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THE ANTHROPOLOGY OF IMMORTALITY AND THE CRISIS OF
POSTHUMAN CONSCIENCE

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Abstract: In this article we aim to distinguish between the transhuman and posthuman condition, according to their anthropological, ontological, and ethical natures. We will show that the current historical moment can be considered the beginning of a transhuman civilisation, given that the characteristics of the transhuman are already present in today's human being. We will show that a series of decisive limitations for belonging to the human condition are in the process of being transcended due to acquisition of attributes of divinity that human beings do not currently possess: omnipotence, omnipresence (ubiquity), ex nihilo creation – starting from the divine creative ideation – and immortality. Humans are increasingly taking on the attributes of divinity in the process of human enhancements.

We will discuss the ways in which technology allows the human to overcome these limitations, elevating humans past their current condition, in a process in which they gain technological transcendence. Excepting immortality, all other limitations, once exceeded, generate a transhuman condition. Immortality generates a posthuman condition, since it can only be obtained by modifying the human ontological status from that of a biological being to that of a resident being in informatics networks. In order to clarify this process, we will discuss the concepts of everlastingness and artificial life prolongation.

Key Words: social anthropology, immortality, posthuman conscience, virtualization, life prolongation, enhancement, bioethics, environmental threats, technological transcendence

Introduction

The human condition has undergone a number of transformations and the transhuman condition of human beings has been technologically improved (biological—genetic, psychological and communicational), but the human condition does not yet changed its ontological status. Artificial immortality, through symbiosis between the bio-psychological and technological areas of alleged posthuman beings, could be the condition for a different ontological premise, completely distinct from *homo sapiens*, including *homo sapiens sapiens* (modern man), or *homo sapiens +*, a technologically enhanced human species.¹

We call *immortality* a state of indefinite time of life—a conservation of self-consciousness. We differentiate immortality into two concepts: religious immortality, seen as the survival of a spiritual part of the human being, and the method of obtaining an indefinitely long physical life through technological means, which does not ensure invulnerability towards common environmental threats.

In this article, we aim to outline a distinction between the transhuman and posthuman condition, based on their anthropological, ontological and ethical natures. We will show that the current historical moment can be considered the beginning of a transhuman civilisation, given that the characteristics of the transhuman being are already present in today's human beings. We will show that a series of decisive limitations that constitute belonging to the human condition are in the process of being transcended due to acquiring attributes of divinity that human beings do not yet possess: omnipotence, omnipresence (ubiquity), ex nihilo creation—starting from the divine creative ideation— and immortality. Humans are increasingly taking on the attributes of a divinity in the process of human enhancement.²

We will argue the unjust nature of creating a population with longer life expectancy than current people. We will also examine whether morality and the nature of social justice may be invoked in the creation of regulatory systems of access to the benefits of life-prolonging technologies.

Technology is the turning point in expressing the power of science to re-organise the world. If the ecclesiast wonders who would dare to correct the work of God, one could present entrepreneurs such as Dmitry Itskov (who created the Avatar 2045 Program) and Sergio Canavero and Robert White (the creators of head transplant surgery) as pioneers of developing the posthuman condition.

We tend to believe that the development of posthuman technologies created in order to improve the human condition is referential for further generations. Generally, discussions concerning transhumanistic anthropology and the posthuman condition regularly reference phrases

such as “they are not here yet.” Anthropologically speaking, the posthuman condition does not have to be regarded as a quantum leap from the current human condition towards a super-human condition; neither does it need to be considered a blazing apparition in the sky of planetary consciousness. The posthuman transition may be considered as similar to the supposed biological evolution of anthropoid primates towards the human state. The twilight of the biological evolution recorded in the twentieth century, precisely by the avoidance of the species from the evolutionary milestones, is today overturned by the evolution of knowledge. A knowledge-based society (KBS) is truly different from the cognitive systems of previous eras because it opens the path towards “intelligent evolution.” The transition from *homo sapiens* to *homo enhanced* will not be achieved through the mechanism of natural selection but through the process of “artificial selection.” Artificial evolution introduces humanity into an existential singularity of a demiurgic nature.

God gave to the first people the urge to rule over nature, which has been reconfigured into a responsibility for the vulnerable people in anthropogenic nature. Ecological non-anthropogenic systems no longer exist and there are fewer natural areas where the force of nature is free from human intervention. Under these circumstances, can we still assume that posthuman history will begin with the next generation? Or, is it more appropriate to consider the current generation as constituting a link that the non-corporeal or non-biological anthropologists of the future posthuman eras will look for when legitimating the transition from *homo sapiens* to the posthuman species based on Artificial Intelligence (AI)?

We question if the post-history of our humanity is not, in fact, the pre-history of the posthuman species. Is the posthuman generation already here? Should posthuman history be considered as starting with the complete decryption of the human genome? With the beginning of the Avatar 2045 Program? Or with the first intelligent learning algorithms? In order to answer these questions, it is necessary to understand the construction of posthuman anthropology and to track the landmarks in the making of the posthuman condition. For this paper, we chose the topic of everlastingness as an example of the human condition and its correlation with immortality as a mark of the posthuman condition.

Transcending the Human Condition

The experience of finitude and of limits in general allows the development of self-consciousness. By limitations, we mean a series of characteristics of the consciousness, the way it is developed and interacts with reality itself. Starting from the Kantian category of synthesis, and also from the religious experience of humanity, we formulate a series of non-exhaustive limitations of the human condition that separates it from

that of the divine and that marks the beginning of the end of the human condition.

While omnipresence, omnipotence, immortality, and *ex nihilo* creation constitute attributes of divine power, their lack of these qualities is transformed in limitation, particularly for the specifics of the human condition.

Limitation in omnipresence. Unlimited divine presence is discussed in spiritual and religious traditions: the capacity of being present at the same time throughout the whole world (ubiquity). Spatial limitation is based on the idea of space (the category of sensibility in Kant's vision) as that which institutes the distances between things as the order of co-existences. This idea of *here* and *there* and the limits of our own universe are developed as the space in which the individual can interact with objects. Locating the human being is an anthropological characteristic that can distinguish human nature from the super-human nature that is de-located.

We see spatial limitation as meeting alterity, either as another consciousness, different from one's own that calls for communication or an object that calls for use and manipulation. The meaningful experience of spatiality is of one's own corporality, by the genesis of the bodily Ego that is differentiated from the surrounding world.

Limitation in omnipotence. Traditionally, to divinity is ascribed the capacity of realising any logically possible outcome. Divine consciousness can generate matter, starting from its simple ideation and will. The individual can act on the environment in a transformative manner. Both the neolithic and industrial revolutions generated new technologies capable of facilitating human work. The capacity to build tools remains one of the anthropological characteristics of the human condition. Lack of omnipotence targets the structural incapacity of the human being to generate objects *ex nihilo*, conceived exclusively in the mental realm without applying a transformative operation on pre-existing objects in nature.

Limitation in temporality. The divine condition is often thought of as atemporal and is not influenced by the passing of time in regard to the increase or decrease of its attributes. In contrast, humans experience temporality as a finite limit of their existence. Heidegger places human consciousness in time as a final essence of the specifically human initiation-Dasein.³

In what follows, we will highlight a series of technologies that allow the human to partially overcome these limitations and work towards what is now called technological transcendence.

Social Space Virtualisation: Transcending Spatial Limitations

By "social space virtualisation" we understand the construction of a new communicational universe in virtual space and the transferring to

this of the globalized social interactions. Social space virtualisation changes behavioural habits. Internet sex can be seen as an extreme example of the size of the transfer of social interaction in virtualised environments. This example supports our theoretical assumption that argues any communicative interaction may suffer virtualised effects, either positive or negative, but that it will certainly be altered through changes in specific interactions.

The technological globalisation and universalisation of communication should be considered in light of occurring mutations when interpreting social and communal space. Such space has shifted from a geographically limited space to a universalised trans-geographical space. This could be considered a transcendence of the human condition, which is usually determined as being located in time and space. The category of spatiality limits the freedom of conscience in terms of ubiquity. Like immortality, ubiquity is a feature of the transhuman condition. Our hypothesis is that the space transformation of the frame of interaction and coexistence occurs in a mediation frame of communicative action.^{4,5} Virtual space is non-tridimensional; this feature of topological distance is replaced with the subjective intensity of communication. The globalisation of communication, especially online communication, creates a new feature of social interaction that helps humans escape from physical space into a purely communicative (virtualised) space.⁶ The establishment of a whole culture is a continuous adjustment process of a local culture to various globalising elements. Social phenomena require a new socio-communicative construct: the spiritualisation of distances. This should be considered the virtual replica of the phenomenon of the spiritualisation of geopolitical borders. In our opinion, the social space virtualisation generates a formalisation of communication in order to obtain a proper positioning in the search engine, lowering the emotional impact of the act of communication because of its environment, etc. The phenomenon of "social space virtualisation" has a polycentric and unstructured nature, where there are as many virtualised environments as there are communication projects undertaken at any one time. The specifics of "face to face" communication are replaced by virtual proximity, a process generated by internet network interposition along with communication equipment in the communication process. The virtualisation of communication⁷ denies a defining element of the human condition, that of the *face-to-face* relationship with alterity.⁸ Instantaneous communicative action is a form of ubiquity that exceeds the traditional human condition. For example, we are able to interact with colleagues at a conference that is hundreds of miles away, as if we were in their immediate presence. We can also purchase goods from a shop located on the corner of an individual's Facebook wall, even if the provider is physically located on the other side of the world. We believe that these kinds of examples can help us to

hypothesize that transhuman elements—such as transcending the spatial and power of action limitations—are already present in everyday life. The transhuman condition is beyond ordinary humanity, exceeding it through its limitlessness. However, in our opinion, this is not yet a posthuman condition.

The new virtual dimensions of communicative action alter the experience of the limitation of power from localised action to tele-action. Virtual tele-action is not exclusively limited to action upon certain virtual objects, namely the actual communicative action. Tele-action allows the manipulation of objects by means of robotic instruments or instruments controlled electronically. For example, certain medical surgeries can be performed at a distance by means of a robotic arm that allows the surgeon to operate with high precision without having to be present at the operating table.

The term *homo sapiens* + (interneticus) is used to draw attention to the fact that the formation structures of our thinking process are no longer entirely adequate for dealing with the new realities of communicational action. The transcendence of the limitations in the spatiality dimension and the human condition dimension of spatialised and localised being generates the premises of a new anthropological condition: transhuman but not yet posthuman. This new anthropological condition can be regarded from the point of view of a partially de-localised being from the perspective of the communicative actions that a human can develop. Another dimension needs to be added to the human condition in order for it to truly become another ontological category. We believe that this dimension that separates the posthuman species from *homo sapiens*, even *homo sapiens enhanced*, is that of technologically-achieved immortality. *Homo immortalus* is, in our vision, a species that truly acquires another ontological location.

Virtual Action and *ex nihilo* Creation

In connection with the *virtualisation of social space*, we can observe the transition from the creativity specific to *homo faber*, the human that creates tools, to a form of creativity in the space of conscience—a creativity that becomes prevalent in human activity. For the first time in history, *producing information* has become the main social action, generating a surplus of value. Creativity exerted on material objects is replaced with that upon immaterial objects. The technology of 3D printers is worth mentioning as a technology that actually changes our way of producing objects. Human creation follows the mythical pattern of the genesis of things, starting from a primary substance through to the intervention of an ideation upon the substance itself. Pre-existing objects in the divine mind become alive by means of demiurgic forces, capable of transforming ideas into beings. Humanity's efforts towards self-

transcendence also take shape in the creation of objects without the inclusion of a transforming intervention. A model represented in virtual space can be 3D-reproduced in real space.

Toward a Cultural Anthropology of the Transhuman Condition

The transhuman being does not exceed the human condition of *homo sapien* from an ontological point of view. The transhuman being is still a *zoon politikon*; she/he uses language to communicate, creates (high-tech) tools, is closer to creating intelligent tools, and is mortal. As an additional ontological landmark, the transhuman being adds technological accessories, such as prosthetics (from those made of wood to those that are bionic, from eyeglasses to radio-telescopes—indeed, nothing other than prosthetics is used for gaining knowledge of cosmic space). Dependence on technology cannot be treated as outside the human condition, even if it remains an accident. Contemporary mankind is so dependent on technology that a sudden arrest of global communication networks could lead to an extinction of the human species. The dawn of a transhuman society is already present on the horizon, brought about by globalisation and a KBS. Actual posthuman society will be legitimately present when immortality, not as absolute invulnerability but in indefinite life expectancy (virtual immortality), will be possible at least for a number of biological or non-biological beings.

Following the argument above, we suggest a possible interpretation of a new anthropology that speaks of the dawn of a new existential condition—the transhuman condition. We use the term transhuman based on Basarab Nicolescu's work on transdisciplinarity: the existence of areas of transparency in knowledge in a new type of universe characterised by network convergence rather than by traditional social structures.⁹ But we also look beyond a cultural paradigm to illustrate a change in the anthropological paradigm.¹⁰

We formulate the question thus: to what extent is the transhumanism presented by Nicolescu convergent with that promoted by the transhumanist movement, which places the idea of improving the human condition by means of technology at the center of philosophy?

Nick Bostrom shows that transhumanism is a philosophical and scientific current that aims to understand and evaluate the opportunities available in the realm of technological development for improving the human condition and the human organism. This mode of thinking takes into account both those technologies that already exist, such as genetic engineering, and future technologies that are already foreshadowed in the field of knowledge, such as molecular nanotechnology and AI.¹¹ The opportunities for improving the human condition target the eradication of diseases and the elimination of suffering, along with improving human emotional, cognitive, and physical capacities. This improvement of the

human condition is not limited to simple technological artefacts. Rather, the improvement targets the economic, social, and cultural development of the institutional design or of psychological and technical abilities. Transhumanism does not share the technological optimism of unlimited future progress, but rather shows that together with the huge beneficial potential of these emerging technologies come great risks related to the destructive potential that could lead to the extinction of the human species.¹² Except for the foundational epistemic difference in transdisciplinarity in the case of the transhumanism proposed by Nicolescu, and in interdisciplinarity in the case of the version of transhumanism proposed by Bostrom and Julian Savulescu, these two visions of transhumanism share the idea of transparency in knowledge as an epistemic foundation and also the idea of the *secretly included third* that, in the vision of Nicolescu, is transcendental consciousness, and that in Bostrom's opinion is technology itself as artificial eschatology.^{13, 14}

The idea of transparency in knowledge may be the basis of the epistemic foundation of the concept of technological singularity. We see technological singularity as a moment for the present human being in which a non-transparency in knowledge is developed in order to create AI products and an improved human condition. Non-transparency in knowledge does not mean a total lack of exchange of information but the possibility of converting information into a language that is accessible to the regular human intellect.

From the phenomenological perspective, humans cannot understand the specifics of an uploaded mind, or in general of a posthuman mind, since we cannot reproduce, in our own minds, our own states of consciousness, and hence, for humans, this is a singularity. Only a mind that transcends the temporal limitation, not merely the spatial limitation, can be in our vision a singularity and can therefore achieve the posthuman condition.

Artificial Intelligence (AI) and the Posthuman Condition

Robots' rights along with robotics laws can and will certainly be important issues in the area of technoethics, but they cannot be included in the ethics of posthuman species. Of course it is interesting to speculate on the possibilities of the coexistence of two intelligent species: the *human/posthuman* species and the *robotic* species (having self-awareness but lacking biological life). We will need to rethink the meanings of the term "life" and its close connection with biology or at least the connection between intelligence and life. Certainly, AI will gain a distinct ontological status, just as it will achieve a distinctive status in terms of a future declaration of the rights of conscious beings, which may replace human rights, a category that may gradually enter into desuetude.¹⁵ As likely as AI's evolution towards self-awareness is, AI cannot be considered a serious

contender for the status of posthuman species, in much the same way that humans cannot be considered post-divine. There is an ontological continuity between human beings and any technological artefact endowed with AI and even self-awareness.

Immortality as an Anthropological Landmark of the Posthuman Condition

Technological society suggests immortality is a cultural fashion. Technologically, at least three fields of research gesture toward a posthuman condition related to the creation of immortal individuals¹⁶:

Life-prolonging therapies include cellular regeneration; medical nanotechnologies; organ transplant, including the so-called head transplant, which is in fact the transfer of the brain to a different body, with or without the entire head; the creation of spare organs from stem cells; bionic prosthetic technologies, etc.¹⁷ All of these therapies target the immortality of one's own body, or at least parts of it, such as the brain or the head.¹⁸ The implied assumption is that consciousness is a brain function and that consciousness disappears with the death of the brain.¹⁹ The conservation of brain activity is the solution to brain mortality. Sergio Canavero from the University of Torino considers that current technology may allow surgery that includes re-attaching the head to the spinal cord.²⁰ The author cites the example of Robert White who succeeded, in 1970, in transplanting the head from one monkey onto the body of another monkey. At present, the impediments to head transplants are related to the challenge of correlating the spinal nerves in the bodies of different animals.²¹

The transfer of consciousness is first mentioned in Buddhist–Tibetan philosophy under the Dhrong Jug technique. In the Tibetan version, this transfer represents a mystical experience of separating consciousness from one's body and transferring it into another body. The ontological assumption is that consciousness is of an energy-informational nature, not a physical one. Starting from the same supposition, scientists aim to establish a technology that targets the transfer of the whole informational content of consciousness, seen as a series of data in computational systems with a huge data storage capacity, followed perhaps by the further transfer of a biological or technological artefact. Dmitry Itskov has developed a project titled the “2045 Initiative” that aims to copy the human mind into a humanoid robot, later transferring the mind into a computer in order to eventually transform the consciousness into a hologram.²²

The cryogenic conservation of the entire organism or the brain. This method is based on the assumption of the connection between consciousness and the brain, along with the idea that the content of

consciousness is held in molecular storage. Cryogenics is the most popular solution suggested for achieving artificial immortality.

The search for immortality is an anthropological constant that unites all eras of known history and all cultural spaces in which the self-conscious human being has created culture and civilisation. The search for immortality is one of the most important cultural symbols of humanity.

Eluding death through post-existence proposes a conservation of (spiritual) essence. Immortality proposes a conservation of an ontological accident, represented by a human's life and personality. If deathlessness is a promise, immortality is considered a gift but in many instances also a punishment. This issue can be found in the Gilgamesh Odyssey, the myth of the wandering Jew, the story of Ivan Turbinca, etc. In all of these myths immortality is desired as a transcending of the world order, but once it is obtained, it is acknowledged as a punishment and symbolises an eternal exile from the true essence of being human.

Higher beings who are found in religious and spiritual imagery enter the human consciousness as gods, demigods, heroes, or as angels and demons. Their main *qualia* that distinguishes them from human beings is represented by immortality. Everlastingness is a conservation of the existential accident (human form) and not the spiritual essence, as in the case of spiritual immortality. The nonhuman species belonging naturally to a divine species (angelic or god populations) do not expend any effort in the simultaneous preservation of their spiritual essence and their corporeal forms. They belong to the divine condition through birth and therefore their status cannot be challenged. As such, the anthropological analysis of this category of spiritual beings is not relevant to this paper and its explication of posthuman anthropology. Rather, we are interested in the ontological location of exceptional human beings who have gained immortality as a result of personal effort.

Achieving immortality changes the ontological status of that entity, assigning that entity with the conditions of the posthuman species. The search for tech-immortality embodies contemporary initiatory adventure. Self-transcendence, the achievement of a god-like condition by its own effort, is the ultimate essence of fairy tales and heroic *sapiential* myths. Crossing the river Stix, the border that separates the human world from the world of the gods, still in this life and not in the other, is the ultimate victory of the hero against death.

The dissolution of ontological borders is the true Holy Grail. Speaking in terms of Descartes, *res extensa* and *res cogitans* are not only juxtaposed, but fully unified. The coarse become subtle and the subtle becomes coarse; heaven and earth are one. Bodily accession in the spiritual world is no longer possible because the current dissension of the world, given by the scientific and technological discourse, denies the spirit its ontological condition. The ultimate triumph of reason in replacing the spirit is its own everlastingness, under the shape of the continuity of its own self-

consciousness. An entity that succeeds in retaining indefinitely its self-consciousness or that which even manages to indefinitely preserve some essence accedes to potential immortality as everlastingness. Of course, in reality we speak about an extension of life or at least of self-consciousness during incomparably long periods of ordinary human life. This kind of immortality is not youth without age and life without death or a mythological hero demigod condition. But it is a condition that requires self-transcendence that will impose itself on human beings through a different ontological condition, a privileged location in terms of the exercise of power.

Towards a Posthuman Humanity?

We must distinguish between extending life beyond the ordinary – the subject of current therapies and bioethics – and obtaining immortality. Using the term immortality, we refer to the situation of complete invulnerability to death, whilst prolonging life requires only a condition of immunity from possible pathological factors. Techniques of life extension are not meant to obtain immortality in the sense we discuss here. Rantanen Rosa shows that the immortality discussed in bioethics literature is ambiguous, referring rather to a significant prolongation of life.²³ As such, ethical arguments on the desirability or undesirability of achieving immortality should not overlap with the debate on the ethics of life extension techniques. A considerably long life, even if it reaches hundreds of years, is not the same as infinite survival.

Based on the arguments above, we affirm Turner's position, which states that life-prolonging therapies will not lead to immortality or to a true posthuman condition.²⁴ We affirm that human society is in a qualitatively different stage from all other previous stages and is now relatively independent from the purely biological process of natural selection. Human dependence on technological artefacts is obvious. All of this presents humanity in a different existential condition and of these we consider the category of transhuman, which is situated on the edge of a new species of human beings, is artificially enhanced and transcends many of the current limitations of the human condition. For human species, however, it is difficult to accept a posthuman condition of a biological type that is based on immortality. This would indeed be an ontologically different species from *homo sapiens*. Rather, we are inclined to accept a virtual posthuman non-biological condition. The digitisation of consciousness is in the process of changing the human ontological condition.

Invulnerability to threats of disease is removed but a vulnerability to informational viruses, a vulnerability to damage of non-biological information storage media, which represents the memory required for the continuity of consciousness, could appear instead. We also have doubts

about the possibility of the digitisation of consciousness and the digital transfer of consciousness.

Immortality is not a simple effect of therapy. Developing research with the purpose of eradicating terminal diseases is not the same as attempting to obtain immortality. Longevity may be considered a tangible and desirable good. Immortality implies the possibility of personal identity loss, life motivation and the will to survive. Immortality involves belonging to not only a different species but a different ontological category. Gaining immortality is only possible with the price of giving up the human condition. John Harris shows that this argument cannot be sustained in whatever circumstance because it would apply *mutatis-mutandis* to the treatment of any birth disability that, once cured, would change the essence of a person²⁵.

Ethical Dimensions of Artificial Immortality

In the context of the efforts expended on developing therapies and life-prolonging technologies, several ethicists have begun to debate the moral nature of certain individuals who claim to have obtained indefinite life prolongation and even a state of artificial everlastingness. From among the most prominent ethicists who have participated in this debate, we will focus on Harris's position outlined in "Immortal Ethics."²⁶

Harris formulates the necessity of certain social and ethical politics to accompany the scientific and technological developments that allow indefinite life prolongation. The arguments against life prolongation refer to the social inequity that may be generated by this process: the dilemma surrounding the necessity of choice between a long life and its quality; the existence of parallel populations of individuals that benefit or not from life-prolonging therapies; the suppression of natural reproduction and its replacement with genetically and politically controlled artificial reproduction systems. Harris analyses a series of ethical and political consequences of the posthuman condition:

- Life prolongation can be realized to the detriment of the quality of life;
- Technological immortality does not necessarily imply invulnerability;
- Saving and prolonging lives is not the same as achieving immortality; the former representing only a delay of death. Therefore, life-saving therapies fit the socially and morally accepted standards;
- Indefinite life prolongation is considered unjust and useless²⁷.

The (In)correct Character of Gaining Immortality

The costs of gaining immortality will be extremely high, therefore access will be unequal. Fukuyama shows that the first victim of transhumanism will be equality. The understanding that all human beings are born (have been created) equal—as expressed in the Declaration of Independence of the U.S.A.—and the whole theory and practice of human rights are based on the belief that all human beings possess a specific essence of humanity. The value of this humanity is sacrosanct. Induced biological inequalities by transhumanist technologies will suddenly mean that social inequity will become real. Unequal social status will lead to significant biological differences for future artificially enhanced generations.

There will be parallel populations, practically belonging to two different species: human and transhuman. The two populations will co-exist. The inequity in accessing life-prolonging therapies will be exclusive, based on economic and social utility criteria. Fukuyama draws attention to the consequences of ontological inequity between human and posthuman beings.²⁸ Equality under law is based on an essentialist vision according to which each human being possesses this fundamental human essence despite race, anatomic, or even intellectual differences. Altering the essence of the human condition also changes relations between the two categories of population, including the claim of human rights applicability.²⁹

The newly created population is expected to constitute a much stronger elite, from a social perspective. It is also expected that the first improved populations will originate from the ranks of those of high economic status, with the reasoning that the new aristocracy's claims to domination will be legitimated by biological superiority. The domination of new privileged categories may have the character of a soft power, understood as the power exercised through various control systems that exclude coercion.³⁰ Otherwise, influence is already the source of legitimacy of power in KBS.

Harris draws attention to the unpredictability of the dynamics of population according to whether groups belong or not to the posthuman condition, as well as issues concerning the number of posthuman minorities.³¹ In our opinion, the existence of a posthuman minority prevents the altering of the structure of capital, leading to a perpetuation of caste rules. Even if, in the beginning, the democratic appearance combined with soft slavery is retained, the situation will eventually lead to techno-slavery and even classic slavery. Starting from the idea that the immortal population will be limited due to the costs of accessing life-prolonging technology, the process will most likely lead to the extinction of the immortal species due to the rebellion of the oppressed population,

the mortals, or a complete territorial separation through space colonisation.

The concept of soft power comes from international relations theory, as developed by Joseph Nye, who uses the term to describe a group's ability to dominate international relations using influence and persuasion instead of coercive military force.³² For Nye, strength is the ability to influence others in order to achieve the desired result. The history of the exercise of power is the coercion Nye calls hard power. Hard power is a natural exercise of force as the result of the "natural state" of the human condition.³³ Social contract theory justifies political power as a legitimate use of force. Soft power restores legitimate power through cooperation and incentives. Seduction is more attractive than coercion and is more in tune with democratic values.

The theory of human rights and individual opportunities is seductive to the consciousness.³⁴ The seduction of the imaginary generates consensus, transforming the social pact into a semiotic pact. Seductive strategies of power are consonant with the idea of the imaginary civilisation and postmoralist ethics promoted by Lipovetsky.³⁵

The concept of soft power is based on the definition of soft slavery as a hypothetical situation of an "improved" population that is genetically prevented from engaging in any kind of violence. A society devoid of aggression is a better community in terms of crime rates. It is at the same time a perfect place of performing soft bondage in favour of alleged categories of improved population whose will power has been artificially enhanced. Science fiction literature has explored this issue extensively, discussing hypothetical races originating from Nietzsche's works—races that were created as genetically superior in terms of physical strength, intelligence, desire for survival, and guidance to victory.

It is not within the scope of this research to analyse all possible types of posthuman species. Instead, we limit ourselves to two possible categories of posthuman species: *those intended to be posthuman*, according to Nietzsche's superhuman effect, and *those intended for soft slavery*, a population characterised by either genetic or informational removal, their tendency to aggression, and the trend towards self-actualisation. Slave morality is at the same time a part of herd morality, as illustrated by Nietzsche.

Harris suggests the ending of both human and posthuman population reproduction.³⁶ Harris's version is only valid with the development of certain technologies able to ensure immortality at accessible costs for the entire population. Harris does not use the terms "human and posthuman species" that we introduced earlier in the paper, terms transferred from transhuman ethic literature, especially from the work of Fukuyama.

Daniela Cutas and Harris show that the right to live should be interpreted, in a negative sense, as an interdiction to affect life and not an affirmative concept, as an obligation of society to provide its members

with access to life-prolonging technologies and the chance to obtain immortality.³⁷ In our opinion, this right becomes inequitable in the context of posthuman population development. It is true that states will not be able to provide citizens with these technologies. It is also true that inequity will not only appear at the level of access to healthcare resources but that inequity will appear structurally at the level of the equity of chances.

Under these conditions, we vote in favour of a global ethics centred on social responsibility as value and a mandatory principle in scientific research in fields that allow the creation of a technology that will lead to gaining artificial everlastingness and immortality. We find ourselves in an era of “singularity” regarding the evolution of the human species, on the verge of developing the first species with a non-human consciousness and, at the same time, the first artificially created species.

Seductive Logos and Transition to a Posthuman Condition

The transition to the posthuman condition can occur through successive hiatuses – *singularities*, cognitive and anthropological.³⁸ At the present time we are witnessing what we could call transhuman singularity. We can correlate this with the twilight of the limitations of the human condition. The true singularity is represented by the transition from *homo faber* – the human who uses tools – to the human building him- or herself through communication.

The humanized *logos* leaves the divine sphere and becomes communicative actions as power practice on the world.³⁹ Divinity is known as *masterful logos* when it says “Let there be light,” as *evaluative logos* when “God saw that it was good,” and *seductive logos* implicated in creation involving the human’s own hands, into which God breathes the spirit of life after it is molded from clay. The emancipation of the human being from its own condition and self-transcendence is achieved through the universalization of the seductive logos as part of the practice of mass communication. The entire current technology as part of society based on knowledge, is a *technology that involves the expression of seductive logos*. This underlies power technology as soft-power, of virtual ubiquity which we consider specific to the current transhuman humanity, and will be – in our opinion – the basis of creating artificial intelligence and *downloaded consciousness* as part of the process of separation of the human being from its ontological condition, towards the horizon of the divine condition as self-transcendence. At this point we wonder how the Alterity of a technological singularity of downloaded consciousness will be experienced, and even if the self-consciousness of artificial intelligence will be non-phenomenological. Consciousness can take the act of singularity in a manner defined by a non-reciprocal and infinite responsibility.⁴⁰ The ontological plan in which a posthuman being will

exist will be the communicative field. The continuity between the human condition - transhuman and posthuman - we see as being convergent with those in the seductive logos as being digitally expressed. Transhuman singularity, presented in the transmodern hiatus, is one of communicating with Alterity. The post-human, self-transcendent Alterity will establish its consciousness in terms of the experience of virtual action that is limitless in terms of the virtualized objects.

The transhuman and posthuman transition involves a rethinking of the religious and metaphysical meaning of these transformations. The relationship with the transcendent dramatically changes the technological self-transcendence, taking the place of eschatological hopes. We may see a transhumanist millenarian messianism that places singularity in the center of hopes with regard to saving humanity, not against original sin, but its very ontological condition. The moment of singularity as an occurrence of a non-human or post-human self-consciousness, will require a consistent rethinking of the very idea of the spiritual being suspected of having a relationship with Divinity. The basis of the current spirituality is a belief in an infinite post-existence as part of a spiritual plan predicated on the existence and conservation of an essence of a human being endowed with spiritual value. A posthuman entity raises – for itself – the issue of spiritual post-existing meaning, as digital, virtual consciousness.

Non-human Persons and their Potential Spiritual Value

The virtualization of the social space and its transformation into space of communicative action, raises the issue of conceiving alternative worlds, transferred by this phenomenon from the field of religious imagery into one of ontological imagery. Immortality as an ontological state is accessible, for example, to a virtualized consciousness, bringing into discussion the meaning of death as a necessity and a responsibility towards its own finitude. The possibility of technological immortality asks for the religious and philosophical perspectives to be clarified in terms of this responsibility before the actual occurrence of a posthuman singularity. We should analyze and reconsider the claim of the spiritual uniqueness of the human condition, the only one officially acknowledged as having the capacity to relate with Divinity in terms of the virtue of the quality of a spiritual being. This reconsideration should take into account the future (probable) occurrence of forms of post-human or non-human existence equipped with self-consciousness.

Only human beings are involved in a quest for personal immortality, since it is the only species that currently understands the condition of being permanently moving toward death.⁴¹ The paradox of mortality explains the creation of any human civilization and of the entire culture and society of that civilization as one of survival through creation and in

the memory of future generations. The same search for immortality has led to the religious aspect of human civilization and the discovery of finitude as human dignity.⁴² The transition to a posthuman condition has major implications for a posthuman civilization that is ontologically originated outside “Being-toward-death.” Responsibility towards one’s own finitude is, at the same time, a responsibility toward the dignity of the human species and equally of any posthuman species. If the greatness of the human being lies in the consciousness of its finitude, it will be difficult to signify from the ethical and anthropological perspective the position of a posthuman consciousness that is truly immortal in the face of its own infinity. Both finitude and infiniteness generate anxiety. The anxiety of immortality may be related to self-forgetfulness. Such anguish can be related to the Divinity, in its quality of savior from the indifference of a meaningless existence.

The metaphysics of death queries the extent to which this is really wrong and, if it is, to whom it is addressed, and to what extent it can be defeated through life-prolonging techniques and through ones destined to allow immortality.⁴³ Immortality creates a competition with Divinity, blocking communication and communion with it.

The posthuman dilemma can be approached from two perspectives: the improvement of the human condition, leading to change in its ontological status being offensive to Divinity, and the perfection of its creating gesture. On the other hand the technological developments, or the ones that will follow, can be seen as in consensus with Divine will, and eventually inspired by it – which otherwise would have the power to prevent the direction of human knowledge in other directions.

From a bio-conservative perspective, accompanied by an ontological skepticism, we can hypothesize that the Divine majesty does things in a perfect manner, and that any attempt to improve it translates into a challenge to Divine omnipotence and omniscience. A superhuman condition is not denied by any of the religious or spiritual traditions of humanity – it could be said from a techno-optimistic perspective – but, on the contrary, it is desirable. Therefore, achieving such states through technological means cannot run counter to the intentions of Divinity.

Conclusions

The postwar philosophy, confronted with its own legitimacy, faced the deconstruction of great metastories and any systematic ideas that propose to give meaning to any and all, raised under the pressure of totalitarianism. Postmodern thinking borrows from phenomenology the concepts of Alterity and Difference that were instituted as founding metastories, erosive to any metastories on the whole.⁴⁴ Replacing radical deconstruction with constructionism does not target the non-annihilation of a foundational metastory, but rather the analysis of the interpretative

drift that this suffers in terms of the interpretative community that builds its own senses.

Humanity has never ceased to believe in the myth of progress and the totalitarian experience. However, the awareness of the potential danger of the destructive capacity of new technology that could result in the extinction of the human race, has led to an awareness of the need for moral, collective responsibility in the face of new metastories generated by science that target the conquering of the cosmos, cancelling the limitations specific to the human condition, including achieving immortality. Distancing itself from traditional religions, the religious spirit – understood as a perpetual hope of rescue from the misery of the human condition – is anchored in the scientific discourse, especially in the technological one. Another ethic is required to justify the development of KBS and with it the dawn of posthuman civilization. Deconstruction of duty as social responsibility enables the emergence of theories such as procreative beneficence. Social responsibility is an instance of deconstructed duty that re-signifies two Kantian visions: the *categorical imperative* and *moral autonomy*, along with principlism of postmoralist ethics. The responsible human becomes the moral agent, seen within the framework of Habermas' theory of communicational action. The moral agent is the one who speaks on behalf of the vulnerable classes who cannot speak for themselves, in the case of the principle of procreative beneficence, to potential beings of future generations.

Humanity has left the era of natural selection and the chance of immortality releases humans from the need for any creative evolution. A posthuman species is not a species that is more evolved than the human species and it will most likely be condemned as an accident of history. On the other hand, technological evolution has reached a point where simple legal regulations will not be able to arrest the posthuman crisis. Only the globalisation of responsibility in a truly global activity can transform the posthuman future from potentially threatening to the human species into a potentially sustainable development of the human species. Thus, in an extremely insidious manner, they—posthuman beings—are waiting attentively for their ontological status to be recognised.

Notes

¹ Susan W. Brenner, "Humans and Humans+: Technological Enhancement and Criminal Responsibility" accessed January 31, 2014, http://works.bepress.com/susan_brenner/8. Nayef R.F. Al-Rodhan, *The Politics of Emerging Strategic Technologies: Implications for Geopolitics, Human Advancement and Human Destiny* (USA: Palgrave Macmillan, 2011).

² Veselin Mitrovic, "The Contingency of the "Enhancement" Arguments: The Possible Transition From Ethical Debate to Social and Political Programs", *Journal for the Study of Religions and Ideologies*, Vol. 13, Issue 37 (2014): 93-124.

³ Martin Heidegger, *Ființă și timp*, Trans. by Gabriel Liiceanu and Cătălin Cioabă, (București: Humanitas, 2003)

⁴ Jurgen Habermas, *Conștiință morală și acțiune comunicativă*, (București: Editura All Educațional, 2000a)

⁵ Jurgen Habermas, *Discursul filosofic al modernității*, (București: Editura All Educațional 2000b)

⁶ Antonio Sandu, Simona Ponea, Stefan Cojocaru, "Appreciative Evaluation of Training Programs. Case Study: Lumen Consulting and Training Center," *Social Research Reports* 8 (2010): 1-77

⁷ Antonio Sandu, "Sexul pe internet –formă de virtualizare a spațiului social," *Revista de Cercetare si Interventie Sociala*, 2 (2003): 154-161

⁸ Emmanuel Levinas, *Totality and Infinity: An Essay on Exteriority*, trans. Alphonso Lingis, (Pittsburgh: Duquesne University Press, 1969)

⁹ Basarab Nicolescu, *Transdisciplinaritatea. Manifest*, ediția a II-a (Iasi: Editura Junimea, 2007).

¹⁰ Antonio Sandu, "Post-modern Bioethical Challenges" *Revista Română de Bioetică* 2, Vol. 10, No. 1, (2012): 87-88.

¹¹ Marius Constantin Cucu and Oana Elena Lenta, "Philosophical Pragmatism in the Digital Era" *Postmodern Openings*, Volume 5, Issue 1, March, (2014): 31-40

¹² Nick Bostrom, "Human Genetic Enhancements: A Transhumanist Perspective", *Journal of Value Inquiry*, Vol. 37, No. 4 (2003): 493-506.

¹³ Antonio Sandu, "Social Constructionism as Core Paradigm of Appreciative Ethics", presented at the 3rd *International EPHE Conference Enhancement & Morality in the Digital Era Global Political, Economic & Social Issues*, 2014 July 20-22 Suceava Romania.

¹⁴ Antonio Sandu, "Appreciative Semiotic and Hermeneutic Practices in the Analysis of Ethnic Minorities," *Revista de Cercetare si Interventie Sociala* 29, (2010): 109-129.

¹⁵ George Cristian Maior, "Human Rights: Political Tool or Universal Ethics?", *Journal for the Study of Religions and Ideologies*, Vol. 12, Issue 36 (2013): 3-21.

¹⁶ Clay Dillow, "Russian Mogul Wants to Upload Your Brains Into Immortality" (2012), accessed on October 20, 2013, available at <http://www.sott.net/article/248432-Russian-Mogul-Wants-to-Upload-Your-Brains-Into-Immortality>

¹⁷ Mihaela Frunză, Assya Pascalev, Yordanka Krastev, Adelina Ilieva, "A Comparative Analysis of the Attitudes of Bulgarian and Romanian Stakeholders towards Living Organ Donation", *Revista de Cercetare și Intervenție Socială*, 47 (2014): 272-290.

¹⁸ Robert J. White, "Head Transplants." *Scientific American*, (1999): 24-26.

¹⁹ Robert J. White, "Hypothermia Preservation and Transplantation of Brain," *Resuscitation*, 4 (1975):197-210.

²⁰ Sergio Canavero, "HEAVEN: The head anastomosis venture Project outline for the first human head transplantation with spinal linkage (GEMINI)," *Surg Neurol Int*, Vol. 4 Supplementary S1 (2013): 335-342.

²¹ Robert J. White, L. R. Wolin, L. C. Jr. Massopust, N. Taslitz, "Profound Selective Cooling and Ischaemia of Primate Brain without Pump or Oxygenator" *British Journal of Surgery*, Vol. 56 (1969): 630- 631. White, "Cerebral hypothermia and circulatory arrest. Review and commentary," 450-458.

²² "2045 Initiative", Dmitry Itskov, accessed on October 20, 2013. <http://2045.com/>

²³ Rosa Rantanen, "Considerable Life Extension versus Immortality," *Nordicum-Mediterraneum* 7, 2 (2012).

²⁴ Leigh Turner, "Biotechnology, Bioethics and Anti-aging Interventions," *TRENDS in Biotechnology* 22, 5 (2004): 219-221.

²⁵ John Harris, "Immortal Ethics", *Annals of the New York Academy of Sciences*, 1019 (2004): 527- 534.

²⁶ Harris, 527- 534.

²⁷ Harris, 527- 534.

²⁸ Loredana Terec-Vlad, Daniel Terec-Vlad, "About the Evolution of the Human Species: Human Robots and Human Enhancement", *Postmodern Openings*, Vol.5, Issue 3, (September 2014): 67-75.

²⁹ Francis Fukuyama, "Transhumanism," *Foreign Policy* (2004), accessed October 10, 2013, <http://www.foreignpolicy.com/articles/2004/09/01/transhumanism?page=0,1>.

John G. Messerly, *The Meaning of Life: Religious, Philosophical, Transhumanist, and Scientific Perspectives*, (USA: Darwin & Hume Publishers, 2012).

³⁰ Lucian Dîrdală, "Puterea blândă a Uniunii Europene – o critică realistă", paper presented at International Scientific Conference Universality, Mentality, Knowledge, Universitatea "Mihail Kogalniceanu" din Iasi, (May 24-26, 2013).

³¹ Harris, 527- 534.

³² Joseph Nye, *Bound to Lead: The Changing Nature of American Power*, (New York: Basic Books, 1990).

³³ Jean Jacques Rousseau, *Confesiuni*, (București: Editura pentru Literatură, 1969).

³⁴ Joseph Nye, *Soft Power: The Means to Success in World Politics*, (New York: Public Affairs, 2004).

³⁵ Gilles Lipovetsky, *Amurgul datoriei. Etica nedureroasă a noilor timpuri democratice*, (București: Editura Babel, 1996).

³⁶ Harris, 527- 534.

³⁷ Daniela Cutas and John Harris, "The Ethics of Ageing, Immortality and Genetics". In R.E. Ashcroft, A. Dawson, H. Draper, J.R. McMillan (Eds.), *Principles of Health Care Ethics* (John Wiley & Sons, 2007).

³⁸ We define the term *Singularity* in analogy with the singularity from astrophysics, as the point where human development is impossible to be known or analyzed on the basis of sociological, historical or philosophical existent theories.

³⁹ Antonio Sandu, "Seductive Logos and Construction of Reality. A Semiotic Reading on the volume: Symbolic Communication and Seduction, author Sandu Frunza, Tritonic Publishing 2014". *Postmodern Openings*, Volume 5, Issue 4, December, (2014):173-177; See also Sandu Frunză, *Comunicare simbolică și seducție*, (București, România: Editura Tritonic, 2014).

⁴⁰ Levinas, 1969.

⁴¹ Heidegger, 2003.

⁴² Stephen Cave, *Immortality: The Quest to Live Forever and How it Drives Civilization* (New York: Random House, Inc., 2012).

⁴³ John Martin Fischer (ed.), *The Metaphysics of Death* (Stanford, CA: Stanford University Press, 1993).

⁴⁴ Antonio Sandu and Ana Caras, "Deconstruction of Charity. Postmodern Ethical Approaches", *Journal for the Study of Religions and Ideologies*, Vol. 12, Issue 36 (Winter 2013): 72-99.

References

*** “2045 Initiative.” Dmitry Itskov. accessed on October 20, 2013.
<http://2045.com/>

Al-Rodhan, Nayef R.F. *The Politics of Emerging Strategic Technologies: Implications for Geopolitics, Human Advancement and Human Destiny*. USA: Palgrave Macmillan, 2011.

Bostrom, Nick. “Human Genetic Enhancements: A Transhumanist Perspective”. *Journal of Value Inquiry*. Vol. 37, No. 4 (2003): 493-506.

Brenner, Susan W. “Humans and Humans+: Technological Enhancement and Criminal Responsibility”. accessed January 31, 2014,
http://works.bepress.com/susan_brenner/8

Canavero, Sergio. “HEAVEN: The head Anastomosis Venture Project Outline for the First Human Head Transplantation with Spinal Linkage (GEMINI)”. *Surg Neurol Int*. Vol. 4 Supplementary S1 (2013): 335-342.

Cave, Stephen, *Immortality: The Quest to Live Forever and How it Drives Civilization*. New York: Random House, Inc., 2012.

Cucu, Marius Constantin and Lenta, Oana Elena. “Philosophical Pragmatism in the Digital Era”. *Postmodern Openings*. Volume 5, Issue 1, (March 2014): 31-40.

Cutas, Daniela and John Harris. “The Ethics of Ageing, Immortality and Genetics”. In R.E. Ashcroft, A. Dawson, H. Draper, J.R. McMillan (Eds.). *Principles of Health Care Ethics*. John Wiley & Sons, 2007.

Dillow, Clay. “Russian Mogul Wants to Upload Your Brains Into Immortality”. (2012). accessed on October 20, 2013
<http://www.sott.net/article/248432-Russian-Mogul-Wants-to-Upload-Your-Brains-Into-Immortality>

Dîrdală, Lucian. “Puterea blândă a Uniunii Europene – o critică realistă”. paper presented at International Scientific Conference Universality, Mentality, Knowledge, Universitatea “Mihail Kogalniceanu” din Iasi, May 24-26, 2013.

Fischer, John Martin. ed.. *The Metaphysics of Death*. Stanford, CA: Stanford University Press, 1993.

Frunză, Mihaela, Assya Pascalev, Yordanka Krastev, Adelina Ilieva. "A Comparative Analysis of the Attitudes of Bulgarian and Romanian Stakeholders towards Living Organ Donation". *Revista de Cercetare și Intervenție Socială*. 47 (2014): 272-290.

Frunză, Sandu. "Comunicare simbolică și seducție". București, România: Editura Tritonic, 2014.

Fukuyama, Francis. "Transhumanism". *Foreign Policy*. (2004). accessed October 10, 2013, <http://www.foreignpolicy.com/articles/2004/09/01/transhumanism?page=0,1>

Habermas, Jurgen. *Conștiință morală și acțiune comunicativă*. București: Editura All Educațional, 2000.

Habermas, Jurgen. *Discursul filosofic al modernității*. București: Editura All Educațional 2000.

Harris, John. "Immortal Ethics". *Annals of the New York Academy of Sciences*. 1019 (2004): 527- 534.

Heidegger, Martin. *Ființă și timp*. Trans. by Gabriel Liiceanu and Cătălin Cioabă. București: Humanitas, 2003.

Levinas, Emmanuel. *Totality and Infinity: An Essay on Exteriority*. trans. Alphonso Lingis. Pittsburgh: Duquesne University Press, 1969.

Lipovetsky, Gilles. *Amurgul datoriei. Etica nedureroasă a noilor timpuri democratice*. București: Editura Babel, 1996.

Messerly, John G. *The Meaning of Life: Religious, Philosophical, Transhumanist, and Scientific Perspectives*. USA: Darwin & Hume Publishers, 2012.

Maior, George Cristian. "Human Rights: Political Tool Or Universal Ethics?". *Journal for the Study of Religions and Ideologies*. Vol. 12 Issue 36 (2013): 3-21.

Nicolescu, Basarab. *Transdisciplinaritatea. Manifest*. ediția a II-a. Iasi: Editura Junimea, 2007.

Nye, Joseph. *Bound to Lead: The Changing Nature of American Power*. New York: Basic Books, 1990.

Nye, Joseph. *Soft Power: The Means to Success in World Politics*. (New York: Public Affairs, 2004).

Rantanen, Rosa. "Considerable Life Extension versus Immortality". *Nordicum-Mediterraneum*. 7, 2 (2012).

Rousseau, Jean Jacques. *Confesiuni*. București: Editura pentru Literatură, 1969.

Sandu, Antonio. "Social Constructionism as Core Paradigm of Appreciative Ethics". presented at the 3rd *International EPHEs Conference Enhancement & Morality in the Digital Era Global Political, Economic & Social Issues*, 2014 July 20-22, Suceava, Romania.

Sandu, Antonio. "Sexul pe internet – formă de virtualizare a spațiului social". *Revista de Cercetare si Interventie Sociala*. 2, (2003): 154-161.

Sandu, Antonio. "Seductive Logos and Construction of Reality. A Semiotic Reading on the volume: Symbolic Communication and Seduction, author Sandu Frunza, Tritonic Publishing 2014". *Postmodern Openings*. Volume 5, Issue 4, (December 2014): 173-177.

Sandu, Antonio, "Appreciative Semiotic and Hermeneutic Practices in the Analysis of Ethnic Minorities". *Revista de Cercetare si Interventie Sociala*. 29, (2010): 109-129.

Sandu, Antonio. "Post-modern Bioethical Challenges". *Revista Română de Bioetică*. 2, Vol. 10, No. 1 (2012): 87-88.

Sandu, Antonio, Ana Caras. "Deconstruction of Charity. Postmodern ethical approaches". *Journal for the Study of Religions and Ideologies*. Vol. 12, Issue 36 (Winter 2013): 72-99.

Sandu, Antonio, Simona Ponea, Stefan Cojocaru. "Appreciative Evaluation of Training Programs. Case Study: Lumen Consulting and Training Center," *Social Research Reports*. 8, (2010): 1-77.

Turner, Leigh. "Biotechnology, Bioethics and Anti-aging Interventions". *TRENDS in Biotechnology*. 22, 5 (2004): 219-221.

Terec-Vlad, Loredana and Terec-Vlad Daniel. "About the Evolution of the Human Species: Human Robots and Human Enhancement". *Postmodern Openings*. Vol. 5, Issue 3, September, (2014): 67-75.

Mitrovic, Veselin. "The Contingency of the "Enhancement" Arguments: The Possible Transition From Ethical Debate to Social and Political Programs. *Journal for the Study of Religions and Ideologies*. Vol. 13 Issue 37 (2014): 93-124.

White, Robert J. "Hypothermia Preservation and Transplantation of Brain". *Resuscitation*. 4, (1975): 197-210.

White, Robert J., L. R. Wolin, L. C. Jr. Massopust, N. Taslitz. "Profound Selective Cooling and Ischaemia of Primate Brain without Pump or Oxygenator". *British Journal of Surgery*. Vol. 56, (1969): 630-631.