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Philosophy of environmental consciousness in the context of digitalization

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Abstract. *The article proposes a philosophical reconstruction of the concept of ecological consciousness in the context of the development of digital culture, when ecological ideas, affects and norms are increasingly formed through platforms and algorithmic modes of visibility. The aim is to analyze the philosophical dimensions of ecological consciousness in the context of digitalization and structural transformations of ecological subjectivity.*

Methods. *An interdisciplinary approach was applied, combining social*

philosophy, ethics, philosophical anthropology and sociology.

Results. *The results of the study established that modern ecological consciousness is a synthetic phenomenon, where the ethical and value dimensions of responsibility and care and the media-cultural mechanisms of constructing attention, trust and solidarity intersect. The political and economic conditions of «digital capitalism» were not left out of the study, which are capable of both stimulating a «green transition» to a higher level of ecological consciousness and producing «green» symbolic noise. It is argued that the materiality of digital infrastructure (data center energy, ICT carbon footprint) is significant for environmental consciousness, which introduces a new type of «opaque» environmental externalities into ethics.*

Conclusions. *Environmental consciousness in the context of digital culture is not simply the dissemination of environmental information online, but a structural transformation of environmental subjectivity. A conceptual model of «platformed environmental consciousness» is proposed, which describes how digital environments transform environmental subjectivity through three interconnected axes: epistemic within knowledge and misinformation, emotional-affective within emotional moods of anxiety and hope, practical from individual habits to consumption practices and conscious collective action. The need for a double critique within post-nonclassical philosophy is emphasized, both a critique of the «greening» of the digital as a symbolic gesture without material responsibility, and a critique of the «techno-solution» without ethical and civic legitimacy. It is proven that modern ecological consciousness should be simultaneously ethical, media-critical and infrastructural-realistic.*

Keywords: *ecological consciousness, social philosophy, philosophy of culture, digital culture, digital platforms, ethics of responsibility, datafication, green technologies, artificial intelligence, sustainable development; materiality of infrastructures.*

Філософія екологічної свідомості в контексті цифровізації

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Анотація. *У статті пропонується філософська реконструкція поняття екологічної свідомості в умовах розвитку цифрової культури, коли екологічні уявлення, афекти й норми дедалі більше формуються через платформи і алгоритмічні режими видимості.* ***Мета*** *– аналіз філософських вимірів екологічної свідомості в контексті цифровізації і структурних трансформацій екологічної суб'єктивності.*

Методи*. Застосовано міждисциплінарний підхід, що поєднує соціальну філософію, етику, філософську антропологію та соціологію.*

Результати. *У результатах дослідження встановлено, що сучасна екологічна свідомість є синтетичним феноменом, де перетинаються етико-ціннісні виміри відповідальності та турботи і медіа-культурні механізми конструювання уваги, довіри й солідарності. Не залишились поза увагою у дослідженні і політико-економічні умови «цифрового капіталізму», які здатні як стимулювати «зелений перехід» до екологічної свідомості вищого рівня,*

так і продукувати «зелений» символічний шум. Стверджується, що для екологічної свідомості значуща матеріальність цифрової інфраструктури (енергетика дата-центрів, вуглецевий слід ICT), що вводить в етику новий тип «непрозорих» екологічних зовнішніх ефектів.

Висновки. *Екологічна свідомість у контексті цифрової культури є не просто поширенням екологічної інформації онлайн, а структурною трансформацією екологічної суб'єктивності. Запропоновано концептуальну модель «платформованої екологічної свідомості», яка описує, як цифрові середовища трансформують екологічну суб'єктивність через три взаємопов'язані осі: епістемну в межах знання і дезінформація, емоційно-афективну в межах емоційних настроїв тривоги та сподівання, практичну від звички індивіду до практик споживання та свідомої колективної дії. Підкреслена необхідність подвійної критики в межах постнекласичної філософії, як критики «екологізації» цифрового як символічного жесту без матеріальної відповідальності, так і критики «техно-рішення» без етико-громадянської легітимності. Доведено, що сучасна екологічна свідомість має бути одночасно етичною, медіа-критичною та інфраструктурно-реалістичною.*

Ключові слова: *екологічна свідомість, соціальна філософія, філософія культури, цифрова культура, цифрові платформи, етика відповідальності, датафікація, зелені технології, штучний інтелект, сталий розвиток; матеріальність інфраструктур.*

Problem statement. Ecological consciousness in the XXIst century ceases to be only the property of an individual or a dogmatic set of ecological knowledge, it turns into a new cultural form at the intersection of environmental problems, media practices, political mobilization and the new economy of attention and scientific expertise. Digitalization, in turn, acting as a new powerful socio-cultural force, shapes new ways of seeing nature, from statistical visualizations to global climate

generalizations, which require new ways of responding, from regional civil communities and crowdfunding to global movements and long-term campaigns.

Studies of digitalization and climate increasingly doubly exacerbate this problem, whether the use of digital technologies is only part of the problem, a stage in the development of ecological consciousness, or is part of the optimal solution to environmental issues and environmental threats.

We consider the ethical approach of Hans Jonas as fundamental in our research, as well as a new understanding of ecological consciousness from the perspective of modern philosophical anthropology and phenomenology, where, in particular, the dichotomies material - spiritual, economic - socio-political are overcome.

A review of current literature and recent publications on the topic of research. Let us consider how this problem is actualized in scientific publications of the last five years, what semantic accents are placed, which requires our general research attention. First of all, researchers draw attention to the specifics of the post-industrial, information age, which leads to the so-called «dematerialization» of the product, here the problem of digitalization appears as a double one, our consciousness is changing, the ecological categorical imperative is strengthening, at the same time the use of modern technology can also contain dangers for the development of ecological consciousness itself [8].

S. Lange, J. Pohl, T. Santarius reflect on the problem of digitalization and a possible decrease or increase in energy consumption in a new environmentally oriented economy [10], also in this context the issue of energy consumption of a global data center is considered [14]. Closely related to the ethical and philosophical side of digitalization is the problem of sustainable development and civilizational priorities of society; only a new ethical attitude towards nature in information technologies themselves can provide the necessary epistemic and ontological shift [18]. Jana Mišić more systematically reveals new ethics and new ethical governance in our digital age [15].

A few works are devoted to the connection of digital technologies with climate change, the reduction of greenhouse emissions [4], [13], the determination of cultural and economic aspects of reducing environmental costs using AI to save the climate [3], polar assessments in social discussions on climate change [5].

The latter aspect is particularly important, modern environmental consciousness is formed primarily through the media and social networks, this is revealed in the works of B. León, S. Negredo, M. C Erviti on climate communication in social media [11], in the development of scientific publications during 2000-2022 [2], the representation of «green» cultural and social behavior in Instagram [20] and other social media, in particular the works of Hilary Graham (H. Graham, S. Golder) [6], A. Horrich, Miriam Ertz, Insaf Bekir [7], Mike S. Schäfer [19].

All these radical changes in thinking and ecological behavior form not only a new ecological consciousness, but also a new ontology and philosophical anthropology [12], a new digital humanism [17] in global models of a more sustainable future [1]. In particular, P. Nardelli speaks of a «global digital green transition» to such a future «Green-digital transition» [16].

However, our analysis of publications shows that the paths of such a «green», «ecological» transition are often not yet conceptualized, which throws many authors into both cultural pessimism and excessive techno-optimism, we take a moderate objective position on this issue, which we try to set out in our article and our reflections further.

Formulation of the objectives of the article (Problem statement).

In this context, an objective philosophical view, in our opinion, should avoid both excessive techno-optimism and cultural pessimism, when the digital environment is identified with the «alienation» (Erich Fromm) of a person from himself.

The purpose of the study is to outline the philosophical dimensions of ecological consciousness in the context of digitalization, to consider modern culture as post-representative, to investigate the structural transformations of ecological

subjectivity.

The main hypothesis of our study is to conceptualize ecological consciousness in those concepts and configurations that are able to provide an adequate response to new global challenges and have, among other things, material ecological consequences, enshrined in infrastructural changes

Presentation of the main material of the study.

In classical approaches, environmental consciousness was often thought of as a combination of knowledge, values, and behavioral attitudes. However, in the digital, post-nonclassical era, the key issue is mediation: how exactly information and values take the form of «convincing knowledge», «visible result», «emotionally positively charged and collectively supported decision». Here, it is appropriate to talk about a normative environmental imagination that does not simply reflect the state of the environment but constructs the horizons of what is considered responsible and fair, and therefore ethical, consistent with the requirements of ethical environmental consciousness.

It is also important that environmental consciousness in the digital environment is often tangential to identification and self-identification, when, for example, demonstrative «green» practices in social networks can become part of the virtual self and change the intentions and behavior of social communities, in the terms of the research conducted, becoming the basis of a «virtual self-identity» [8].

Digital culture involves not only technical tools but also modes of attention that decide what will become a cultural and social «event», what will be pushed out of the mass consciousness and what will be repeated until fatigue [8]. Environmental issues here fall into a philosophical paradox, because they simultaneously require long-term attention, this applies especially to climate as a slow catastrophe for all humanity, and compete in the feed with the logic of the immediate, for example, news about the establishment of a natural park or the construction of a new plant with more efficient waste processing. Therefore, environmental consciousness runs the risk of fragmentation through «episodes of anxiety» without a sustainable

transformation of practices [10].

In this dimension, studies of climate communication in social media are important for us, because they show that information platforms can simultaneously mobilize and polarize, produce trust and distrust. For example, polarization around climate on social media has increased significantly in certain periods (in particular in connection with COP events) [4], demonstrating that «digital publicity» often exacerbates conflicts of interpretation rather than building consensus [20]. The COP (Conference of Parties) in ecology was planned and continues to fulfill its role as an annual global meeting of the countries-participants of the UN Framework Convention on Climate Change, it was at it that decisions were made to combat climate change and reduce greenhouse gas emissions, such as the Kyoto Protocol (COP3, 1997) and the Paris Agreement (COP21, 2015) [18].

From a philosophical point of view, it is also important to consider the ontological shift in ideas about the environment, where the way of scientific vision redefines the essence of nature, and therefore its protection, this is a phenomenological-constructivist approach to environmental consciousness.

Therefore, a separate layer of modern research describes the phenomenon of «digital-nature intersections», when nature appears not as an external background, but as co-constructed by digital practices, where sensors are important, registering applications and algorithmic vision of natural patterns, biomimetics. In the introductory article of the special issue of Digital Geography and Society [12], the authors show that the «digital» works not only as an epistemic tool, i.e. measurement, but as a socio-political and cultural-productive force that shakes the boundaries between the «social» and the «natural».

The philosophical interpretation of this important process is based on the thesis that ecological consciousness is becoming post-representational. We interact not with «nature itself», «nature in itself», but with its digital modes of appearance in the form of risk maps, indices, visualizations and recommendations. The question then is not only about the multiple ontologies of nature, but also, crucially for our

research, how these ontologies of nature (e.g., nature as a resource, as a partner, as a risk system, as a data set) are implicitly embedded in modern digital tools, and accordingly, how they normalize our sociocultural behavior. For example, classical science and philosophy are characterized by the idea of nature as a resource, the non-classical scientific picture of the world perceives nature as a risk system, post-non-classical science and philosophy would like to see nature as a partner, but a partner who communicates in a complex language, so a laboratory and digital data are needed that will provide a voice for this partner in the scientific dialogue.

This multiple ontological shift also has serious ethical implications, if nature «appears» through digital interfaces, then ecological responsibility presupposes a high level of literacy and critical thinking on the part of the scientist himself about what exactly the interface makes visible or invisible [15], and which agents, including states, corporations, digital platforms, govern these modes of visibility.

One of the key philosophical errors in understanding digital culture lies in the old notion of the «immateriality» of data. In fact, digital culture has a heavy material foundation, including resource extraction, devices and device production, information networks, data centers, power and cooling, and thoughtful disposal.

A paper published in Science [14] proposed «recalibrated» («redefined») estimates of global data center energy consumption within the framework of «energy realism» and showed that traffic growth does not linearly translate into energy consumption growth due to efficiency, but the risks of future growth (especially against the backdrop of AI) remain significant.

The development of information and communication technology ecosystems (ICT ecosystems) as a set of interconnected information systems, services, data and participants (companies, users) working as a single whole with seamless digital interaction and exchange of values within a common platform allows for the development of not only new standards of technological interaction, but also a new information ethical standard for environmental behavior [9]. Objective assessments at the industrial sector level demonstrate that the ICT ecosystem has significant

emissions, with a significant share falling on user devices and their life cycle. An analysis for Telecommunications Policy [13] details the ICT sector's electricity consumption and GHG emissions in 2020 and highlights that devices account for the largest share of the impact.

The rapid development of AI is moving environmental concerns into the realm of computational responsibility, hence the need for a new ethics of computing that takes into account the «naturalness» of artificial intelligence, «green AI». A review from Neurocomputing outlines the philosophical and cultural field of «green AI», from methods for reducing energy consumption (green-in AI) to using AI for environmental purposes (green-by AI), emphasizing the need for measurement and regulatory frameworks [1].

The philosophical conclusion of this application of new technologies for environmental awareness in the digital age should include an ontological infrastructural dimension, i.e. the ability to see the environmental consequences of one's own digital everyday life (e.g. cloud computing, device upgrades) and to demand socio-political transparency of supply chains, the energy origin of electricity and standards of responsible design.

Let us consider the issue of digitalization in the context of sustainable development, even if the effective use of one or several technologies does not guarantee sustainability, in our opinion, the effectiveness and return will depend on the development of everyone's environmental awareness [11]. The widespread expectation is that digitalization will automatically reduce the resource intensity of the economy (smart cities, logistics optimization, «dematerialization» of production). However, modern research emphasizes «rebound effects», where increased efficiency can stimulate increased consumption or acceleration of the economy [18]. A person's consumerist, consumerist attitude to the world is destroying the world, therefore environmental awareness should act as the main guardian of the future of the world.

This is confirmed by the analytical model outlined in Ecological Economics,

which systematizes the four effects of digitalization (direct ICT costs; energy efficiency effect; economic growth effect; structural shifts) [10] and concludes that overall digitalization can increase energy consumption if not accompanied by policies of restriction and redistribution.

In Sustainability, the discussion of «digitalization & decoupling» raises an even more acute question: are ICTs capable of ensuring an absolute decoupling of growth and environmental burden, or are they rather embedded in a logic of growth that reproduces pressure on resources [18].

This block is important for the philosophy of ecological consciousness, because it shows: an «ecologically conscious digital subject» cannot limit itself to choosing «more efficient» services [17]. An understanding of cultural ethics and political economy is needed, for example, who benefits from digital optimizations, what incentives they create, and whether they mask the shifting of environmental costs into previously invisible areas, from production to disposal [9].

Today's environmental consciousness is being shaped in an intellectual environment where the «green transition» [16] is becoming both a field of innovation, a field of marketing, and a field of geopolitics [3]. The critique must therefore be two-fold, both as a critique of «anti-technological» fatalism and as a critique of «green technological rhetoric» that hides structural costs.

Political economic analysis of AI for «green» supply chains has shown that corporate promises of «AI as a game changer for sustainability» often do not correspond to the real structure of environmental costs and incentives in the global economy [3]. The philosophical application of this finding to environmental consciousness is that. that in digital culture, the producer and consumer must include critical reflection on power, that is, the question of how platforms, algorithms, and corporations set the boundaries of what is «ecologically acceptable» [1] through metrics, standards, certifications, advertising narratives, and control of infrastructures.

Environmental consciousness also emerges as a new digital publicity,

represented in social media [7]. Research on climate polarization on social media shows that digital platforms can make conflict not a side effect but a structural condition of visibility, where provocativeness is identified as «engagement») [6]. Another study captures populist tropes in the climate debate. An analysis of the mentions of «people» in the climate debate on X/Twitter [5] demonstrates that populist schemas («people» vs. «elites») can permeate not only «climate-skeptic» but also «pro-climate» messages, undermining trust in institutions and policies.

This is important for the philosophy of environmental consciousness, because it shows that environmental consciousness is not only an activity, a knowledge, where it is important to know the truth about the climate, but also a new presence, where it is necessary to be included in regimes of trust [19]. If trust in science or the state is destroyed, then environmental knowledge may lose its mobilizing power, fail to become an activity, or turn into affective noise, a non-working commentary on a social media platform.

Social media create a space where environmental behavior becomes part of a symbolic economy of status. The study of «conspicuous green behavior» shows that the virtual self can influence pro-environmental intentions and actions, but at the same time opens up the risk of replacing material action with representation [16].

Digital culture appears as a new ethical and legal field of norm-setting, where the ethics of the digital should approach a general environmental imperative valid for everyone: Kant's formulation «Act only according to that maxim that you would at the same time like to see as a universal law of nature» is transformed into Barry Commoner's moderate definition of «nothing is given for free», where the global ecological system is a single whole.

The philosophy of environmental consciousness in the digital age inevitably intersects with the ethics of the digital, valuing privacy, justice, accountability of algorithms, asymmetry of power. In this sense, the concept of «digital humanism» is important because it directly recognizes the digital as a political and philosophical project of «drawing boundaries» for digitalization, that is, setting normative

restrictions.

Additionally, the pragmatic turn in digital ethics emphasizes: values are inevitably «built-in» into digital systems, and therefore environmental values must be included in the design and management of technologies.

Based on the material considered, we will propose a conceptual model that captures the specifics of environmental consciousness in digital culture, this is «platformed environmental consciousness». Platformed ecological consciousness is a form of ecological subjectivity that is formed and reproduced through digital platforms, algorithmic modes of visibility, and the infrastructural conditions of information and communication technology ecosystems, combining normative beliefs, affects, and practices of action.

Three main semantic axes of the model of this consciousness can be outlined.

The first, epistemic axis, is based on knowledge and truth (knowledge/disinformation), where knowledge should circulate as digital «content», and truth competes and wins by competing with the virality of social media. The disadvantage of this axis in modern conditions may be that polarization can become a media norm.

The second, emotional-affective axis (anxiety/hope/outrage), demonstrates that in ecological consciousness, emotions often become the «fuel» of engagement, and anxiety for a common ecological/climate future can both mobilize and paralyze socially active behavior. The danger of this axis lies in political populism, where populist tropes and metaphors can reconfigure affects against institutions.

The third, main, practical axis (habits/consumption/collective action), where ecological action can be reduced to mere demonstration, as digitalization generates rebound effects, or become practically effective through infrastructural materiality (ICT/AI), which makes «digital habits» environmentally relevant.

From this model proposed in our study, three key normative positions for the ethics and politics of digital culture follow.

The first proclaims infrastructural responsibility as the main one, that is,

ecological consciousness must include knowledge of the material consequences of the digital (energy, devices, data centers, AI computing), otherwise it remains a «symbolic ecology».

The second is based on the recognition of ecological virtues. Epistemic and media literacy become the main ones as an ecological virtue, when in digital culture ecological ethics requires virtues related to verification, resistance to manipulation, attention to sources and understanding of algorithmic mechanisms of polarization.

The third is based on a critique of «green» rhetoric without political economy: «AI for sustainability» and «digital solutions» can only be effective if there is institutional accountability, regulation, and a change in incentives, otherwise they become a mechanism for legitimizing growth.

To achieve our goal, namely a holistic analysis of the philosophical dimensions of environmental consciousness in the context of digitalization and structural transformations of environmental subjectivity, we have applied several methods, in particular an interdisciplinary approach that combines social philosophy, ethics, philosophical anthropology and sociology. Behind social movements and environmental consciousness, we see a crisis of ethics and its overcoming, and to suggest ways of overcoming it, we have used philosophical-anthropological and phenomenological methods. Another methodological emphasis of our work is that environmental consciousness in digital culture cannot bypass the materiality of the digital, this is a new connection between philosophy and philosophy of economics, data centers, energy consumption, device production, electronic waste become the focus of modern consideration, it is here that the dramatic paradox of eco-sacredness arises as a search for the sacred in a secularized world.

Conclusions. Environmental awareness in the context of digital culture is not simply «the dissemination of environmental information online», but a structural transformation of environmental subjectivity: the modes of visibility of nature, the ways of forming trust, the affective economy of climate discourse, and the very

materiality of everyday practices are changing. Philosophical analysis shows that environmental awareness must be simultaneously ethical, media-critical, and infrastructurally realistic. Only in this way can it become the basis for sustainable change, not short-term waves of concern that algorithms quickly convert into «content» and forget.

Digital culture intensifies ecological anxiety through constant exposure to disasters. But it is important not to psychologize and over-anthropologize our ecological fears, which can become a phenomenological signal of a rupture in an important lifeworld, when the world ceases to be a self-evident «home». Now, most people feel that the future is not guaranteed, and that the future «natural order» has been forever disrupted. The conclusions and further prospects of our research are related to the restoration of this order, therefore, our research is based on a phenomenological and ecological approach to digitalization.

A conceptual model of «platformed ecological consciousness» is proposed, which describes how digital environments transform ecological subjectivity through three interconnected axes: epistemic within knowledge and misinformation, emotional-affective within emotional moods of anxiety and hope, practical from individual habits to consumption practices and conscious collective action. The need for a double critique within post-nonclassical philosophy is revealed, both a critique of the «greening» of the digital as a symbolic gesture without material responsibility, and a critique of the «techno-solution» without ethical-civic legitimacy, which is exactly what the philosophical field of further research on this topic will look like.

From our position and the perspective of further research, the idea of responsibility as a response to a call is primarily useful here: the Earth appears not as an object, but as something that «calls» every conscious citizen, through suffering, destruction, loss. But in the digital environment, the call has the danger of turning into noise: the recurrence of disasters reduces sensitivity, generates fatigue, which phenomenologically looks like a transition from an «ecological call» to a simple «alarm signal» that the nervous system learns to ignore.

Another methodological emphasis of our work is that environmental consciousness in digital culture cannot bypass the materiality of the digital, this is a new connection between philosophy and philosophy of economics, data centers, energy consumption, device production, electronic waste become the focus of modern consideration, it is here that the dramatic paradox of eco-sacredness arises as a search for the sacred in a secularized world. This is the paradox we are fighting against: we sacralize nature by using infrastructures that increase pressure on nature, we strive for «purity» through technologies that have a «dirty» supply chain, this should become the basis for further deep existential-philosophical research on ecological consciousness.

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