classifying civilizations according to their techno-scientific development according to the amount of energy and matter produced and consumed. Power is a measure of energy transferred through time, and is expressed in watts (W). In the year 2014, the total world consumption of energy was 17.54 terawatts (TW). This means that, at present, our civilization

would, according to Kardashev, be in stage 0.7, still far away from the beginning of his Scale.²

One of the latest efforts to mix Marxism with transhumanism was the one made by Canadian philosopher James Steinhoff (Steinhoff 2014, 1-16), who warns, “I suggest that the advance of technology, if divorced from human self-determination, may not present revolutionary opportunities, but rather the opposite” (Steinhoff 2014, 5).

With elaborate arguments, Steinhoff shows how Marxism and transhumanism possess substantial similarities. It could be argued, even, that Marxism is inherently transhumanist, and at the same time, true transhumanism has to be, essentially, Marxist. Steinhoff's Marxist transhumanism asserts: “The human is the animal whose nature is to change its own nature” (Steinhoff 2014, 6).

Indeed, transhumanist arguments can be found in Engels (1996) and Marx himself, in such essential writings as the *Grundrisse* (Marx 1858). Marx explains in *Grundrisse* the essence of transcaptialism a century and a half before its birth:

The whole process of production, however, does not appear as subsumed under the direct ability of the worker, but as technological application of science. Give to the production a scientific nature is, therefore, the tendency for capital, and work is reduced to a mere moment of that process. As it happens with the transformation of value into capital, in a more precise analysis of the capital can be seen on the one hand that this presupposes a certain development of the productive forces, historically given – and between these productive forces also science-, and on the other hand, driving it forward. (Marx 1858, 221)

² Based on this, Kardashev established a three-type civilization scale, extended by others after him (Barrow 1999, 133): Type I) Capable of producing an energy of approximately 10^{16} W of power, which is equivalent to exploiting the energy available in the entire planet Earth, including antimatter of the Van Allen belts; Type II) Capable of producing an energy of approximately 4×10^{26} W of power, which is equivalent to exploit the energy available in its own Sun and its solar system, maybe building a Dyson Sphere (Dyson 1960, 1667-1668); and Type III) Capable of producing an energy of approximately 4×10^{37} W of power, which is equivalent to exploit the energy available in one entire galaxy, surpassing the 10^{40} W of power produced by quasars. This controversial scale is, notwithstanding, coherent with Diamat's ontological combination between purpose and teleology, expressed in literature by Soviet transhumanist and paleontologist Iván Efrémov, on his classic science-fiction milestone *Andromeda: A Space Age Tale* (Efrémov 1957), describing on it a distant future beyond communism.

In this process, Transcapitalist workers are merely parts of the chain of the productive process, and therefore they enter in conflict between each other, between cyborg workers and organic workers, and, even, against hypothetical *machine workers*. All of this implies alienation and fights between floating individuals:

The appropriation of living labor by capital gains in the machinery, is also in this sense, an immediate reality. ... What allows machines to execute the same work as before the worker is the analysis and the implementation – which derive directly from science – of mechanical and chemical laws. The development of the machinery in this way, however, only is verified when great industry has already reached a higher level and capital has been captured and put at its service all sciences; on the other hand, the same existing machinery provides it great resources. The inventions then become branches of economic activity and the application of science to the immediate production itself becomes a criterion that determines and encourages this. ... That way is the analysis through the division of labor, which transforms yet into mechanical the operations of the workers, increasingly, so that at some point the mechanism can be introduced in place of them. The particular mode of work, therefore, is presented here directly transferred from the laborer

to capital in the form of the machine, and in virtue of this transposition, it devalues their own ability to work. Hence the struggle of the workers against the machines. ... The appropriation of labor by capital, the capital in terms of that which absorbs itself living labor – “which if it had in the body the love” – is opposed to the worker so brutally evident. (Marx 1858, 226-227)

But in this process, from a Marxist transhumanist perspective, Marx find positive news:

Productive forces and social relations – one and other aspects of the development of the individuals – appears to capital ... not more that means to produce on the basis of its narrow base. In fact, however, constitute the material conditions to blow up. (Marx 1858, 229)

Conclusion

The contradictions of Transcapitalism present the conditions for a Marxist transhumanism, that is to say, to give transhumanism its proper adjective, like Marxist to feminism. Maybe, Transcapitalism is the social formation that would close *prehistory of human society* (Marx 1859, 8). Lenin said communism was “soviets plus electricity.” Future communism would be *soviets plus immortality*.

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