

The Dark Side of Technological Singularity: New Barbarism

Basarab Nicolescu¹

The *technological singularity* is defined as a hypothetical event in which artificial intelligence would be capable of recursive self-improvement or of autonomously building smarter and more powerful machines than itself, up to the point of an *intelligence explosion*, that yields an intelligence surpassing all current human control or understanding. Because the capabilities of such superintelligence may be impossible for humans to comprehend, the technological singularity is the point beyond which events may become unpredictable. One speaks about an essential singularity in the history of the human race beyond which human affairs, as we know them, could not continue (More & Vita-More, 2013).

Nicolas de Condorcet (1743–1794), the 18th-century French mathematician, philosopher, and revolutionary, is commonly credited for being one of the earliest persons to contend the existence of a singularity. In his 1794 *Sketch for a Historical Picture of the Progress of the Human Mind*, Condorcet states :

Nature has set no term to the perfection of human faculties; that the perfectibility of man is truly indefinite; and that the progress of this perfectibility, from now onwards independent of any power that might wish to halt it, has no other limit than the duration of the globe upon which nature has cast us. (Condorcet, 1794, p. 5)

The term *technological singularity* was originally coined by the mathematician, computer scientist and science fiction author Vernor Vinge, who argues that artificial intelligence, human biological enhancement, or brain–computer interfaces could be possible causes of the singularity. Futurist Ray Kurzweil predicts the singularity to occur around 2045 whereas Vinge predicts sometime around 2030.

Vinge predicted four ways the singularity could occur:

1. The development of computers which are “awake” and superhumanly intelligent.
2. Large computer networks (and their associated users) may “wake up” as a superhumanly intelligent entity.
3. Computer/human interfaces may become so intimate that users may reasonably be considered superhumanly intelligent.
4. Biological science may find ways to improve upon the natural human intellect.

1. Email: basarab.nicolescu@gmail.com

The basic idea is that although technological progress has been accelerating, it has been limited by the basic intelligence of the human brain, which has not changed significantly for millennia. Many writers tie the singularity to observations of exponential growth in various technologies, using such observations as a basis for predicting that the singularity is likely to happen sometime within our century.

Between 1986 and 2007, machines' application-specific capacity to compute information has roughly doubled every 14 months; the capacity of the world's general-purpose computers has doubled every 18 months; the global telecommunication capacity doubled every 34 months; and the world's storage capacity doubled every 40 months. Like other authors, though, Kurzweil reserves the term *singularity* for a rapid increase in intelligence (as opposed to other technologies), writing for example that "the Singularity will allow us to transcend these limitations of our biological bodies and brains ... There will be no post-Singularity distinction, between human and machine" (Kurzweil, 2005, p. 9). He believes that the "design of the human brain, while not simple, is nonetheless a billion times simpler than it appears, due to massive redundancy" (Kurzweil, 2008, n.p.). He defines his predicted date of the singularity in terms of when he expects computer-based intelligences to significantly exceed the total sum of human brainpower. Kurzweil's analysis of history concludes that technological progress follows a pattern of exponential growth, following what he calls the *law of accelerating returns*. Whenever technology approaches a barrier, Kurzweil writes, new technologies will surmount it.

In 2009, Kurzweil and Peter Diamandis announced the establishment of Singularity University, whose stated mission is "to educate, inspire and empower leaders to apply exponential technologies to address humanity's grand challenges" (<https://su.org/about/>). Funded by Google, Autodesk, ePlanet Ventures, and a group of technology industry leaders, Singularity University is based at NASA's Ames Research Center in Mountain View, California.

In his 2005 book, *The Singularity is Near*, Kurzweil suggests that medical advances would allow people to protect their bodies from the effects of aging, making the life expectancy limitless. Kurzweil argues that the technological advances in medicine would allow us to continuously repair and replace defective components in our bodies, prolonging life to an undetermined age. Kurzweil further buttresses his argument by discussing current bioengineering advances. Kurzweil analyzed somatic gene therapy (SGT), which is where scientists attempt to infect patients with modified viruses with the goal of altering the DNA in cells that lead to degenerative diseases and aging. Celera Genomics, a company focused on creating genetic sequencing technology, has already fulfilled the task of creating synthetic viruses with specific genetic information. The next step would be to apply this technology to gene therapy. Kurzweil's point is that SGT provides the best example of how immortality is achievable by replacing our DNA with synthesized genes.

Computer scientist, Jaron Lanier, writes, "The Singularity [involves] people dying in the flesh and being uploaded into a computer and remaining conscious" (Lanier, 2010, n.p.). The essence of Lanier's argument is that in order to keep living, even after

death, we would need to abandon our physical bodies and have our minds programmed into a virtual reality.

Strong artificial intelligence can also be idealized as a matter of faith, and Ray Kurzweil thinks that the creation of a deity may be the possible outcome of the singularity.

The huge literature around the concept of the technological singularity puts the accent on the bright, attractive and utopian side of technology. I choose to speak about its dark side.

From the numerous books, articles and Internet documents, I conclude that the assertions about the technological singularity are not rigorous. Science-fiction is not science and wishful thinking is not a serious thinking. In fact, the technological singularity is not a singularity in a mathematical meaning of this word. Exponential behavior does not mean singularity. All that, in my view, appears to be an excuse to dissimulate the basic ideology behind all that: the advent of *transhumans*. *Singularity* is used like a metaphor to suggest the jump from humans to transhumans. In another words, the technological singularity is the basic ground of what is called *transhumanism*, partly because the technological singularity is blind to human values.

Let me make, based upon the transdisciplinary approach, some short considerations about transhumanism.

If the transhumanist project will be achieved, human beings will become increasingly more a machine and the machine will become increasingly more human. The international cultural and intellectual movement of transhumanism advocates the use of biotechnology to improve physical and mental characteristics of human beings. Aging and death are considered undesirable and should not be inevitable.

Natural selection is considered to be outdated and it is replaced by technological selection. The major project is to remove any transcendent force and replace it with man-machine with superhuman intelligence, master of his/her life. Transhumans, which some philosophers and ideologists call them, for obvious oratorical precautions, *improved humans* or *ameliorated humans*, will constitute a new, bio-technological species. Future society will be divided between transhumans and old humans. In my opinion, the old humans will inevitably be servants of the transhumans.

It is remarkable that Sigmund Freud predicted the emergence of transhumanism already in 1930, in his book *Das Unbehagen in der Kultur* (Civilization and Its Discontents). He spoke of the desire of human beings to be equal to God, becoming a *God-prosthesis*. This process is achieved thanks to the second nature of humans, the technological nature, allowing them to dominate the world (Freud, 2010).

From my point of view, we live in a time of a new barbarism which might be characterized by three words: *transhumanism*, *panterrorism* and *anthropocene*.

I introduce the neologism *panterrorism* to describe a new form of terrorism, without any real connection with a religion. Its aim is to kill the other in order to impose its own power. On November 13th, 2015 Paris was hit by blind force of hate. It was a massacre of innocents. What was intended was to kill a certain way of life,

whose symbol is Paris. In this new form of terrorism, there is no a soldier in front of another soldier. There are only killers who blindly exterminate an anonymous mass. The panterrorism, more and more present on our planet, is replacing God with the human being. By killing the other, the desire of omnipotence reaches an unpredicted climax. The French philosopher Marcel Gauchet noted in a recent conference that jihadism is a disconcerting phenomenon. Jihadism is, after the fall of the Nazi and Communist totalitarianism, a new form of totalitarianism that uses religion as a political project (Gauchet, 2016). This new form of totalitarianism will inevitably use the new technologies—including 3D printing in order to produce arms and bombs, Internet of Things (IoT) in order to commit mass crimes, electronic chips implanted in the human body in order to dispose of a fabulous quantity of information, and so forth.

The word *anthropocene* is a neologism designating a new geological era, characterized by the fact that the actions of the human species become the dominant geophysical force of our planet as compared with natural geological forces. There is a danger today, for the first time in history, concerning the extinction of the entire human species (see, e.g., Latour, 2014, p. 27–54). The survival of the human species is, for a good number of scientists and philosophers, the most important issue of our time.

As the well known Australian climatologist Clive Hamilton writes in his book *Requiem for a Species* (Hamilton, 2010/2013) it is difficult to accept the idea that human beings can change the composition of Earth's atmosphere at a point of destroying their own civilization and also the human species. One can predict sea level rise of several meters during this century and the dissolution of the Arctic sea ice in one or two decades. One can even predict that the ice on the entire planet will disappear in several centuries, leading to rising sea levels by about 70 meters. Unexpected phenomena will occur: domestic animals will turn into wild animals and grown plants will disappear (Hamilton, 2010/2013, p. 44). The consequences on the security of nations will be huge: Waves of refugees from climate disadvantaged countries will immigrate to climate favored countries, which will cause unprecedented conflicts. International organizations are not prepared to face such a situation: They are not concerned with the security of the planet.

The prospect of a chaotic climate change shows the failure of certainty, which was born at the Enlightenment period. The modernity project is seriously questioned.

One thing is certain: In Anthropocene, the old and persistent radical distinction between nature and culture is no longer valid. Culture changes nature. Desecration of nature is thus reaching its peak.

How can this terrible catastrophe be avoided? In the US, politicians are convinced that it can be avoided by technological solutions and the authorities have formed several committees of specialists to find such solutions. A new discipline was born, very prosperous today: geo-engineering, whose object is manipulating the environment to counter-balance the climate change caused by the human species. The goal is to transform the chemical composition of the atmosphere so that one can adjust at will the temperature of our planet.

Paul Cruzen, Nobel Prize winner for Chemistry, proposed in 2006 to introduce aerosols into the atmosphere to reflect sunlight (Cruzen 2006). This suggestion has opened a strong research track, supported by prestigious institutions such as the US National Academy of Sciences and the Royal Society. The idea is to inject dioxide sulfide into the stratosphere, in gaseous form, at an altitude of 10-50 km, forming in such a way of sulfate aerosol, particles that can reflect sunlight (Hamilton, 2010/2013, p. 198). Paul Cruzen remarks in passing that the diurnal sky will become permanently white, a grim perspective on the aesthetic level. It is amazing that scientists of the stature of Edward Teller (co-founder and director of Lawrence Livermore National Laboratory in San Francisco) and Lowell Wood (researcher at the same laboratory and influential scholar at Pentagon) are among the staunch followers of this technological solution. With a huge vanity Lowell Wood said in all innocence: “We turned all the surrounding environments. Why do not we do the same with our planet?”—an assertion which is, in fact, a transhumanist assertion.

From my point of view, in agreement with Clive Hamilton, it is not technology that will save our species, but a radical change of our vision of reality.

It is evident that to meet this triple threat—transhumanism, panterrorism, and anthropocene, it is necessary to develop a strong, rigorous, universal and visionary thinking. Just humanistic claims are totally inefficient.

In this talk, I want to formulate the hypothesis that the transdisciplinary interaction of philosophy and spirituality with other sciences, exact and human, is the privileged means of resistance to the new barbarism. I call *transdisciplinary philosophy* the philosophy which integrates the transdisciplinary methodology.

There is a big spiritual poverty present on our Earth. It manifests as fear, violence, hate and dogmatism. In a world with more than 8000 academic disciplines, more than 10000 religions and religious movements and more than 6000 tongues, it is difficult to dream about mutual understanding and peace. There is a need for a new spirituality, conciliating technoscience and wisdom.

The first motivation for a new spirituality is technoscience, associated with fabulous economic power, which is simply incompatible with present spiritualities. It drives a hugely irrational force of efficiency for efficiency’s sake: Everything which can be done will be done, for the worst or the best. The second motivation for a new spirituality is the difficulty of the dialogue between different spiritualities, which often appear as antagonistic, as one can testify to in our everyday life.

Simply put, we need to find *a spiritual dimension of democracy*. Social and political life goes well beyond academic disciplines, but they are based upon the knowledge generated by them.

Homo religiosus probably existed from the beginnings of the human species, at the moment when the human being tried to understand the meaning of our life. The *sacred* is our natural realm. We tried to capture the unseen from our observation of the visible world. Our language is that of the imaginary, trying to penetrate higher levels of reality—parables, symbols, myths, legends, revelation.

Homo economicus is a creation of modernity. We believe only in what is seen, observed, measured. The *profane* is our natural realm. Our language is that of just one level of reality, accessible through the analytic mind: hard and soft sciences, technology, theories and ideologies, mathematics, informatics.

The only way to avoid the dead end of *homo religiosus* vs. *homo economicus* debate is to adopt *transdisciplinary hermeneutics* (Nicolescu, 2007). Transdisciplinary hermeneutics is a natural outcome of transdisciplinary methodology.

In this context, I want to recall a crucial feature of transdisciplinarity—the Hidden Third—that I introduced in my work (Nicolescu, 2014) and in the last column.

The zone of non-resistance, in between and beyond levels of reality, plays the role of a *third* between the subject and the object, an interaction term which allows the unification of the transdisciplinary Subject and the transdisciplinary Object while preserving their difference. This Interaction term is called the *Hidden Third*. The subject and the object are immersed in the Hidden Third.

The Hidden Third, in its relationship with the levels of reality, is fundamental for the understanding of *unus mundus* described by cosmodernity. Reality is simultaneously a single and a multiple *one*. If one remains confined to the Hidden Third, then the unity is undifferentiated, symmetric, situated in the *non-time*. If one remains confined to the levels of reality, there are only differences, asymmetries, located in time. To simultaneously consider the levels of reality and the Hidden Third introduces a breaking in the symmetry of *unus mundus*. In fact, the levels of reality are generated precisely by this breaking of symmetry introduced by time.

In the transdisciplinary approach, the Hidden Third appears as the source of knowledge but, in its turn, needs the subject in order to know the world: the subject, the object and the Hidden Third are inter-related.

The human person, by its very nature, appears as an interface between the Hidden Third and the world. The erasing of the Hidden Third in knowledge signifies a one-dimensional human being, reduced to its cells, neurons, quarks, elementary particles and electronic chips.

The Hidden Third between subject and object is rational but it denies any rationalization. No formalization, theory or model could be made about the Hidden Third. Therefore, reality is also *trans-rational*.

A new spirituality, free of dogmas, is already potentially present on our planet. There are exemplary signs and arguments for its birth, from quantum physics till theater, literature and art (Nicolescu, 2014). We are at the threshold of a true new Renaissance, which asks for a new, cosmodern consciousness. But, paradoxically, the new Renaissance potentiality is overshadowed by the violence of the new barbarism, which is a new phase of the confrontation between *homo economicus* and *homo religiosus*.

Etymologically, the word *barbarian* means one who is a stranger, an alien, who belongs to an uncivilized world. In this context, new barbarism introduces a radical newness, for it means that the alien is not outside us but within us. We are our own barbarians. There is an *ontological barbarism* consisting in the desire to reduce

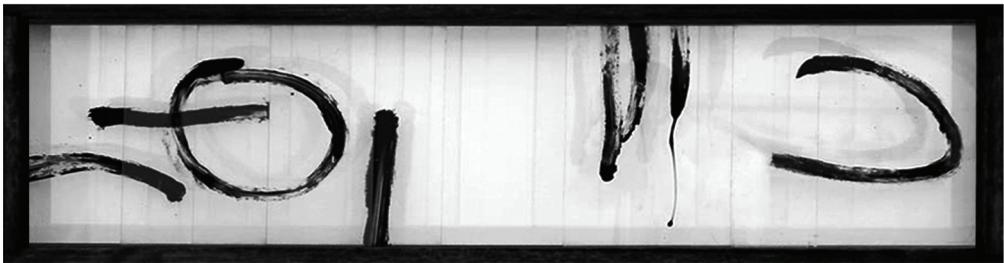
everything to a single level of reality, a *logic barbarism* consisting in the refusal of any other logic than that of the excluded third, and an *epistemological barbarism* consisting in the refusal of complexity, of the interconnection between different levels of reality.

The three tentacles of the new barbarism—transhumanism, panterrorism, and anthropocene—is a result of this triple barbarism—ontological, logical and epistemological. They have in common the assassination attempt of the Hidden Third.

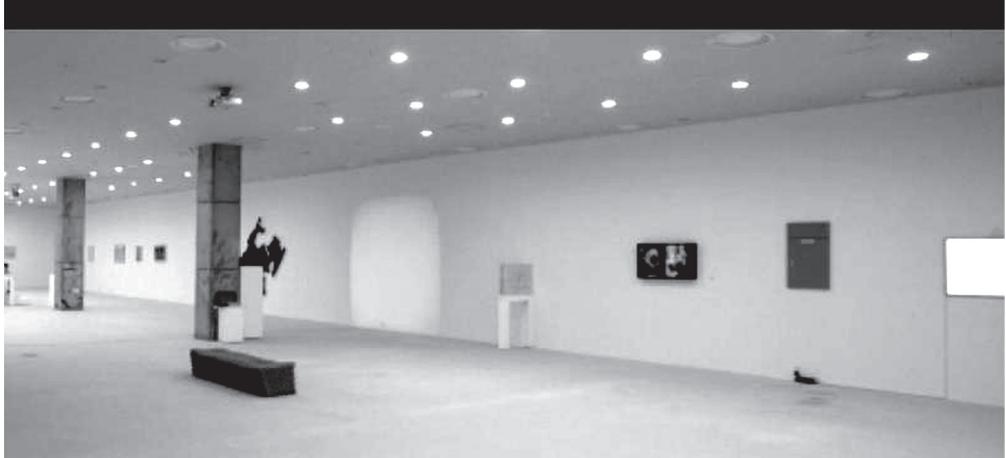
Therefore transdisciplinary philosophy, which gives a profound meaning to the Hidden Third, is the privileged means of resistance to the new barbarism and it could educate the young generations in the spirit of this resistance.

References

- Cruzen, P. J. (2006). Albedo enhancement by stratospheric sulphur injections: A contribution to resolve a policy dilemma. *Climatic Change*, 77 (3-4), 211–220.
- Freud, S. (2010). *Le malaise dans la culture*. Paris: Flammarion.
- Gauchet, M. (2016). L'attraction fondamentaliste. Talk given at the workshop "La psychanalyse et le fait religieux ." Organized by Association Espace Analytique, Campus des Cordeliers, Paris, March 19, 2016.
- Hamilton, C. (2013). *Requiem pour l'espèce humaine—Faire face à la réalité du changement climatique* (F. Gicquel & J. Treiner, Trans.). Paris: Presses de la Fondation Nationale des Sciences Politiques. (Originally published in English: Hamilton, C. (2010). *Requiem for a Species—Why We Resist the Truth about Climate Change*. London: Earthscan.)
- Kurzweil, R. (2005). *The singularity is near*. New York: Penguin.
- Kurzweil, R. (2008). *The singularity: The last word* (electronic forum). Retrieved November 17, 2016 from: <http://ieeexplore.ieee.org/mutex.gmu.edu/stamp/stamp.jsp?tp=&arnumber=4635038&isnumber=4635032&tag=1>. IEEE 45: 10. doi:10.1109/MSPEC.2008.4635038 (<http://dx.doi.org/10.1109%2FMSPEC.2008.4635038>).
- Lanier, J. (2010). *Jason Lanier on staying human*. Zócalo [website]. Excerpt from: *You are not a gadget: A manifesto*. New York: Knopf. Retrieved November 17, 2016 from: <http://www.zocalopublicsquare.org/2010/01/26/you-are-not-a-gadget-by-jaron-lanier/books/readings/>
- Latour, B. (2014). L'Anthropocène et la destruction de l'image du Globe. In E. Hache (Ed.), *De l'univers clos au monde infini* (pp. 27–54). Paris: Éditions Dehors.
- More, M., & Vita-More, N. (Eds.). (2013). *The transhumanist reader: Classical and contemporary essays on the science, technology, and philosophy of the human future*. West Sussex, UK: Wiley-Blackwell.
- Nicolescu, B. (2007). Transdisciplinarity as methodological framework for going beyond the science and religion debate. *Transdisciplinarity in Science and Religion*, 2, 35-60.
- Nicolescu, B. (2014). *From modernity to cosmopolitanism: Science, culture, and spirituality*. New York: State University of New York (SUNY) Press.



Ascott, R. (1960). *Change Painting*. Cellulose paint on movable glass panels; 30 x 90 x 10 cm.



Ascott, R. (2010). Retrospective: International Digital Arts Festival, Incheon, South Korea. Photographic collage.