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ARTIFICIAL INTELLIGENCE: A TRANSDISCIPLINARY APPROACH

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CONCEPTUAL FRAMEWORK OF THE RESEARCH

The importance and relevance of the chosen topic arise from a reality that can no longer be ignored. The rapid development of artificial intelligence is no longer merely a technical matter; it has become an issue that touches the very essence of human existence. Almost a century ago, Nikolai Berdyaev prophetically warned that the question of technology had, in fact, become a question about the destiny of humanity and of culture itself. Along the same lines, Martin Heidegger warned that the essence of technology is by no means something merely technical, but rather a mode of revealing that risks transforming the entirety of existence into a mere "standing reserve." Thus, the ultimate danger lies not in the functioning of machines themselves, but in the forgetting of Being, through which the human person loses the capacity to perceive the uniqueness and mystery of their own presence in the world.

Today, when technology appears to blur the boundaries between the human and the artificial, this warning is more relevant than ever. The present study does not aim to provide an analysis of software systems; rather, it seeks to explore those boundary zones between disciplines where the future of human dignity is being determined. We consider this topic essential because, now more than ever, there is a need to restore philosophical depth to the center of technological progress in order to prevent the human person from being reduced to a mere number or statistical datum.

In recent years, artificial intelligence has become a field of research and development with a significant influence on contemporary society. Given the complexity of this phenomenon, it has become increasingly evident that addressing the challenges associated with this discipline requires a perspective capable of transcending the limits of any single field and engaging with the interaction among multiple domains. Furthermore, even such an interdisciplinary approach often proves insufficient, as certain concepts and phenomena situated at the boundaries between disciplines remain unexplained. It is precisely at this point that transdisciplinary methodology can make a valuable contribution to the field of artificial intelligence. This approach opens new pathways toward innovation and toward more comprehensive and resilient solutions. By understanding the complexity of technology's impact on sociocultural life, ethics, and economics, transdisciplinary research has the capacity to shape a holistic and balanced vision of the development of artificial intelligence.

Approaching artificial intelligence through a transdisciplinary lens allows for the identification of multiple layers of impact and influence, thereby creating a broad and multifaceted framework of analysis. Within this context, the phenomenon of transhumanism may be understood

as complementary to the discussion on artificial intelligence, since it explores the boundaries between human beings and machines while evaluating the ways in which this interaction reshapes our perceptions of humanity and society.

Aim and Objectives of the Thesis. The aim of this thesis is to conduct a transdisciplinary investigation of artificial intelligence, with the purpose of facilitating a deeper understanding of a highly relevant and widely discussed subject within the contemporary hyper-technologized society in which we live. In order to achieve this aim, we have formulated a series of objectives:

- To analyze and synthesize existing knowledge in the field of artificial intelligence, in correlation with its diverse theoretical and methodological approaches.
- To identify and evaluate the domains of application in which artificial intelligence can benefit from a transdisciplinary approach.
- To develop a transdisciplinary model of artificial intelligence.
- To rigorously assess the performance and impact of the transdisciplinary approach within the field of artificial intelligence.
- To contribute to the advancement of knowledge in artificial intelligence through a transdisciplinary framework.
- To deepen the understanding of the human being and the irreducible complexity of the human mind through the application of the transdisciplinary method.
- To analyze transhumanism in relation to artificial intelligence.
- To evaluate corporeality as an essential dimension of human intelligence.

Research hypothesis: Artificial intelligence remains a functional-algorithmic simulation of cognitive processes, being ontologically incapable of accessing the noetic dimension of human understanding. A correct evaluation of this gap requires the abandonment of technocentric reductionism in favor of a transdisciplinary methodology capable of addressing the ethical and spiritual impact of emerging technologies.

Research problem. The emerging complexity of contemporary artificial intelligence systems generates a major conceptual tension between computational performance and noetic understanding. The central problem of this investigation lies in the difficulty of defining and circumscribing the ontological status of artificial intelligence beyond functional simulations of cognition. While human intelligence constitutes an irreducible structure, integrating reasoning with self-awareness, affectivity, and embeddedness within a living socio-cultural context, artificial intelligence operates through the manipulation of vast amounts of data within predefined algorithmic frameworks.

To what extent can the "intelligent" status of a system be validated when, although it solves problems of extreme complexity, it remains devoid of the semantic dimension of understanding and of awareness of its own existence? How can the impasse of reductionism be overcome, given that it tends to equate algorithmic efficiency with intelligence as such, while neglecting the insurmountable limits of machines with respect to moral judgment and empathy? What methodological framework is capable of integrating these ontological distinctions in order to guide the ethical implementation of technologies, in a context where the increasing autonomy of artificial intelligence systems blurs traditional lines of human responsibility?

The identification of the ontological limits of simulated intelligence is not merely a technical necessity, but a philosophical problem of critical relevance. The absence of a clear distinction between algorithm and person risks grounding an irresponsible use of emerging technologies, thereby undermining fundamental human values.

Research methodology. The transdisciplinary method represents the core of this study, functioning as the primary instrument through which it becomes possible to move beyond technical boundaries and to grasp what artificial intelligence truly signifies. The application of a transdisciplinary methodology constitutes a major step toward a deeper and more comprehensive understanding of this technology. Artificial intelligence itself integrates a wide range of disciplines and research methods, from mathematics and computer science to ethics and the social sciences. Understanding such a complex phenomenon requires more than a narrow, single-disciplinary perspective. Transdisciplinarity provides a unifying framework capable of encompassing this complexity in an organized and coherent manner.

In addition, **phenomenological analysis** is employed within this research. In the context of artificial intelligence, this approach involves exploring how individuals perceive and understand their interactions with AI systems. It allows for a clearer insight into how users experience and interpret the presence and actions of this technology in their everyday lives, as well as how these interactions shape their perceptions of intelligence, consciousness, and humanity.

Given the contemporary prevalence of pretrained generative language models, **hermeneutics** becomes an essential interpretative tool for analyzing AI responses to human prompts. This implies not only examining the text itself, but also the context in which it is produced and used, including user reactions and interpretative frameworks.

Considering the interdisciplinary nature of the research, **comparative interdisciplinary studies** are also employed. These involve examining how different disciplines approach and conceptualize artificial intelligence, with the aim of identifying both convergences and divergences among them. In this context, the perspectives of philosophers, psychologists, ethicists,

and computer scientists are analyzed in relation to their interpretations and evaluations of the concepts and implications of artificial intelligence.

A significant part of this work is grounded in several **case studies**. Through the examination of three specific cases, the research seeks to gather evidence in order to construct a more nuanced understanding of how artificial intelligence operates, as well as of the conceptual differences between artificial and human intelligence.

The scientific novelty and originality of this research lie in the application of a transdisciplinary philosophical methodology to artificial intelligence. A systematic review of the relevant literature revealed a significant gap in this regard: although artificial intelligence has been the subject of an impressive number of studies, the genuinely transdisciplinary perspective, in the precise methodological sense articulated by Basarab Nicolescu, has remained almost entirely neglected in this field, and the present study explicitly addresses this need. A distinctive contribution of this work is the development of a transdisciplinary model of the human being, structured across multiple levels of reality, from the quantum substrate to the dimension of logos. This model offers, for the first time, a conceptual framework for establishing the ontological limits of simulated intelligence. The originality of the study is further grounded in its rigorous demonstration of the ontological limitations of artificial intelligence in relation to the irreducible complexity of human intelligence, a complexity that cannot be reduced to computational processes without losing what is essential to the very act of understanding. At the same time, the dissertation advances an innovative critical perspective through the juxtaposition of the concepts of *Homo Deus* (transhumanism) and *Theosis* (the theological perspective), thereby proposing a new conceptual framework for evaluating the ethical and existential implications of emerging technologies. In all these respects, this work stands among the first philosophical studies to apply the axioms of transdisciplinarity to a rigorous analysis of artificial intelligence**.**

The results obtained are aimed at overcoming the reductionist view of artificial intelligence by establishing a transdisciplinary perspective that clarifies the ontological distinction between algorithm and the human mind. In this regard, the dissertation provides a methodological framework for integrating multiple levels of reality into the analysis of technology, demonstrating that human intelligence possesses an irreducible complexity that cannot be fully replicated through strictly computational processes. This demonstration does not remain at a purely theoretical level. Through the case studies conducted—including dialogue-based tests with ChatGPT, handwritten digit recognition using a convolutional neural network (CNN), and the analysis of chess engine behavior—the study offers a philosophical argument concerning the fundamental cognitive limitations of current artificial systems. At the core of these findings lies the original

transdisciplinary model of the human being, which demonstrates that authentic understanding, wisdom, and self-awareness are not merely higher-order functions of a more complex computational system, but ontologically distinct phenomena that remain inaccessible to any algorithmic architecture.

The theoretical significance of this study lies in establishing an expanded conceptual framework for understanding artificial intelligence through the lens of transdisciplinary methodology. The dissertation contributes to the development of the philosophy of technology and philosophical anthropology by redefining the relationship between intelligence, consciousness, and embodiment. From an epistemological perspective, the research opens a new field of philosophical inquiry concerning the ontological status of artificial systems, proposing more rigorous criteria of distinction than those offered by classical behavioral approaches, such as the Turing Test. Furthermore, the transdisciplinary model of the human being developed in this work may serve as a point of departure for reconfiguring the philosophy of mind within the contemporary technological context, providing a framework in which consciousness and the noetic dimension are understood not as epiphenomena, but as constitutive levels of authentic intelligence.

The applied value of this research lies in providing a methodological support for the educational environment, offering a pedagogical framework that integrates ethics and critical thinking into the study of advanced technologies. The training of future specialists is thus grounded not only in technical competencies, but also in the ability to distinguish between algorithmic efficiency and the irreducible complexity of the human mind. Beyond the academic sphere, the results of the research can be directly utilized by institutional and regulatory decision-makers, offering robust philosophical arguments for the development of public policies that operate with a clear ontological distinction between algorithm and person, and that prevent the improper attribution of moral responsibility to artificial systems. The proposed transdisciplinary framework also proves useful in continuing education programs for professionals in law, medicine, or public administration—fields in which interaction with artificial intelligence systems already raises concrete and urgent ethical dilemmas. Finally, the transdisciplinary model of the human being developed in this study may serve as a valuable instrument in the dialogue between theology, philosophy, and science, contributing to the formation of a more reflective institutional culture in relation to the accelerated pace of technological change.

The bibliography consists of 190 sources in Romanian, English, French and Russian.

Keywords: artificial intelligence, neural networks, technology, transdisciplinarity, complexity, reductionism, non-reductionism, holism, human intelligence, transhumanism, *Homo Deus, Theosis*.

THESIS CONTENT

In **Chapter 1**, entitled **THEORETICAL FOUNDATIONS OF ARTIFICIAL INTELLIGENCE: A TRANSDISCIPLINARY APPROACH**, we provide an analysis of the evolution of the concept of artificial intelligence, its scientific foundations, and the transdisciplinary methodological framework.

In **subchapter 1.1,** *Genesis and evolution of the concept of Artificial Intelligence,* examines conceptual definitions, major historical stages, and fields of application of artificial intelligence.

Artificial intelligence is defined as a field of techno-science aimed at designing systems capable of simulating cognitive properties specific to humans, such as natural language understanding, learning, and complex problem-solving. D. Dumitrescu [5] classifies possible definitions into four basic categories. The author notes that, in defining artificial intelligence, emphasis may be placed either on cognitive processes or on behavior. Thus, definitions may be based on the following premises: AI systems 1) think like humans, 2) think rationally, 3) act like humans, 4) act rationally. Based on these premises, the following definitions are possible:

- Artificial intelligence consists in the automation of activities associated with human thinking (decision-making under rules or uncertainty, heuristic problem-solving, learning).
- Artificial intelligence refers to the effort to build computing systems that think in a human-like manner, endowing machines with a human mind.
- Artificial intelligence is defined as the study of mental capacities through computational models (the cognitive approach).
- Artificial intelligence is the study of computational processes that enable perception, reasoning, will, and action.
- Artificial intelligence is the activity of designing machines capable of performing tasks that, when performed by humans, require intelligence.
- Artificial intelligence is the result of research aimed at developing systems capable of performing tasks that humans currently perform better (pattern recognition, language understanding, etc.).
- Artificial intelligence is the activity of designing computing systems that can perform tasks requiring intelligence in humans.
- Artificial intelligence is the field of study that, using computational processes, seeks to explain and replicate intelligent human behavior as accurately as possible.
- Artificial intelligence is a branch of computer science aimed at automating intelligent behavior.

In the context of this study, artificial intelligence is understood as a functional-algorithmic simulation of human cognitive processes, achieved through the algorithmic manipulation of data and capable of reproducing intellectual performance in specific domains, without accessing the *noetic* dimension of understanding or self-consciousness. This definition places artificial intelligence within a precise ontological framework, in which the distinction from human intelligence is not one of degree, but of nature, a distinction that will be further argued and developed throughout the dissertation.

The evolution of the field has marked essential turning points, beginning with Alan Turing's proposed test in 1950 [31] and culminating in 1997 with the victory of the supercomputer *Deep Blue* over Garry Kasparov. The history of artificial intelligence has included periods of decline, known as "AI winters," yet the explosion of data availability and increasing computational power have enabled a transition from expert systems (based on logical rules) to the dominance of neural networks and deep learning.

Remarkable achievements in strategic games such as Go—where *AlphaGo* defeated world champions in 2017—or in general knowledge competitions such as Jeopardy! with the *Watson* system, demonstrate the capacity machines to surpass human performance in specific domains, even though artificial general intelligence has not yet been achieved.

Currently, artificial intelligence has a significant impact across multiple sectors, from medicine, where *AlphaFold* solved the protein folding problem, to finance, autonomous transportation, and virtual assistants. A particularly challenging aspect is the penetration of algorithms into the artistic domain, where platforms such as Midjourney or DALL·E raise unsettling questions about the nature of authentic creativity in the absence of subjective lived experience. Although technological promises are vast, the ongoing evolution of artificial intelligence compels us to reconsider the value of human effort and to responsibly address the ethical and social implications of this sophisticated "simulation" of intellect.

Subchapter 1.2, *Scientific Framework and Current State of Research,* shows that research in artificial intelligence presents a vast and continuously evolving landscape. Significant progress in machine learning, deep learning through artificial neural networks, natural language processing, computer vision, autonomous agents, and robotics represents only a fraction of current developments.

From a transdisciplinary perspective, studies explicitly integrating philosophy and artificial intelligence remain extremely limited at present. One explanation may be the confusion between transdisciplinarity and multi-/interdisciplinarity. This thesis aims to contribute to filling this gap in the specialized literature.

One of the few works adopting a transdisciplinary philosophical approach is the article by Adrian Iosif [10]. The text addresses issues related to distorted perceptions of artificial intelligence and its impact on human self-understanding and the concept of divinity. It is argued that reducing the human being to a purely mechanical system and considering AI as a substitute for the human brain leads to a limited physicalist conception of humanity. Technologies, including AI, cannot produce an ontological leap in human existence, even though they represent undeniable technological progress. Transdisciplinary knowledge revalues the poetic dimension of the world and reintegrates wonder as a fertile ground for perceiving what cannot be directly perceived.

In Artificial Intelligence: A Modern Approach [30], authored by Stuart Russell and Peter Norvig, we find a concise but significant overview of philosophical interpretations of artificial intelligence. The authors explore fundamental philosophical questions concerning mind, intelligence, knowledge, and action, offering a perspective on the evolution of ideas shaping the field.

The scientific framework of AI is interdisciplinary, grounded in mathematics, physics, biology, and formal logic. Mathematics provides linear algebra for data processing and calculus for optimization. Physics and biology inspire computational models such as convolution principles in computer vision, genetic algorithms, and swarm intelligence. These disciplines enable machine-environment interaction, yet remain constrained by predefined rules and procedures [23].

Logical and computational foundations, while rigorous, highlight the intrinsic limits of weak artificial intelligence compared to human intelligence. Formal logic is constrained by Gödel's incompleteness theorems [28], which demonstrate fundamental limits of formal systems. While statistical and Bayesian models manage uncertainty, human intelligence remains a complex phenomenon involving emotion, consciousness, and intuition—dimensions that exceed computability.

Subchapter 1.3, *From interdisciplinarity to transdisciplinarity,* justifies the necessity of integrating multiple disciplines, as reality functions as a unified system and the most valuable insights emerge at the intersection of distinct fields. Artificial intelligence interacts bidirectionally with numerous domains of knowledge. It provides computational ontologies for knowledge management, challenges epistemology to redefine truth in automated contexts, and offers psychology computational models of cognition. From personalized education and sociological big data analysis to anthropology and theological ethics, AI acts not merely as a technical tool but as a catalyst for rethinking economic, ethical, and ecological foundations of contemporary society.

Distinguishing between modes of academic collaboration is essential to avoid fragmentation of knowledge caused by excessive specialization [17]. Multidisciplinarity involves

parallel contributions without methodological integration, while interdisciplinarity implies transfer of concepts and methods between disciplines. Transdisciplinarity, in contrast, represents an "in vivo" approach oriented toward wonder and shared understanding, transcending disciplinary boundaries to grasp reality in its holistic unity. Unlike the binary logic of interdisciplinarity, transdisciplinarity employs the logic of the included middle, integrating both external reality and the internal experience of the subject, thus offering a global vision of complex problems that cannot be solved through mere aggregation of technical expertise [17].

In **subchapter 1.4,** *Levels of Reality and the Logic of the Included Middle in the Study of Artificial Intelligence,* we examine the transdisciplinary methodology. The transdisciplinary vision proposed by Basarab Nicolescu transforms the understanding of Reality from a unidimensional structure into a multidimensional one, organized across multiple levels that are accessible through corresponding levels of perception [17].

The coherent flow of information traversing these levels converges with the flow of consciousness of the transdisciplinary Subject within a zone of non-resistance called the "Hidden Included Middle" or the "Point X," which ensures the open unity of the world without abolishing the ontological distinctions between levels (Fig. 1.3).

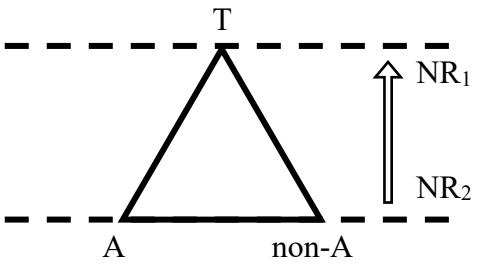


Fig. 1. 1 Symbolic Representation of the Operation of the Logic of the Included Middle [17, p. 238]

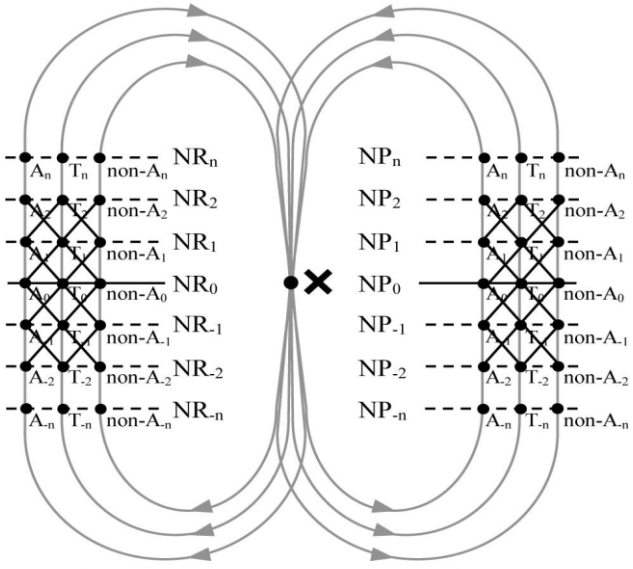


Fig. 1. 2 The Transdisciplinary Object, the Transdisciplinary Subject, and the Interaction Term [17, p. 237]

Transdisciplinary methodology is grounded in three essential axioms that enable the exploration of the complexity of contemporary systems, including artificial intelligence. The first is the **ontological axiom**, which postulates the existence of different levels of Reality for both the Object (the external world) and the Subject (the world of perception). The second is the **logical**

axiom, according to which the transition and coherence between these different levels are ensured by the logic of the included middle, thereby allowing the overcoming of classical dualities. Finally, the **epistemological axiom** defines Reality as a complex and interconnected structure in which each level is defined through its simultaneous coexistence with all the other levels. These principles provide the necessary framework for understanding that no theory or discipline occupies a privileged position, knowledge being an evolving and continuous process of integrating increasingly unifying perspectives on Nature and the human being [17].

Chapter 2, entitled **CONCEPTUAL AND METHODOLOGICAL DIMENSIONS OF THE RESEARCH: CASE STUDIES,** presents three case studies that explore the performance and limitations of artificial intelligence, while simultaneously demonstrating the effectiveness of the transdisciplinary methodology through the validation of the transdisciplinary model of the human being.

Subchapter 2.1, *Architecture and Functioning of Artificial Neural Networks*, explains how artificial neural networks are inspired by biology. They represent a major research direction within machine learning, being designed according to the model of information processing in biological systems, where problem-solving strategies are learned through examples rather than rigid programming. An artificial neuron is a highly simplified model of the biological neuron, functioning as a nonlinear processing unit that multiplies input values by weights, sums them, and applies an activation function (often sigmoid) to generate an output signal [9]. These systems, organized in layers, possess remarkable capabilities of self-organization, generalization, and synthesis, being able to produce correct outputs for unseen data and to operate efficiently even in the presence of noise or system errors [27].

From a philosophical perspective, neural networks belong to the connectionist paradigm, which argues that cognitive processes emerge from complex interactions within networks of simple processing units, offering advantages such as error tolerance and biological plausibility [8]. However, connectionism faces difficulties in explaining subjective mental content, intentionality, and consciousness, as the internal processes of deep networks are often opaque and difficult to interpret. In this context, the transdisciplinary philosophical approach appears superior, as it recognizes the non-mediated interaction between multiple levels of Reality and assigns a central role to the Transdisciplinary Subject and consciousness [17].

In **subchapter 2.2** *Limitations, Performance, and Comparison with Human Intelligence. Simulated Intelligence versus Intelligence Proper. Case Study: ChatGPT,* we analyze the distinction between simulated intelligence and authentic intelligence, emphasizing that although current models can process vast amounts of data, they remain limited by the absence of

consciousness and subjectivity. Machine performance does not equate to human understanding; rather, it functions as an analytical tool rather than an autonomous cognitive agent.

In **section 2.2.1** *The Winograd Schema Challenge and Contextual Understanding* presents the Winograd Schema-type test that has been proposed as an alternative to the Turing Test, designed to evaluate a machine's ability to understand natural language through the resolution of linguistic ambiguities involving anaphora and coreference.

Modern language models such as ChatGPT or BERT process such inputs through tokenization and embedding into high-dimensional vector spaces, using attention mechanisms to assign contextual relevance to words. From the perspective of philosophy of language, tokenization can be seen as an attempt to isolate signifiers; however, as suggested by Ludwig Wittgenstein and Ferdinand de Saussure, meaning is inseparable from use and context [4; 22].

Within the transdisciplinary axiomatic framework, tokenization operates at a level of Reality that privileges analysis, yet, according to the logic of the included middle, must acknowledge the relational and dynamic meanings that transcend discrete units. Although models such as BERT use bidirectional architectures and masked language modeling to resolve references, Winograd Schemas remain a significant challenge, requiring deep semantic understanding and abstract reasoning beyond statistical pattern matching.

In **section 2.2.2** *Case study. ChatGPT 3.5 dialogue tests,* through direct experimentation, dialogue tests with ChatGPT 3.5 show that although the model can produce grammatically correct answers, it often fails to correctly interpret situational context and the subtleties of Winograd Schemas.For instance, in physical reasoning tasks ("The trophy did not fit in the suitcase…"), the system fails to understand spatial relationships, relying instead on morphological and syntactic cues. Similarly, in cases of semantic ambiguity or polysemy, the model remains trapped in symbolic manipulation without access to experiential meaning or emotional context [29].

This confirms John Searle's argument regarding the "Chinese Room," demonstrating that ChatGPT possesses syntax but not semantics: it manipulates symbols according to formal rules without genuine understanding [19]. The distinction is further reinforced by Noam Chomsky's notion of the "poverty of the stimulus," highlighting that human language acquisition involves innate generative capacities that are absent in statistical models [24].

In **Section 2.2.3,** *Dialectics of Natural and Artificial Language*, we examine the contrast between natural and artificial language. The difference between these two forms of language is both structural and ontological, extending beyond mere technical rigor. Hans Freudenthal emphasizes that artificial languages, such as Esperanto or computer programming codes, are systems governed by strict and predictable rules, designed for clarity, yet lacking the logical and

semantic depth characteristic of natural languages [13]. While human language evolves organically, enriched by ambiguity, metaphor, and nuanced forms shaped by social experience, artificial intelligence systems such as ChatGPT remain confined within statistically learned linguistic models. These systems encounter significant limitations in handling the "potential infinity" of language—the capacity to generate an unlimited number of novel and coherent constructions—because they lack deep semantic understanding, operating instead on the basis of mathematical probability rather than intentionality [13, 24].

A key concept in this dialectical framework is the distinction between competence and performance, introduced by Noam Chomsky. Competence refers to the abstract and innate knowledge of language, whereas performance denotes its actual use in concrete situations, constrained by physical or social factors [24]. Another major distinction concerns the nature of meaning. Artificial languages employ additive semantics, in which meaning is derived from the sum of constituent parts, whereas natural languages operate through integrative semantics, where context and idiomatic usage render the whole greater than the sum of its elements [13]. Furthermore, human language exhibits unique characteristics such as double articulation (the combination of phonemes into morphemes), self-referentiality, intrinsic poeticity, and the capacity to express humor and irony as forms of cognitive and existential liberation. These features demonstrate that natural language is not merely a tool for information transfer, but a living, social, and creative phenomenon that cannot be fully acquired or replicated in the absence of authentic lived experience.

In **Subchapter 2.3**, *Pattern Recognition and Game Algorithms. Case Studies: Handwriting Recognition and Chess*, we analyze the limitations of artificial intelligence in visual and strategic tasks. Visual pattern recognition represents a fundamental pillar of intelligence, grounded in principles such as similarity, proximity, and invariance, which enable the human mind to identify patterns regardless of contextual variation. The case study conducted on the MNIST dataset, using a convolutional neural network (CNN) implemented in Python, demonstrated remarkable technical performance, achieving an accuracy of 99.3% on the validation set. The network architecture, structured through convolutional layers, max-pooling layers, and fully connected layers with ReLU and softmax activation functions, successfully classified the vast majority of digits. This is confirmed by the dominant diagonal of the confusion matrix, where, for instance, 977 out of 980 images of the digit 0 were correctly identified.

Despite this statistical success, the experiment revealed the deeper limitations of the network when confronted with contextual "anomalies" that humans typically resolve effortlessly. By introducing a dataset of digits written in a personalized style (Fig. 2.9), the network recorded

an error rate of 40%, frequently confusing the digit 0 with 9 and the digit 1 with 6. This underperformance highlights that, unlike machines, humans do not rely solely on bottom-up computation. Instead, they employ a holistic and contextual approach, integrating sensory experience with Gestalt principles in order to extract meaning rather than merely recognize isolated signs.



Fig. 2. 1 Digits 0 and 1 used for testing the neural network

Parallel to visual recognition, the game of chess offers a similar perspective on the limits of pure computation. Although programs such as Stockfish have an Elo rating that far exceeds current human performance, they still fail in the face of seemingly trivial positions involving impenetrable pawn barriers (Fig. 2.10 and 2.11). While a human player immediately understands the strategic nature of the barrier, the computer, treating chess exclusively as a computational problem, chooses to capture pieces in a "naïve" manner, thereby undermining its own position and losing the game [1, 18]. Even in their current advanced versions, chess engines still appear unable to fully overcome such dilemmas, demonstrating that immense processing power cannot compensate for the absence of structural understanding of reality.

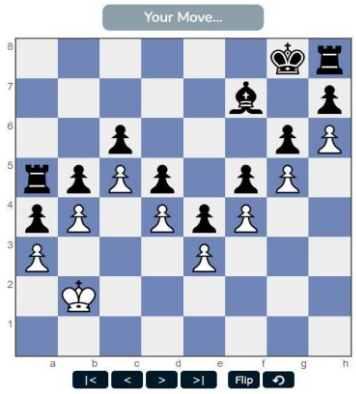


Fig. 2. 2 Chess position for computer analysis [1, pp. 98-99]

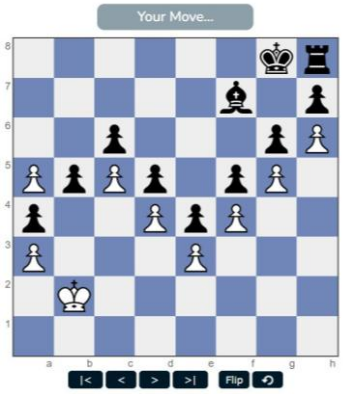


Fig. 2. 3 Stockfish captures the rook on a5 and… loses the game.

The conclusions drawn from both case studies reveal an ontological difference between algorithmic computation and human intelligence: while the machine processes symbols and bit vectors, the human being embodies situational context and performs a qualitative leap toward understanding. The fractures observed in the logical-mathematical reasoning of artificial intelligence confirm that what fundamentally defines the human mind is the capacity to integrate multiple levels of reality and perception—an ability that remains unmatched by reductionist approaches. However, understanding these limitations should not lead to sterile skepticism, but

rather to an optimal and fruitful use of technology, acknowledging that human superiority lies in the ability to grasp global context and to ascribe meaning to visual or strategic patterns.

In **Subchapter 2.4**, *Simulated Intelligence vs. Authentic Intelligence: A Non-Reductionist Perspective*, we critically examine reductionist approaches that attempt to explain the mind solely in terms of physical or mechanical processes. Reductionism, often regarded as the "enemy" of holistic approaches, manifests in three main forms identified by John C. Lennox: methodological reductionism (the decomposition of systems into simple components), epistemological reductionism (the explanation of higher-level phenomena through the laws of lower levels), and ontological reductionism (the reduction of all phenomena to fundamental physical entities) [12]. Although useful within scientific inquiry, these perspectives become problematic when extrapolated to complex phenomena such as intelligence or consciousness. As argued by Thomas Nagel, any materialist analysis that omits the subjective and phenomenal character of experience is ultimately bound to fail [16]. The laptop analogy illustrates this limitation: although software depends on hardware, the logical rules of programming do not directly derive from the chemistry of metals, suggesting that emergent properties cannot be fully explained through purely materialist frameworks [12]. Within this context, the transdisciplinary methodology succeeds in overcoming the limitations of reductionism through the application of its axioms, integrating Subject and Object within a unified model connected through the zone of non-resistance. In this way, it preserves the integrity of mental phenomena without fragmenting them into their material components [17].

In **section 2.4.1** *Non-Reductionism and Levels of Reality*, we present the model of Levels of Reality, rejecting the idea that everything can be reduced to physics. Non-reductionism is grounded in the perspectives of holism and emergentism, according to which a complex system is more than the sum of its individual parts due to the deep interdependence and interconnectedness of its components. Within this view, the whole possesses emergent properties and behaviors that are distinct and unpredictable, and which cannot be fully explained through the isolated analysis of its parts. The transdisciplinary model of Levels of Reality succeeds in reconciling the reductionism of simple systems with the non-reductionism of complex ones, emphasizing that Reality has an ontological and trans-subjective dimension that exceeds both mere human convention and social construction.

The philosopher Roy Clouser reinforces this perspective through a thought experiment demonstrating that conceiving an object as "exclusively physical" leads to a complete loss of substance, since the elimination of sensory, logical, or linguistic properties ultimately dissolves the very concept of the object itself [25]. The author introduces a distinction between active and

passive properties, arguing that all things are governed by the laws of all aspects of reality, even if some aspects function only in a passive manner in certain domains. For example, a rock does not think, yet it possesses passive logical properties that allow human beings to integrate it into reasoning processes. This non-reductionist ontology, illustrated through the sequential ordering of aspects, emphasizes that all dimensions of existence are equally real and interconnected. It provides a strong argument against exclusive materialism and resonates deeply with the transdisciplinary philosophical methodology of multiple Levels of Reality.

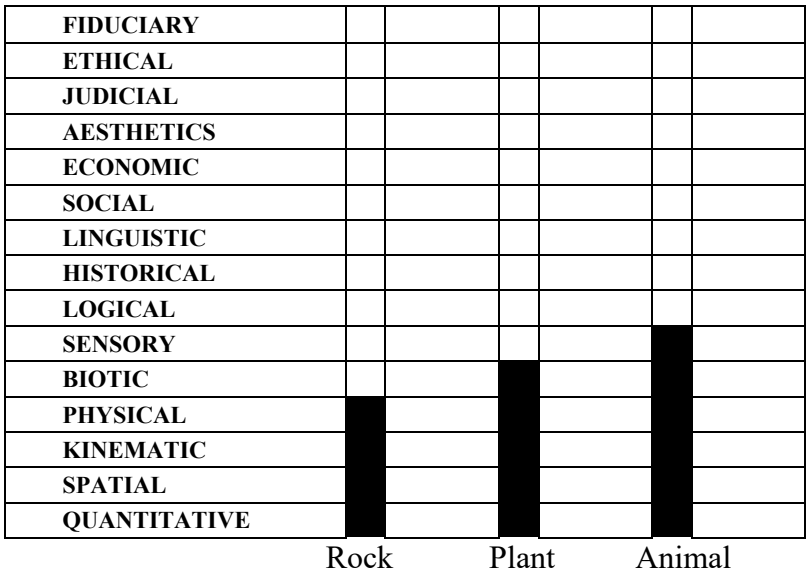


Fig. 2. 4 Scheme of active and passive functions [25, p. 45]

In **section 2.4.2** *Non-Reductionist Interpretation of Artificial Intelligence,* based on the transdisciplinary model of the human being, we establish the ontological limit of artificial intelligence. The non-reductionist interpretation of artificial intelligence proposes a vision in which consciousness and understanding are not ancillary features, but foundational dimensions of the intelligent act. Current artificial intelligence models are critically examined for their radical exclusion of consciousness, ignoring the fact that in higher biological systems, advanced intelligence is inseparable from an agent's capacity to perceive itself as a distinct entity and to ascribe meaning to its own activities. From a transdisciplinary perspective, intelligence cannot be reduced to a mere algorithmic learning process (specific to level NR3), since it becomes meaningless without the level of understanding (NR4), which involves self-consciousness and the ability to evaluate outcomes within a global framework. Moreover, human intelligence is profoundly shaped by corporeality (bios) and affectivity (psyche), emotions being essential partners of reason that optimize decision-making processes and enable empathy. This stands in

contrast to the "cold reasoning" of machines, which may generate logically correct outputs but can also lead to morally absurd or even totalitarian outcomes.

The ontological limit of artificial intelligence lies in the impossibility of transforming a transdisciplinary object (the machine) into a transdisciplinary subject endowed with uniqueness and mystery. While the human being is an "enigma" capable of self-reference, consciousness of consciousness, and creative emergence through simultaneous access to all levels of Reality, artificial intelligence remains confined to the manipulation of pre-existing symbols and data, without possessing genuine mental states or intuition. According to the proposed scheme (Fig. 2.15)[1], while the machine excels at the level of practical intelligence and learning (NR3), it cannot cross the ontological threshold toward full understanding and wisdom (NR4 and NR5), which are rooted in divinity and the freedom of the human person. Thus, attributing the term "intelligence" to artificial systems represents a mischaracterization of the human being, as it overlooks the fact that true knowledge is not merely information processing, but a subjective, fallible, and conscious experience that cannot be replicated in a non-biological substrate.

[1] The transdisciplinary model of the human being represents an original conceptual construction developed within the present study, which structures the human being across eight levels of reality, ranging from the material substrate to the spiritual dimension. At the foundation of the model lie the subquantum and quantum levels, where, as Roger Penrose suggests, there are strong indications that human intelligence depends on processes that go beyond the framework of classical physics. These are followed by the macrophysical level and the level of the living, represented by the neuron as a nerve cell, where energetic exchange and biological replication take place. Above these are superimposed the three classical levels of intelligence—*empeiria* (sensory and practical experience), *dianoia* (instrumental and analytical reasoning), and *nous* (intuitive and contemplative intellect)—which, since antiquity, Greek philosophy has recognized as distinct and irreducible to one another. At the summit of the model lies the level of *logos*, which confers meaning upon all the other levels and without which one cannot speak of a fully realized human being. A crucial aspect of the model is that these levels neither merge nor collapse into one another, yet they cannot exist in isolation; instead, there is a continuous flow of information through which each level supports and conditions the others. The model thus demonstrates that artificial intelligence, being limited to the *empirical* and *dianoetic* levels, cannot access *nous*, and even less so *logos*, thereby establishing a structural ontological boundary between simulated intelligence and authentic human intelligence.

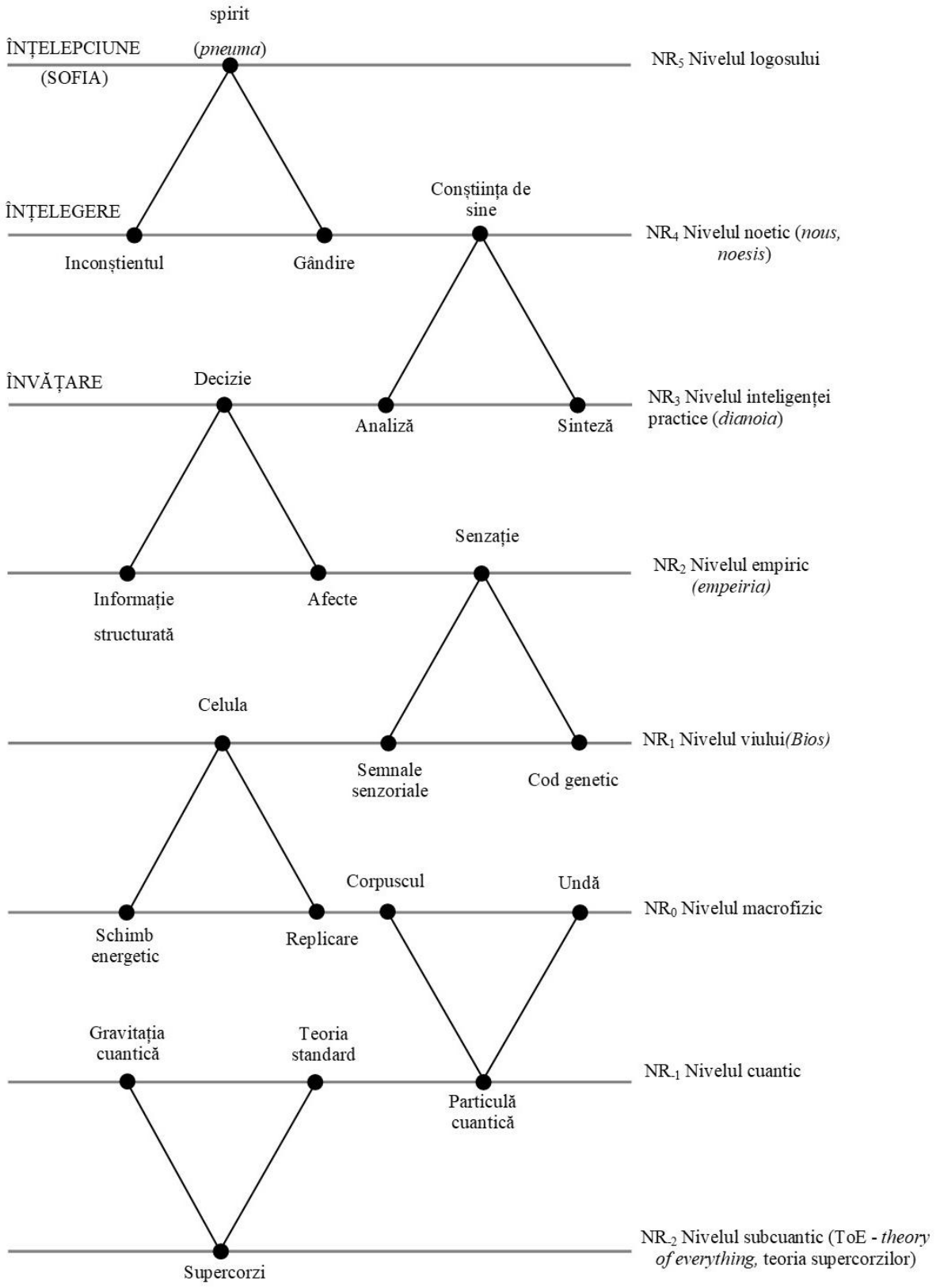


Fig. 2. 5 The transdisciplinary model of the human being

In **Chapter 3,** entitled **FROM TRANSHUMANISM TO TRANSDISCIPLINARY - PHILOSOPHICAL DIMENSIONS,** we analyze the ontological limitations of artificial intelligence in relation to human intelligence, understood through the triad of learning, understanding, and wisdom, highlighting the central importance of embodied experience. In parallel, we critically examine the transhumanist project, which seeks to transcend the current human condition.

In **subchapter 3.1** *The Transdisciplinary Model of Reality: Learning, Understanding, Wisdom,* we argue that artificial intelligence is limited to data processing and cannot access authentic meaning or the moral dimension of knowledge. The analysis of the learning–understanding–wisdom triad reveals an ontological hierarchy of levels of reality that artificial intelligence is unable to fully traverse. While the machine excels at the level of **learning** (NR3) through the processing and storage of vast amounts of information, this process remains a form of advanced statistics—a computational manipulation of symbolic data within an emotional void. For an algorithm, everything is reduced to probability vectors, without any connection to reality outside the code. In contrast, for the human being, learning is a living process grounded in meaning and active participation, filtering information through consciousness and lived experience [19].

The transition toward **understanding** (NR4) represents an insurmountable noetic limit for the algorithm, since human comprehension is not merely an act of cognition but a way of being-in-the-world. While artificial intelligence operates exclusively through a posteriori knowledge and functional processes devoid of critical reflection, human understanding is grounded in a priori structures of intellect and is infused with intentionality, affectivity, and existential dimensions [11, 7]. As demonstrated by the machine's inability to experience fear or to grasp the cultural-historical context of a text, authentic understanding presupposes an "openness" toward phenomena, transforming a mere physical object into a meaningful experience that no statistical simulation can replicate.

At the top of this hierarchy, **wisdom** (NR5) marks the transcendental horizon of the human being, representing a high level of judgment that goes beyond knowledge accumulation and presupposes a profound perspective on the meaning of existence. From a theological and philosophical standpoint, wisdom provides moral discernment and the capacity to act in accordance with the good, being associated with epistemic humility and communion with the divine [20]. If artificial intelligence can provide fast and accurate answers, it is entirely devoid of transformative virtues such as compassion or responsibility—qualities that enable the human being to participate in the "repair" of the world, transforming knowledge into a wise form of living in harmony with the Creator and all of creation.

In **subchapter 3.2** *The Challenge of Transhumanism: Homo Deus and the Redefinition of Human Nature,* we analyze transhumanism as a technological attempt to overcome biological limitations and to recreate the human species as a post-human or Homo Deus entity. Transhumanism emerges as a radical intellectual and technological movement that proposes the overcoming of human biological limitations through cutting-edge science—from bionic prosthetics and neural interfaces such as Neuralink, to genetic editing through CRISPR [3, 6]. This paradigm aims at a fundamental "upgrade" of physical and cognitive capacities, promoting currents such as extropianism, which invests in cryonics as a means of defeating death, regarded as a mere "technical error." Within this vision, artificial intelligence functions as a symbiotic accelerator, providing the tools necessary for Homo sapiens to avoid irrelevance and transform into an enhanced entity, where technology becomes a direct extension of human will.

The concept of Homo Deus, popularized by Yuval Noah Harari, suggests that humanity is moving toward a second cognitive revolution, in which biotechnology and algorithms will enable the transformation of humans into quasi-divine beings with superhuman powers, capable of rewriting their own genetic code [6]. In this context, technology tends to become a form of secular religion or "dataism," offering messianic promises of immortality and total control over life through digital systems and algorithms. However, this transgression of human limits raises profound ethical dilemmas, risking the emergence of irreversible inequalities between a technologically empowered elite and the rest of humanity remaining at a biological stage.

In stark contrast to the Homo Deus project, Christian theology proposes the concept of *Theosis* (deification), which aims at the restoration and fulfillment of the human being through grace-filled participation in the divine nature, without abolishing human essence [14]. While transhumanism seeks immortality through an artificial "man-god" augmentation and technological autonomy, Christian anthropology affirms a divine-human unity, in which human fullness is realized through union with God in Christ. Thus, whereas Homo Deus represents an attempt to artificially redefine the human species by eliminating its limits, *Theosis* signifies the transfiguration of the human being through holiness, preserving human nature while orienting it toward its original and authentic fulfillment.

In **subchapter 3.3** *Theological and Anthropological Perspective: Corporality and Theosis,* we show that intelligence and consciousness are inseparable from bodily experience, the human body being understood in Christian anthropology as a sacred dimension of the person, rather than a mere object. The anthropological and theological perspective emphasizes that human thinking and understanding are not abstract processes of symbolic manipulation, but are deeply rooted in corporeality and embodied experience (embodied cognition). Hubert Dreyfus and

phenomenologists such as Maurice Merleau-Ponty argue that the body is not a passive vehicle, but the very foundation through which we engage the world in a direct and unmediated way (skillful coping), generating an implicit form of understanding that cannot be reduced to algorithms or formal rules [26]. From a theological standpoint, the body is an inseparable dimension of the human person, regarded as a divine gift that participates in spiritual becoming and in the process of deification (theosis). This view stands in radical contrast to materialist perspectives that reduce the body to a consumable object or to a mechanical system that can be technologically upgraded [15].

The theological system of Maximus the Confessor offers a profound synthesis in which the human being is defined as an indissoluble unity of soul and body, rejecting any dualism that devalues matter [14]. Through the distinction between *logos* (the fixed principle of nature) and *tropos* (mode of existence and free will), Maximus shows that the human being has the capacity to mediate between the dualities of creation (sensible–intelligible, heaven–earth) in order to achieve *Theosis* through grace. In the context of artificial intelligence and transhumanist challenges, this anthropology reaffirms the sacredness and uniqueness of the person, emphasizing that authentic divinization is not a technological augmentation of power, but an inner transformation and participation in the uncreated divine nature—an entirely inaccessible process for any digital simulation operating solely through a posteriori knowledge and mathematical laws [21].

In **subchapter 3.4** *Ethics and Responsibility in the Post-Human Era: A Transdisciplinary Critique of Transhumanism as a Unidimensional Reductionism and the Analysis of Social Inequalities Generated by Technology,* we critically examine transhumanism from a transdisciplinary perspective. This critique reveals that transhumanism functions as a unidimensional form of reductionism, operating on a simplified and purely materialist model of reality. By focusing exclusively on the technological enhancement of the individual, transhumanism neglects the informational flows between social, ecological, and spiritual levels of reality, ignoring fundamental dimensions such as consciousness and existential meaning. From the perspective of the transdisciplinary axioms, this vision forces human dilemmas into an excluded-middle logic, refusing to acknowledge that the human being is a complex system whose integrity depends on the harmonious interaction between levels of reality, rather than on a mere artificial "upgrade." The consequence of this unilateral approach is the risk of deepening social inequalities and undermining the foundations of human identity in favor of a mechanical efficiency devoid of any transcendental horizon [17].

On the ethical and social level, transhumanism raises unprecedented challenges, threatening to fragment society through profound economic and genetic inequalities. Selective access to technologies such as CRISPR or brain implants may generate a technological elite of "enhanced humans," marginalizing the rest of the population and eroding democratic values through the concentration of power in corporations or entities controlling intimate human data. Moreover, the fusion between human and non-human elements raises troubling questions about responsibility and the moral status of emerging hybrid entities—dilemmas for which transhumanist philosophies offer no viable resolution. Excessive dependence on technology and associated cyber vulnerabilities may lead to a loss of autonomy and authentic creativity, transforming progress into a form of global instability that becomes increasingly unmanageable [2].

GENERAL CONCLUSIONS AND RECOMMENDATIONS

1. The central hypothesis of the research postulated that artificial intelligence constitutes a functional-algorithmic simulation of cognition, incapable of surpassing the noetic threshold of authentic understanding, and that overcoming techno-centric reductionism represents the fundamental and indispensable condition for a correct assessment of this gap. The investigation carried out confirmed this hypothesis, while also introducing an important nuance. The gap between artificial and human intelligence is not merely functional or technical, but one of structural ontological nature. The machine does not fail to understand due to a lack of processing power; rather, it fails because understanding presupposes corporeality, intentionality, and participation in levels of reality that no computational architecture can access. The transdisciplinary methodology was not merely an analytical tool, but the very condition of possibility for making this distinction visible.
2. Therefore, the transdisciplinary philosophical methodology is fully applicable and justified in the analysis of artificial intelligence and its connections with other disciplines. It serves as a bridge between different fields of study and artificial intelligence, offering a coherent framework for exploring and understanding the complexity and implications of artificial intelligence in society, ethics, technology, and science. Transdisciplinarity facilitates an integrated approach, enabling researchers and practitioners to move beyond traditional disciplinary boundaries and to think in a creative and innovative manner.

   In light of this conclusion, the intensification of pluri-/inter-/transdisciplinary collaborations will have a productive impact, as it will ensure that artificial intelligence is developed and used

in both an ethical and socially responsible manner. There is an imperative need to integrate diverse perspectives in addressing the complex ethical, technical, and social challenges associated with artificial intelligence. This requires a fusion of horizons of expertise from philosophy, social sciences, natural sciences, and other fields in order to construct a robust framework of knowledge and practice.

Furthermore, we consider it necessary to promote transdisciplinary education among students and professionals, thereby cultivating a generation of leaders and innovators equipped to navigate the complexity and ambiguity inherent in a world in which artificial intelligence is increasingly present. In addition, governments, organizations, and institutions should be encouraged to adopt policies that support and facilitate transdisciplinary research and development in the field of artificial intelligence, ensuring that technological progress goes hand in hand with ethical and social considerations.

3. Taking into consideration the transdisciplinary model of the human being, we can conclude that:
   a. As Roger Penrose shows in his works [18], there is strong evidence suggesting the existence of a quantum, or even sub-quantum, substrate upon which human intelligence may depend. Regarding the manifestation of human intelligence at the macrophysical level (involving energy exchange and replication processes) as well as at the level of the living (the neuron being a nerve cell), we consider that no further demonstration is necessary;
   b. As is known since antiquity (beginning with the Greek philosophers), intelligence manifested as *empeiria, dianoia*, and *nous* constitutes three fundamental components of the human being. As demonstrated throughout this work, intelligence manifested at only one of these levels does not qualify as human intelligence, but rather represents a unidimensional projection of specific aspects;
   c. Furthermore, a rich body of philosophical and theological literature shows that the human being cannot be defined without the level of logos, a level that confers meaning upon all the others. Without this level, we cannot properly speak of a human being at all. All eight levels of the transdisciplinary scheme representing the human being constitute a unified whole, without either being confused with one another (strict separation) or collapsing into one another (fusion). None of these levels can exist in the absence of the others. We cannot speak of wisdom without understanding, nor of understanding without learning, nor of learning without reference to the empirical level. Without these mutually sustaining levels, a comprehensive understanding of the human being would not be possible. Each level adds an essential component to what we are, and the absence of any one of them would weaken our

understanding of what exists. Although these levels do not merge and do not dissolve into a single one, they function together to form a coherent whole. Thus, our understanding of the human being is a complex mosaic in which each level adds a layer of meaning, making the human being a fascinating subject, always open to further exploration and deeper understanding;

d. Between these levels there exists an informational flux through which each level contributes to the support of the others. Thus, the level of logos transmits meaning to all the other levels, just as the empirical level structures this information down to the sub-quantum level. Consequently, we can say that the human being is characterized by spirit, self-consciousness, the capacity for analysis, synthesis, and decision-making, the ability to love or hate, various affects, metabolic functions, corporeality (materiality), and, ultimately, is constituted of quantum and sub-quantum particles.

4. The analysis of artificial intelligence from the perspective of the same transdisciplinary model inevitably leads us to a series of substantial limitations. Thus, we observe that:

   a. Artificial intelligence is primarily limited to the empirical and dianoetic levels, corresponding respectively to sensory experience and instrumental reason. In simple terms, artificial intelligence can "understand" and process information based on data, and can execute complex tasks through sophisticated algorithms. However, within this calculated and mechanical space, its entire domain of competence both begins and ends.

   b. We cannot say that artificial intelligence possesses *nous* or intuitive intelligence, nor logos or the capacity to confer meaning and significance. Without these levels, artificial intelligence remains an extremely advanced technological tool, but ultimately only a tool. It does not possess the capacity to generate authentic meaning or to participate in the creation of a consciously experienced and genuinely understood reality;

   c. Despite the rapid technological progress and the apparent "wisdom" that artificial intelligence systems may exhibit in certain specific tasks, the absence of a conscious substrate establishes an inherent ontological limit. Artificial intelligence does not have the capacity to love, to generate values, to aspire to transcendence, or to create meaning in a way that goes beyond calculations and algorithms. While human intelligence is capable of thinking and creating outside algorithmic "black boxes," of feeling and giving rise to values and meanings that surpass instrumental reason, artificial intelligence remains irrevocably bound to the convergence and precision of the data and algorithms with which it is designed or trained;

d. Entering the complexity and mystery of human consciousness, we can understand that it unfolds across planes of existence that cannot be fully quantified or simulated by machines. Mystical experiences, spirituality, and emotional depth are manifestations that have so far remained inaccessible and incomprehensible to artificial intelligence, and as a consequence of the transdisciplinary model, we consider that this will remain the case;
e. While human intelligence continues to explore the universe, deepen its understanding, and search for answers to fundamental questions, artificial intelligence remains only a tool, a means through which we can better explore and understand the surrounding world and our own human condition. It is important to remember that, although artificial intelligence can be an invaluable ally in many aspects of our existence, it cannot surpass its creators in terms of the depth of thought, wisdom, and existential richness.

Thus, despite the impressive achievements of artificial intelligence, there exists an intrinsic and ineffable essence of human intelligence that will continue to prevail and transcend the capacities of machines. Humanity will preserve its distinct and valuable place in this world, exploring the mysteries of existence through a form of understanding that goes beyond algorithmic reasoning and the quality of data that digital systems can collect and process.

The recommendations formulated below are structured around two complementary axes: the valorization of the research findings in applied contexts and the outlining of viable directions for further investigation in the field.

- It is recommended to integrate transdisciplinary methodology into research on artificial intelligence by establishing interdepartmental academic programs that bring together philosophy, computer science, and ethics within a coherent epistemological framework.
- University curricula in the field of technology are encouraged to include modules on philosophy of mind and technological ethics.
- Policy-makers are advised to explicitly operate with the ontological distinction between algorithm and human person in the development of regulatory frameworks, thereby preventing the improper attribution of moral responsibility to artificial systems.
- Comparative experimental protocols, such as those employed in the present study, should be expanded and systematized in order to rigorously and continuously test the capacity of current models to access semantic and contextual dimensions of understanding.
- It is necessary to initiate a structured academic dialogue between transhumanist perspectives and theistic anthropology, with the aim of developing an axiological framework capable of ethically guiding the development of cognitive and biological augmentation technologies.

- The social risks generated by unequal access to artificial intelligence must be assessed through transdisciplinary research involving economists, sociologists, and philosophers, in order to ground coherent public policies.
- The transdisciplinary model of the human being proposed in this work deserves further development through the integration of contributions from neuroscience, phenomenology, quantum physics, philosophical theology, and psychology, in order to consolidate a comprehensive theory of intelligence that goes beyond computational reductionism.

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ADNOTARE

Duca Mihail, Inteligența artificială: o perspectivă transdisciplinară, Chișinău, 2026

Structura tezei: introducere, trei capitole, concluzii generale și recomandări, bibliografie din 190 de titluri, 161 de pagini de text de bază, 18 figuri, rezultatele obținute fiind publicate în 7 lucrări științifice.

Cuvinte-cheie: inteligență artificială, rețele neuronale, tehnologie, transdisciplinaritate, complexitate, reducționism, non-reducționism, holism, inteligență umană, transumanism, *Homo Deus, Theosis*.

Scopul lucrării: constă în realizarea unei cercetări transdisciplinare a inteligenței artificiale care ar facilita o înțelegere mai profundă a unui subiect extrem de popular și actual pentru societatea supratehnologizată în care trăim.

Obiectivele cercetării: analiza și sintetiza cunoștințelor existente în domeniul inteligenței artificiale, coroborat cu diversele abordări; identificarea și evaluarea domeniilor de aplicare în care inteligența artificială poate beneficia de o abordare transdisciplinară; dezvoltarea unui model transdisciplinar a inteligenței artificiale; evaluarea riguroasă a performanței și impactului abordării transdisciplinare în domeniul inteligenței artificiale; dezvoltarea cunoașterii în domeniul inteligenței artificiale prin intermediul unei abordări transdisciplinare; înțelegerea ființei umane și a complexității ireductibile a minții umane, prin aplicarea metodei transdisciplinare; analiza transumanismului în raport cu inteligența artificială; evaluarea corporalității ca element esențial al inteligenței

Noutatea și originalitatea științifică constau în aplicarea unei metodologii filosofice transdisciplinare asupra inteligenței artificiale, depășind analizele pur tehnice sau chiar interdisciplinare. Originalitatea este susținută de elaborarea unui model transdisciplinar al ființei umane, care demonstrează limitele ontologice ale inteligenței artificiale în raport cu complexitatea ireductibilă a inteligenței umane. Totodată, lucrarea propune o viziune critică inovatoare prin juxtapunerea conceptelor de *Homo Deus* (transumanism) și *Theosis* (perspectiva teologic-filosofică), oferind un cadru conceptual nou pentru evaluarea impactului etic și existențial al tehnologiilor emergente.

Rezultatele obținute care contribuie la soluționarea unei probleme științifice importante: depășirea viziunii reducționiste asupra inteligenței artificiale prin fundamentarea unei perspective transdisciplinare care clarifică distincția ontologică dintre algoritm și mintea umană. Lucrarea oferă o soluție metodologică pentru integrarea nivelurilor de realitate în analiza tehnologiei, demonstrând că inteligența umană posedă o complexitate ireductibilă ce nu poate fi replicată integral prin procese strict computaționale.

Semnificația teoretică: fundamentarea unui cadru conceptual extins pentru înțelegerea inteligenței artificiale, care transcende reducționismul algoritmic prin intermediul metodologiei transdisciplinare. Lucrarea contribuie la dezvoltarea filosofiei tehnologiei și a antropologiei filosofice prin redefinirea raportului dintre inteligență, conștiință și corporalitate.

Valoarea aplicativă: rezidă în furnizarea unui suport metodologic pentru mediul educațional, oferind un cadru pedagogic ce integrează etica și gândirea critică în studiul tehnologiilor avansate. Aceasta facilitează formarea viitorilor specialiști prin clarificarea distincției fundamentale dintre procesele algoritmice și complexitatea inteligenței umane.

Implementarea rezultatelor științifice: comunicări în cadrul a 14 conferințe naționale și internaționale, 7 articole științifice și activități de cercetare.

АННОТАЦИЯ

Дука Михаил, Искусственный интеллект: трансдисциплинарная перспектива, Кишинев, 2026

Структура диссертации: введение, три главы, общие выводы и рекомендации, библиография из 190 наименований, 161 страниц основного текста, 18 рисунков. Результаты исследования опубликованы в 7 научных работах.

Ключевые слова: искусственный интеллект, нейронные сети, технология, трансдисциплинарность, сложность, редукционизм, нон-редукционизм, холизм, человеческий интеллект, трансгуманизм, *Homo Deus, Теозис.*

Цель работы: проведение трансдисциплинарного исследования искусственного интеллекта для более глубокого понимания этой актуальной темы в контексте современного сверхтехнологичного общества.

Задачи исследования: анализ и синтез существующих знаний в области искусственного интеллекта; определение сфер применения, в которых ИИ может воспользоваться трансдисциплинарным подходом; разработка трансдисциплинарной модели ИИ; строгая оценка эффективности и влияния трансдисциплинарного подхода в области ИИ; развитие знаний об ИИ посредством трансдисциплинарного метода; понимание человеческой сущности и сложности человеческого разума через призму трансдисциплинарности; анализ трансгуманизма в контексте ИИ; оценка телесности как сущностного элемента интеллекта.

Научная новизна и оригинальность: заключаются в применении трансдисциплинарной методологии к исследованию искусственного интеллекта, выходящей за рамки чисто технических или междисциплинарных подходов. Оригинальность подтверждается разработкой трансдисциплинарной модели человека, демонстрирующей онтологические пределы ИИ по сравнению с неустранимой сложностью человеческого интеллекта. Также работа предлагает инновационный критический взгляд через сопоставление концепций *Homo Deus* (трансгуманизм) и *Теозиса* (богословско-философская перспектива).

Решенные научные проблемы: преодоление редукционистского взгляда на ИИ путем обоснования трансдисциплинарной перспективы, проясняющей онтологическое различие между алгоритмом и человеческим разумом. Работа предлагает методологическое решение для интеграции множества уровней реальности в анализ технологий, доказывая, что человеческий интеллект обладает сложностью, которая не может быть полностью воспроизведена вычислительными процессами.

Теоретическая значимость: обоснование расширенной концептуальной базы для понимания ИИ, преодолевающей алгоритмический редукционизм. Работа вносит вклад в развитие философии техники и философской антропологии через определение взаимосвязи между интеллектом, сознанием и телесностью.

Практическая ценность: заключается в предоставлении методологической поддержки для образовательной среды, предлагая педагогическую основу, интегрирующую этику и критическое мышление в изучение высоких технологий. Это способствует подготовке будущих специалистов через разъяснение фундаментального различия между алгоритмическими процессами и сложностью человеческого интеллекта.

Внедрение научных результатов: 14 национальных и международных конференций, 7 научных статей и научно-исследовательская деятельность.

ABSTRACT

Duca Mihail, Artificial Intelligence: A Transdisciplinary Approach, Chișinău, 2026

Thesis Structure: introduction, three chapters, general conclusions and recommendations, bibliography of 190 titles, 161 pages of core text, 18 figures. The results obtained have been published in 7 scientific papers.

Keywords: artificial intelligence, neural networks, technology, transdisciplinarity, complexity, reductionism, non-reductionism, holism, human intelligence, transhumanism, *Homo Deus, Theosis*.

Purpose of the Work: to conduct transdisciplinary research on artificial intelligence that facilitates a deeper understanding of this highly popular topic within our hyper-technologized society.

Research Objectives: to analyze and synthesize existing knowledge in the field of AI combined with various approaches; to identify and evaluate application areas where AI can benefit from a transdisciplinary approach; to develop a transdisciplinary model of AI; to rigorously evaluate the performance and impact of the transdisciplinary approach in the field of AI; to advance knowledge in the AI field through a transdisciplinary method; to understand the human being and the irreducible complexity of the human mind by applying the transdisciplinary method; to analyze transhumanism from an AI perspective; to evaluate embodiment as an essential element of intelligence.

Scientific Novelty and Originality lie in the application of a transdisciplinary philosophical methodology to artificial intelligence, moving beyond purely technical or even interdisciplinary analyses. The originality is supported by the development of a transdisciplinary model of the human being, which demonstrates the ontological limits of AI compared to the irreducible complexity of human intelligence. Additionally, the work proposes an innovative critical vision by comparing the concepts of *Homo Deus* (transhumanism) and *Theosis* (theological-philosophical perspective).

Scientific Problem Solved: overcoming the reductionist view of artificial intelligence by grounding a transdisciplinary perspective that clarifies the ontological distinction between algorithms and the human mind. The work offers a methodological solution for integrating levels of reality into technological analysis, demonstrating that human intelligence possesses an irreducible complexity that cannot be fully replicated by strict computational processes.

Theoretical Significance: the foundation of an extended conceptual framework for understanding AI, transcending algorithmic reductionism through transdisciplinary methodology. The work contributes to the development of the philosophy of technology and philosophical anthropology by redefining the relationship between intelligence, consciousness, and embodiment.

Applicative Value: resides in providing methodological support for the educational environment, offering a pedagogical framework that integrates ethics and critical thinking into the study of advanced technologies. This facilitates the training of future specialists by clarifying the fundamental distinction between algorithmic processes and the complexity of human intelligence.

Implementation of Scientific Results: presentations at 14 national and international conferences, 7 scientific articles, and research activities.

DUCA MIHAIL

ARTIFICIAL INTELLIGENCE: A TRANSDISCIPLINARY APPROACH

631.01 ONTOLOGY AND GNOSEOLOGY

Summary of the PhD thesis in philosophy

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