

REVIEW

For the Dissertation “*In the Search of a Posthuman Era. A Critique on Merging Human Biology with Artificial Intelligence*”

By **Sechil Yuzergan**,

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At the present moment of the 21st century, philosophical theory and reflection is faced with the almost daily birth of new scientific fields that need philosophical reflection and critical examination. Among them are the philosophy of information, the philosophy of virtual reality, and especially the powerfully advancing almost daily theory of artificial intelligence (AI). Sechil Yuzergan’s dissertation is just as relevant and responds to the real need today, at this moment, to understand, gather and develop in a whole discourse all these topics, giving new theoretical and practical-applied problems. In them, the dissertation research looks at and maintains a comprehensive point of view: to make sense of this avalanche of new knowledge and problems from the human point of view. The leading question is posed: is there an ontological change in human and in the human condition? How to make sense of the deep reasons of technological progress and how to shape to a whole platform the new concepts and futuristic and philosophical knowledge of the entry of human fully into the digital era. Sechil Yuzergan maintains these questions throughout the body of the dissertation, which is richly and reasonably developed, she also masters the problem setting from its purely philosophical grounds and, which is extremely valuable, from a philosophical-applied aspect.

The dissertation meets to the highest degree the requirements for a dissertation work. The volume is 208 pages. It is developed in an introduction, five chapters with developed paragraphs, with a clearly expressed logical structure and transition in problems, literature. The literature includes 101 contemporary, representative sources on the subject. Main sources on the new directions and philosophy of AI, philosophy of human-machine interaction, social and ethical issues are drawn, and an overview and foundation of a wide range of classical philosophical theories and authors from antiquity to the present is laid out. S. Yuzergan’s approach to give a conclusion after each chapter, including after a number of paragraphs, is

extremely interesting. As here, there are two features that make an excellent impression – with the summary, the doctoral student examines new, additional ideas and problematic aspects and, secondly, there she offers a clear personal answer and argumentation, always in a critical plan, to the considered concepts and raised questions. Thus, a rich spectrum of problems and theoretical concepts is gradually developed, but on the other hand, the critical point of view is clarified and the personal attitude of the doctoral student is given, in order to gradually form a fully justified solution to the problem set in the dissertation thesis.

The first chapter unfolds the ontological parameters of the new digital world that has taken over global humanity in the first quarter of the 21st century. S. Yuzergan points out that this is a trend that should end in the technological “singularity” (p. 3) – complete immersion in the world of technology and the subsequent erasure of the boundaries natural world – virtual, human – digital. The ontological basis of the emerging new sphere is the huge information flow of data in which humanity is gradually sinking and completely reorienting its life and everyday activities at all levels, generating even more information. That is why the current era creates the info-sphere, with a new ontology, possibilities and principles.

Sechil Yuzergan brilliantly systematizes the ontological hold of this new field – advanced digital devices and new technologies – and shows how they enter into an accelerating and actual interaction with human beings. Leading here is the technological revolution of the introduction of AI, ubiquitous since 2018 (p. 10). But here digital technology is projected at a deeper level – S. Yuzergan excellently shows the basis of such an interaction: the fusion of the human brain and AI through new information systems, which is explored as one of the central threads in the dissertation and sets one of the possible solutions for the creation of general AI – on simulating and translating natural intelligence into a machine system. Sechil Yuzergan also unfolds the whole spectrum of human transformation – as human “enhancements” that augment human capabilities, including cognitive ones. This is also systematically traced throughout the dissertation.

The first chapter expands this overview of the digital age from its historical foundations (p. 14), which is wonderfully developed by S. Yuzergan with one of the most current concepts, with a view to the future of digital humanity. S. Yuzergan examines L. Floridi’s concept of historical development constructed from the point of view of technological progress. From this point of view, the traditional historical eras are dropped, which are projected in view of the future dominated by the technological digital evolution. The entire *pre-history* covers a huge part of the development of humanity and ends with the introduction of digital technologies. Modern real *historical* times are the present and are characterized by the emergence of

information technology, with the introduction of computers from the middle of the 20th century. The futuristic trend outlines *hyper-history* and the complete immersion of the human world in the info-sphere. Here also appears the leading term for the whole dissertation: this “after”, “over”, beyond the superstructure of the human and the human world, and with this the question of the evolution of human also arises.

The theory of the five industrial revolutions is wonderfully presented to give the technological course of humanity, noting that the five revolutions span the period of modernity (from 1762 to the present, p. 22) and are based on the types of energy extraction and of introduced new technological tools and devices. Particularly interesting is the 4th industrial revolution, which began with the mass entry of information technologies from the beginning of the 20th century to today entirely in the structured relationship “human – machine” (p. 19), based on “smart machines” (p. 23), resulted in the development of AI, as a technology of a new order. The main point here is: do these technological innovations alter “human existence” (p. 21)? And how will the human being answer this question about the 5th industrial revolution, which should lead to “collaboration” and even to a complete “merging of human and machine”, which is even established as an ideal of the new humanism (p. 25).

S. Yuzergan describes the new realities: *hyperreal*, *hybrid*, with the possibility of “uploading” the human brain and consciousness into computers and placing brain implants (p. 31). Particularly interesting here are the views that human behavior is computable and can be put as an emulation (translation) of brain functions in machine programming, as the basis of human-computer interaction.

By allowing the possibility technological progress to determine the evolution of human and human societies, PhD student gradually comes to the need to think philosophically about what technology is and to deepen the study entering into the relationship of human and technology as a “philosophy of technology”. The Second Chapter is devoted to these questions. In it, Sechil Yuzergan approaches correctly, looking for the definition of technology and posing the question whether technology has an “essence”. S. Yuzergan reviews the main theses of technology as a “tool”, as “rules” and as a “system” (p. 48), taking a justified position on technology as a system, due to the complexity of technology in combining devices, knowledge and instructions, but also because of the human attitude in this whole complex (p. 50). Here, technology is justified as a new “human system” (p. 53). S. Yuzergan’s position is also argued with the consideration of Heidegger’s position with the detailed analysis of technology as a “human activity”, related to the possibility of human through it to *reveal* the world, from the side of the creative (both artistically and mystically, p. 57) beginning, as *poiesis*. Which, as S.

Yuzergan emphasizes, is lost in modernity. This problem leads S. Yuzergan to research the creative beginning of human manifestations in and through technologies, with which the doctoral student argues her own view that technology “has no essence” (p. 61), but is an expression of the creative beginning of man, which does not have been obliterated by technology, on the contrary, it has been steadily unfolding since ancient “*techne*”. S. Yuzergan considers the steady trend of this creative beginning in Judaism, Islam and Christianity, as the “divine side” of human.

With this, the human, the human side, manifested in the conditions of technological progress and in the digital world, comes to the fore in the research. S. Yuzergan wonderfully builds the approach – defining the problems, critical analysis of the “human condition” in the digital age. And this rests on defining the human themselves – S. Yuzergan constructed it in a complete discourse, demonstrating the starting point – the *reason* as the dominant for defining the human from antiquity, including Eastern religious-philosophical beliefs, to modernity. With the emergence of the concept of the dual nature of man: mind/consciousness and body, with the specificity of human self-awareness and individuality, of the biological theory of the evolutionary stage of man – through the body, emotions and cultural identity. All this defines the “human condition” and this is what the digital 5th industrial revolution is facing – how will technology be applied to human, will it even be possible and what will human become?

The human being, in his/her dual nature, encounters his/her weaknesses and “limitations” which project the purpose of progress – the human being to “improve” – the transition arises logically to the Third Chapter of the dissertation, exploring views of the human condition in the 5th industrial revolution: the possibilities of improving human and turning him/her into a “post-human” – a super-human. S. Yuzergan traces in detail the innovations in the “era of enhancement” (p. 81) across the spectrum with the critical question: will human remain as he/she is now, or is this enhancement and augmentation part of human’s evolution and the unstoppable technological progress that it is invariably guided by reason and science. S. Yuzergan discusses the status of any technological innovation that enhances human capabilities and shows how the question naturally arises as to whether this leads to a new kind of human, even as a new natural species (p. 85).

S. Yuzergan also critically examines the issue *for* or *against* enhancements and discusses how far these should go (p. 86). Is it possible for human to become an entirely virtual being, to become a human-machine, or should we adhere to an agreement with bio-conservatives to preserve the natural state of the human body and human biology (p. 91)? S. Yuzergan examines the ethical problem of “human dignity”, is it possible to remain connected

to nature, especially in Eastern cultural patterns of life and belief. And what if not everyone has such improvements: social stratification on the basis of enhancements as benefits for the few. S. Yuzergan traces the debate about the contribution to humanity of enhancements: the extension of life, the significant increase of human abilities. In the entire transformation of the human, S. Yuzergan emphasizes the need to preserve the human being, who has almost become an endangered species (p. 100). From an evolutionary point of view, the question of “the specific ideal of our species” (p. 100), of the recognition of the new human hybrid personalities (p. 102) is raised.

In the conclusion, S. Yuzergan examines in detail the Brain-Computer Interface, neurotechnologies with the main motives to improve the most valuable, namely the cognitive ability of the human being, with the introduction of the ethical and social problems of the control and manipulation of consciousness and hence the violation of basic human rights and freedoms.

The Fourth Chapter is particularly interesting, with a wonderful reconstruction and a critical look at the new philosophical directions, making sense of the changed conditions of humanity, of its evolution and project for the future. S. Yuzergan makes a precise distinction between the two modern directions: transhumanism and posthumanism, which are often mixed up or considered as one direction. Their philosophical roots are worked out and a wonderful comparative analysis of their leading theses is made. Transhumanism is a movement with a fundamental belief in technological progress that draws the ideal of human in his/her merging with machines as “post-human” and as “the end product of human evolution” (p. 114). S. Yuzergan points out in detail the connection of transhumanism with the emergence of humanism since the modern times. Transhumanism takes as its platform the proximity to the Enlightenment and the piety to science, technology, optimism for the progress of humanity and science. Transhumanists also predict optimistically the future of humanity – without suffering, in a perfect state, with the maximum realized capacity of the human being (p. 125)

This going beyond, “transcendence”, of the human is also embedded in posthumanism, as emphasized by S. Yuzergan, but from the point of liberation from anthropocentrism and the acceptance of the universality of all living beings. This is also the “post-human” as the ideal of posthumanism – also in collaboration with machines and as a result of technological progress, but posthumanists warn of the risks of losing human identity. Posthumanism embraces the theses of postmodernism (p. 134) with the decentralization of the subjective beginning, with the pluralism of viewpoints, and is therefore also defined as post-anthropological.

Finally, in the Fourth Chapter, S. Yuzergan poses the question whether humanity at the present stage has reached the post-human stage and brings the whole platform of the improved

human as “technogenesis” of humanity. The consideration of Nietzsche’s concept of the superman also found a place here, as the doctoral student emphasizes that Nietzsche’s thesis foresees the spiritual transformation and self-overcoming of human, without betting on the merging with machines and the transformation of human biology. This will also determine the final thesis of S. Yuzergan that despite all these technological transformations and futuristic visions, human in his/her beginnings and existence remains the same.

This final thesis is developed and argued throughout Fifth Chapter. The existential philosophical vision of M. Heidegger in the relationship between the human being and the world is traced (p. 158). S. Yuzergan unfolds the analysis in the central thesis that through his/her existential predisposition to connect with the world, to build a complete structure with the outside, human can reveal the world and thus realize his/her essence, transferring connections of wholeness through the “depth of being” (p. 161), which is also giving “depth” and multidimensionality to things in the world and to their interaction with human. And so this interaction goes beyond subject-object dualism. According to the doctoral student, this relationship is based on the authentic presence of the person in the world precisely as a physical presence, through the person’s body.

From here, S. Yuzergan makes an interesting and valuable connection with M. Merleau-Ponty’s phenomenological analysis of the body and perception, thus connecting Heidegger’s existential philosophy and Merleau-Ponty’s phenomenological philosophy. Merleau-Ponty’s concept of the body as the only connection with the world is revealed in detail.

This is what, according to S. Yuzergan, is still not given to modern technologies – this deeply personal and individual, so complex relationship of the human body and the outside world, and this still distinguishes the natural from the virtual world, however much virtual reality uses the codes to distinguish of external reality. An extremely important question here is, if super AI is to emerge, the ability to digitize this complexity and deep personality of the bodily relation to the world, to fully translate the depth and detail of the fully real, as a “lived experience of the world” (p. 184). According to S. Yuzergan, is this possible, will general Artificial Intelligence be achieved?

The submitted abstract corresponds to the dissertation. I agree with the research contributions, but I will note the possibility of the 5th and 6th research contributions being combined. I found no plagiarism in the dissertation. I have no co-author publications with S. Yuzergan.

Given the extremely well-constructed logical and conceptual-genetic structure of the dissertation work, the richness of the presented problems and the overview and critical reviews

of the philosophical foundations of the central concepts considered, as well as the wide spectrum and excellent knowledge of the topics of technology, of the interaction of human and machines, for the entry of AI into the human world, and for the reasoned heuristic contributions in it, I will vote with conviction “**YES**” for acquisition to **Sechil Yuzergan** the educational and scientific degree “**Doctor**” for her dissertation “*In the Search of a Posthuman Era. A Critique on Merging Human Biology with Artificial Intelligence*” and I call on the respected members of the Scientific Jury to vote in the same way.

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