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MAN-COMPUTER GESTALT AND THE NOOSPHERE THEORY: WILL THE COMPUTER BE HUMANIZED OR THE MAN COMPUTERIZED?

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Abstract: *For the last several decades, internet has penetrated so deep in our everyday life and became the very essence of our being as well as of the way we function, so the question arises whether the internet has become an integral part of our life, or its users are just the factors of the global network system. Many scientists are trying to answer the question whether the moment of the internet taking over the role of the global consciousness is close. Artificial intelligence is used in more aspects each day of our lives, and the present testifies just how much people rely on the symbiosis with elements of technology with one foot in the virtual world. There are several directions of reflection regarding the future of interaction or symbiosis between man and machines. This paper deals with these concepts, gives the review of theories addressing the same issue and tries to explain the idea why the total control of the machine over the humankind is basically – not plausible.*

Keywords: *noosphere, artificial intelligence, man and machine symbiosis, global brain, online communication*

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Introduction

The concept of a "noosphere" – a collective sphere of human thought – has long been proposed as a next step in the evolution of the Earth. Humankind may have gotten closer to realizing this concept than ever before with the advent of the internet, which has become a vast repository of collective knowledge and intelligence, connecting people and ideas on a global scale, and facilitating the rapid spread of information (Chernikova et al., 2021). Adopting the smartphone as a widely spread component which offering the possibility for their owners/users to be constantly online strengthens the feeling that this media is not only an essential part of our life but also a part of our being. It provides interactivity that erases the borders of affiliation. The question arises whether the internet has become an integral part of our life, or the users themselves are just the factors of the global network system (Milivojevic, et al., 2015). Besides that, social media platforms are fundamentally altering how users receive information and news, and other users' opinions (Ercegovac, 2022). "Human existence is being transformed. Its structure, many thousand years old, seems to be changing: built on the natural and the social, there is a third form of existence: web-life. Man is now the citizen of three worlds and its nature is being formed by the relations of natural, social and web-life" (Ropolyi, 2013). The idea that the internet and technology have the potential to bring about a global consciousness has been explored by scholars, who laid their grounds on the French philosopher and paleontologist Teilhard de Chardin's idea about "planitarization" as a next evolution step which corresponds with the current globalization enabled by information technologies (for example, Milivojevic, et al., 2015; Sámelová, 2018). In those terms, and with the rapid development of artificial intelligence (Hirsch-Kreinsen, 2023) and the increasing connectivity of the internet (Ercegovac, 2014), it is important to consider the implications of these advancements on the evolution of human consciousness, knowledge and intelligence.

The concept of a "global brain" is often associated with the idea of a collective intelligence (Reia et al., 2019; Williams, 2020; Naas et al., 2021) that emerges from the interconnectedness of individuals and systems through the internet. This idea, first proposed by Teilhard de Chardin (1955) in the 1950s, suggests that the human race is evolving towards a collective consciousness, akin to a single entity, through the increasing interconnectedness of individuals

and systems. The development of artificial intelligence and the increasing use of the internet as a means of communication and information sharing have led some to believe that we are moving towards a global brain, where the collective intelligence of humanity is augmented by the intelligence of machines (Minsky, 1986; Naas et al., 2021). However, the concept of a "global brain" is not without controversy, and there are alternative theories, such as the theory of intelligence augmentation (IA), which suggests that the relationship between humans and machines should be one of symbiosis rather than a merging of intelligence (Licklider, 1960).

Teilhard's book "The Phenomenon of Man" (1955) proposed concept of a thinking membrane which surrounds our planet provoked significant controversies in both religious and academic circles. Like many revolutionary ideas, however, the concept of noosphere was eventually ignored by most mainstream thinkers and forgotten – until the creation of the internet. The noosphere concept has clearly come of age in the networked society. "The internet has given the idea of a noosphere new vibrancy, serving as a platform that is capable of extending human minds, so they are able to create autonomous community projects that transcend traditional boundaries. These community projects serve as hubs of action, fostering connections with new types of information and sympathetic groups, transcending limitations inherent to local cultural histories and larger hegemonic forces" (Glassman, 2012). It has a profound influence on computer and internet theorists, who recognize that Teilhard had foreseen the internet 50 years before it happened. The concept of noosphere also inspired James Lovelock's 'Gaia' theory of the Earth as one living organism (Lahoz-Beltra, 2018).

Teilhard (1955) predicted the awakening of noosphere as a result of the growth of worldwide knowledge as well as the increasing psychosocial pressure on the planet's surface due to demographic explosion. Massive amounts of information occur within relatively narrow confines of the Earth, which, according to Teilhard, result in the development of some kind of a super-consciousness. It should happen when the quantity of information reaches a critical density. Could we imagine the internet as the brain of the emerging noosphere, if we accept de Chardin's prophecy? Some theorists believe that the internet and noosphere are inseparable, but not identical (Butler-Bowdon 2003). More precisely, the internet plays the role of what Teilhard called the "mechanical ap-

paratus" of noosphere. We should therefore keep in mind that the internet itself is not the noosphere, but only its infrastructure.

This paper will explore the concept of the noosphere and the idea of men-computer gestalt. It will also examine the role of the internet in the emergence of a global consciousness, the potential implications of artificial intelligence on the development of the noosphere, and the question of whether the computer will be humanized or the man computerized. The ideas of Teilhard de Chardin will be examined in relation to current discussions about the noosphere and technology. The paper will focus on the potential future of human-computer interaction and the impact it may have on the evolution of human consciousness.

The Probability of Creation of Noosphere

The optimistic faith in inevitable progress built in the program that controls the evolution is immanent to finalistic or teleological evolutionism such as de Chardin's. But some other proponents of the noosphere theory are more skeptical regarding the inevitability and irreversibility of progress.

In his book The Age of Knowledge – Principles and Reflections on noetic revolution in the 21st Century (2005) the scientist Marc Halévy reminds that the birth of noosphere goes back as far as the emergence of language in living species, especially human species. With the computer revolution and the development of the network this thin layer of noosphere suddenly proliferated to the point of covering the entire globe and it solidified with billions of new knowledge. The amount of knowledge accumulated by humanity between 1950 and 2000 was superior to the one that appeared with homo sapiens up to the 1950s. Halévy states that there is something radically new: ideas are becoming independent of the brains that conceive them, they live their own life, circulating, multiplying, and enriching from brain to brain, computer to computer, site to site. According to him, the independence of ideas of their human substrate is a true symptom of the emergence of the noosphere which transcends humanity.

However, it seems that this is not such a radical novelty, and that the organist analogy is not quite adequate. In fact, ideas used to be stored in files and libraries long before the advent of the internet and also had an independent life from the brains that produced them and from brains in general at that time:

Their quantity, multiplying force, speed and density of circulation were smaller, but that does not change the essence of the phenomenon.

The technological concept of noosphere contains the idea that the alliance between the biosphere and informatics ("biotics") will lead to the era of collective knowledge and awareness. However, Halévy warns that one should not confuse tools and products. Information technologies are noetic tools, but not the only ones as opinions and ideas multiply and amplify in other ways too, creating a snowball effect where each response encourages more new questions which seek new answers, etc. Or as an effect of trans disciplinarity where the concepts, ideas and knowledge from different domains and disciplines that were previously separated by impermeable boundaries, intersect, and mutually fertilize, opening new, unexplored fields of human imagination and intelligence. The explosion of information and knowledge has been made possible by the computer revolution, but it is not limited to it (Halévy 2005).

The image of noosphere as a "thinking layer" could be misleading, as it may evoke a kind of homogeneous envelope or field that permeates almost automatically, by a kind of osmosis, all people in relatively similar degrees. Rabelais warned long ago that science without conscience is only ruin of the soul, and conscience and soul are deeply personal. De Chardin also humanized evolution treating it as a simultaneously individual and collective, spiritual, moral, and emotional developmental process. Halévy also claims that the key problem of the 21st century is not technological, economic, or political, but spiritual. "As long as man is acting like a spoiled brat, being prisoner of his/her hedonistic whims, drowned in idiotic mercantilism and sensationalism, everything is possible, even the worst. […] So, if there should be barriers, they should be put to people and not to knowledge or technology. Man is the one who needs to learn to grow up" (Halévy, Failly 2006). While Halevi narrows the concept of the noosphere to sets of knowledge and, accordingly, to cognitive functions, processes, and outcomes, he also states that in parallel with the creation of noosphere man should enter the path of spirituality. It should be kept in mind that Teilhard's concept of noosphere already included spirituality.

Several years later, another researcher, Alexander Wilson (2017), talks about the same idea but from a perspective of big data. He believes that this "big data environment that tracks our interactions and displacements, that pulverizes the world as an abstract set of indexed variables", should be more appropriately

described as an 'infosphere'" and in his article he is problematizing the idea that "the big data society evokes the dream of absolute prediction and cybernetic control". However, he also points out Floridi's claim that the "infosphere is a 'fourth revolution' in human thought, the most recent step in the Copernican displacement of the human from the world stage" and that we are no longer masters of that infosphere as we are relying on the machine to make the calculations stating that "the evolution of knowledge is rooted in an original event of analysis, an act of cutting the world apart into smaller pieces". The knowledge and technology go together and converge more than ever before, but the question we are trying to answer is does this convergence aims towards the organic condition where we will not be able to truly tell apart one from the other.

Even though Halévy finds that the internet is contaminated with numerous unnecessary information and that the majority of sites, blogs and forums do not serve the improvement of mankind, he states that we cannot overlook the fact that the internet has brought "democratization of knowledge" (which is a highly problematized issue in current debates) by allowing access to information and knowledge to social groups to which these would otherwise be unavailable, due to economic, social, cultural or geographical factors. Opportunities and options are tremendous, but only under certain conditions. Nowadays, since the internet is available and subject to "pollution" by all, the law of the majority which is also the law of mediocrity prevails. The internet is, mostly, informational trash can for the masses. The real issue is neither technological nor prospective but philosophical: to believe or not believe in the virtue of the majority, the collective, the substantial number. Erasmus claimed. "One is not born a man but becomes one" and we know that very few achieve it. The mediocrity of the internet of entertainment, games, gadgets, and superficial chatter stifles the internet of intangible knowledge and thought under its heavy lids (Halévy, Failly 2006), not to mention the multitude of unethical or even criminal behaviors.

We can address the problem of contamination of the internet from the side of communicology as well. From this standpoint, the primary function of the internet is communication, and for the most part (if we exclude e-mails and instant messages as a mean of interpersonal communication) it is a medium of mass communication. In this regard we must not forget that besides education this kind of media has two more functions: informing and entertaining. Criticism of information overload could be directed against other mass media too,

i.e., television, radio, and newspapers. Concerning its educational role, thanks to its features the internet could have a great advantage over the other media (except for specialized programs and magazines). But it requires, on the other side autonomous, educated, critical and creative users.

According to Potter (2021), some scientists argue that the process of merging the human mind and the machine has already begun. It is expected that in the near future, personal computers will reach the intelligence of a thousand brains. However, traditional education should still be the foundation for further development of individuals and knowledge. Potter (2021) states that "with the rise of mass media, particularly in the last half century, the problem of providing information and making it available transformed into how to provide a protection against their excessive volume" (Potter 2021). The internet is not knowledge by itself, but a source of it for those who know how to search, select, analyze, and structure information. This leads to the "Matthew" effect, which allows for infinite capacity for individual exploration. Scientists are working on developing AI algorithms that are reaching human intelligence level, but it is impossible to predict when this programming will reach a satisfactory point. In 1997, Fidler predicted that the boundaries between "real" and "virtual" world will be lost and that developed interpersonal forms of cyber media will become an integral part of everyday life for many people before this (21st) century goes much further, and that we should expect the emergence of intuitive technology probably in the next few decades. It can be said that this scholar accurately predicted the near future given the level of technology that has been reached and the 24/7 availability of the internet today. It is almost certain that the development of intuitive technology happened faster than Fidler anticipated.

Computing and Thinking

The idea of merging man and machine is not new, and John von Neumann discussed it in his book "The Computer and the Brain" (1958), stating that the human brain can be viewed as a computer machine. His theories and assumptions have been the basis for much research and development in the field of artificial intelligence. Von Neumann discussed the differences between digital and analog forms of computing, and between serial and parallel connections, and argued that the brain operates similarly to a digital computer. Many scientists, including Kurzweil, have continued to research and develop artificial

intelligence, with the goal of creating a "non-biological system" that will be able to perform tasks at electronic speed (Kurzweil, 2005). The concept of singularity, when artificial intelligence surpasses human intelligence, is also discussed and it could have a significant impact on civilization and human nature (Heylighen, 2013). However, some more recent research which, for example consider the energy consumption, which is necessary to allow the sustainability of noosphere, shows that the humankind is still far from reaching that point of singularity (Lahoz-Beltra, 2018). On the other hand, according to the same research, internet could be seen as some sort of nervous system of the noosphere. This could be concluded simply because, like the nervous system, internet enables communication and coordination between various organ systems in an organism, allowing for quick and extensive exchange of information and ideas or even job opportunities (Manic et al., 2022) between people.

There are some machines that are doing the reasoning without any human intervention, but the real question is: is it possible for an independent machine to make moral judgments that are in line with the human's notion of morality? Can a machine be made to act ethically and morally? Pereira and Saptawijaya (2009) tried to give the answer on this subject, and they state that "morality no longer belongs only to the realm of philosophers [and that] the study of morality also attracts the artificial intelligence community from the computational perspective, and has been known under several names, including machine ethics, machine morality, artificial morality, and computational morality." In their study "Modelling Morality with Prospective Logic" they tested machines with "the trolley problem" that presents several moral dilemmas that inquire whether it is permissible to harm one or more individuals for the purpose of saving others. In all cases, the initial circumstances are the same (Hauser 2007 cit. in Pereira and Saptawijaya 2009): there is a trolley going on rails and its conductor has fainted. The trolley is headed toward five people walking on the track. The banks of the track are so steep that they will not be able to get off the track in time. Given the initial circumstance, there are several classical cases of moral dilemmas that could be employed for research on morality in people. In this study the researchers were using six cases to test the moral algorithm of the machines which were programmed using prospective logic. The trolley problem is considered to be among the universal moral dilemmas, and at the end of the study, Pereira and Saptawijaya claimed that the results comply with the results

found for most people in morality laboratory experiments. Nevertheless, even though the results in this kind of research coincide with the results obtained by testing people, we must not forget that both studies were conducted in a laboratory with hypothetical questions. Marshall (2010) brings out four reasons for criticism of the test:

1. It assumes perfect information about outcomes.
2. It ignores the global secondary effects that local choices create.
3. It ignores real human nature – which would be to freeze and be indecisive.
4. It usually gives you two choices and no alternatives, while in real life, there are always alternatives.

According to Heylighen (2013) and others (for example, Christensen, 2009; Alaieri and Vellino, 2016), decision-making is not exclusive to humans and raises questions about the potential infallibility of machines, which are designed by fallible creators. They also explore the idea of simple values in different philosophical approaches such as consequentialism and deontology, where one side emphasizes reason and the other emphasizes intuition. However, cognitive scientists such as Pinker (2002), Gendler (2011) and Bloom (2014) argue that these directions are unwise human thought processes and that everyday mistakes, such as poor choices in life, are evidence of this. They suggest that decision making based on both reason and intuition, rather than one or the other, is a more effective approach. Additionally, it is important to consider the limitations of both machines and human decision-makers and recognize that errors can occur in both cases. In order to make wise decisions, it is important to consider multiple perspectives, account for the possibility of errors, and make use of both reason and intuition.

Are We Getting More Intelligent?

The "Flynn effect" (named by the scientist James Flynn) is well-known. It refers to a substantial increase in average scores on intelligence tests all over the world. Flynn's research (1984, 1987, 1994) on the growing level of intelligence, especially of the general factor (G factor) showed a regular increase in IQ by 0.3 points per year .

Later Flynn evoked the possibility of declining performances. In 1999 he mentioned (Nicollet et al. 2009) various kinds of factors, such as biological,

social, and educational, that could explain the observed increase in intelligence in the period up to 1990. In a general model, Dickens and Flynn (2001) explained the Flynn effect in particular by the interaction between individual characteristics and the characteristics of the environment. According to these authors, an adverse environment badly affects individuals who have negative or weak individual characteristics, and vice versa: an environment has a positive effect on the development of mental abilities particularly in individuals who have good potentials. Having noted that the tendency of intelligence increase is slowing down, even stagnating

Flynn (1987) evoked a possible ceiling effect and admitted that the evolution of the IQ may not be a linear and endless process (Grégoire 2004). This was particularly noticeable in the tests that were heavily influenced by school knowledge. Teasdales and Owen (2005) analyzed the results of intelligence tests in the population of Danish young men tested in 1959 and 2004, and they observed a performance increase until 1990, followed by a slowdown and then a decline.

If, as Dickens and Flynn stated, general living conditions led to the growth of intelligence in a specific period in the twentieth century, could latest information technologies, particularly the Internet, reverse the inversion of the Flynn effect again in the direction of the evolution of intelligence? It seems that Nicholas Carr doubts it, as can be read in the provocative title which he gave to his essay, Is Google Making Us Stupid (2008):

> "For me, as for others, the Net is becoming a universal medium, the conduit for most of the information that flows through my eyes and ears and into my mind. The advantages of having immediate access to such an incredibly rich store of information are many, and they've been widely described and duly applauded. […] As the media theorist Marshall McLuhan pointed out in the 1960s, media are not just passive channels of information. They supply the stuff of thought, but they also shape the process of thought. And what the Net seems to be doing is chipping away my capacity for concentration and contemplation. My mind now expects to take in information the way the Net distributes it: in a swiftly moving stream of particles. […] When the Net absorbs a medium, that medium is recreated in the Net's image. It injects the medium's content with hyperlinks, blinking ads, and other digital gewgaws, and it surrounds the content with the content of all

the other media it has absorbed. […] The result is to scatter our attention and diffuse our concentration."

Judging by his essay and by his book The Shallows-What the internet Is Doing to Our Brains (2010) Carr does not believe in a harmonious interaction or gestalt between man and computer. If he had to answer the question present in the title of this paper – "Will man be computerized or computer humanized?" he would almost certainly pick the first option, as is confirmed by the pessimistic tones ending his essay:

"I'm haunted by that scene in 2001 […] HAL's outpouring of feeling contrasts with the emotionlessness that characterizes the human figures in the film, who go about their business with an almost robotic efficiency. Their thoughts and actions feel scripted, as if they're following the steps of an algorithm. In the world of 2001, people have become so machinelike that the most human character turns out to be a machine. That's the essence of Kubrick's dark prophecy: as we come to rely on computers to mediate our understanding of the world, it is our own intelligence that flattens into artificial intelligence."

Away from the Noosphere – Technological Pessimism

Other authors (for example, Anders, 1956 and Ellul, 1977) also have a globally distrustful and pessimistic view of, as they say, the uncontrolled growth of technology and its impact on humans and their lives.

Modern man developed (if only subconsciously) the belief in global technical mastery over the matter and the world. This belief implies that technique is just a neutral instrument which becomes good or bad only depending on the way we use it. Banally speaking, a knife can peel an apple or hurting someone. Such an idea is intuitive, comfortable, and widespread. However, these authors say that it is an absurd comparison and oversimplified illusion. We cannot compare tools, as extensions of our limbs and senses with today's sophisticated technology. The technique contains within itself its own effects independently of its use (Anders 1956). Of course, one should consider all the possible uses of a technical product, which cuts to the core of moral issues. But such issues are peripheral to a fundamental understanding of the phenomenon of techniques.

In other words, the ambivalence of technical development is much more complex than the problem of its use. Believing that everything depends on the way we use technology, is considering that it is neutral, but it is not. Regardless of the way we want to use it, the technique entails a number of consequences. It is not just a matter of good or bad intentions, because the inherent properties and potentials of any technique will inevitably be exploited (Anders 1956). We have a lot of confirming examples for this, and no denial. Legislation and ethics are quite helpless in front of the power and logic of technological necessity.

From one point of view, technical development is neither good nor bad; it is composed of more complex mixtures, but the most important is that it changes our very selves. We are in the middle of structures over which we do not have authority: we are caught in the technical universe, conditioned by it. To determine what would be an effective use of technology, we should be able to consciously relocate from the technical logic, rise above it and collectively adopt a different ideological paradigm of life and man, which is exceedingly difficult due to our complete immersion in the technical system (Ellul 1977).

The technique has reached such a degree of autonomy that, today, human existence is defined in relation to it (Aljanabi et. al., 2023), not vice versa. The irrepressible expansion of technique transforms the man in its image and likeness and produces a fourth, virtual dimension that goes far beyond the humanity defined by its physical, biological, and mental properties. Ellul notes that from a technocentric point of view, man is an impediment to progress: moreover, he is a failure (Ellul 1977). Comparing to machines the human being is incapable, lazy, irrational, powerless and maladjusted. Facing the powerful machinery man feels what Gunther Anders called the "Promethean shame". The machine follows a cold logic. It is not bothered by physiological, emotional and mental states. It is not disturbed by limited, unreliable and fragile corporeality, or confusing, arbitrary, and chaotic subjectivity which burdens human beings. The machine works – and it works ever better, faster and more efficiently. In order to be able to manage it, man must become more functional (or machine-like) too.

AI or IA – Noosphere or Gestalt

Scientists have discussed different perspectives on the development of collective intelligence through artificial intelligence (AI) and global brain. Some

scholars have presented the idea of AI and global brain as opposed imperatives, but there are other theories that have been proposed that are more likely and more humane. One of these theories is the work of American psychologist and computer scientist J. C. R Licklider, known as the theory of intelligence augmentation (IA).

According to Sankar (2013), Licklider is a "computer science titan" who had a profound effect on the development of technology and the Internet, and his vision was to enable collaboration between humans and machines that would result in joint decision-making and the ability to handle complex situations without relying on predefined programs. Licklider believed that humans are an extraordinary organism that cannot be replaced by robots or other intelligent technical beings, as they possess unique characteristics such as creativity and will that machines may never be able to reach or overcome.

However, Licklider also recognized that humans have limitations, such as being bad at mathematical calculations and proportions. With this in mind, Licklider predicted that computers would assist in areas where humans struggle, allowing them to perform routine operations and aid in decision-making processes. In his book "Man-Computer Symbiosis", published in 1960, Licklider stated that in the relationship between humans and computers, humans would set the goals, formulate hypotheses, determine criteria, and evaluate the results (Licklider, 1960).

Sankar sees the future as a collaboration between humans and computers, pointing out that the development of "smart" technology has not gone in the direction of creating a HAL-like machine, but rather in the direction of devices such as the iPad. Sankar notes that no matter how advanced technology becomes, machines will only do what they are asked to do by their human creators and will never be able to initiate their own actions. He also highlights that human free will is one of the arguments that supports Licklider's IA theory.

The recent boom of chatbots (Duduka et al., 2022; Pavlik, 2023) and virtual assistants is a clear example of the man-computer gestalt that J.C.R. Licklider envisioned in his theory of intelligence augmentation (IA). Chatbots and virtual assistants are designed to assist humans (Gupta et al., 2020; Aljanabi et. al., 2023) in performing routine tasks, such as scheduling appointments or answering basic questions. They are examples of technology that help humans to overcome the limitations of the human mind and improve efficiency and

productivity (Aljanabi et. al., 2023). By working in symbiosis with these tools, humans can achieve more than they could on their own. In the case of virtual assistants, for example, the human sets the goals and formulates the problem or a task, while the computer performs the tasks and provides the results. This is a clear example of Licklider's idea that "in the computer-man relationship, the human being will be the one that sets the goals, formulates the hypotheses, determines the criteria, and performs the evaluation" (Licklider, 1960). In addition, chatbots and virtual assistants have been designed to mimic human-like conversation, providing a more natural and intuitive interface for users. This is in line with Sankar's observation that the development of "smart" technology is moving in the direction of tools like the iPad, which are designed to be intuitive and easy to use, rather than complex and inflexible machines like HAL.

Thanks to AI (or IA), in the information age man and the machine have evolved into versatile and collaborative communication, transforming historical relationships through the division of human and machine environments and the computer's virtual world becoming a set of fluid tools with multiple potentials. In this age, man and machine interact in ways that were once thought impossible, creating new opportunities for innovation, productivity, and convenience. As technology continues to advance, the relationship between man and machine will continue to evolve, shaping the future of work, communication, and everyday life.

Concluding Remarks

It is mentioned earlier that the internet is a source or a repository of information and knowledge, and not knowledge *per se* (Milivojevic, et al., 2015). Acquiring knowledge is different from understanding and assimilating it (Ballay, 2006), and the process of knowledge acquisition requires lifelong efforts from individuals. That means that knowledge does not circulate like a commodity, but rather expands as an ongoing activity that transforms the individual and collective psyche. Also, intelligence is an attribute and function of personality and cannot be abstracted from personhood or be objectified. Furthermore, knowledge must be continuously engaged with, in order to be meaningful. This brings to the conclusion that collective intelligence is a myth that collides with the reality of the blindness of masses and systems. Additionally, the limitations of technology and machines as a substitute for human intelligence and capacity,

are reflected in the fact that they cannot replace the abilities, talents, reasoning, and other capacities of individuals. The internet can enhance communication, empathy, and tolerance (Milivojevic, 2014), but knowledge is structured in disciplines, areas, paradigms, and becomes abstract and petrified when people do not engage in continuous efforts to learn, understand, exchange, transfer, interpret, critically analyze, research, experience, and experiment(Milivojevic, et al., 2015). The idea of a noosphere, or a collective knowledge that develops from the interaction of people and technology, suggests that rather than trying to dominate one another, people and machines will work together in coexistence. The Matthew effect and Flynn effect also support this idea, as they demonstrate how the collective intelligence of humanity has been consistently increasing over time, rather than being overtaken by machines. Future research, however, should aim to confirm or refute this argument as people are using artificial intelligence more than ever before. The question that needs to be asked further is whether the use of AI leads to a decrease of human intelligence, as well as whether the use of AI capacity increases or decreases because of this collaboration.

This could be and interesting question as without ongoing involvement and interaction with the computer, knowledge breaks into fragments and becomes lifeless and cannot constitute a "collective intelligence" that would supposedly think autonomously. Furthermore, network-connected virtual communities alone are not sufficient to activate and animate human intelligence and desires, and that virtual connectivity is just one element, means or stage in the development of intelligence and knowledge (Milivojevic, et al., 2015). Based on this, it can be concluded that by enhancing and assisting human abilities, AI has the potential to improve human intelligence by freeing up time and energy for more creative and strategic tasks. The impact of AI on human intelligence will be determined by how society decides to integrate and use it. However, in order to ensure responsible development and application of AI technology, it is also crucial to take ethical and societal implications into account.

In conclusion, the theories and ideas presented by Chardin, Halévy, Wilson, Licklider, Sankar, and others show that it does not appear that the total control of machines over humankind is a plausible outcome, at least not in the near future. Instead, the relationship between humans and machines is likely to be one of collaboration and symbiosis, where the collective intelligence of humanity

continues to increase. Use of AI-powered personal assistants to increase productivity and efficiency in daily task, collaboration between medical professionals and AI-powered diagnostic tools to improve patient care, integration of drones into delivery and logistics systems to enhance speed and coverage, combination of human creativity and machine automation in design and media production, use of AI as a part of educational technologies, etc. are just some of the examples of how people are collaborating and will collaborate even further in the coming decades.

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GEŠTALT ČOVEK-KOMPJUTER I TEORIJA NOOSFERE: DA LI ĆE RAČUNAR BITI HUMANIZOVAN ILI ČOVEK KOMPJUTERIZOVAN?

***Apstrakt**: Internet je u poslednjih nekoliko decenija tako duboko ušao u naš svakodnevni život i postao suština našeg bića i načina na koji funkcionišemo, pa se postavlja pitanje da li je internet postao sastavni deo našeg života, ili su njegovi korisnici samo faktori globalnog mrežnog sistema. Mnogi naučnici pokušavaju da odgovore na pitanje da li je blizu trenutak da internet preuzme ulogu globalne svesti. Veštačka inteligencija se svakodnevno koristi u više aspekata u našim životima, a sadašnjost svedoči koliko se ljudi oslanjaju na simbiozu sa elementima tehnologije jednom nogom u virtuelnom svetu. Postoji nekoliko pravaca razmišljanja o budućnosti interakcije ili simbioze između čoveka i mašina. Ovaj rad se bavi ovim konceptima, daje pregled teorija koje se bave istim pitanjem i pokušava da objasni ideju zašto je potpuna kontrola mašine nad čovečanstvom u osnovi – neuverljiva.*

***Ključne reči**: noosfera, veštačka inteligencija, simbioza čoveka i mašine, globalni mozak, onlajn komunikacija*