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TRANSFORMATIONS OF SUBJECTIVITY AND INTENTIONALITY IN TECHNO-ECOLOGICAL PERSPECTIVE

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Technological activity and the latest technological cultures that it generates eventually form new systems of intelligence and lead to a profound transformation of the subject's attention, a transformation that restarts critical and utopian thinking in the context of environmental issues in particular. The discovery of constructive alternatives to the anthropocentric opposition of nature and human through the possibilities of technical mediation can change their configurations, as well as, the ideas of such interactions. Modern ecologically oriented thought is inclined to revise the understanding of technology as a medium between human and environment in order to overcome anthropo- and subject-centrism in the humanities and social sciences, and to think of the ecological situation as a spatial situation that goes beyond the subject-object's opposition. As F. Guattari (2009) and J. Simondon (2008) show, the processes of psychological and collective individualization coexist with the individualization of the technical objects with which they interact. Therefore, an adequate understanding of the human origin of technology contributes to a better understanding of the internal mental and cognitive processes of consciousness on the one hand; and on the other – contributes to a deeper understanding of technological culture as a medium between human and its environment.

Key words: ecology, technology, subject, intentionality, consciousness, affectivity, sensitivity.

Introduction. *The aim of the article* is to analyze the changes of the understanding of the subject and its inherent forms of attention in connection with the development of technical objects that change the configuration of the relationship between human and the environment.

The purposes of the article are: **1.** Through analytical and synthetic methods to reveal the relationship between the cognitive processes of human consciousness and the development of technical objects to build a new type of environmental relations. **2.** To check the thesis that technological activity and the latest technological cultures that it generates, eventually form new systems of intelligence and lead to a profound transformation of the subject's attention – the transformation that restarts critical and utopian thinking in the context of environmental issues. **3.** Through a critical analysis of the impact of technological culture on the ways of human-nature relations to determine the practical content of this issue, given the possibility of resolving the environmental crisis. **4.** Identify constructive alternatives to the anthropocentric opposition of nature and man through the possibilities of technical mediation.

The article considers the works and ideas of philosophers of technology, researchers of ecological thinking and interdisciplinary research of Gilbert Simondon, Martin Heidegger, Edmund Husserl, Felix Guattari, Hito Steyerl, Luciana Parisi, Mark Hansen and others. Among the Ukrainian researchers of this issue we can note the articles by I. Boyko *Conceptual dimensions of ecological consciousness*, M. Shedlovska *Conceptualisation of the concept "ecological consciousness"*, A. Radei *Ecological consciousness and culture: theoretical and methodological aspects*.

The development of technologies and the culture they generate becomes a cornerstone in discussions on the agency of technical facilities in ethical, social and environmental issues (Floridi L., 2013). One of the main theses of the pessimistic and radically ecological critique of technical culture is that technology develops in defiance of natural environment, using it to meet the excessive consumer needs of human. Therefore, the issue of technology is one of the central issues in resolving the environmental crisis. From the point of view of *ecosophical* thinking, it is a question of understanding technology as a medium between human and its natural environment. In this regard, researchers are increasingly talking about the "ecology of technology", wondering not only about the detrimental effects of technology on the environment, but also how new technologies form a new dynamic relationship between humans and the environment (Petit V., Guillaume B., 2018, p. 81). Technology (*τέχνη-λόγος*) has a primary human origin, so the issue of technology cannot avoid the functioning of human consciousness, intelligence and the culture generated by them. In other words, the development of modern technological culture may indicate a significant change in the work of human consciousness, subjectivity and attention. This accordingly leads to the problem of anthropocentrism of human and nature relations as well as the construction of a new type of environmental thinking needed to overcome global environmental challenges, and, finally a new formulation of the human question in such conditions.

The main part.

1. Criticism of understanding technology and technical culture: Martin Heidegger and Gilbert Simondon

In discussions on environmental issues, the onset of environmental crisis, especially in postmodern discourse, is associated with the claim of uncontrolled development of technologies and culture, generated by them, as well as the collective representation of these processes in the socio-political context. "Even we fully credit the technical achievements of modernity, their seemingly destructive and ecological consequences (or side effect) have been sufficiently conspicuous to account for much of today's "technological pessimism" (Ezrahi Y., Mendelsohn E., Segal H., 1997, p. 11). A common view on the issue of technology is that it moves along the direction of culture and human demands in relation to the surrounding reality, depending on them. If the culture is focused on increasing the consumption of goods and their production due to the depletion of natural resources, then the development of technology will take place in response to the relevant demand.

Among the studies on the understanding of technology in the ontological and cultural sense, the classic work of Martin Heidegger *The Question Concerning Technology* is of great importance, where the German philosopher analyzes the concept of *τέχνη* and the problem of ontological alienation of technology (Heidegger M., 1977). According to Heidegger, primarily human as a being creates new essences, as nature does when it creates life from the depths of the earth. Nature brings things into being, manifests them in the world organically. Similarly, a person derives a being from the secret with the help of the "depths" of his/her mind, creative intuition and technique. Instead, the German thinker traces how during the twentieth century technology actively subjugates nature, becoming a means of extraction and production. However, even excessive use of natural resources M. Heidegger considers the main problem of modern culture, but the fact that technology changes the meaning of nature for human, embedding it in various technical networks and thus breaks the relationship between human and nature. According to Heidegger (1977, pp. 11), the state of technology does not so much indicate a transformation in relation to nature as a change in human's understanding of itself: to a creation that is capable of creating something itself, being essentially rooted in the same nature. Technology is a permanent way of human existence that reveals its cultural essence. If technology is focused on constant production and infinite satisfaction of human needs, then in

the end it subordinates it to itself. Human becomes an appendage of technology, which without its participation creates the existing culture.

The French thinker Gilbert Simondon develops Heidegger's intuition in *Du mode d'existence des objets techniques*, emphasizing the natural transindividual principle of technology and responding to pessimistic criticism of technology and its impact on modern culture. According to Simondon (2008, pp. 241–256), long-term cultural critique of technology is insufficient and biased and does not take into account, at least, the history of technology in terms of its constant presence in culture. Even Heidegger for some reason misses the gap in the development of technology that existed between the ancient Greeks' understanding of *τέχνη* and the construction of a hydroelectric power plant on the Rhine, which he vividly described in his aforementioned report. The reason for the distorted cultural understanding of technology because it is not perceived as something that exists and evolves according to its own laws, and therefore has its own (non-biological) history. Simondon (2008, pp. 243–245) argues that at some point in the technical object stopped recognizing the human origin, originally laid down in the process of invention. The French thinker agrees with Heidegger, and says that this "non-recognition" of the human in technology has led to the opposition of human and machine. That is why technology has become an alienated product of labor, and which in general has become most responsible for the "civilization of consumption" that abuses natural resources. According to Simondon (2008, p. 248), it is not technology itself that enslaves and alienates human, but human, guided by utilitarian thinking and approaches, instrumentalizes technology, alienates it from human nature and becomes an appendage of technology. Since technological processes express the very nature of human (which in this sense is trans-individual), so it is a certain reflection of the work of the conscious and unconscious in human nature. This connection between human nature and technology opens the possibility of understanding the deep cognitive processes of consciousness and intellect, so it is not surprising that Simondon at the beginning of the XXI century is increasingly cited in philosophical and cognitive studies of technology, human and environment.

2. Technologies and interfaces: approaching consciousness

In our time, technologies and interfaces have long outgrown the usual opposition to the "natural" way of perceiving, processing and producing information. They have become able to directly implement and radically change the process of perception, involving huge arrays of data. In contrast to the twentieth century, the spheres of application of technical means now determine the transition from their instrumentality in the direction of deeper integration into the cognitive and affective components of human existence. Such a factor radically changes the view of the possibilities of interaction at the intersection of the relations of individual, natural and social environments, and transforms them accordingly. "The overall human environment includes and incorporates technological extensions, and these are never merely add-ons. They alter our sensibilities and capacities, our notions of self and other, our notions of privacy and propriety, and our orientations in space and time" (Anton C., 2016, p. 131).

Kantian transcendental apperception acquires new features when new means of response and grasping with the help of technical objects are added to ordinary human perceptions and ways of cognition. In a way, classical intelligence hybridizes in parallel with the development of artificial intelligences and interfaces, which do not exist in themselves, but focus primarily on interaction with human, its consciousness, perception, behavior. This understanding of technology raises new questions for the cognitive sciences and media theory. A technical object, interface, or artificial intelligence is an intermediary between the individual and the "outside" world, which may have its own agency, which must also be taken into account. In the ecological sense, the agency of technical objects generates a mutual affective space of human and the natural

environment, giving it a "voice" through a systematic and accelerated way of reading external data. Whereas the reduction of sensory perception and cognitive processing of information of the external environment by human does not allow to do so without the methods of speculative or phenomenological thinking.

One of the two basic relations of consciousness, which determines its response to reality, is its intentionality, or focus on a particular object. Intentionality, as an integral property of the mental processes of the subject, according to Husserl (1983, p. 222), is the consciousness itself in its purest form. This is the main characteristic of consciousness, due to which not just an experience is formed, but an experience endowed with meaning. It not only directs the subject to the object, but thanks to it, we can talk about the constitution of the perceived object in the mind of the subject. Husserl (2001, p. 275) also mentions the unintentional in consciousness (such as pain, touch, etc.), but notes that these background experiences hide potential intentionality as material for intentional acts. "For Husserl the subject which experiences itself never completely escapes the framework of intentionality" (Bernet R., 1994, p. 233).

The second basic principle of consciousness is related to the internal distribution of its work as a cognitive, nonlinear environment. J. Piaget (1997, pp. 26–29) calls this characteristic of consciousness "autistic". Piaget considers "autistic" thinking to be something that is not directed at a specific object, the outside world, but sets the possibility for the subject to unfold and recognize meaning. With this in mind, we could talk about different configurations of such systems, which combine undirected, internal "autistic" thinking on the one hand, and intentional thinking directed at a particular object from another. A system organized based on the relationship of these two spheres, one of which is directed to itself, and the other to the outside, is an intelligence.

Work on the concept of intentionality as the main characteristic of consciousness in Husserl and the concept of "autistic" thinking in Jean Piaget allow a deeper understanding of the processes of consciousness and attention, as well as the formation of appropriate intelligence systems in connection with the perception of different environments. New forms of intelligence that are becoming available to us through technology are influencing attention strategies that have been habitually intentional and focused, and that are becoming more decentralized and distributed. Human interaction with computer and network systems redistributes the user's attention according to their "machine" requirements; at the same time, "background" attention allows not to "switch" from one to another, but to work nonlinearly with the whole environment, space as such. However, when the subject transfers his cognitive features to the platform of a computer interface that works on the principles of evenly distributed virtual space, it changes the way his attention works accordingly. In fact, not the intentional, but the evenly distributed attention of such a "hybrid" subject has the potential to change the relationship between human and the environment of a linear subject-object type.

Peter-Paul Verbeek (2008, p. 388), analyzing the concept of intentionality and its changes in connection with the growing relationship between human and technology, identifies several types of, as he calls it, "cyborg" intentionality:

1. Technologically mediated intentionality occurs when human intentionality takes place "through" technological artifacts.

2. Hybrid intentionality occurs when the technological actually merges with the human;

3. Composite intentionality is the addition of human intentionality and the intentionality of technological artifacts.

Peter-Paul Verbeek insists (2008, p. 391) that a characteristic feature of cyborg intentionality is that technical objects cease to be mere means of mediation and form a full-fledged new affective entity with human, so that such intentionality can be considered "beyond human".

The artist and philosopher of media Hito Steyerl (2021) notes that in today's vast array of data and information flows, human perception occupies only a small part of the overall processing of information, thus undermining the human subject as a unique recipient of reality. On the specifics of perception, recognition and mediation of information in the modern technological world, she writes: "Not seeing anything intelligible is the new normal. Information is passed on as a set of signals that cannot be picked up by human senses. Contemporary perception is machinic to large degrees. The spectrum of human vision only covers a tiny part of it. Electric charges, radio waves, light pulses encoded by machines for machines are zipping by at slightly subluminal speed. Seeing is superseded by calculating probabilities. Vision loses importance and is replaced by filtering, decrypting, and pattern recognition" (Steyerl H., 2021). On the one hand, this clearly shows the true place and importance of human intentional perception among other ways of responding to reality, in which it can no longer claim a dominant position. On the other hand, the development of machine perception creates an interesting utopian horizon of common network thinking, which, theoretically, should be consistent with the need to think of ecological catastrophe as a global spatial situation in which we find ourselves. That is, a certain deployment of "autistic" thinking, as understood by J. Piaget, outward through technological mediation, can reveal the spatial types of relationships between human and nature (to replace the intentional subject-object opposition) and become the basis of eco-consciousness as it was understood by the founder of "deep ecology" Arne Ness (1973).

3. Subject in techno-ecological space: Felix Guattari

Felix Guattari (2009) emphasize the inseparability of psychological or collective individualization with the individualization of technical objects, and therefore there is the formation of an excellent experience of interaction in the space "human-technique-environment". In *Three Ecologies*, Felix Guattari (2009, p. 302) notes a shift in the understanding of subjectivity in the context of technological globalization and the distribution of perception in the environment of new interfaces. In the light of environmental media technologies and the radical restructuring of sensations and cognitions achieved by these technologies, classical subjectivity is an unjustified illusion, according to the philosopher. "Rather than speak of the 'subject', we should perhaps speak of the components of subjectification, each working more or less on its own. This would lead us, necessarily, to re-examine the relation between the concepts of individual and subjectivity, and, above all, to make a clear distinction between the two. Vectors of subjectification do not necessarily pass through the individual, which in reality appears to be something like a 'terminal' for processes that involve human groups, socio-economic ensembles, data-processing machines, etc." (Guattari F., 2014, p. 36). In his diagnostic intuition, Guattari began to trace this dual movement, which reflected both a new heterogeneous conception of being and a new conception of thinking, and described it as thinking of a "polyvalent, pre-personal, and pre-objective ecology" (Guattari F., 2014, p. 11). In this context, he tasked the development of a "new ecosophical logic" with a "mental ecology" that would always intersect with both collective, social and technological ecology (Guattari F., 2014, p. 52). Guattari's work on the concept of ecosophy, his attention to its theoretical foundations and the "wisdom of oikos" (*οἶκος-σοφία*) (wisdom that is not limited to the four walls of the environment and existence, but takes responsibility for the future) indicate that general technologization will eventually represent general ecologization. In a broader sense, Guattari calls for a new orientation and new attitudes of our daily experiences, which take into account the transformation of basic bodily experiences related to new media technologies and the environment.

Mark Hansen, analyzing "hybrid" intellects as mediums, interprets the radicalized distribution of agency through the deeper integration of technology into the subject's affective and perceptual fields. As a result, according to the researcher, technology raises the issue of privilege of individual actors, human subjects. Hansen (2009, p. 114) interpreted this as

an explosion of "environmental agency", and emphasized the conceptual difficulties in this regard, associated with the approach to a new non-trivial environment without reductive methods. In a multi-scalar media environment, Hansen (2009, pp. 131–136) notes the need for a radical environmental perspective and, based on this, a radical generalization and rethinking of subjectivity. According to him, smart chips and sensors, which are increasingly colonizing our everyday world, show how the media has abandoned its traditional functions (recording, storage, transmission) to become a platform for direct communication with the environment. The meaning of technology itself is transformed, simultaneously with the emergence of a completely new media function: "Specifically, technologies mediate the preindividual in a way that facilitates collective individuations that are not simply agglomerations of individuals but new, properly collective individuations of preindividual potential" (Hansen M., 2009, p. 135), which appeals to the concept of transindividualization through Simondon's technical objects. Luciana Parisi theoretically explores the cybernetization of sensations and affectivity, which brings us closer to a deeper understanding of the nature of affects as more than just a human way of responding to external stimuli through technological mediation. Luciana Parisi (2009, pp. 182–199) theoretically formulated modern technical media structures that cybernetize sensory modes through the development of bioinformatics, integration of sensors (bionics), mobile media and the digital network called "technoecologies of sensation". The new cybernetic affectivity, which combines the biological and the digital, gives rise to the experience of the insensitive connection between the organic and the inorganic, a new type of affectivity that Parisi calls "symbiosensation" (2009, p. 191).

Conclusions. In this perspective, Guattari's primary intuition about the transformation of subjectivity in the post-media era, as well as the transindividualization of Simondon's technical objects, emphasizes not only the acquisition of a new ontological and aesthetic power of "self-feeling" from the key position of transversality of our time, but also the foundations and horizons of this movement. If there has always been a kind of technological dispersion and exteriorization of subjectivity, the vectors of ecological subjectivity today clearly show everyone that the processes of psychological and collective individualization coexist with the individualization of technical objects with which they are already inseparable. Subjectivity is now conceived based on new media technologies and the use of their means of obtaining, processing and producing information, as well as the techniques that have made this possible. From an ecological perspective, this gives rise to new forms of "beyond human" experience and affective (cybernetic or hybrid) states, the specifics of which must be taken into account in the search for existing and new techno-ecological connections.

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ТРАНСФОРМАЦІЇ СУБ'ЄКТА ТА ІНТЕНЦІОНАЛЬНОСТІ В ТЕХНО-ЕКОЛОГІЧНІЙ ПЕРСПЕКТИВІ

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Метою статті є аналіз змін у розумінні предмета та властивих йому форм уваги у зв'язку з розвитком технічних об'єктів, що змінюють конфігурацію відносин між людиною та навколишнім середовищем. Технологічна діяльність та новітні технологічні культури, які вона породжує, зрештою формують і нові системи інтелекту та ведуть до глибокої трансформації уваги суб'єкта – трансформації, що перезапускає критичне та утопічне мислення у контексті екологічної проблематики зокрема. Розкриття конструктивних альтернатив антропоцентричній опозиції природи та людини через можливості технічної медіації здатне змінювати їхні взаємодії, а також, що не менш важливо, ідеї таких взаємодій. Сучасна екологічно орієнтована думка схиляється до необхідності ревізії розуміння технологій як медіуму між людиною та природою задля подолання антропо- та суб'єктоцентризму у гуманітарних та суспільних науках та помислення екологічної ситуації як просторової ситуації, що виходить за межі суб'єкт-об'єктної опозиції. Аналіз новітніх досліджень Марка Гансена, Гіто Штеєрль, Лучіани Парізі та багатьох інших доводить первинну тезу статті про «гібридизацію» агентності сприйняття у технологічно-екологічному середовищі, де привілеї людського суб'єкта ставляються під сумнів через щораз більше використання засобів технічної медіації (мікрочіпів, датчиків тощо). До прикладу, на думку Гіто Штеєрль, людська увага та сприйняття в загальному потоці інформації поступається технічному зчитуванню та аналізу даних, займає лишень незначну частину обробки інформації. Ставиться під сумнів також і панівне становище людини в сфері відчуттів та афективності, які відтепер поєднують у собі біологічне та цифрове те, що Лучіана Парізі називає «симбіосенситивністю». Така нова кібернетична афективність породжує досвід нечутливого зв'язку між органічним та неорганічним. Із цієї

перспективи важливо ще раз переглянути теорії свідомості XX століття: поняття та розуміння інтенціональності у феноменології Едмунда Ґусерля, а також «аутистичного мислення» в процесах самоідентифікації та сприйняття у дослідженнях Жана Піаже. Як показують Фелікс Ґваттарі та Жильбер Симондон, процеси психологічної та колективної індивідуалізації співіснують з індивідуалізацією технічних об'єктів, з якими вони взаємоінтегруються. Тож адекватне розуміння людського начала техніки сприяє кращому розумінню внутрішніх психічних та когнітивних процесів свідомості, з одного боку, а з іншого – глибшому осмисленню технологічної культури як медіуму між людиною та природнім середовищем.

Ключові слова: екологія, технологія, суб'єкт, інтенціональність, свідомість, афективність, сенситивність.