

EVALUATION STATEMENT

OF SECHIL YUZERGAN'S PHD THESIS

IN THE SEARCH OF A POSTHUMAN ERA.

A CRITIQUE ON MERGING HUMAN BIOLOGY WITH ARTIFICIAL INTELLIGENCE

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STRUCTURE OF THE THESIS: Sechil Yuzergan's PhD thesis *In the search of a posthuman era. A critique on merging human biology with artificial intelligence* provides an insightful comparative analysis of the philosophical challenges raised by the rapid development of the idea of digital identity; specifically, the conceptual analysis is focused on the transformation of the genealogy and the diverse dilemmas regarding the theoretical grounding and the practical implementations of human enhancement. The PhD thesis contains an introduction, five chapters, a conclusion and a reference list.

In the first chapter, Yuzergan explores the historical and socio-technical context that necessitates the recognition of digital identity against the background of the transition from the Fourth Industrial Revolution to the Fifth Industrial Revolution. The associated transformations are examined as beginning with the historically self-determined human "exceptional centrality" in Floridi's sense (cf. p. 15), going through the climax of human and machine co-evolvement, as displayed by the role of digital identity within the so-called hyper-history of the info-sphere in Floridi's sense again (cf. pp. 17-18) and ending up with the projects of human-centered digital identity in the spirit of Gauri and Van Eerden's theory (cf. pp. 27-28). In this context, Yuzergan cogently emphasizes the controversial implications of introducing a Brain-computer interface (BCI) not only in terms of the invasive and non-invasive methods it relies upon (cf. p. 36) but also with respect to "the possibility of fundamentally altering the human condition" (p. 34). In turn, the possibility in question is examined as posing existential threats to humans due to the increasing pace of neurotechnology's development.

In the second chapter, Yuzergan provides a historical reconstruction of the philosophical ideas behind the changing relations between the development of technologies and the associated specificities of the human condition. She analyzes the pros and cons of Dusek's (2006) three theories of the origin of technologies (cf. pp. 48-52), viz., technology as hardware, technology as rules and technology as a system, by drawing some insights into how posthumanism "aligns more with Heidegger's reflections on technology" (cf. p. 56). Yuzergan concludes that regardless of her disagreement with Heidegger's claim that technology has an essence (cf. p. 61), the development of new technologies does not make his critique less substantial (cf. p. 61). Special interest deserves Yuzergan's analysis of the role of embodiment for the complex relations between biologically determined human nature and socially constructed one, with a focus on the process of self-recognition as a major trigger for human vulnerability (cf. p. 77).

In turn, the third chapter is devoted to probably one of the most important topics in the digital discourse, viz., that of human enhancement, as examined within the framework of the Fourth and the Fifth Industrial Revolutions. By emphasizing the remedying role of biomedical interventions in time, Yuzergan provides a comparative analysis of the different theories of human enhancement, as displayed by the so-called bio-conservatives and bio-liberals. In this context, special attention deserves Yuzergan's exploration of some BCI technologies such as Neuralink within the challenges posed by the implementation of DBS. In addition to Yuzergan's relevant specification that understanding such comprehensive challenges requires one "to contemplate the philosophical questions raised by brain-computer interfaces (BCIs)" (p. 108), one should also discuss some purely moral questions. The reason is that the introduction of DBS raises a wide spectrum of dilemmas in the field of neuroethics such as those regarding informed consent and responsibility for the side effects of decision-making (primarily, decisions that affect personal identity).

The fourth chapter is devoted to the contextualization of the debates about human enhancement, as refracted through the lens of transhumanism and posthumanism. Emphasizing the heterogeneous gist of transhumanism as a movement (cf. p. 120), Yuzergan analyzes what she coins transhumanist metaphysics. The latter is underlain by the representatives' mutual agreement on the desirability of human enhancement (cf. p. 120) as a path towards overcoming the human condition (cf. p. 121) that generally opposes the arguments of the bio-conservatives. However, clarifying the moral and political implications of the conditions in question requires one to conduct a more detailed analysis of the gist of *non-human* since there is a conceptual difference between the definitions of *non-human* and *in-human* (cf. Barad 2012), and that of *more-than-human*.

Yuzergan provides a taxonomy of the substantial differences between transhumanism and posthumanism by comparing and contrasting the different meanings of the concept of *posthuman* and the prospects of its realization in both short and long terms. She also examines the anticipation of the principles of progress and rationality, as well as the associated attitudes towards technological enhancement. In addition, Yuzergan pays special attention to how both transhumanism and posthumanism tackle the concept of *technogenesis*, although outlining different ontological and epistemological perspectives of the dynamic of technological evolution along with the human one (cf. p. 145).

In the last, fifth chapter, Yuzergan outlines how the methods of phenomenological philosophy, as developed by Heidegger and Merlau-Ponty can contribute to a better understanding of human "complex relationship with technology" (p. 157); specifically, with respect to the practices of digitalization displaying a particular mode of human embodied experience in the search for a meaning *of* and *in* the world (cf. pp. 171-172). In this context, special attention is paid to the role of developing BCI, while coining digital technologies "a de-severant extension of human embodiment" (p. 173). An interesting point in this context is how our embodiment often assumes forgetting the fact that we are embodied, as is the case of virtual experience (cf. p. 173). Furthermore, by extrapolating some insights borrowed from both Heidegger and Merlau-Ponty,

Yuzergan demonstrates how digitalization affects human embodiment in both space and time by transcending the physical location and temporally synchronizing our commonly shared experience (cf. p. 175). Yuzergan also emphasizes that living as de-severant beings in Heidegger's terms (cf. pp. 176-177) and imagination-dependent beings (cf. p. 181) is what makes "our "inner self"" appear as "a consequence of our complete embodiment" (p. 182).

QUESTIONS: Yuzergan's well-grounded analysis of the challenges to the development of digital identity raises some questions about the possibilities of enriching the human-centered perspectives of enhancement. For instance,

1. How does the transition from the Fourth Industrial Revolution to the Fifth Industrial Revolution affect the philosophical grounding of the movement of Digital humanism? Specifically, how can the conceptual approach displayed in the Manifesto on Digital humanism influence the reevaluation of the enhancement strategies?
2. Taking into account that Neuralink assumes the use of highly invasive surgical procedures, viz., these of DBS, one should explore whether the latter would not only exacerbate some crucial privacy issues but also trigger substantial identity changes. If Neuralink raises the risk of manipulating the mental experience of the individual (p. 11), how can the PIAAAS syndrome affect the so-called brain jacking concerning the possibility of identity jacking (specifically, in the case of blaming BCI, when one commits a crime; cf. p. 111)?

RECOMMENDATIONS: The following recommendations concern the future development of the PhD thesis. Considering that one of Yuzergan's major objectives is to demonstrate that due to the difficulties in distinguishing between enhancement and treatment, one should carefully examine the reasons and the implications of the particular enhancement practices before denying their performative potential (cf. p. 105), I suggest:

1. providing concise clarifications of the major types and sub-types of enhancement that are tackled as primary objects of concern in the PhD thesis. Such are neuroenhancement regarding the BCIs that affect the creation of neuroprosthetics and the development of DBS (cf. pp. 107-108), medical (cognitive) enhancement of specific functions of healthy individuals versus therapy for curing disfunctions (cf. p. 81, p. 85) and moral bioenhancement (MBE). Introducing these clarifications can also benefit the analysis of the complex relations between the different types of enhancement and the concept of augmentation that are used interchangeably in the text (cf. p. 39, p. 80).
 - 1.1. introducing the genealogy and the associated philosophical receptions of the concept of MBE. Regardless of the fact that the issue of MBE is not explicitly discussed in the PhD thesis, Yuzergan's interpretation of M. Sandel's theory about the risks of morally enhancing children (and people in general) (cf. p. 94) displays the gist of the MBE debates. Considering that while exploring the role of human enhancement, Yuzergan predominately refers to the theories of some philosophers who are well-established participants in the MBE debates such as J. Savulescu (who, together with I. Persson,

introduces the MBE theory) and M. Hauskeller (an illuminative representative of the so-called bio-conservatives), Yuzergan can enrich her analysis by clarifying what she calls obligations to a better future (cf. p. 85) and moral dilemmas about human enhancement (cf. p. 87). Taking into account that Yuzergan examines in detail both the origin and the implications of the dichotomies of natural improvement vs artificial improvement (cf. p. 104), as well as pays special attention to the moral impact of upbringing for human enhancement (cf. p. 94) that meets the definition of traditional moral enhancement, the exploration of MBE can enrich the conceptual framework of the PhD thesis. It can shed light upon one more substantial aspect of the discussions between the so-called bio-liberals and bio-conservatives, viz., the well-known debates about moral enhancement vs MBE.

In addition, I suggest enriching the section on the methodology by including some methods of neuroscience that address the issues of BCI, DBS and neuroenhancement in general. The origin of the latter is implicitly recognized by Yuzergan as an entire transformation of the human condition through the growing use of neuro-technologies (cf. p. 103).

FORMAL REQUIREMENTS: The enclosed documents regarding the quantitative requirements show that Yuzergan's application complies with the national requirements according to the LDASBG (ЗПАССБ) and the Regulations for its implementation.

I have no joint publications with Yuzergan and declare no conflict of interest.

CONCLUSION: Based upon the quality of the investigation underlain by a detailed comparative analysis of different philosophical paradigms and Yuzergan's clearly articulated philosophical stance on both the potential contributions and the risks of developing human enhancement, I recommend the scientific jury to award a PhD in philosophy to Sechil Yuzergan.

29.I.2024

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