# Time of the End? More-Than-Human Humanism and Artificial Intelligence

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**Abstract:** The first part ("Is there a future?"), discusses the idea of the future in the context of Carl Schmitt's vision for the spatial revolutions of modernity, and then the idea of Anthropocene, as a synonym for an environmental crisis endangering the very survival of humankind. From this point of view, the conquest of space and the colonization of Mars at the center of futuristic and technocratic visions appear to be an attempt to escape from human responsibilities on Earth. The second part ("AI and other hyperobjects") discusses the extent of intellectual hubris expressed in computation, AI (Garvin Minsky e Ray Kurzweil), and the philosophy of computing and information (Eric Fredkin), involved in the elaboration of new theoretical assessments on the ultimate nature of reality. Their vision is then contrasted and made to interact with that of philosopher Timothy Morton. He has taken the perspective of global warming and the possibility of ecological catastrophe seriously, avoiding all the futuristic enthusiasms and instead emphasizing the radical nature of the transformations that humans experience in the present. In this perspective, AI becomes one of the "hyperobjects," like the Internet or climate change, in which humans are immersed. Morton's hyperobjects delineate an uncanny view of the future; this uncanniness is not related to the supernatural but to the environment.

The third section ("More-than-human-humanism") further reflects on the "uncanniness" that human perceive in the encounters with the manifestations of hyperobjects. It also seeks to understand the human position in the face of the radical technological transformations induced by cybernetics and AI. This section discusses Anti-humanism, Transhumanism, and Posthumanism within the broader category of more-than-human thought, which seems to be a more appropriate term to clarify the possible misunderstandings induced by the word "posthuman" and "transhuman." The central question is not to empower (Transhumanism) or disempower (Posthumanism) humans, but to see them in relation to what is not human, including other animals, the environment, and the machine. The analysis considers the works of Cary Wolfe, Jane Bennet, Bryant Levi, among others, and introduces ethical debates on cyborgs, robots, and Autonomous weapons systems (AWS). The fourth section ("Ethical Perspectives") continues this inquiry, concentrating on the non-standard ethical theories of Luciano Floridi (Computer and Information Ethics) and David Gunkel (The question of the Machine). It examines the opportunity and feasibility of including in the discussion on the ethics of our time - characterized by the pervasiveness of AI - the notions of consciousness as theorized by Emmanuel Levinas's Humanism of the Other and Paul Ricoeur's Oneself as Another.

Finally, the last section ("The time of the end?") reflects on how the hyperobject, Anthropocene, re-establishes a sense of limits in human history and confirms the special responsibility of human beings, and supports the need for a more-than-human-humanism. The latter, in other words, means intertwining ourselves with a unique ecosystem which cannot be overlooked and which restores meaning to our relationship with the past, present, and future. The awareness of the current challenges of technology can and must express itself in different forms of resistance to the adverse effects of AI in our lives. The ethical approach based on the persisting role of human consciousness is essential, but it must be coupled with human decision-making and political action.

## Is There a Future?

As has always happened in human history, the achievement of flight is, in our time, the most potent and effective symbol of the human drive towards progress and futurism. We have witnessed a new era of the space in recent years, with preparation underway for actual human colonization. The protagonists of this new adventure are the so-called "space barons" – those who have created some of the wealthiest corporations globally, such as Amazon and Tesla, and revolutionized entire economic sectors ranging from retail and transport to air travel. Starting from the first decade of the 2000s Jeff Bezos and Elon Musk are investing substantial portions of their vast fortunes to create space exploration technology corporations such as SpaceX and Blue Origin. These companies promise to transform space travel, colonize the Solar system, make outer space available to the masses, and push human space travel beyond the point reached by international governments this far. In this same realm, we could remember Richard Branson. In 2004, after acquiring the technology behind SpaceShipOne, he vowed to create the world's first commercial space line that commits to fly tourists over the edge of space, enabling them to have glimpses of the Earth from above and experience a few minutes of zero gravity (Davenport 11-15). According to some sectors of public opinion and the disseminators of the new technological-scientific prospect, the "space barons" are inventing a future as rich and far-reaching as a science fiction fantasy. In this perspective, the interplay between good and cheap electronics and increasingly reliable and sophisticated software is now "resulting in science fiction–worthy ideas we were promised long ago becoming a reality" (Vance, 462-463).

There are several reasons at the root of this enthusiastic leap towards the presumed future, among them a passion for rockets and space,[1] the human search for the origins of the universe, ambitions for the passenger market, and the desire to perpetuate and expand a model of visionary entrepreneurship. Nonetheless, this model remains focused on conquering the markets and appears to be driven by the exploitation of resources and pursuit of profit.[2] From this point of view, nothing new under the sun, literally. What is truly unique (and not openly declared) is another motivation for the colonization of space: to escape the dire consequences of the destruction of the planet that humans are undertaking irresponsibly in the present. Some isolated voices have indicated this present-future scenario with force and clarity. Think, for instance, of the physicist Stephen

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[1]    For space travel enthusiasts, 2021 was a year full of records of space programs worldwide, and that momentum is carrying forward into 2022, which is set to be humanity's busiest year in space. See Chris Impey's article, "A lunar return, a Jupiter moon, the most powerful rocket ever built and the James Webb Space Telescope – space missions to watch in the coming months" (2022).

[2]    In this regard, it is noteworthy that in 2015, Bezos's Blue Origin and Musk's SpaceX convinced the Congress and the Obama administration to enact the Commercial Space Launch Competitiveness Act that extends an exemption for commercial space companies from federal regulations allowing them to own any mining resources.

Hawking. He stated that a planetary disaster on Earth is "near certainty" and that **Humanity is on a path to either disaster or the stars**. He held that by the time of Earth's wreckage, "we should have spread out into space, and to other stars, so it would not mean the end of the human race." However, he added, "we will not establish self-sustaining colonies in space for at least the next hundred years, so we have to be very careful in this period" (Dockrill).

On the level of geopolitical theory, a significant visionary although critical analysis of the human projection towards the stars can be found in the work of Carl Schmitt entitled *Land and Sea*, published in the original German edition in 1942. His vision can help us place the current race to space in the context of the enormous spatial and elemental transformations that have marked human civilization, which we can still teach us a lesson. Reconnecting in some way to ancient pre-Socratic doctrines, Schmitt conceives the history of humanity as a journey through the four elements – earth, water, fire, and air – to which great spatial revolutions correspond. Humans have been exclusively terrestrial for centuries, and the Earth represented the only space to occupy and colonize. Therefore, the Earth is the essential space of humans even if Schmitt recognizes the sea as the primary cause of all life in mythical and pre-Socratic memory. In mythology, Aphrodite is born from the foam of the sea and Thales of Miletus identifies water as the primal element (2-3). Things changed profoundly with the "space revolution" of the modern age, which saw the English maritime power conquer the sea and then colonize the entire globe by leveraging a de-territorialized state (28-34; 52-53).

*Land and Sea* focuses on analyzing the planetary changes induced by this extraordinary transformation that affected all aspects of human life. Modernity coincides with the affirmation of the "nomos of the sea" which replaces the "nomos of the earth" (46-47). In the new nomos, infinity becomes the new horizon of humans, along with unconditioned, rapid movement, unrestrained power, total warfare, and the force of technology without limits. The new steamboat technology transformed whale hunting into unregulated extermination done with cannons and electric gadgets (14-15). With the end of the *jus publicum Europeaum*, war was no longer and not only earth warfare that concerned states and armies exclusively. Rather, it became naval warfare based on the idea that the enemy's trade and economy were also at the center of the conflict. For Schmitt, the American Civil War, which saw the advent of the armored steamship, marks the beginning of the modern, industrial, and economic wars (46-47; 53).

The change is so pervasive that "all the spiritual trends of the early modern centuries —Renaissance, Humanism, Reformation, Counter-Reformation, and Baroque—have each in their ways contributed to the spatial revolution as a whole" (36-37). The most profound transformation was not the quantitative enlargement of the geographical horizon or the discovery of new continents and oceans. The fact that the spherical shape of our planet was becoming a tangible reality does not seem decisive either. That revolution had far more significant repercussions: "The truly decisive factor was the appearance of the cosmic dimension and of the concept of the infinite void" (34). The scientific reflection that accompanies and expands the space revolution – from Copernicus to Kepler, Bruno, Galileo, and Newton – leads humans to understand that "the stars, masses of matter, move while the forces of attraction and repulsion balance each other in an infinite void, in virtue of the laws of gravitation" (34).

For Schmitt, natural elements maintain their symbolic and analytical value even in modern science, which has simplified and consolidated them into the 90 chemical elements of the periodic table. However, he does not want to establish deterministic links between humans and the environments in which they live because, as he claims, human beings can live even outside their terrestrial natural environment. Schmitt had in mind not

only water and the maritime environment – which in modernity have become the privileged dimension of the ordering of human life – but also the air and the sky. In the last chapter of *Land and Sea*, Schmitt addresses this new level of the planetary spatial revolution. The invention and military use of the airplane during WW1 marked the conquest of the third element, after land and sea. Hence man's potentialities to dominate nature and his fellow humans received the most comprehensive scope (57). However, Schmitt recommends caution in this regard, as implications of the new spatial revolution are not all at the tips of humans' fingers. Nonetheless, the latest stage of the space revolution has produced a notable change in the concept of space. In the sixteenth and seventeenth centuries, humans thought that the world found itself in an empty space, "nowadays, space is no longer mere depth, void of contents that can be reflected upon. Space has become the field of man's energy, activity, and creativity" (59).

According to Schmitt, it is in the context of the spatial revolution of the sixteen and seventeenth centuries that the utopian idea originates. Not by chance, it was Thomas More, an Englishman, the author of *Utopia* (1516). Turning away from the *topos* to a *u-topos,* he is representative of a broader world-historical spatial revolution that allowed humans to conceive of empty space and a new sense of nothingness. Schmitt has no sympathy for utopian philosophies, which, according to him, contributes to delocalizing the idea of law, making it unworkable as it loses any connection with the earth. He reads the very conception of utopia from the beginning in dystopic terms and collapses the distinction between utopia and dystopia. For him, there is a close relationship between the new idea of space, the technological revolution, the emergence of utopian thought, and the end of the earth's nomos as a prelude to the complete mastery of the natural world. However, he does not support the domination of technicity that emerged with modernity and leads humans toward annihilation (Smeltzer, 108-112). In this perspective, we understand his resistance to proclaiming the "splendid and progressive destiny"[3] of humanity, even in the last space revolution, the one that takes place in times closer to our own and finds enthusiast supporters in the "space barons". Schmitt is undoubtedly one of the most controversial intellectuals of twentieth century[4] but his theory of the great spaces in which human civilization has evolved cannot be accused of uncritically supporting the conquest of the sea and the space. Indeed, as we will see in the last part of the essay, he remains a thinker deeply tied to the earth.

Those who do not follow the sirens of future progress refer to the centrality of the Earth for human destiny. Bill McKibben more than thirty years ago in his *End of Nature* (1989), delivered one of the earliest warnings about the danger of climate change. More recently, in his *Falter: Has the Human Game Begun to Play Itself Out?* (2019) he reminds us that the danger is broader than climate change, which is shrinking the space in which human civilization can exist. He now points to the danger posed by new technologies like AI and robotics that threaten to obliterate the diversity of the human experience. In essence, he invites us to consider that scientific and technological progress, even if it will succeed in establishing a human colony on Mars, would not escape the laws of space, where "just as with climate change on earth, physics and biology ultimately rule." In this

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[3]    The expression "splendid and progressive destiny" comes from the *Ginestra o il fiore del deserto* (Broom, or the flower of the desert), one of Leopardi's last poems, where he uses it ironically. "Dipinte in queste rive / Son dell'umana gente / Le magnifiche sorti e progressive." "Inscribed on these slopes you'll find / Mankind's / Splendid and progressive destiny" (Leopardi, *La Ginestra*, vv. 49-51; pp. 72 and 75).

[4]    He was a German legal, constitutional, and political theorist, that participated in different ways in the Nazi legal system. His anti-semitism and anti-liberalism, along with his theoretical justifications of dictatorship and rule by exception, undoubtedly remain highly problematic. For a recent assessment of his complex personality that inspires scholars on both the Left and the Right see Meierhenrich and Simons. It is remarkable, that Schmitt's work attracted the attention of intellectuals like Hannah Arendt, Walter Benjamin, Giorgio Agamben and Jacques Derrida, among others.

perspective, the outstanding progress announced by the "space barons" is nothing but minor accomplishments. It is unlikely to deflect any trends now governing the planet because, "everything we learn about life in space makes it clear that we're not going to get a second chance there" (347). In this regard, he mentions the cosmic rays from the stars that can create a risk of cancer greater than the risk of a spaceflight accident. Moreover, he points to a 2014 National Academy of Sciences report that lists nine health risks for a Mars mission (including heart damage from radiation, food and medicine instability, and poor psychological health) that are at an "unacceptable level" (348).

In McKibben's view, even if humans do become able to cross the 50 million miles that separate them from Mars to escape their responsibilities on Earth, they will not even be able to obtain a decent life. To survive, they will still have to go underground, but they can already do this on Earth if they want, writes McKibben. Not by chance "Grounded" is the title of the epilogue to *Falter: Has the Human Game Begun to Play Itself Out?*. McKibben concludes, "The single most inhospitable cubic meter of the Earth's surface – some waste of Saharan sand, some rocky Himalayan outcrop – is a thousand times more hospitable than the most appealing corner of Mars or Jupiter." (356-357). Clear and decisive stances like this one by McKibben appear more and more reasonable. On closer inspection, they do not invite us to condemn technology and scientific progress per se. On the contrary, they want to invite us to distance ourselves from the hubris that accompanies an uncontrolled use of technology, which is neither oriented around the search for overall well-being nor demarcated by a sense of the limits inherent to the human condition. Likewise, Schmitt also concluded *Land and Sea* with the reference to human limits. He argues that they, too, would be possible in the new dimension of space: "There is nothing to show that what is to come will perforce be nothing but chaos or nothingness, inimical to any *nomos*" (Schmitt 59).

It is precisely the absence of the sense of a limit, implicit in living in an "eternal present" and in this projection towards space, that distances humans from the ethical use of technology and ultimately deprives them of a true vision of the future. James Bridle in his recent *New Dark Age: Technology and the End of the Future* (2018) sees the unpredictability of the future as directly linked to the actual use of computation that conflates past and future. For Bridle, technology's increasing inability to predict the future stems directly from the misapprehensions about the neutrality and comprehensibility of computation. As a result, technology is doing nothing more than confirming the instability of the present, from the fluctuating markets of digital stock exchanges to the accelerating instability of the global climate (45). The model of reality organized as gathered data and then projected forward is assumed not to diverge from past experiences. In other words, computation governs our actions in the present and, at the same time, constructs a future based on the same parameters:

> That which is possible becomes that which is computable. That which is hard to quantify and difficult to model, that which has not been seen before or which does not map onto established patterns, that which is uncertain or ambiguous, is excluded from the field of possible futures. Computation projects a future that is like the past – which makes it, in turn, incapable of dealing with the reality of the present, which is never stable. (Bridle 59)

## AI and other Hyperobjects

Computation and AI express a pervasive intellectual hubris of mythic proportions. The new spatial revolution they contribute to implementing follows a similar pattern to that of early modernity with the emergence of utopian/dystopian thought. However, the new space revolution that projects humans into

extraterrestrial space takes on much more unprecedented, destabilizing, and disturbing proportions; it further motivates the protagonists of the AI to think of themselves in grandiose terms and as nothing less than creators of life, akin to God-like figures (Turkle 237). They are developing the Philosophy of Computing and Information – what Eric Fredkin calls "digital philosophy"– involved in elaborating new theoretical perspectives on the ultimate nature of reality.

"Digital Philosophy suggests that not only can computers model all aspects of physics, but in theory, a computer could model those aspects exactly" (Fredkin 201). The most radical thesis advanced by this philosophy is that computation is a tool to simulate not just reality but rather the ontological ground of reality itself, something that supersedes notions of matter and life as the core of philosophical reflections. For the philosopher Eric Steinhart, "if our universe is digital, then all the things in it are too, including human bodies and brains" (Steinhart 183). The physicist Tommaso Toffoli argues that "physics itself may draw fresh insights and productive methodological tools from looking at the world as an ongoing computation." In this sense "computation -whether by man or by machine-is a physical activity." He asks, "what else can we use to make our models of the world but pieces of the world itself?" He suggests using the term "information mechanics" as appropriate for this unified approach to physics and computation (Toffoli 165, 174).

AI and computation are methods and cultures that impose themselves on all disciplines. Sherry Turkle sees in them a "politics of colonization" that soon takes on a life of its own. All disciplines and fields of knowledge are invaded by AI, which soon considers them pure superstitions in the face of a superior "scientific effectiveness": "AI first declared the need for psychological theories that would work on machines. The next step was to see these alternatives as better – better because they can be 'implemented,' better because they are more 'scientific'" (Turkle 230). Behind the implementation of AI, pure mathematics and programming lead the protagonists to think of creation free from the constraints of matter enabled through the computer. Turkle describes the AI culture that has developed around Marvin Minsky – one of the fathers of computer science and co-founder of the Artificial Intelligence Laboratory at MIT– as the creation of scientists and engineers whose greatest pleasure was building worlds out of pure mind. In this perspective they conceived the mind itself, both that of robots and humans, as a product of programming. A fundamental element of AI-based constructions and projects includes attention to structures and processes, especially those that tend to displace human subjects and their role in the system into which they are inserted. For Minsky, what is important about "life" is the mind and the structures that the mind can create or find. He considers organic life as a "bloody mess" unworthy of the attention of AI (Turkle 233).

The pervasive intellectual hubris of AI scientists leads them to challenge centuries-old ideas and principles such as the idea of truth and the principle of non-contradiction. These concepts were important for philosophy, but they are useless for AI's "new philosophy" that can do without them. AI scientist Roger Schank puts the idea of "process" at the core of AI practices and argues that the old philosophical questions should be analyzed "in terms of what we do, in terms of how we approach and operate on these things rather than on truth" (Turkle 237). The highest challenge that AI has advanced is the very concept of "life" itself, which is no longer conceptualized within the restrictions imposed by the organic and biological world. AI scientists want to overcome the idea that a computer cannot do things, like possessing consciousness and, therefore, life. Ray Kurzweil, an international authority on AI and scientific futurism, in his 1990 *The Age of Spiritual Machines* considers a key issue of our time: "whether machines will evolve into beings with consciousness and free will" (Kurzweil 798). He purports a need for serious speculation on the potential sentience (that is,

consciousness) of computer-based intelligence that will eventually attribute moral recognition to machines with enough self-consciousness (Kurzweil 527).

In this perspective, the problem arises from the relational agency between humans and the robots that invade their lives in an ever more pervasive way. Humans and intelligent machines collaborate increasingly through computation in the most varied of fields and activities, from medical diagnoses to literary translations, industrial projects to agricultural activities, and musical composition to creative writing. No field remains excluded. In his *The Singularity Is Near: When Humans Transcend Biology* (2005), Kurzweil imagines a future in which technological change becomes so rapid and so profound that our bodies and brains will merge with our machines. This vision, which a few years ago could still seem futuristic, is beginning to be realized in our present. We see this in corporations like [Neuralink](), a neurotechnology company developing implantable brain-machine interfaces that was founded in 2016 by Elon Musk and others. Projects like Neuralink are revolutionizing how we learn and pose significant privacy and rights issues marking the digital age.

The futuristic AI scientists Minsky and Kurzweil share this faith in the relentless growth of future technology toward a universe in which AI and Nanotechnology combine to bring unimaginable wealth and longevity, not merely to our descendants but some of those living today. Both supported the idea of possible human immortality and contributed essays to a volume on *The Scientific Conquest of Death* compiled, and edited by members of the online organization, [Immortality Institute](). Kurzweil in his essay, "Human Body Version 2.0,"[5] holds that in the coming decades, a radical upgrading of our body's physical and mental systems, already underway, will use nanobots to augment and ultimately replace our organs. He predicts that "by 2030, reverse engineering of the human brain will have been completed and non-biological intelligence will merge with our biological brains" (Kurzweil 93). He concludes that by becoming more intimate with our technology inserted routinely into our bodies and brains, we are becoming "cyborgs," more non-biological than biological. In other words, he believes that "as the technologies become established, there will be no barriers to using them for the expansion of human potential" (Kurzweil 103).

Along these lines, Minsky in "Will Robots Inherit the Earth?"[6] holds that once delivered from the limitations of biology, "we will be able to decide the length of our lives – with the option of immortality – and choose among other, unimagined capabilities as well" (123). He argues with the "old philosophers" that deny cyborgs real life for lacking some form of vital essences such as the soul or consciousness. He replies to them that old philosophy "is flawed in the same way: by assuming the thing that it purports to prove – the existence of some magical spark that has no detectable properties" (Minsky 131). For Minsky, "no popular ethical system yet, be it humanist or religion-based, has shown itself able to face the challenges that already confront us." He has in mind how many people should occupy Earth, what sorts of people they should be, or how they should share the available space (Minsky 132).

Interestingly, Minsky does not mention any attempt to escape from Earth to space to solve the problem of life on Earth. Still, his robotic vision does not appear conceived for life on Earth, as it does not address the environmental crisis that we now face. Although AI has been around for about half a century, the question of environmental impact – and related ethical issues - is only arising now as we realize that AI can help humans find solutions for climate change but might also be part of the problem.[7] The future of unlimited expansion of

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[5]   This article can be read on Kurzweil website at [https://www.kurzweilai.net/human-body-version-20](https://www.kurzweilai.net/human-body-version-20)

[6]   This essay was originally published in *Scientific American* in October 1994.

[7]   On AI environmental impact see Kate Crawford, *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*.

human capacities that it heralds is inextricably linked to the issues of our present. Despite being presented as full of luminous promises, it appears to rather be a blind spot – precisely because of its inability to respond to the urgent problems humans face now and to contend with the long shadow of the past.

The philosopher Timothy Morton, who has taken the issue of global warming and the possibility of ecological catastrophe seriously, has avoided all the futuristic enthusiasms of AI scientists and preferred to emphasize the radical nature of the transformations that humans experience in the present. It is a real "earthquake in being" that initiated the disappearance of the world as we have known it in the past. Our daily experience leads us to think that we do not inhabit a world and instead find ourselves within what Morton calls "hyperobjects," such as the Internet, AI, the global climate, radiation, nuclear weapons, and the very evolution of life on Earth. A hyperobject is also connected to the theory of relativity, which introduced the idea of time and space as emergent properties of objects. Human events are now projected onto a horizon in which the old anthropocentric concepts of time, space, world, nature, and even the environment are no longer enough to find meaning. Indeed, it is not easy to understand the very idea of hyperobjects as we are immersed in them. Their properties include "viscosity" as they "stick" to beings that are involved with them; "nonlocality" as any "local manifestation" of a hyperobject is not directly the hyperobject; and "interobjectivity" as they can be detected only in interrelationships between objects. Moreover, they manifest themselves in different temporalities that escape the common human-scale ones. Morton has in mind for example some very large hyperobjects, such as planets, that "have genuinely Gaussian temporality: they generate spacetime vortices, due to general relativity" (1).

The sense of displacement that we are experiencing for Morton derives from the fact that humans have not come to terms with the profound post-Kantian shift, represented by the theory of relativity: "It's a false cliché that we have grasped the meaning of relativity. Far from it. In our daily social and psychic practices, we are still Newtonians, still in awe of infinite space, and behind that in awe of the infinite God of infinite space" (Morton 63). Humans resist the idea of Gaussian temporality, the notion that space and time are intrinsically connected not as an empty box, but rather an "undulating force field that emanates from objects." Humans contend that object are never as they seem; however, this does not happen "because objects are ideas in their head but because they aren't" (Morton 64). Nonetheless, during the epoch of the Anthropocene humans have gradually come to realize that "they are not running the show, at the very moment of their most powerful technical mastery on a planetary scale" (Morton 164). For this reason, hyperobjects profoundly change how we think about any object. Somehow every object is a hyperobject as "we can only think this thought in light of the ecological emergency inside of which we have now woken up" (Morton 201).

The perspective drawn by Morton is certainly "uncanny," as the prospect of the disappearance of "nature" – combined with the loss of the archaic myths through which the ancients had understood it – must have seemed uncanny to the Romantics. But the uncanniness described in Morton's book, as in Amitav Ghosh's The Great Derangement: Climate Change and the Unthinkable (2016), is no longer related to the supernatural. The romantics attributed it to a feeling of mystery and infinity in the face of the natural spectacle perceived (or not) in religious terms. The uncanny was then about phenomena and landscapes that could still be defined as sublime and therefore brought back to a human measure in Kant's interpretation. The famous painting Wanderer above the Sea of Fog (1818) by Caspar David Friedrich and the poem Infinite (1819) by Giacomo Leopardi are emblematic of this Romantic attitude. Both can be considered as an on-a-volcano meditation

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(2021), pp.23-51. See also Annette Ekin's *AI can help us fight climate change. But it has an energy problem, too* (2019).

expressing Romantic philosophy's idealism. The feeling of the spatial and temporal infinity that the Italian poet's imagination perceives in the face of the natural barrier preventing a complete vision and appreciation of the landscape, is undoubtedly uncanny. The hedge, like the fog in Friedrich's painting, "hides the entire horizon." The poet explicitly states, "in this immensity my thoughts all drown" but immediately adds, "And it's easeful to be wrecked in seas like these" (Leopardi 3). Thus, the Romantic poet reaffirms the anchorage to a human measure.

The uncanny we are experiencing in our time is above all environmental. The view of the natural spectacle no longer occurs "from above"[8] as it did in ancient philosophy up to Romanticism. When we admire a landscape today, we realize more and more that we are entangled in the viscosity of the hyperobject we call global warming. As Morton writes, "The more we know about radiation, global warming, and the other massive objects that show up on our radar, the more enmeshed in them we realize we are" (160). We continue to go to the mountains to seek a spiritual dimension, but this experience is increasingly questioned by the discovery of the signs of the decline of human civilization. On the mountains, we are no longer (or not only) struck by the sense of infinity and mystery of the fossils from geological eras different from ours. We are struck by the waste of our civilization we can also find on the highest mountains as evidence of our responsibilities.[9] Thus, as Morton writes, "we have discovered that we are already falling inside the abyss, which is not pure empty space, but instead the fiery interior of a hyperobject" (160).

## More-Than-Human-Humanism

For Amitav Ghosh, the "uncanniness" we perceive in the encounters with the manifestations of an hyperobject such as the climate change "lies precisely in the fact that in these encounters we recognize something we had turned away from: that is to say, the presence and proximity of non-human interlocutors" (46). Thus, the epiphanies of the climate change, such as the wildfires plaguing the Pacific Northwest where I myself live, trigger a new sense of recognition, "an awareness that humans were never alone, that we have always been surrounded by beings of all sorts who share elements of that which we had thought to be most distinctively our own: the capacities of will, thought, and consciousness" (Gosh 46). The realization that forests are part of the same hyperobject as humans and the earth leads us to recognize their agency, as non-human forces that "have the ability to intervene directly in human thought." This recognition is immediately followed by another even more disturbing one, the "suspect that all the time that we imagined ourselves to be thinking about apparently inanimate objects, we were ourselves being 'thought' by other entities" (Gosh 47). Reflections like this one developed by Ghosh are also found in contemporary anthropology which, to face the challenges of the Anthropocene, studies the importance of the worldviews elaborated by Indigenous peoples who lived on the margins of Western civilization, immersed in the natural environment notwithstanding their proximity with the long shade of colonial past.10

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[8]    Scientific knowledge in ancient culture was often combined with ethical reflections. Something that has been lost in the evolution of modern science. The vehicle of these reflections was the idea of the possibility of a vision from above. See what Stoic philosopher Seneca (c. 4 BC – AD65) writes in his *Naturales Questiones* (Natural questions), which I have translated and discussed in my blog entry The View from Above.

[9]    The sedimentation of the Anthropocene characteristic waste has violated every hill, every mountain, every cave. The mountain has been commodified, reduced to tourist attraction, with its luxury hotels, chair lifts and artificial lights that obscure the night light of the starry sky. Even on the highest peak of Earth, Mount Everest, waste is a serious threat to environmental sustainability. It is estimated that some 50 tons of mountaineering rubbish have accumulated beyond the Everest Base Camp. See my blog entry On sustainable tourism.

[10]   See Edoardo Kohn, *How Forests Think: Toward an Anthropology Beyond the Human* (2015). He writes that the survival of

Does all this mean that the moment has come when human civilization and culture can set aside the notion of the human being? The anthropological approach generally answers this question in a negative way.[11] However, it should be remembered that Claude Lévi-Strauss, the father of structural anthropology, in his groundbreaking *La Pensée sauvage* (1962) claimed that the ultimate goal of the human sciences does not consist in "constituting man" (*constituer l'homme*), but in dissolving him (*mais de le dissoudre).* Nonetheless, as he explains, "dissolving" in no way implies (and even excludes) the destruction of the constituent parts of the body subjected to the action of another body (Lévi-Strauss 417-418). In other words, the human sciences' goal is not to prove nor justify their subjective awareness; for the anthropological approach, the knowledge learned through humans does not belong to the Cartesian cogito but the world because humans are not distinguished from the world as separate beings. The intellectual climate in which Lévi-Strauss presented his reflections in 1960s France to which Louis Althusser and Jacques Lacan contributed, among others, has been read in an "anti-humanist" light. Michel Foucault is the philosopher that more than any other had contributed to this interpretation when he wrote in his *Les mots et les choses* (1966), that that the very idea of human being and anthropology itself has a time of historical and contingent beginning and therefore, a possible end.[12]

Indeed, intellectuals such as Lévi-Strauss, Althusser, Lacan, and Foucault (and after them, Jacques Derrida and Gilles Deleuze) contributed in different ways to creating the premises of the philosophy we now call posthumanist.[13] Several critical orientations must be analyzed to understand some of the most relevant facets

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the Runa of Ecuador's Upper Amazon, that he studied in four years of field-work, depend on their ability to interact with the many creatures that inhabit one of the world's most complex ecosystems: "The spirit realm that emerges from the life of the forest, as a product of a whole host of relations that cross species lines and temporal epochs, is, then, a zone of continuity and possibility" (195).

[11]   In the Epilogue to his research Edoardo Kohn writes, "Having ventured beyond the human, and without losing sight of what that offers, I steered this anthropology back to the 'all too human' –clarifying why this approach that I advocate is an anthropological approach, and not, say, an ecological one that agnostically charts multispecies relations. In the Runa's journeys beyond the human, in their struggles to communicate with those animals and spirits that 'people' that vast ecology of selves that extends beyond them, they don't want to stop being human" (224-225).

[12]   Foucault writes, "It is no longer possible to think in our day other than in the void left by man's disappearance. For this void does not create a deficiency; it does not constitute a lacuna that must be filled. It is nothing more, and nothing less, than the unfolding of a space in which it is once more possible to think" (373). However, the importance of philosophy and therefore also of the human does not disappear from Foucault's reflection. Here we must remember above all the last Foucault who in *Le courage de la vérité: cours au Collège de France (1983-1984) (The Courage of the Truth: Lectures at the Collège of France)*, reflects on the link between lifestyle and testimony of truth in ancient philosophy, especially in the Cynicism but without forgetting Stoicism and Platonism. The lived or reflected consciousness that had been set aside from philosophical reflection in the 1960s in the name of the primacy of the concept, system or structure, undoubtedly resurfaces in Foucault's last lectures.

[13]   For a good introduction to the complex problem of anti-humanism see Pierpaolo Cesaroni: "'Pensare nel vuoto dell'uomo scomparso.' L'antiumanismo nella filosofia francese contemporanea" (2015). I have argued elsewhere (Lollini 2008) that the contemporary anthropological interpretation of the historical humanism that developed in Europe, particularly in Italy in the fifteenth and sixteenth centuries, appears too one-sided and conditioned by the evolution of modern Cartesian philosophy. Just think of the scientific humanism of Leonardo da Vinci and the philosophy of Giordano Bruno. The new dramatic historical events of colonization and the new scientific paradigm led Bruno to recognize and admit a new notion of *unitas* inclusive of all possible differences and otherness. The new philosophy proposed by Bruno erases the primacy of the human and the possibility of ontological and anthropological differences among human beings and between human beings and animals. On Leonardo see Stephane Toussaint "Leonardo Filosofo dei Contrari. Appunti sul 'Chaos'" (2005) and Marco Versiero "*A similitudine de la farfalla a' lume*. L'umanesimo scientifico di Leonardo da Vinci" (2015). On Giordano Bruno see Michele Ciliberto *Il Sapiente Furore: Vita Di Giordano Bruno* (2020). For a recent re-evaluation of the at times contradictory complexity and richness of historical humanism see Massimo Cacciari, *La Mente Inquieta: Saggio Sull'umanesimo* (2019).

of this line of thought and the new context in which it arises. In what follows, I try to explore some crucial aspects by interpreting these critical positions within the category of more-than-human thought, which seems to be the most meaningful – even if least common – for criticism. It seems to be more appropriate to use this category to clarify the possible misunderstandings induced by the word posthuman and because all the philosophers that I am about to analyze, even if they declare themselves posthumanists, refuse to completely abandon the idea of "human being." But even in this respect there are, as we shall see, significant differences. Before anything else, it should be emphasized that there are two opposite ways of conceiving this very general category. The first, developed by so-called Transhumanism, does nothing but enhance and empower the human as such and appears as a continuation of the traditional idea of humanism as an anticipation of modern philosophy and Cartesianism. The second, instead, questions the anthropocentrism of the humanist vision, strictly understood, by developing a worldview in which the human being loses its privileged position. This second direction of more-than-human thought is embraced by philosophies that define themselves as posthuman, which in turn are divided into different threads.[14] To anticipate and summarize my point of view on these questions, I must say that I prefer to use the expression more-than-human because the central question is not to empower (Transhumanism) or disempower (Posthumanism) human beings but to learn to see them in relation to that which is not human, including other animals, the environment and the machine. In other words, I do not use the more-than-human expression in a vertical sense, but in a horizontal logic, also because I find it at least inappropriate in our time to speak of the divinization or cancellation of the human.

In his brief history of Transhumanist thought, Nick Bostrom conceives transhumanism as the fulfillment of Renaissance humanism combined with the influence of Isaac Newton, Thomas Hobbes, John Locke, Immanuel Kant, the Marquis de Condorcet, and others to form the basis for rational humanism. Transhumanism, "emphasizes empirical science and critical reason – rather than revelation and religious authority– as ways of learning about the natural world and our place within it, and of providing a grounding for morality." Bostrom concludes, "Transhumanism has its roots in rational humanism" (2). Along the same lines, as has been argued several times *in [Humanist Studies and the Digital Age](#)*, the roots of computer culture and technology can be seen in the technology of the early-printed text.[15] Indeed, many of the functions and effects of the modern computer were imagined, anticipated, or even sought after long before the invention of modern digital computing technology. In this perspective, Transhumanism looks like a radicalization of Renaissance utopias in the new spatial revolution of late modernity. As in Renaissance utopias, Transhumanism imagines a human being free from all physical and intellectual limitations, but this transrational being is now conceived as a transition to a new form of the human, an enhanced and further empowered one. In the previous section, we have already seen some striking manifestations of this Transhumanism in robotic humans and cyborgs developed by AI as conceived by Minsky and Kurzweil.

If Transhumanism can be considered the fulfillment of certain aspects of rational humanism, Posthumanism, in turn, can be considered – despite the different nuances of the various posthuman tendencies – as the final stage of Transhumanism. On the one hand, Transhumanism wants to reaffirm humans' sovereignty over themselves and claims to embody an intermediate step between the human and a new form

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14   For a comprehensive introduction to the different aspects and trends of Posthumanism see *Posthuman Glossary* (2020) edited by Rosi Braidotti and Maria Hlavajova.

15   See for instance Massimo Lollini "Circles: Networks of Reading." *Humanist Studies & the Digital Age* [Online], 4.1 (2015): 1-34. For a broader approach see Jonathan Sawday, *Engines of the Imagination: Renaissance Culture and the Rise of the Machine.* (2007), and Neil Rhodes, and Jonathan Sawday, *The Renaissance Computer: Knowledge Technology in the First Age of Print* (2006).

beyond the human. On the other hand, Posthumanism announces and asserts the actual realization and implementation of systems that are already non-human; this is due to relations involving multiple agencies that do not grant any ontological primacy to the human. In *What is Posthumanism?*, Wolfe does not reject the human but recontextualizes it by removing it from the ontologically-closed domain of consciousness, reason, and reflection. The human is now conceived part of the "entire sensorium of other living beings and their own autopoietic ways of 'bringing forth a world'" (Wolfe 2010, xxv). Here, Wolfe has in mind the Chilean biologists Marturana's and Varela's notion of *autopoiesis*. They conceive "systems, including bodies" which "are both open and closed as the very condition of possibility for their existence (open on the level of structure to energy flows, environmental perturbations, and the like, but closed on the level of self- referential organization" (xxiv-xxv). Given this autopoietic dimension, the human appears to be "the *product* of processes that are, strictly speaking, inhuman and ahuman" (Wolfe 2019, 358).

The emphasis on the relational nature of identities and agencies puts in question the very idea of "identity" (and "identity politics"), and challenges not only the separation between subject and objects, humans and other animals, [16] but also that between the living and the non-living. In "posthuman" culture, agency is given to sentient and insentient beings, including objects. In *Vibrant Matter* (2010), Jane Bennet theorizes an "affect" not specific to human bodies; this is a sort of vibrant energy that is deeply impersonal, "an affect intrinsic to forms that cannot be imagined (even ideally) as persons." Drawing on this notion of affect, which has roots in Spinoza's philosophy, Bennet highlights the capacity of any body for activity and responsiveness and "the agency of the things that produce (helpful, harmful) effect in human and other bodies" (xii). She refers to a tradition of materialism that, besides Spinoza, includes Epicurus, Diderot, and Deleuze among others, to theorize "a vitality intrinsic to materiality as such, and to detach materiality from figures of passive, mechanistic, or divinely infused substance" (xiii).

Along these lines, Bryant R. Levi in *The Democracy of Objects* (2011) attempts "to think the being of objects unshackled from the gaze of humans in their being for-themselves" (19). He is part of a philosophical trend named Object-Oriented-Ontology (OOO) that theorizes the possibility of knowing the objects *qua* objects, independently from human subjects. The human does not disappear, but it is decentralized: it becomes an object among others (20). Bryant rejects epistemological realism (pro-science) and anti-realism (social constructivist) philosophies that ultimately limit the question of the objects to a particular relation between humans and objects. For Bryant this is not an epistemological question, "not a question of how we know the object, but a question of what objects are" (18). In other words, it is an ontological question irreducible to questions of epistemology. Every object is independent of any other entity and exceeds any form of presentation and representation of other things. Finally, Bryant's OOO views the deep nature of an object as "virtual proper being," namely, "its being as substance, or its being as a (more or less) enduring unity." Therefore, "no one nor any other thing ever encounters an object *qua* its virtual proper being, for the substance of an object is perpetually withdrawn or in excess of any of its manifestations" (88).

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[16]    As regards the challenge to the ontological separation between humans and other animals, see the essay by Martha Nussbaum's "Beyond Compassion and Humanity: Justice for Nonhuman Animals" that tries to set aside the anthropomorphism implicit in contractual and utilitarian views of "animal rights". She writes: "a truly global justice requires not simply that we look across the world for other fellow species members who are entitled to a decent life. It also requires looking around the world at the other sentient beings with whose lives our own are inextricably and complexly intertwined" (319). On the difficulty and failure of language to capture the vulnerability of humans and animals see the essays by Cora Diamond and Cary Wolfe in Cavel, et al. *Philosophy and Animal Life* (2008).

Nonetheless, the emphasis on the decentralized human's relational nature helps identify a line of demarcation between Posthumanism and Transhumanism. In Wolfe words, Posthumanism distances itself from the Transhumanism "most decisively by reconceiving the relationship between what we call 'the human' and the question of *finitude*" (Wolfe 2019 358). Whereas Transhumanism remains substantially anthropocentric in imagining future immortality for the robotic human beings, Posthumanism points to the finitude of the species and the relationships and material entanglements that make the human possible. The notion of finitude is essential to understand this form of relational and environmental Posthumanism that is not interested in defining what comes before or after humanism but invested in realizing human vulnerability and dependence on the environment and other species. In this perspective, the human is "a prosthetic creature that has coevolved with various forms of technicity and materiality, forms that are radically 'not- human' and yet have nevertheless made the human what it is." What makes humans prosthetic creatures is above all their language, which "is fundamental to our embodied enaction, our bringing forth a world, as humans." In turn, this prostheticity is what creates humans' "constitutive dependency and finitude" (Wolfe 2011, xxv-xxvi).

From this viewpoint, for Posthumanism the prosthetic character of the human being has always existed as part of human symbiosis with technology and finitude. On the contrary, Transhumanism instead insists on new and unprecedented human enhancement technologies to generate a genuinely new posthuman being. Indeed, the Transhumanist leader Bostrom writes about "posthuman dignity" and holds that "it is possible that all the enhancements envisioned by Transhumanists may make us, or our descendants, 'posthuman'" (Bostrom 2005, 203). In this perspective, the cyborg and the robot represent the core of the Transhumanist project of empowering human bodies through their fusion with machines. It is worth mentioning that Manfred Clynes and Nathan Kline in the early 1960s conceived the cyborg as an attempt to redesign human bodies to meet the needs of space travel and become adequate to the stars. The term "cyborg" (Cybernetic Organism or Cybernetically Controlled Organism) precisely suggested merging humans and machines. The new being, which was first tested on a mouse had to be born from the combination of cybernetics and computational approaches. The goal was to create a human-machine hybrid that through technological systems and electronic devices, would become able to automatically regulate essential human physiological functions in ways suitable for an alien environment such as space.[17]

Clynes and Kline conceived the cyborg as a transhuman creature; yet Andy Clark in his *Natural-Born Cyborgs* (2003) questions their vision, pointing to the danger of the mistake implicit in a-critically defining an entity as transhuman or posthuman when, after all, it is born from human itself. He holds that humans are "cyborgs not in the merely superficial sense of combining flesh and wires but in the more profound sense of being human-technology symbionts: thinking and reasoning systems whose minds and selves are spread across biological brain and nonbiological circuitry." In other words, human ability to become cyborgs "does not depend on physical wire-and-implant mergers, so much as on our openness to information-processing mergers." Many of human "tools" such as speech are not just external aids, but they are integral parts of the problem-solving systems of our minds which are special precisely because they are tailormade for multiple mergers and coalitions. In this sense, "the mind is just less and less in the head." Cognitive hybridization is as old as human speech and should not be considered a modern development.[18] In this perspective, the "cognitive

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17    Manfred Clynes and Nathan Kline's article "Cyborgs and Space," first appeared on *Astronautics*, in September 1960.

18    In this sense, the main feature of a supposedly posthuman creature has its fundamental premises in the creation of the human world as described by Giambattista Vico. To become human for Vico means, first, to create an extension of the human body through naming and the voice. It is possible to consider the human voice and the

fossil trail" of the cyborg includes "speech, counting, morphs first into written and numerals, then into early printing" and most recently the "digital encoding that bring text, sound, and image into uniform and widely transmissible format" (4-7).

From the 1960s to today the cyborg has gone through a long evolution with developments in different directions.[19] What interests me here is to briefly highlight the next step that took place in the following decades, which continues today and sees at its center not only the cyborg but also the robot. For Sherry Turkle, robots are "evocative objects" (68) that perform an increasing role in our daily life, from children's play companions to babysitters and nursing home attendants. She studied above all sociable robots for children and seniors. Still, her research findings bear a broader value for our digital networked culture and society more and more detached from face-to-face relationships and real life. In her *Alone Together* (2011), she emphasizes that we live in a "robotic moment" as we expect more from technology and less from each other. We bend to objects and what is inanimate in a new way as we become convinced that robots can perform better than humans:

> As sociable robots propose themselves as substitutes for people, new networked devices offer us machine-mediated relationships with each other, another kind of substitution. We romance the robot and become inseparable from our smartphones. As this happens, we remake ourselves and our relationships with each other through our new intimacy with machines." (3)

In so doing, she argues, we become more and more lonely, or "alone, together" in our networked life.[20]


More than revealing people's willingness to interact with artificial intelligence and robots, Turkle's research showed their reluctance to interact with other people. Indeed, in a relationship with robots we look for performance of connections that we fear or do not want to realize with humans. Turkle sees the "robotic moment" as a symptom and as a dream: "like all psychological symptoms, it obscures a problem by 'solving' it without addressing it" and "as dream, robots reveal our wish for relationships we can control" (283). The problem is not the technology we increasingly depend on, but the fact that we think it can solve all our difficulties and are unwilling to consider the costs we pay for our dependence and compulsion. It is no coincidence that today there is a substantial increase in studies that aim to understand the different facets of human-robot interaction (HRI) and that "Robophilosophy" was born, which is dedicated to investigating the

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original naming as the first, rudimentary, and 'wild' form of what we see nowadays as algorithms, finite sequences of logic instructions, and procedures for problem-solving and data processing (Sini 5). On this topic, see my essay "Vico Wilderness and the Places of Humanity" (2011).

[19]   The bibliography on the subject is extensive. See Chris Hables Gray's *Cyborg Citizen* (2000) for a good introduction and overview. For the gender aspects of cyborg culture and politics, see the volume edited by Fiona Hovenden, et al., *The Gendered Cyborg* (2013). The latter book includes the groundbreaking "Cyborg Manifesto" (50-57) by Donna Haraway published initially in 1985. Haraway and Feminist thinkers interpret the cyborg and the posthuman as liberation of the body and subjectivity from masculine power and anthropocentric humanist culture. For an interpretation that excludes the "liberating" dimension of the cyborg and sees it instead as a confirmation of the traditional concepts of metaphysics, see Francesco Paolo Adorno "Al di là delle Utopie, il Transumanesimo" (2014 253-254).

[20]   The most recent essay by Noreena Hertz, *The Lonely Century* (2021), confirms Turkle's analysis. Hertz considers loneliness the most urgent social issue of our time. She writes: "This Lonely Century presents us with unique challenges –economic, political, social and technological. It is a time when huge swathes of the population feel alone despite it never having been easier to connect; an age in which we identify increasingly on the basis of difference, yet are ever more aware of how intertwined our lives are with others across the globe; a time in which our local communities desperately need strengthening and the bridges that join different communities together very often still need to be built" (331-332).

reconfiguration of philosophy in the face of artificial social agency. David Gunkel, in his *The Machine Question* (2012), asks precisely whether and to what extent intelligent and autonomous machines of our own making can be considered to have legitimate moral responsibilities and claims to moral consideration. Grundel argues that the answer to the question about the moral state of the machine cannot be a "yes" or a "no." However, the issue is becoming crucial in our time. And it is increasingly evident that it needs to be addressed because the technological changes in every aspect of our lives and professions put into question old ethical codes and bring about unanticipated problems for which there are no rules or policies at hand.

Indeed, Transhumanism and robotics provoke enthusiasm about their great realizations and multiple concerns about the possible negative consequences of the hubris implicit in AI – for example, in warfare. As we saw earlier, Carl Schmitt, at the end of his analysis in *Land and Sea*, supported the possibility and necessity of finding adequate norms for the new spatial and temporal frontiers of the human. Indeed, the emergence and perception of these problems have brought out many ethical and legal reflections that are a symptom of the unprecedented nature of what we are experiencing.[21] The most significant motif of concern is related to the existing Autonomous weapons systems (AWS) that may be defined as "robotic weapons that, once activated, can select and engage targets without further human intervention" (Heyns 4). Drones first replaced humans' physical presence on the battlefield; now they even replace their psychological presence, which means that computers can now determine when and against whom force is released. AWS are "weapon platforms," and in this sense, any weapon can, in principle, be fitted onto an AWS. The use of these platforms and of remote-controlled weapons in general, is motivated by the argument that they "may be quicker at engaging intended targets because they can process information faster" and better than humans. Their "superior processing powers" are supposed to prevent the wrong targets from being hit, but this is not always the case;[22] therefore "there are serious questions to be asked on the use of AWS" from an ethical and legal point of view (Heyns 6-7). This is largely because the International Humanitarian Law that regulates human rights during armed conflict has now to face the unprecedented situation in which those deciding to use force may not be humans.

The main concern is that the machine embodied in the AWS becomes endowed with such autonomy to supersede human independence entirely. The new accountability scenario includes the case in which "AWS allow for, and are under, human control" and the opposite case in which "AWS are outside human control". In the first case, humans will remain responsible. Still, in the second case, there may be an "accountability vacuum." The point is that there is no agreement on what constitutes the "meaningful human control" that would legitimize the use of AWS: "if there is no such control, there is a strong case to be made that such weapons and their use should be prohibited" (Heyns 13).

More generally, it is difficult if not impossible to find a satisfactory agreement between the various nation-states on limiting the dangerous effects of AI.[23] In their recent study in *The Global Landscape of AI Ethics*

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[21]　For a recent, very comprehensive approach that is not exclusively Eurocentric see Dubber Markus, et al. *Oxford Handbook of Ethics of Ai* (2020). See in particular Judith Donath's "Ethical Issues in Our Relationship with Artificial Entities" (53-76), and Matthew Le Bui and Safiya Umoja Noble's "We're Missing a Moral Framework of Justice in Artificial Intelligence: On the Limits, Failings, and Ethics of Fairness" (163-180).

[22]　On December 18, 2021, the *New York Times* describes the impressive human toll of the war fought by the US against Syria and Iraq, citing cases drawn from a hidden Pentagon archive of the American air war in the Middle East since 2014. It was supposed to be a war waged by all-seeing drones and precision bombs, but the documents show "flawed intelligence, faulty targeting, years of civilian deaths - and scant accountability" (Khan).

[23]　In December 2021, as I write this essay, the UN is looking in vain for an agreement on killer drones in Geneva. At the same time, even more futuristic disconcerting systems appear on the scene of the multiple wars of our time: weapons to control the mind. It is not just about out-of-control robotic weapons. These days, I read

*Guidelines* (2019), Anna Jobin, Marcello Ienca and Effy Vayena write that "despite an apparent agreement that AI should be 'ethical', there is debate about both what constitutes a proper ethics to this field and which ethical requirements, technical standards and best practices are needed for its realization." They mapped and analyzed the current corpus of principles and guidelines on ethical AI and found "a global convergence emerging around five ethical principles (transparency, justice and fairness, non-maleficence, responsibility and privacy)." However, they also found "substantive divergence in relation to how these principles are interpreted, why they are deemed important, what issue, domain or actors they pertain to, and how they should be implemented" (Jobin et al. 389).

The real problem is not so much or only finding adequate rules for the new technological realities, which remains essential. More so, it is first necessary to reflect on the very nature of ethics in the new technological and space revolution era. Luciano Floridi suggested in this regard the prospect of an "Information Ethics" (IE) to be considered as a foundational philosophical counterpart of Computer Ethics (CE), a special kind of "environmental" ethics or ethics of the "infosphere" (Floridi 1999, 37). He argues that CE does have something distinctive and substantial to say on moral problems and hence can contribute a new and interesting perspective to the ethical discourse. In the next section, I will analyze in-depth his non-anthropocentric approach to CE and IE along with David Gunkel's enquiry on The *Machine Question* to understand some of the main theoretical issues of ethics in the age of AI. The ethical perspectives that I am about to analyze have a theoretical and methodological value that tries to deal with the profound crisis of traditional moral conceptions in the face of the problems of AI and technological innovation problems. In the concluding part of the section, I will reflect further on the relationship between Humanism, Transhumanism, and Posthumanism and the reasons that lead me to consider the problem of conscience with a more-than-human perspective.

## Ethical Perspectives

For Floridi, the ethical theories born in the ancient world, partly taken up and modified by Christianity and modern philosophies like Utilitarianism, Contractualism, and Deontologism, are no longer apt to face the problems posed by recent technological developments. On the one hand, these classic or "standard" ethical theories are anthropocentric, subjectivist, and action-oriented; they concentrate on the moral nature and value of the actions performed by the agent. On the other hand, allocentric theories, such as Medical Ethics, Bioethics, Land and Environmental Ethics, are not action-oriented. These theories focus on patient-oriented ethics. And the receiver of the action (patient) maybe not only a human being, but also any form of life, "not just fetuses, new-born babies and senile persons, but above all physically or mentally ill, disabled or disadvantaged people" (42). Nonetheless, Floridi argues that the actual patient-oriented ethical theories are not universal enough; indeed, he proposes to develop CE into the broader concept of "Information Ethics." In this perspective, CE opens ethical consideration not only to all forms of life comprised in the biosphere but "raises information as such, rather than just life in general, to the role of the true and universal patient of any action." In so doing, CE presents itself as an "infocentric and object-oriented" rather than just a biocentric and patient-oriented ethics. In other words, the CE extends the territory of ethics to what is inanimate, lifeless, or simply possible as an artifact or technological product excluded from bioethics and environmental ethics (43).

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on *Repubblica* about invisible rays capable of conditioning the mind and drones that obey human thought without the need for commands and then carry out murderous missions autonomously. According to the UN, in the spring of 2021, a Turkish remote-controlled plane conducted a raid in Libya, choosing the target and deciding when to kill (Di Feo).

Floridi's Information ethics is object-oriented and open to anything that exists; it is primarily an ethics of *being* rather than conduct or becoming and should be considered as "non-standard ethics." The foundation of IE stems from what Floridi calls "ontological equality principle" which means that "any form of reality (any instance of information), simply for the fact of being what it is, enjoys an initial, overridable, equal right to exist and develop in a way which is appropriate to its nature." From this point of view, an agent is "any entity capable of producing information phenomena that can affect the infosphere" (44). However, not all information entities are agents because "many agents may often fail to be in a position to affect the infosphere significantly beyond their mere presence (think of a grain of sand in the desert or as the last grain flowing through an hourglass determining the explosion of a bomb)." Moreover, "not all agents are responsible agents (e.g., a river or a dog)". In the infosphere, which is the "environment constituted by the totality of information entities – including all agents processes, their proprieties and mutual relations," an anthropocentric approach still make sense if the goal of the ethical discourse is to "persuade and motivate a person to act morally" (ibidem). Nevertheless, IE can offer a "more objective" approach when the goal is to establish what is right or wrong not from the human point of view but from the point of view of all the entities involved in the information process and able to affect it. In other words, IE can provide a "disinterested judgement of the moral situation from an absolute perspective, i.e., a perspective which is as object-oriented as possible" (ibidem).

Whereas "Biocentric ethics ground their analyses of the moral standing of bio-entities on the intrinsic worthiness of life," IE's infocentric approach is based on the ontological equality principle, which is assumed to be more elementary and fundamental than life and pain. In other words, Floridi claims that IE's is ethics of *being*, understood as information and entropy, and it can be achieved through the universal application of the Golden Rule in information terms. It is an ethics that looks after "the welfare of both the agent and the patient ('care-fullness')" and wants to implement choices and behaviors that are "as subject-oriented (agents' self-interest) as object-oriented (patient's sake)" (Floridi 45). Furthermore, IE is not only able to dialogue with other macroethical systems but also to offer a new critical ethical perspective: "that a process or an action may be right or wrong irrespective of its consequences, motives, universality, or virtuous nature, but because it affects positively or negatively its patient and the infosphere." Floridi deduces that in practice today "without IE's contribution, our understanding of moral facts in general, not just of CE-problems in particular, could not be fully satisfactory" (52).

To support this claim and his theory of IE, Floridi cites various examples, including privacy, a much-debated problem in our highly-networked society. It is well known that we live in an ecosystem at the center of which are data producers and data collectors and data processors and data consumers who can recycle the data collected and then use them to make important decisions about the individuals to whom those data belong. The ever more real possibility of manipulating this data makes the question of informative privacy more and more urgent. IE puts "informational privacy" at the center of its reflections, which is instead neglected by action-oriented ethics.

The latter anthropocentric form of ethics essentially rejects the transformation of individuals into a "packet of data" and claims for individuals the ownership and complete control of the data regarding them. IE instead *shifts the ethical attention from individuals to the data concerning them* to affirm that the data must be treated in their autonomy with the same regard and respect that we attribute to living individuals or environmental elements (Ibidem).

Floridi points out that the "person, the free and responsible agent in the infosphere" is, after all, a "packet of information" and "microenvironmental information." In other words, a "constantly elastic and permeable entity with centers and peripheries but with boundaries that are neither clearly drawn nor rigidly fixed" (53). Indeed, there is not the "selfhood" at the infosphere center but the "mehood." The latter is a complex entity, an object, a bundle of information, and a "token-person." In this perspective, privacy is nothing less than the "defense of the personal integrity of a packet of information." Thus, the violation of privacy is not a violation of ownership, of personal rights or of instrumental values "but a violation of the nature of information itself, an offence against the integrity of the me-hood" (Ibidem). This approach deconstructs the human subject and transforms it into a data package that, in the information process, becomes endowed with moral personality regardless of the flesh-and-bone individual who, in a standard ethics perspective, would be the self, and the owner of those data. However, one should consider that if the ethical perspective delineated by Floridi has value in the infosphere in identifying new moral personhood when it meets specific human, interhuman, interspecies, and human-machine relations, it remains subjected to political and economic decisions that are subservient to human – too human – interests. Indeed, IE, as well as more-than-human ethics, conflicts with the traditional anthropocentric ethical conceptions based on the idea of the sovereignty of the individual over their data. As we know, this conflict has become crucial in our time and is at the center of some of the most urgent political and cultural debates.[24]

Moreover, Floridi's ontocentric macroethics, which includes everything in the ethical discourse, runs into a methodological problem, as Gunkel's *The Machine Question* pointed out. Gunkel argues that Floridi's "approach continues to deploy and support a strategy that is itself part and parcel of a totalizing, imperialist program" because notwithstanding the decentralizing intentions, it remains rooted in the human dimension (157). For Gunkel, the posthuman approach should depose anthropocentrism and open up a more thoughtful and radical ethical consideration. For him, every "centrist" system, including the egocentric, anthropocentric, biocentric, and ecocentric ones, fails to recognize the other *qua other* and assimilates them within the logic of the human. Centrist ethics "employ a strategy of totalizing comprehension, whereby whatever is other is reduced to some common denominator by progressively lowering the level of abstraction so that what had been different can come to be incorporated within the community of the same" (Ibidem). Gunkel points out this methodological impasse in Floridi's IE and the many approaches elucidated in *The Machine Question* that try to come to terms with the problem of agency and "patiency" in the age of AI. His analysis includes, among others, Allan Hanson's "extended agencies" (a kind of "cyborg moral subject" where responsibility resides not in a predefined ethical individual but a network of relations situated between human individuals and others, including machines);[25] and David F. Channell's "bionic ethics" or ethics in the age of the "vital machine" a dualistic mechanical-organic system that is respectful of and takes responsibility for nonliving objects, not only soils, waters, and rocks but also computers and other technological artifacts. Channel proposes to call this new holistic approach "cybernetic ecology" (Gunkel 165-167).[26]

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24    For an introduction to the ethical, social, political, and legal implications of the changes taking place for data
      generation, data integration, and data use, see Rob Kitchin *The Data Revolution* (2014). He writes that "it is clear that
      while such practices have benefits for governments, companies, and citizens, they also have differential and negative
      consequences" (183). For the complexity of privacy in these new circumstances, the pitfalls of existing legislation,
      and the difference between the American and European approaches see pp.168-175.
25    Hanson insists on the notion of "joint responsibility" that in his view "is more conducive than moral individualism
      to constructive engagement with other people, with technology, and with the environment in general" (Hanson 98).
26    Channell's ethic is inspired by Aldo Leopold's "land ethic" that he wants to expand to include technological

Despite their non-anthropocentric and universalist claims, all these theories are just different ways of articulating, preserving, and protecting human interests and assets and reducing the otherness of the non-human to the sameness of the human. To avoid the stalemate in which all the ethical theories examined so far fall, Gunkel proposes the alternative embodied by Levinas's ethics, which invites us to think *Otherwise than Being or Beyond Essence* (1974). This proposal is a turning point in Gunkel's essay. The most important and original aspect of Levinas's approach is to consider ethics as the "first philosophy," while the ethical theories examined so far as ethics of *being* appeared to be oriented in an ontological or epistemological sense. I share with Gunkel this interest and, in some respects, enthusiasm for Levinas's ethics, even if, as I will show in the following pages, my reading at some points differs from his.

The alterity of the other is so radical for Levinas that it exceeds any representation or thematization. Therefore, ethical relationships are neither agent-oriented nor patient-oriented but rather based on an absolute call that is perceived before being expressed. It is a kind of "speech which does not speak," a kind of discourse which comes before any address, as it is a "pre-original *saying*" which escapes the rigidity of essence and ontology present in the *said* – the actual language. It is an absolute obedience to a call which comes before any command. "No one is good voluntarily" and "no one is a slave of the Good," writes Levinas in *Otherwise than Being* (Levinas 1998, 138). The Good has no other and cannot be present or enter into a representation or be the result of an active choice made by the human subject who is called to transcend the ego: "the Good chooses me before I welcome it" (Levinas 1998, 123). The model for this ethical relationship is the prophet Isaiah who, after hearing the voice of the Lord saying, "Whom shall I send, and who will go for us?" answered: "I, here I am" (Is. 6,8). In that "Here I am," in that absolute responsibility toward the other, Levinas sees the silent revelation, the testimony made possible by listening to the secret self which lives inside every human being, undercover in each ego, and which can be considered the voice of conscience not understood in subjectivist term.[27]

Levinas' ethics, therefore, has primarily a methodological value intended to capture the essence of the ethical relationship and does not want to express itself through moral rules or laws. Gunkel appreciates above all the fact that this ethics "is not predicated on an a priori ontological determination of personhood" which is instead first determined "on the basis of and as a product of the ethical relationship" (179). However, he is puzzled by the "residue of humanism" he detects in Levinas' philosophy which after all remains an *Humanisme de l'autre homme* (1972) as the title of one of his book states. The English translation of this work, *Humanism of the Other*, obscures this human dimension, but it remains unequivocal that when Levinas speaks of the ethical factor based on the epiphany of the face of the other, he above all has a human relationship in mind. Let's not forget that for Levinas the human face, the face of the other human being in need, is a trace of the divine that emerges in the face-to-face encounter with the other: "The dimension of the divine opens forth from the human face ... It is here that the Transcendent, infinitely other, solicits us and appeals to us" (Levinas, 1979: 78). In this perspective, it is clear that the fundamental source and "prototype" of ethics in Levinas' phenomenological account of the "face-to-face" encounter is limited to the human and interhuman realm. In

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artifacts. Channel argues that "treating the relationship between the organic and the mechanical as a dualistic system, the ethical framework of the bionic worldview must reject as its basis the concepts of autonomous individual and a morally neutral technological world, but must instead be founded on the symbiotic interactions that exist between technology and organic life" (Channell 151).

27    "Responsibility in fact is not a simple attribute of subjectivity, as if the latter already existed in itself, before the ethical relationship. Subjectivity is not for itself; it is, once again, initially for another" (Levinas 2011, 96-97).

other words, he holds that, in an ethical sense, other animals, the environment, and machines do not have "faces" and should not be considered as sources of ethics.[28]

For Gunkel, the anthropological closure of this approach shows the limit of Levinas's ethics because if "as Levinas argues, ethics precedes ontology, then in Levinas 's own work, anthropology and a certain brand of humanism appear to precede and underwrite ethics" (181). For this reason, Gunkel points to the need to interpret Levinas's own philosophical innovations in excess of and in opposition to him. In this regard, he points to the work of scholars such as Peter Atterton and Matthew Calarco, who attempt at radicalizing Levinas because "although Levinas himself is for the most part unabashedly and dogmatically anthropocentric, the underlying logic of his thought permits no such anthropocentrism" (Gunkel 182; Calarco 2008, 55). Indeed, Calarco argues that "Levinas's ethical philosophy is, or at least should be, committed to a notion of universal ethical consideration" (Ibid). Even if he endorses these attempts at interpreting Levinas's philosophy in opposition to himself, Gunkel concludes his analysis by noting that both Levinas and Calarco fail to include machines in their version of universal ethical consideration: machines, he writes "remain, for both Levinas and Calarco, otherwise than Ethics, or beyond Other" (Gunkel 185). This conclusion is also confirmed from another point of view, by another scholar of Levinas, Richard Cohen. Cohen holds that the machine and the animal do not have a "face" and do not constitute an Other. They are not capable of independent "moral sensitivity" necessary to enter into moral agency's unitary and unifying solidarity. (Grunkel 200; Cohen 164-165). By considering the machine a pure instrument of human interaction, Cohen misunderstands the nature of cybernetics. Gunkel, following Wolfe, reads cybernetics in posthuman terms as the theory of communicational processes in which humans lose any form of privileged position (Grunkel 201; Wolfe 2011, xii). In this perspective, for Gunkel cybernetics may be another way to articulate and address the "otherwise than being" approach of central concern in Levinasian ethics by opening the ethical discourse to communication with previously excluded others (202).

Nonetheless, at the end of Gunkel's essay, the question of the machine – "are computers, AI's robots, and other mechanisms a legitimate moral agent and/or patient, or not?"– remains unanswered in all its complexity.[29] Gunkel develops a critical inquiry that asks about the very limits and possibilities of moral thinking itself. In other words, "the machine question not only adds interesting new dimensions to old problems but leads us to rethink, methodologically, the very grounds on which our ethical positions are based" (211). Gunkel sets aside any form of metaphysical certainty based on a "transcendental figure like god." He embraces a posthuman stance based on some poststructuralist certitudes such as the death of god in Nietzsche, the death of the author in Barthes, and the eclipse of the human subject in Heidegger and Foucault. All things appear to be open to reconfiguration and reevaluation (214). Nonetheless, this posthuman ethics is for Gunkel, following Putman, "about decision and not discovery" (Gunkel, ibid.; Putnam 691). Indeed, at the end of his book Gunkel repeats Hilary's Putnam gesture at the end of his long paper on "Robots: Machines or Artificially Created Life?" (1964).

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[28]   See for example his interview with Tamra Wright, et al, "The Paradox of Morality: an Interview with Emmanuel Levinas" (172). On this subject there is an extensive bibliography discussed by Gunkel (179-189). I wrote briefly about Levinas and the question of the animal in an essay on the *Editio Princeps* (Inc. Queriniano G V 15) of Petrarca's *Canzoniere*. Grifo, the author of the illuminations, shows how the early humanist culture was open to recognizing an agency to the environment and other animals (see Lollini 2021, 134-136).

[29]   Gunkel maintain this philosophical undecidability in regard to questions of AI personhood, in his most recent interventions including the debate with Jordan Joseph Wales, where he concludes "The correct response to the questions of AI personhood, therefore, may not be a 'yes' or a 'no'" (Gunkel 2021, 482).

After having analyzed in detail and with great rigor the arguments for and against considering robots conscious, Putnam concludes that

> There is not the slightest reason for us, either, to believe that "consciousness" is a well-defined property, which each robot either *has* or *lacks*, but such that it is not possible, on the basis of the physical description of the robot, or even on the basis of the "psychological" description (…), to decide which (if any) of the robots possess this property and which (if any) fail to possess it (Putnam 599; emphasis in the text).

For this reason, the question about robots' conscience calls for a decision and not for discovery: the decision, at the bottom, is this: do I treat robots "as fellow members of my linguistic community, or as machines?" (Putnam 691). Putnam argues that as long as this decision is not taken, the statement that robots are conscious has "no truth value." Thus, if we accept a physical and psychological description of robots without establishing a priori if they have a conscience, "we are not thereby forced to hold either that 'consciousness' is a 'physical' attribute or that it is an attribute 'implicitly defined by a psychological theory'" (Putnam 690).

Eventually, the human factor thrown out the window quietly re-enters the door as part of the "*we*" called to decide: "We, individually and in collaboration with each other (and not just those others who we assume are substantially like ourselves), decide who is and who is not part of the moral community — who, in effect, will have been admitted to and included in this first-person plural pronoun" (Gunkel 215). This ethics of decision cannot give general answers to the question of the machine, which must instead always be addressed in specific situations and in the awareness of the informational processes in which messages between humans and machines, machines and humans, and machines and machines are strictly intertwined. Therefore, Gunkel concludes with rehabilitating the human on the decision level "we, and we alone, are responsible for determining the scope and boundaries of moral responsibility, for instituting these decisions in everyday practices, and for evaluating their results and outcomes" (215).

I agree with Gunkel when he stresses that despite the intertwining of responsibilities in the messages and collaborations between humans and machines in the infosphere, we humans alone, as humans, are fully responsible and accountable for decisions concerning the inclusiveness and practicability of moral sensitivity. In this sense, I argue that we have a special responsibility that cannot be confused with our co-agents and co-patients be they robots, the environment, or other animals. Once this has been established, however, it is necessary to recognize that *thinking otherwise than being* (Levinas) and the reconfiguration of morality induced by the question of the machine should not go so far as not to take into account an idea of human consciousness. Gunkel dismisses consciousness as a precondition of moral personhood, since it appears to be a very abstract and unqualified idea (90). I understand his point, but if we think of an idea of conscience not in ontological terms but precisely in ethical terms as Levinas does in *Otherwise than Being*, we must think that our conscience is not established once and for all but rather develops in the relationships we entertain with other human beings, other animals, machines, things, the environment. Only in the relationship with these ethical entities can our consciousness emerge. And these ethical entities acquire moral personhood at the moment in which they come to life along with our conscience. For this reason, I read Levinas's "epiphany of the face" in intersection with Paul Ricoeur's idea of "oneself as another."

For Levinas, the trace of the divine, the infinity, that manifests itself in the face of the other and exposes the human conscience to an absolute and unavoidable call capable of producing an absolute and ideal ethical relation. In *Otherwise than Being*, he holds that it is through "ambivalence which always remains an enigma that

infinity or the transcendent does not let itself be assembled." Indeed, the infinity that emerges in the ethical relationship is the "trace of its impossible incarnation and its inordinateness in my proximity with the neighbor, where I state, in the *autonomy of the voice of conscience*, a responsibility, which could not have begun in me, for freedom, which is not my freedom" (161; my emphasis). Paul Ricoeur sees a limit in this approach to the ethical relationship. For him, Levinas reduces the otherness of consciousness to the otherness of other people, to the "externality of the other manifested in his face": "in this sense, there is no other modality of otherness for Levinas than this externality. The model of all otherness is the other person" (354). Ricoeur argues that "if the injunction coming from the other is not part and parcel of self-attestation, it loses its character of injunction, for lack of the existence of a being-enjoined standing before it as its respondent." For Ricoeur the agent's and patient's dimension of the ethical relationship are intersected; he thinks that eliminating the extent of auto-affection, "one ultimately renders the metacategory of conscience superfluous; the category of the other suffices [at that point]" (355) at that point. Levinas notion of otherness promotes this unilateral view, which implies that the injunction comes only from the other while the self supposedly remains completely passive.

Ricoeur argues that from the strictly philosophical point of view, the nature of the voice of conscience, the source of the call remains more equivocal than admitted by Levinas. Indeed, Ricoeur writes, "the philosopher as philosopher has to admit that one does not know and cannot say whether this Other, the source of the injunction, is another person whom I can look in the face or who can stare at me, or my ancestors for whom there is no representation (…), or God --living God, absent God—or an empty place" (Ricoeur, 1992: 355). However, the importance of the philosophical discourse does not stop with the recognition of this aporia. What matters for philosophy is the recognition of otherness as a constitutive part of consciousness and the identity of the human that loses its central position and recognizes its dependence on others. Ricoeur's notion of conscience, as discussed in the last chapter of *Oneself as Another* (341-355), while preserving the mystery and equivocal nature of the ethical relationship, is still able to speak to the complexity of the ethical challenges of our time without incurring into the pitfalls of materialist approaches that represent a large part of the posthuman discourse.

John R. Searle's *The Mystery of Consciousness* contributes to clarifying this point. He criticizes the most common move in contemporary philosophy to insist that materialism must be right and that we must eliminate consciousness by reducing it to something else. He argues that

> all of these reductionist attempts to eliminate consciousness are hopeless as the dualism they were designed to supplant. In a way they are worse, because they deny the real existence of the conscious states they were supposed to explain. They end up by denying the obvious fact that we all have inner, qualitative, subjective states such as our pains and joys, memories and perceptions, thoughts and feelings, moods, regrets, and hungers (Searle, 1997: xiii).

He adds, "consciousness is a natural biological phenomenon that does not fit comfortably into either of the traditional categories of mental and physical" (Searle xiv). In other words, for Searle we need to abandon the traditional categories and start rejecting both dualism and materialism, and accept that "consciousness is both a qualitative, subjective 'mental' phenomenon, and at the same time a natural part of the 'physical' world" (Ibidem). Notwithstanding all the entanglements in which we are involved as agents and patients, we, and only we humans, can decide if and in what circumstances the area of conscience and moral sensitivity can be extended to machines. This is the special responsibility we have in our time.

The notion of "otherness" and "conscience" discussed above opens the way to a more-than-human humanism that decenters the privileged position of the human without pretending to be necessarily transhuman or posthuman in ontological terms. Although I understand the reasons behind Transhumanism and Posthumanism discourses, I find them in a certain sense closed in delineating their ultimate ontological perspectives. This closure is especially true for Transhumanism, which wants to strengthen the human to anticipate the creation of truly posthuman creatures and imagine a future without human beings. In doing so, Transhumanism appears immersed in the present convulsive tendencies towards robotization without developing a substantive vision of the future. Posthumanism instead starts from recognizing the loss of centrality of the human. Still, it cannot and does not want to entirely do without the human, even if it tends to cancel the consciousness that appears immersed and sucked into the cybernetic transformations of the present. The notion of more-than-human humanism that I have in mind wants to keep alive the effort of *thinking otherwise than being* as open to humans, other animals, the environment, and the machine. At the same time, it maintains a critical notion of human conscience as a necessary feature of human responsibility that involves the present, the past, and the future.

## The Time of the End?

For more than two years, immersed in the COVID-19 pandemic and its variants, we have lived in a suspended present in which all usual points of reference disappeared. The uncertainty in which we live makes plans unfeasible and impossible to project forward. Furthermore, when we consider the future, we mostly perceive it as a threat to our lives, and this happens daily if we think, for example, in terms of global warming and climate change. The historian François Hartog argues that our "presentism" is not a recent experience. It has its roots in two parallel phenomena: the loss of the future, which is seen as a threat, and the past, which is increasingly idealized as a Golden Age of humanity. These two phenomena push us out of history, which can only occur if the past is evoked in the perspective of a future into which we think we should be heading. In his most recent book, *Chronos: L' Occident aux prises avec le temps* (Chronos: The West grappling with time; 2020), Hartog reminds us that the time of the Earth is counted in billions of years. He argues that with the Anthroprocene we are faced with an immeasurable time scale compared to that of Kronos, which usually counts in centuries or at least in thousands of years. In this situation, we are faced with an unlimited past and an unlimited future. Moreover, the future is fully indeterminate, out of touch with the past, and bearer of great threats. While today we are becoming aware of this disconcerting idea of the future, we continue to live in the impression that science and technological progress can save us immediately in the present. This attitude has prevailed even in the face of the dangers of COVID-19 which have been addressed only on a technical level, proposing a rapid techno-fix, refusing to reflect and work seriously on their causes, rooted in a distorted and unscientific relationship with the ecosystem.[30] However, the actual challenges of the Anthropocene recover a sense of limit, as happened more than two thousand years ago with the advent of Christian temporality.

The first part of the *Chronos: L' Occident aux prises avec le temps* is dedicated to the study of the Christian sense of time, which became dominant in Western civilization starting from the fall of the Roman Empire up to the eighteenth century and conceived as "the time of the end." As Hartog explains, the early Christian world used three concepts of ancient Greek culture to define time: on the one hand, *Kronos*, the passing of time, the time of life, and the seasons; on the other hand, *Kairos*, the right, critical and favorable moment, the opportunity that

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[30]     See Giuseppe Longo, "La pandémie et le 'techno-fix'" (2021).

should be taken; and finally, *Krisis*, which, especially in the medical field, indicates the critical moment, decisive in one sense or another. Kairos comes to designate the incarnation in the Christian world, which is considered the most crucial moment of human time. So much so that early Christians started devaluing the relationship with Chronos; Christ represents the Kairos par excellence, the beginning of a new time that will continue until the end of time, the moment of Krisis, of the final judgment preceded by the Apocalypse. The Christian time of the origins is inscribed within these two limits: Kairos, the incarnation, and Krisis, the final judgment. The time that elapses between the two limits, Kairos and Krisis, does not count for the Christians. It is a kind of present without substance characterized by the expectation of the end of time (Hartog 2020, 23-74).[31] In the last part of *Chronos: L' Occident aux prises avec le temps*, which is entitled *L'Anthropocène et l'histoire*, Hartog argues that the Anthropocene recovers a sense of limit, as in the times of Christian temporality. The climatic threat introduces the possibility of the end of the human world and the realization that the Earth may continue to exist without humans. For Hartog, humans are therefore forced to deal with a new "time of the end" and the apocalyptic schemes of the past (Hartog 2020, 309-319).

The new perception of time in which we live finds new stimuli in the revolution of late modernity that projects humans into space and the infosphere. Thus, oblivion of the Earth emerges in our lives, which is at the origin of contemporary disorientation. *Land and Sea* by Carl Schmitt, which we analyzed in the first section of this essay, reminds us of the terrestrial roots of human beings and their legal and political systems. Schmitt matured his ideas in dialogue with Ernst Jünger, who in his *An der Zeitmauer* (At the wall of time; 1959) argued the need to relocate the history of humans in its geological dimension. In this perspective, the history of humans was nothing more than a chapter in the history of the Earth.

For this reason, Jünger chose to title the journal *Antaios* (Antaeus), founded in 1971, in the name of the giant son of Poseidon and Gaia. Antaeus remains invincible only if his feet are well placed on the Earth, on his mother Gaia. He is destined to ruin when lifted from the ground (Volpi 115-116). The rehabilitation of the Earth found in Schmitt and Jünger can be a guide in the attempt to rediscover a historical sense in the current dimension of time, which tends to take on apocalyptic tones. This rehabilitation appears to be the necessary premise to re-establish a link with the past and take the first steps towards a sustainable future.

Earth scientists and biologists inform us that we are entering an era of mass extinction and that well more than half of the species on the Earth will soon become extinct.[32] The severity of the ongoing extinction and the overall reduction of the Earth's resources endanger the survival of the human species itself. In *The Sixth Extinction: Patterns of Life and the Future of Humankind* (1996), Kenyan paleoanthropologist Richard Leakey, one of the world's foremost experts on human evolutionary past, argues that it is our past, as a species, that can guide us into the future, facing the prospect an unprecedented new extinction. On five occasions in the past, catastrophic natural events have caused mass extinctions but today, humans themselves possess the ability to destroy entire species at will, to trigger the sixth extinction in the history of life. Leakey insists on the idea of change or metamorphosis that was also central in the ancient world. Based on this principle, we recognize that "humans are but a brief moment in a continuous flow of life, not its endpoint." What is most important then is to recognize that "it is in the patterns within the change that we find the nature of life's flow; the patterns are

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[31]    An interesting study of the temporal conceptions of the early Christians can be seen in the recent book by Giancarlo Gaeta, significantly entitled *Il tempo della fine* (The time of the end; 2020).

[32]    For an introduction to the problem see Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History* (2014). She argues that the sixth extinction is likely to be humanity's most lasting legacy, compelling us to rethink the fundamental question of what it means to be human.

the surface signals of the fundamental processes that nurture that flow." By "patterns," he means "the images that emerge when we scrutinize the fossil record in its entirety (…) the images that emerge when we scrutinize ecological communities as a whole" (5-6). In other words, the nature of the world we live in and the meaning of life on Earth cannot be found in the fossils of individual species in the geological record but the relationship among species. This co-dependence is proper and meaningful if we think of the past, the present, and the future – and this non-anthropocentric view confirms humans' special responsibility and entanglement with a unique ecosystem that cannot be neglected.

Faced with the prospect of a sixth extinction, Transhumanism proposes to encourage new and advanced anthropocentrism and technological activity to attempt an escape into the space where humans are destined to disappear in known forms. On the other hand, posthumanism recognizes the limits of anthropocentrism and its dependence on the ecosystem. But it can be said, as Yuval Noah Harari does in his *Homo Deus: A Brief History of Tomorrow* (2016), that our "time of the end" is characterized by new forms of technological religiosity. He points to "Dataism" the techno-religion that "venerates neither gods nor man – it worships data" (502). It is not by chance that the Dataist prophets in Silicon Valley consciously use traditional messianic language. Harari mentions that Ray Kurzweil's book *The Singularity is Near*, echoes John the Baptist's cry: "the kingdom of heaven is near" (Matthew 3:2). Indeed, "as the global data-processing system becomes all-knowing and all-powerful, so connecting to the system becomes the source of all meaning" including the spiritual, economic, medical, and biographical aspects of our lives.[33] All we need to do is "record and connect our experience to the great data flow, and the algorithms will discover its meaning and tell us what to do" (528-529). However, in chapter three and the conclusion of his book, Harari questions whether life can be reduced to data flows and holds that we have no idea how or why data flows could produce consciousness and subjective experiences. Given that in dataism, intelligence is decoupled from consciousness, he asks two fundamental questions: on the one hand, "what will happen to society, politics, and daily life when non-conscious but highly intelligent algorithms know us better than we know ourselves?" and, on the other hand, "what's more valuable – intelligence or consciousness?" (544).

It is becoming increasingly apparent and even obvious that technological hubris and environmental destruction have brought into question the notion of humanity as we have known it up to the twentieth century. Just as it is evident that the progress of society and the world economy is by no means a guarantee for a bright future ahead of us, precisely for this reason, there is a need for an active reconnection to the human to its geological and historical roots. In other words –as Bill McKibben writes in contrast to the dark title of his book *Falter: Has the Human Game Begun to Play Itself Out?* – there is a need for a note of hope. He wants to clarify that he lives in a state of engagement, not despair. Indeed, he has immersed himself in movements working for change and helped to create a group, 350.org, that grew into the first planetwide climate campaign (6-8). Certainly, awareness of the current challenges of technology can and must express itself in different forms of resistance to the adverse effects of artificial intelligence in our lives. The ethical approach to the issues raised by the pervasiveness of machines and AI in human life is undoubtedly essential. Nevertheless, however sophisticated it may be, moral universalism is not enough to address these questions. In her recent *Atlas of AI* (2021), Kate Crawford argues that AI's triumphal narration based on algorithmic exceptionalism deemed

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[33]  We turn to the web and social media also to process mourning and its meaning. Up to the point that we talk about the possibility of a second life in virtual reality. Advances in data mining and artificial intelligence are now making an active presence after death possible, and the dead remain part of our lives as they live on in our digital devices. See Savin-Baden, Maggi, and Victoria Mason-Robbie (2020), and Davide Sisto (2018).

more intelligent and more objective than flawed human creators must be negotiated and contrasted above all on the political level.

She writes:

> artificial intelligence is not an objective, universal, or neutral computational technique that makes determinations without human direction. Its systems are embedded in social, political, cultural, and economic worlds, shaped by humans, institutions, and imperatives that determine what they do and how they do it. (211)

This political insight has a profound impact on the very notion of ethical universalism as AI systems "are designed to discriminate, to amplify hierarchies." When applied in social contexts such as policing, the court system, health care, and education, "they can reproduce, optimize, and amplify existing structural inequalities." For Crawford, this is no accident: AI systems "are built to see and intervene in the world in ways that primarily benefit the states, institutions, and corporations that they serve" (212). I argue that the political approach and the search for justice and equality should not be disjointed from a rigorous ethical process based on human consciousness. Perhaps, it is no longer the time for on-a-volcano meditations immersed as we are in the hyperobjects that are penetrating our consciousness. However, it is still undoubtedly appropriate to insert human history in the infinite time of the earth, as Leopardi did in the nineteenth century by writing *La Ginestra, or Il Fiore del Deserto* (1836). The central point of that meditation, the appeal to humanity to find unity of purpose not in the mirages of progress but in resistance to the time of the end, it is still valuable.[34]

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[34]   At the core of Leopardi's meditation there were lines 118-123: "… Tutti fra sé confederati estima /Gli uomini, e tutti abbraccia / Con vero amor, porgendo / Valida e pronta ed aspettando aita / Negli alterni perigli e nelle angosce / Della guerra comune. ("… he sees /As allies all men, embraces all / With unfeigned love, giving and expecting / Prompt assistance, useful aid / In the many hazards and lasting hurts / Of the common struggle").

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**Websites**

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