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BRAIN-MACHINE INTERFACE: NEW CHALLENGE FOR HUMANITY[1]

ABSTRACT
The aim of this paper is to clarify specific aspects of the impact of the brain-machine interface on our understanding of subjectivity. The brain-machine interface is presented as a phase of cyborgization of humans. Some projects in the field of brain-machine interface are aimed at enabling consensual telepathy – communication without symbolic mediation. Consensual telepathy refers to one of potential ways of transmission of information within singularity. Therefore, consensual telepathy is an important aspect of singularity. Singularity or human-machine symbiosis shows some similarities with child-mother unity. Therefore, the psychodynamic perspective might be considered useful in thinking about human-machine symbiosis. Knowledge from developmental psychodynamic psychology combined with insights by Slavoj Žižek and Jean Baudrillard provides an additional perspective looking at human-machine symbiosis. The paper claims that if consensual telepathy becomes another way of communication, it will have the potential to annihilate subjectivity making it schizophrenic. At the same time, we look at the possibility of an escape from our inner world through the prism of addictions.

KEYWORDS
brain-machine interface, consensual telepathy, subjectivity, human-machine symbiosis, symbolic mediation, singularity

Introduction

In 2016 at a tech conference, Elon Musk (CEO of SpaceX and Tesla) was asked to share his thoughts on perceived threats caused by rapid development in the domain of artificial intelligence. According to Musk's prognosis, humans are

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going to be perceived by AI as pets (Cuthbertson 2019). In order to avoid that hypothetical possibility, he claims that we must go for the merger of human beings and technology. That way machines and humans will become unique organisms. In other words, our societies must take into consideration "human-machine symbiosis". If the human race does not accept integration with AI, it will lead to a catastrophic scenario in which humans are going to be a subordinate caste governed by omnipotent AI.

Musk is not an isolated proponent of that course of action, with the aim to prevent a global dystopian society in which algorithms are gods. Along with Musk's company, Neuralink, dedicated to developing the bond between mind/brain and machine, some other well-known private companies and organizations share similar aspirations, such as Facebook, Kernel, Emotiv, DARPA (Gent 2017).

Does Musk's solution to the recognized threat set a stage for something that is going to be a much greater threat for humanity, one that is overlooked at this very moment? How symbiosis with machines is going to affect our core sense of self? Is subjectivity going to be radically reinvented, along with its traditionally considered properties? Will direct proximity of the reality increase addictions and how will this relate to happiness? These are legitimate philosophical questions to be asked.

Placing the brain-machine interface as a central problem triggers a wide range of questions from a variety of domains: technical, medical, psychological, sociological, political, and economic. Therefore, the main aim of this paper is to clarify hypothetical outcomes of brain-machine interface (BMI) on subjectivity. In other words, how the idea of "consensual telepathy", if materialistic (technological) circumstances make its realization possible, is going to affect our communication and consequently our understanding of subjectivity. In order to provide some answers to this question, the paper is based on insights from Slavoj Žižek, Jean Baudrillard, and psychodynamic developmental psychology. Firstly, we shall give a brief review of the current state of affairs in the field of brain-machine interface and how development in the field brought cyborgization to a whole new level.

On Becoming Cyborgs: The Current State in the Field

Donna Haraway pointed out in her essay that our digital, high-tech, culture radically problematizes dualism between machine and human subject (Haraway 2016: 60). The ubiquitous digital technologies have become a constitutive force in shaping our reality and our sense of self, amplifying our sense of connection to electrical devices as well. People very intimately experience their avatars on social media and characters in video games with whom they identify. Therefore, all these give support to Haraway's statement that the demarcation line is fluid and that rigorously understood binary opposition between human subject and machine is not sustainable. Human integration with AI-powered devices is transforming previous ideas of progress and control, as digital users

become overlooked, analyzed, directed, and cared for by algorithms, according to Nowotny (2021). We are already cyborgs due to the growing dependence on digital technologies. Some facts confirm this, such as the number of smartphone users globally, which is predicted to reach 3.8 billion in 2021. Also, the fact that 99.3% of all internet users in China go online through their mobile devices. Additionally 47% of US smartphone users stated they couldn't live without their devices, while 10.66% are addicted to their phones (Georgiev 2021).

Sherry Turkle discusses the influence of digital technologies on its users, more specifically what is their role in understanding a concept of identity. In other words, how "computer age" supports the shift of traditionally understood identity as a stable, uniform entity towards a more fluid, "chimerical" as Haraway would say, concept of identity. She even attached a metaphysical status to machines, wanting to emphasize their transformative power. Having said that, personal computers are more than mere tools we use, but "metaphysical machines" that have an impact on how we think about our psychology (Turkle 2005: 21).

There is an explicit attitude that through interaction with gadgets, people are being changed. Such as a finding that smartphones use decrease our capacity to use other media, which may relate to capability of receiving and expressing emotions, the notion that needs to be explored further (Bojić et al. 2013; Bojić (2022).

The next step is to overcome the existing barriers in communication between users and machines. Elon Musk pointed out that our interactions with machines are reduced to typing on the screen, using keyboard and mouse, or just sending voice commands, pointing out that all of these ways are "very slow". Constraints related to input-output can be solved by the implementation of "neural lace" (digital layer above the cortex) technology. It means that humans will be in direct, unmediated contact with other human beings. If that speculation becomes fully materialized, we would be able to communicate with each other only by thoughts, with no need of using symbolic code. This is one of the most speculative ideas related to the field of brain-machine interface, which demands critical reflection.

Brain-machine interface (BMI) or brain-computer interface (BCI), terms can be used interchangeably, for the first time was introduced into a scientific community by Jacques Vidal in an annual review *Toward direct brain-computer communication* (Vidal 1973). Back then, the brain-computer interface project started with the aim to evaluate the possibility of utilization of neural signals in human-machine interaction, while at the same time developing a specific tool that would be implemented in neurophysiological research (Vidal 1973: 157). The brain-machine interface is taking a significant share of the global market. Its value is estimated to be US$1.72 billion in 2022 due to increasing application in a variety of sectors: medicine, military, video game industry, etc. (Lushetich 2020: 206).

Advocates of BMI claim that technological innovations in the field have the potential to help people with a wide range of clinical disorders (Musk,

Neuralink 2019). Achievements in BMI are very promising as a part of neurological rehabilitation, finding their purpose in curing patients with neuromuscular problems (Daly, Wolpaw 2008). Janis Daly and Jonathan Wolpaw show that non-invasive, EEG-based BMI technologies can be used to control a computer cursor or a limb orthosis. Therefore, BMI technologies have shown their relevance in developing neuroprosthetic devices that can restore impaired bodily mobility due to some specific neurological disorders or loss of limb. Along with implementation in treating neuromuscular diseases, BMI is being implemented in treating patients with impaired sensory systems - hearing and vision (Fujikado 2016). Vision restoration is now possible by implementing BMI (Niketeghad, Pouratian 2019). The progress is observable in developing cortical visual prosthetics and going in the direction of creating an artificial retina (Muratore, Chichilnisky 2020). BMI is used in decoding neural signals and translating them into audible speech in patients with impaired speech function (Anumanchipalli et al. 2019). Besides restoration of lost motor and sensory functions, maturing of the field stresses an opportunity to extend the implementation to other domains. There is an idea to implement BMI in the field of neuropsychiatry for the purpose of treating patients who have impaired emotional regulation, which is one of the main characteristics of affective disorders (Shanechi 2019). If that project succeeds, it should be expected that BMI will take a significant place in psychiatry in treating mental disorders in which the biological substrate is well examined.

Nevertheless, there are a considerable number of obstacles that need to be resolved before fully functional neuroprosthetic devices can be created, such as the development of biocompatible electrodes capable of long-term, stable recording of brain activity (Lebedev et al. 2011; Patil, Turner 2008). Discussing technical procedures in BMI requires specific technical knowledge and goes beyond the scope of the paper. What is important to notice is that the development of BMI technologies goes in the direction towards a more invasive technologies, which implies the direct insertion of electrodes into the cortex to register neural activity i.e., to decode neural signals. Neuralink is one of the companies that made enormous progress in this field. They have developed a neurosurgical robot that is able to insert a device containing arrays of small and flexible electrode threads, with around 3,072 electrodes per array distributed across 96 threads (Musk, Neuralink, 2019). Neurosurgical robots optimize surgical procedures due to their advantage in precision and speed compared to human neurosurgeons. Neurosurgical robots are capable of inserting large numbers of ultra-fine polymer probes into the cortex avoiding damage to brain vasculature (Musk, Neuralink 2019). Recent innovations in this field make it possible to simultaneously cover and record signals from multiple brain regions, or in other words, multichannel neural signal processing (Hashemi 2020).

Herein, we provided a brief review of the state of affairs in the BMI research related mostly to the medical field. In addition to the implementation of BMI in different branches of medicine, there are scientific research projects that are being realized in the military context, but they are considered classified,

and due to that, their results are not available to the general public. Another great opportunity for the implementation of BMI is the entertainment industry, more precisely the video gaming industry. BMI makes mind-controlled gaming possible. Users are able to manipulate virtual objects only by thinking about them (Keisuke 1995; Raajan, Jayabhavani 2013). Art as a means of communication and expression is going to be reconsidered in a new light due to BMI (Rowland 2021). An image reconstructed from the brain activity and presented to others may be seen as an artistic product. The content of one's consciousness becomes an artistic artifact.

We have presented various uses of BMI. Based on this we can classify BMI applications into primary communication with machines, for example when a person uses BMI to control robotic arm or avatar in gaming, and primary communication with other humans, which is otherwise called consensual telepathy. It was previously noted that being dependent on digital tools already transforms humans into cyborgs. This statement is problematic in the sense that, since the dawn of humanity, there have been many technological inventions on which we as a species have been dependent. It opens up a room for debate to what extent humans are cyborgs if we think in a broader, more abstract sense. Smartphones, extensions of self as Marshall McLuhan would say, and our constant *online* presence support our transformation into cyborgs. Social media reinvented the way we communicate, making it possible to transcend limitations in terms of space and time. Besides, we have the opportunity to constantly modify the virtual persona that represents us in the digital realm. Along with social media, there are numerous sensor based apps programmed to monitor some physical and mental parameters.

Brain-machine interface renders the idea of cyborg more concrete. Implementation of microchips directly into the cortical tissue would be the clearest "physical evidence" of cyborgization of human subjects. The idea of the cyborg has been a part of literary genres such as cyberpunk and sci-fi. While it has been present in the collective imagination, the cyborgization becomes fully actualized in our times. The idea of transhumanism is at the core of brain-machine interface (BMI) projects. For example, Irvin John Good (1965) wrote that an ultraintelligent machine can far surpass all the intellectual activities of any man. In that context, BMI is able to surpass and extend human capabilities.

The main goal of transhumanists is to employ technology in order to enhance human capacities and to transcend bodily limitations, which in the end should provide immortality to humans (Drexler 1985; Fukuyama 2002; Ettinger 1972; Bostrom 1998). This would be in other words, a triumph over aging and death. Therefore, transhumanism represents a very anthropocentric *Weltanschauung* placing a human subject into the mere center, and technology is considered as a mere instrument that should provide greater well-being and opportunity for actualization of all potentials. In order to obtain promised well-being and self-actualization, the human subject ought to be considered as a "bridge" that leads to the cyborg – a transhumanist interpretation of the Nietzschean concept of Übermensch (Nietzsche 1902). A question here is, if we have on

our mind speculations and projects that go in the direction of making "consensual telepathy" possible, as means of communication, when and how the transhumanist's aspirations are going to alter the very notion of being human.

Žižek clearly pointed out that these techno-naive *phantasmata* in which direct participation in others' subjective experience bypassing the use of symbolic communication is going to affect our being-human (Žižek 2020: 27). This would be the point where technology is going to radically change our experience of self-understanding. Can we expect that the human subject is going to persist as the highest value or this idea would be rejected as such?

Another question of the transformation relates to growing addictions. Knowing that the process of addiction involves escape from our frustrations and unresolved emotions to some other activity (Bojić 2013), would addictions increase even more given the fact that the escape to the virtual world would be so close? In fact, we would be merged with the "virtual machine induced world" all the time.

It is evident that implementation of BMI technologies in order to achieve consensual telepathy is at the very beginning. There is some research in the field, but far away from achieving full telepathic transmission of the content of consciousness between subjects at this very moment (Grau et al. 2014). Nevertheless, this is not itself a valid argument for not investigating potential consequences on subjectivity, especially if we have in mind rapid development of BMI technologies, which puts us in a position that we don't have enough consideration of something new, especially from the perspective of social science and philosophy, before it becomes possible.

Cancelling out Borders

The idea of "consensual telepathy" supported by the brain-machine interface radically problematizes an idea of borders. It is not only a matter of the aforementioned borders between humans and machines. It goes further from that and tackles the mere ontology – borders between subjectivity and the external objects.

Consensual telepathy implies that we will be able to directly observe one's phenomenology. Content of one's consciousness will be shared with others with no need of employing words. Consensual telepathy represents the way of transmission of information within singularity. A concept used by Ray Kurzweil to designate "new subjective experience of being immersed in a space of collective mind" (Žižek 2020: 24). Singularity, as Ray Kurzweil exposed it in his book *The Singularity Is Near: When Humans Transcend Biology*, is going to annihilate "a distinction between human and machine or between physical and virtual reality" (Kurzweil 2005: 18). What Kurzweil missed here is to notice that not only the distinction between human and machine is going to disappear, but the distinction between the inner world and external objects is going to fade away.

Looking through the prism of developmental psychology, the existence of borders between intrapsychic and interpersonal is a necessary prerequisite for

expected development towards a more stable personality with the capacity for integration of experience. The existence of relatively solid borders between the subjective inner world and external objects are not given by birth. Borders are not an innate feature, as common sense assumes. Hence, establishing borders between the inner mental world and external reality is a developmental task. Borders arise from child interactions with objects from external reality (Piaget 1929/1971: 34).

Speaking in a strictly psychological sense, establishing borders that differentiate the self from external reality is of crucial relevance for constituting subjectivity. Therefore, Margaret Mahler, physician and psychoanalyst, in her separation–individuation theory insisted on the metaphor of "psychological birth" (Mahler et al. 2002). Psychological birth implies that a child possesses distinct self-representations and object-representations (representations of caregivers, i.e., a person who is the most present in children's earliest experience and takes care of a child). Children gradually become more autonomous in their psychomotor and cognitive functions and achieve more independence for themselves in the course of their life. At the end of the separation-individuation process, children can maintain a reliable sense of individual identity, which is important in terms of mental health. A child that is stuck in a symbiotic phase is incapable of discerning inner experience from external reality. In the symbiotic phase, the child takes the mother's body for granted as a simple extension of its own (Fink 1996: 55). The child experiences mother and it as one – undifferentiated unity, and it leads toward symbiotic psychosis.

Symbiotic psychosis represents a chaotic state, which is characterized by the fusion of intrapsychic content with those from external reality. According to Jacques Lacan, psychosis is the result of the absence of "Name-of-the-Father". In Lacan's terminology, this concept is used to designate the importance of the inauguration of the paternal metaphor, i.e., the paternal function between child and mother. Name-of-the-Father i.e., paternal metaphor has the role to regulate a mother's desire for a child and child access to mother as well. This intrusion of paternal metaphor is developmentally inevitable in order to liberate a child from direct, unmediated contact with the mother. By paternal metaphor, the child is being introduced to the symbolic realm and adopts symbolic function (Lacan 1955/56: 83). Adoption of symbolic function helps a child to make a distance between itself and its mother. The subject who adopted symbolic function is capable of realizing a distinction between signifier and signified, words and things. The subject is no longer imprisoned in a symbiotic undifferentiated unity but emancipated in language. In other words, the subject is being psychologically born and progressively becomes able for meaningful symbolic interaction with others.

Having that in mind, thinking is possible when the subject/the child is anchored in language, i.e., stepped into the symbolic order. It does not mean that a psychotic subject is fully incapable of adopting a language. He or she does assimilate a language, but "cannot come to be in language in the same way as a neurotic subject" (Fink 1996: 55). Some psychotic subjects do not show

structural deviation in their speech (Chaika 1990: 51). They mostly have troubles in the domain of semantics, i.e., the domain of meanings. In their speech, some meanings are being too fixed while others are being far too loose (Hill 1997).

Although they have theoretical disagreements related to cognitive development, Piaget (1997) and Vygotsky (1977), agree that conceptual thinking and language are intertwined cognitive functions. Our thoughts are being tailored by the symbolic code of the sociolinguistic community to which subject belongs. It is almost impossible to think outside of language. It will be stressed again, "Thinking always begins from our position within symbolic order" (Fink 1996: 24).

Alluding to complex relations between language (symbols) and thinking (thoughts), Žižek rightly accused Elon Musk of missing a whole point in his attempts to present thoughts as absolutely pure forms unpolluted by language. Musk's premise that thoughts are present in our mind independently of their expression in language is completely unfounded (Žižek 2009: 45).

Consensual telepathy is imagined to be direct, unmediated communication by thoughts. "Consensual" means that a person must actively consent to it (Žižek 2009: 51). This opens a wide range of questions about privacy, individuality, autonomy, that will be discussed later in the text. What should be emphasized here is that consensual telepathy by canceling out usages of words cancels out subjectivity. Some main determinants of humanity – symbols/words, which have been presented as constitutive for subjectivity, are going to be unnecessary in communication. How to conceptualize subjectivity in the non-symbolic world determined by consensual telepathy? Before further hypothetical elaboration on these questions, another important aspect of BMI's impact on subjectivity should be clarified.

Subjects joined to a machine are able to move virtual objects on a computer screen, change TV stations, or move artificial limbs by thoughts. In other words, the intentionality of such subjects is reduced to a single (cognitive) activity – thinking. For a subject that is connected to a machine, it is quite enough to strongly focus thoughts on some particular object in order to move it. This is to some extent analogous to a phenomenon that is developmentally expected at the preoperational stage of cognitive development. It's about the phenomenon of magical thinking. Magical and animistic thinking are features of the preoperational stage of cognitive development. They are consequences of the immature concept of borders between the inner and the external world (Meares, Orlay 1988: 313). Patterns of magical thinking also can be identified at those with obsessive-compulsive disorders to those with more severe psychiatric diagnoses such as schizophrenia (Bolton et al. 2002; Einstein et al. 2004; García-Montes et al. 2014). Therefore, BMI supported "telekinesis" could possibly encourage magical thinking and relativize borders between inner and outer reality which could resemble psychosis.

Again, if we return to the issue of addictions and their potential impact to expression, the new BMI integrated human being may slowly lose capability to express in language, at least in written symbols, the issue which will be examined

in next chapter. However, the real question that comes out of previously noted literature is how this possibility to escape the inner world in an instant would affect imagination, creativity and the depth of emotions in this new world.

Subjectivity in a World without Symbols

Being psychologically born implies that the inner world of the subject is being colonized by symbols which by definition come from the place of "Other". In other words, subjectivity comes into being by internalizing symbols. Therefore, it is reasonable to assume that "consensual telepathy" could be considered as a return to the initial (pre-symbolic) state.

Does symbiosis between human and machine resemble symbiosis between child and mother? If so, is it then possible to talk about subjectivity in strictly psychological terms at all? Drawing a parallel with child-mother unity, subjectivity in singularity potentially might be marked as psychotic, i.e., schizophrenic.

Schizophrenic subjectivity is a consequence of accelerated communication, which is accelerated to the extent that symbolic exchange is excluded. Namely, Baudrillard in his texts did not directly refer to the brain-machine interface. Nevertheless, the brain-machine interface could be considered as a simulacrum, computer-generated reality (Baudrillard 1994). This postmodern philosopher and sociologist remains a relevant commentator of the world characterized by loss of referent in reality.

In a text, *The Ecstasy of Communication*, Baudrillard himself, used a concept from psychopathology to depict a state of terror characterized by over-proximity of all things (Baudrillard 1987: 27). "Schizophrenic is open to everything and lives in the most extreme confusion" (Baudrillard 1987: 27). Baudrillard recognized that the pain and suffering that the subject experiences, comes from forced "extraversion of all interiority and from forced introjection of all exteriority" that became a categorical imperative of communication (Baudrillard 1987: 26). Metaphors that Baudrillard used such as screen and network are useful heuristic tools to think on the schizophrenic subjectivity. These metaphors are alluding to the transparency of schizophrenics. The schizophrenic subject is reduced to the mere surface, which is interconnected with other surfaces in the global network of surfaces.

Baudrillard's choice to use the term, which originates from the psychiatric nosological system, to depict his vision of subjectivity, before the advent of the World Wide Web and social media, could be understood as a good indicator of his ability to foresee in which direction possibly subjectivity may be transformed. Relativization of borders supported by digitalization and increasing pervasion of virtual into reality leads toward abolishing borders between those two. The shift towards a more accelerated and more complex way of interaction made the subject unable to repress. Hence, Baudrillard was right in attributing psychotic status to subjectivity. Fragile borders between internal and external, transparency and a sense that others could read one's thoughts are clear marks of a psychotic state.

What is going to happen with traditionally understood properties of subjectivity after the advent of singularity? Could we talk about individuality? Technology has so far increased our individuality, making us alienated monads. As Žižek pointed out, "technology introduced additional layers in our exchange with others" (Žižek 2009: 51). Consensual telepathy supported by brain-machine interfaces will do the reverse. All those "additional layers", that are amongst subjects involved in communication, are going to be abolished and distance minimized. But we must bear in mind that the new technology will also provide a link towards the virtual world and direct communication in an instant, if we presume that we would be able to communicate as human beings with our smartphones as well. This would mean operating the smartphone through our mind. Therefore, the direct communication would be reinforced. Paradoxically, technology that once reinforced individuality makes it disappear now.

Being entirely immersed into the collective mind, as singularity is conceptualized, means an end to privacy as well. The space for privacy will be getting narrower. Privacy in singularity will be sacrificed in the name of transparency. The problem that arises from questioning the status of individuality and privacy is to what extent can we be considered autonomous? In other words, to what extent are we free from machines?

The modern meaning of autonomous, rational subjectivity has its roots in Descartes's philosophy (Descartes 1967). Dynamic unconscious, which was introduced by psychoanalysis, challenges the idea of being the master in one's own house. In other words, the dynamic unconscious directly opposes the idea of autonomous, rational subjectivity. The subject's thoughts, emotions, and actions are determined by unconscious dynamics. In a seemingly contradictory way, the dynamic unconscious that has represented a great obstacle to the traditional understanding of autonomous subjectivity potentially is going to represent a little oasis of autonomy while we are in symbiosis with machines. The dynamic unconscious, a reservoir of our drives, deepest fears, fantasies, is the only place to which is guaranteed a certain degree of autonomy. Ergo, the dynamic unconscious could be considered as the only segment of our subjectivity that will elude singularity.

Introducing the dynamic unconscious in discussion on subjectivity returns us to the mere beginning, as previously discussed, the necessity of borders between internal psychic life and external reality. Something that is repressed into the dynamic unconscious is saturated with meaning that waits to be integrated into a symbolic narrative. Therefore, a minimum distance between subject and machine is a necessary condition for some sort of autonomy. Autonomy of subjectivity will be based on idiosyncrasies of our unconscious life. The logic of the unconscious will stay indecipherable to machines.

Instead of a Conclusion

Notions related to the rapid development in the domain of artificial intelligence, that humans could be overreached by machines, serve to some techno-gurus,

as Žižek prefers to call them, as a good reason to propose solutions such as human-machine symbiosis. The Brain-machine interface brought the cyborgization of humans to a whole new level and made the idea of cyborgs more concrete. Some projects in the field of brain-machine interface go in the direction of making communication by thoughts possible. However, we are still far away technologically from fully transmitting experiences to other human beings without symbolic mediation. Nevertheless, the paper critically examined the hypothetical possibility of consensual telepathy. Consensual telepathy could radically change the way we interact with the world and think about ourselves.

In singularity, we are going to be completely immersed with machines. Symbiosis with machines resembles the symbiosis of mother and child. Being one in singularity undermines the intersubjective dimension of human experience. Besides that, symbiosis with machines undermines borders between intrapsychic life and external reality that could trigger an experience essentially similar to psychosis.

Drawing some conclusions about what is going to happen to subjectivity if singularity becomes an option requires us to search for some analogies, which can provide us with knowledge in order to predict some possible outcomes. Therefore, some important aspects of child-mother symbiosis were pointed out, joined with insights from Žižek and Baudrillard.

Does singularity then presuppose a schizophrenic subjectivity? How to maintain a minimum distance towards a machine-generated collective mind? What will take the role of "paternal metaphor" to liberate us from the complete absorption into machines? In the end, how the new constellation of things, if we are capable of escaping our inner world in an instant through the BMI, will affect addictions, imagination, and creativity? These are just some questions that have arisen in the course of the paper that deserve further theoretical examination.

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Nemanja Nikolić, Ljubiša Bojić i Lana Tucaković

Interfejs mozak-mašina: novi izazov za čovečanstvo

Apstrakt

Cilj ovog rada je da razjasni neke specifične aspekte koji se odnose na uticaj interfejsa mozak-mašina na naše razumevanje subjektivnosti. Interfejs mozak-mašina predstavljen je kao faza u kiborgizaciji ljudi. Određeni projekti u oblasti interfejs mozak-mašina imaju za cilj da omoguće uspostavljanje konsenzualne telepatije – komunikacije bez simboličkog posredovanja. Konsenzualna telepatija upućuje na jedan od mogućih načina transmisije informacija unutar singularnosti. Stoga, konsenzualna telepatija predstavlja važan aspekt singularnosti. Singularnost ili simbioza čovek-mašina pokazuje neke sličnosti sa jedinstvom deteta i majke. Stoga bi se psihodinamska perspektiva mogla pokazati korisna u razmišljanju o simbiozi čovek-mašina. Znanje iz razvojne psihodinamske psihologije u kombinaciji sa uvidima Slavoja Žižeka i Žana Bodrijara treba da pruži dodatnu perspektivu gledanja na simbiozu između ljudi i mašina. Stav iznet u radu je da ukoliko konsenzualna telepatija postane mogući način komunikacije, imaće potencijal da uništi subjektivnost čineći je shizofrenom.U isto vreme, mogućnost brzog bega od našeg unutruašnjeg sveta posmatramo kroz prizmu zavisnosti.

Ključne reči: mozak-mašina interfejs, konsenzualna telepatija, subjektivnost, simbioza čovek-mašina, simbolička medijacija, singularnost.