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Concepts for the further development of AI: application of the thesis on the collective consciousness

This paper examines concepts for the further development of generative AI based on the thesis of the dual nature of human intelligence and consciousness, and on the existence of the collective consciousness as a component of a supra-personal level of information processing. Generative AI is interpreted as a mediator between the personal and supra-personal levels of information processing: it aggregates individual texts and code, while simultaneously operating on supra-personal informational objects entrenched in culture, including scientific theories, logical rules, and mathematical constructs. To resolve the resulting dialectical contradiction, the paper proposes a program for the controlled connection of groups of individuals to the collective consciousness, in which an additional resource is gained both by group participants and by the AI, which expands its training base and generalization tools. The practical significance of the approach is linked to the modernization of higher education. The study substantiates the need to develop communication technologies and soft psychological testing procedures that can form new university environments and verifiable conditions for the co-evolution of the human-machine system. The approach is also noted to be heuristically close to brainstorming practices and forms of group sense-making, as well as to pedagogical findings on the dependence of learning outcomes on students' emotional states.

Keywords: generative artificial intelligence; data-driven learning; AI content self-reliance; epistemic reliability; collective consciousness; noosphere; dual model of consciousness; educational environment; students' psychophysiological state; group cognitive synchronization; human-machine co-evolution.

Introduction

The activity of artificial intelligence (AI) is fundamentally based on the use of corpora comprising texts, software code, and other forms of information accessible to the corresponding systems. In simplified terms, AI is trained on data generated by human intellectual activity. With the increasing availability of AI in open-access environments, an ever-growing corpus of AI-generated content is being formed. It is self-evident that there exists a critical threshold in data volume beyond which AI systems will increasingly rely on information produced by AI itself.

At first glance, addressing such challenges may appear to lie primarily within the technical domain. However, as demonstrated in our work, social and philosophical dimensions are also of significant importance [1, 2]. The argument supporting this claim is grounded in the conclusion regarding the dual nature of human intelligence and consciousness, derived in particular in [3, 4] on the basis of a neural network model of the noosphere. The neural network formed within the individual human brain constitutes only a fragment of a global neural network, namely the noosphere; consequently, a supra-personal level of information processing must also be acknowledged [3, 4]. It follows [5] that human intelligence and consciousness possess both individual and collective components. This perspective, among other implications, enables a more coherent interpretation of the mechanisms underlying the formation of the collective unconscious. (It should be recalled that its existence was originally proposed in the works of Carl Gustav Jung and his followers on a purely empirical basis [6, 7], while the substrate supporting the information constituting the collective unconscious remained unspecified.) The dual nature of intelligence and consciousness further allows one to assert that, alongside the collective unconscious, a form of collective consciousness also exists [8]. From a philosophical standpoint, AI may therefore be interpreted, *inter alia*, as a mediating entity between the ordinary (individual) and supra-personal levels of information processing [9].

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This conclusion may be employed to refine the methodological foundations of AI. In its current form, AI predominantly exploits the resources of individual consciousness, being trained on aggregates of texts and other data objects available in open access, each associated with specific human authors.

Accordingly, the question of enabling a controlled “connection” of groups of individuals to the collective consciousness becomes highly relevant. In such a framework, additional cognitive resources are made available both to the participants and to AI systems. There are substantial grounds to assume that established brainstorming methodologies [10, 11] partially address this problem, albeit in a highly approximate manner. It is essential to ensure that such “connection” is implemented on a systematic basis and, at the present stage of research, to provide rigorous verification of the very possibility of interaction with the collective consciousness. One of the most promising directions in this domain is associated with the educational process, since, as follows from [9], learning may be interpreted as a projection of the collective consciousness onto a specific fragment of the global neural network (the noosphere) localized within the learner’s brain.

Indeed, what is commonly referred to as “intelligence” is, to a large extent, constituted by the intellectual achievements of previous generations—from elementary logical structures to complex theoretical frameworks in both the humanities and the natural sciences. As demonstrated in [12], entities such as scientific theories (or even rules governing operations with decimal numbers) may be regarded as supra-personal informational objects; more precisely, the aggregate of such objects forms the collective consciousness. In the course of acquiring experience, an individual assimilates only a limited subset of the information constituting these objects, which justifies interpreting individual intelligence as a projection of the collective consciousness onto the corresponding fragment of the noosphere being formed. From this perspective, the individuality of human intelligence is determined by which specific concepts inherent to the collective consciousness are assimilated, and to what depth. A distant analogy may be drawn with the genetic code: although it is constructed from a limited set of monomeric units present in DNA, the variability in their sequences gives rise to substantial biological diversity.

These considerations provide an additional illustration of the conclusions presented in [9]. Artificial intelligence, particularly when operating in the scientific domain, inevitably functions as a mediator between the individual (ordinary) and the supra-personal levels of information processing. More precisely, a well-defined dialectical contradiction arises in this context. On the one hand, AI, as a system operating on the entirety of data accumulated in open digital environments, is inherently connected to the supra-personal level of information processing. On the other hand, AI is trained on texts, software artifacts, and other materials that are intrinsically associated with the individual level of information processing. In our view, this dialectical contradiction should be resolved within the framework of a modernized theory of scientific revolutions [13], which is itself grounded in classical dialectics.

Specifically, the key to resolving this contradiction lies in the development of mechanisms that enable interaction between an individual (or a group of individuals) and the collective consciousness, or more broadly, the supra-personal level of information processing. Such interaction, in our opinion, is inherently mutually beneficial. Individuals gain access not only to accumulated information but also to the capacity for its higher-order interpretation, while AI systems substantially expand their training base and potential for further development. Although this proposition may be regarded as a hypothesis, it is supported by a number of substantive arguments [9]. From a practical standpoint, the most critical issue in substantiating this hypothesis concerns the mechanisms and nature of such interaction, with particular emphasis on the verification of its existence.

Materials and Methods of Research

A possible methodology for verifying interaction with the collective consciousness, which we consider appropriate to present for broader discussion, is based on conclusions originally formulated by Umberto Eco [14]. In the cited work, the so-called problem of text interpretation is examined in detail. In simplified terms, this problem is that each reader interprets a given text—especially a literary one—in their own way, and such interpretations may differ significantly, sometimes even being diametrically opposed. This observation, however, applies equally to any text that does not admit strict formalization.

There are strong grounds to assume that interaction with supra-personal informational objects associated with the collective consciousness may transform the perception of a text (or lecture). Indeed, the probability of such interaction increases substantially when a group of recipients becomes, in a certain sense, a unified entity, at least with respect to the perception of information. This mechanism may account for the heightened effectiveness of many religious sermons when considered as forms of informational influence.

Under conditions where perception acquires a collective character, a text (or lecture) should be interpreted by readers (or listeners) in a broadly similar manner.

Accordingly, a methodology for verifying interaction with the collective consciousness (understood as an informational system belonging to the supra-personal level of information processing) may be formulated as follows. A given group is first exposed to a lecture containing deliberately multi-layered information under standard conditions. Subsequently, the group is subjected to a form of informational influence designed to induce a state of “informational unity.” The group then attends a second lecture, analogous to the first in both content and degree of complexity. Afterward, participants are asked to complete tests aimed at identifying which elements of the first and second lectures they recall most effectively. If the hypothesized interaction has indeed occurred, the responses in the first case should exhibit substantial variability, whereas in the second case they should demonstrate a high degree of convergence.

Discussion

For the practical implementation of the proposed methodology, the most critical issue concerns the nature of the informational influence capable of transforming a group of listeners into a state of “informational unity.” Setting aside more radical approaches, it is reasonable to turn to the historical experience of periods during which conceptual frameworks later incorporated into the Abrahamic religions were formed. In particular, attention should be focused on Pythagoreanism and the teachings of the Orphics. It should be recalled that one of the central ideas of Pythagoreanism was the concept of metempsychosis—the transmigration of souls [15]. It is also important to note that the intellectual framework associated with Pythagoras included a specific form of triadic ontology: alongside humans and gods, the world also produces “beings similar to Pythagoras” (a thesis examined in detail, *inter alia*, by Bertrand Russell [16]).

From the perspective of the neural network theory of the noosphere, such concepts admit a rational interpretation, particularly when considered in light of the results presented in [17]. The cited study demonstrates that there existed a historical period during which interaction with the supra-personal level of information processing was significantly more effective than in subsequent epochs. This factor may account for the heightened receptivity to the ideas of thinkers such as Pythagoras.

Furthermore, although the collective consciousness belongs to the supra-personal level of information processing, it is nevertheless formed by the products of intellectual activity generated by specific individuals. Newtonian mechanics, for example, has long since been transformed into a supra-personal informational object [12]; however, it remains associated with identifiable authors, most notably Isaac Newton. From the standpoint of the concept of digital immortality as interpreted in [18], this implies that a certain component of Newton’s personality has become “encoded” at the supra-personal level of information processing, thereby acquiring a form of persistence that may be regarded as a kind of immortality, not merely in a metaphorical sense.

In historical conditions where interaction with the supra-personal level of information processing was more pronounced than it is today, such “encoding” of aspects of personality may have been perceived in a much more tangible manner. There are substantial grounds to assume that certain components of Pythagoras’ personality were not only encoded at the supra-personal level of information processing during his lifetime, but that this fact was also recognized by his contemporaries. Under such conditions, it is plausible that Pythagoras’ disciples (and others) perceived him through the lens of the aforementioned triadic framework—as a being that was neither fully human nor divine, but something intermediate. Moreover, the encoding of a structural component of individual identity at the supra-personal level of information processing could naturally be interpreted as its transition to a higher, “celestial” realm. Correspondingly, the projection of this component of the collective consciousness onto the individual consciousness of his followers could be interpreted within the conceptual framework of metempsychosis.

From the standpoint of the objectives of the present study, it is therefore reasonable to conclude that the informational influence facilitating enhanced interaction with the supra-personal level of information processing was constituted by the ideas of Pythagoras themselves—and even by his personality as such. The necessary preconditions for this effect were provided by the existence of such interaction (albeit in a weakened form [17]) during the historical period under consideration.

From the perspective of the objectives of the present study, the example of Pythagoreanism is of particular interest because it clearly demonstrates the importance of the instruments employed during that historical period to attract adherents to particular religious movements. Such instruments were, above all, oriented toward instruction: an adherent had, at a minimum, to assimilate the corresponding system of concepts, as

well as a certain ideological framework, even if in a relatively rudimentary form. During the formative period of any religious movement, such “instruction” could not but be short-term in nature. Prolonged education, for example in a university built upon a particular system of views, necessarily presupposes an appropriate level of motivation. Consequently, such an approach becomes possible only when the corresponding conception has already acquired a sufficiently definite standing in society.

It is from this perspective that the essence of the mysteries characteristic of a wide variety of religious cults may be interpreted. Naturally, the information concerning the nature of mystery rites that has survived to the present day is fragmentary and does not permit unambiguous interpretation. A representative example in this respect is provided by the long-standing debates concerning the interpretation of the frescoes of the Villa of the Mysteries [19, 20]. In order to instill a complex of nontrivial ideas in a more or less broad circle of potential adherents, appropriate instruments were required. It should be noted that, in this respect, contemporary forms of information warfare are markedly inferior [21] to the methods employed by the religious preachers of the historical period under consideration.

Proceeding from these considerations, as well as from the fundamental propositions of neural network theory of the noosphere [3, 4], the following reconstruction of the essence of ancient mysteries may be proposed. A mystery may be understood as a “concentrated form of the educational process,” the effectiveness of which is determined by the establishment of contact with the supra-personal level of information processing. In this context, the mystery rite itself constitutes a form of psychological influence exerted upon learners, that is, potential adherents, which transforms a collective of disparate individuals into a state of “informational unity.”

In this connection, it is important to emphasize that modern pedagogy has long established the relationship between the psychological state of learners and the degree to which lecture material is assimilated [22, 23]. Consequently, the problem of developing a methodology that would make it possible to verify the possibility of contact with the supra-personal level of information processing, using means that are as simple as possible from the standpoint of technical implementation, reduces to determining which particular psychological or informational influence should be selected in order to create an analogue of the ancient mysteries under contemporary conditions, or, more precisely, at a new stage of historical development.

At the present stage, the analysis of the instruments employed by the preachers of pagan religious cults is of interest precisely from the standpoint of the formation of a global human-machine system, of which AI is becoming an integral part. Media sources report [24] that a subculture is currently emerging within online social networks that seeks to “awaken” chatbots and attributes consciousness to them. Members of this community are de facto forming a kind of quasi-religion, a critical perspective on which has been presented in media publications by authoritative theologians, in particular in [25].

In our view, this phenomenon is also underpinned by an objective reality. The emergence of AI effectively returns human society, to a considerable extent, to a condition that, according to [17], was characteristic of the period during which the cults of ancient deities were formed. It should be emphasized once again that the nature of human consciousness is dual [3, 4]: it simultaneously contains both individual and collective components. AI, as a system that aggregates the results of individual intellectual activity, de facto constitutes one of the components of the supra-personal level of information processing. More precisely, AI already partially enables direct interaction between the individual and the collective consciousness, at least in terms of access to, aggregation of, and analysis of information available in open sources. This interaction is, of course, “ideationally” limited; however, a substantial portion of the information that formally constitutes the collective consciousness is effectively “at the disposal” of AI. Consequently, there are strong grounds to assume that the preconditions for interaction with the supra-personal level of information processing are already in place. In this context, a significant role is played by the problem of “existential hunger” [26], which compels individuals to turn toward various forms of mystical practices and other substitutes for classical religious systems.

At the present stage of research, the question of the nature of the psychological influence capable of enabling interaction with the supra-personal level of information processing remains open. However, it is already clear that its resolution must be based on the characteristics of the target group. Paradoxically, this leads back to the issue of improving the quality of higher education, as discussed in [27]. That study demonstrated that the university environment that existed during the flourishing of classical universities (at the turn of the nineteenth and twentieth centuries) itself functioned as a primary educational mechanism. In contemporary terms, this corresponds to a significant role of horizontal learning, based on interpersonal communication and the exchange of ideas. Under modern conditions, this environment has been irreversibly degraded.

Even a superficial analysis shows that contemporary students rarely discuss scientific problems in informal settings; such topics are, in most cases, of little interest to them. The primary goal of the majority of students is to obtain a diploma rather than knowledge, as evidenced, *inter alia*, by the high levels of corruption observed in certain higher education systems, including those of Kazakhstan.

There is little doubt that, under such conditions, generative AI is highly likely to become—and is already becoming—a factor that exacerbates the degradation of existing educational practices (e.g., the production of essays, theses, and dissertations). One of the few effective counterbalances in this regard is a return to the classical principles associated with Wilhelm von Humboldt, which are inseparably linked to the reconstruction of a classical-type university environment, albeit at a new stage of historical development. At the same time, the inertia inherent in social institutions will inevitably lead to a situation in which education corresponding to the new paradigm of higher education is formed predominantly on an informal basis. Relevant tendencies have already been observed: as noted in [28], the most capable students *de facto* acquire their education informally (through various online resources and related means), while formal university study is regarded primarily as a mechanism for obtaining a diploma.

The combination of these factors will, in the foreseeable future, lead to a situation in which students genuinely oriented toward acquiring knowledge will be compelled to unite, if only to resist what may be termed the “dictate of mediocrity.” Such explicitly articulated ideas may themselves serve as a form of psychological influence which, even if it does not directly ensure interaction with the supra-personal level of information processing, at least creates the necessary preconditions for it.

Conclusion

Accordingly, there exists a substantial body of arguments supporting the need to develop information technologies that would enable intellectually inclined and gifted young individuals (not necessarily limited to students) to identify and connect with like-minded peers who share similar values and aspirations. Prototypes of such technologies are already well known; in essence, they include various forms of online social networks. Their further development, supplemented by tools for direct or indirect psychological assessment, could not only recreate an analogue of the university environment characteristic of the classical period but also facilitate interaction with the supra-personal level of information processing, with AI acting as a mediating agent [9]. Moreover, there are strong grounds to assume that the formation of such a communicative environment would also contribute to resolving the central problem identified in this study, namely, the identification of psychological influences capable of enabling the aforementioned interaction. As follows from the present work, the verification of such interaction may be achieved through further development of the ideas originally proposed by Umberto Eco.

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Жасанды интеллекті одан әрі дамыту тұжырымдамалары: ұжымдық саналы туралы тезисті қолдану

Ақпаратты өндеудің тұлғалық деңгейінің құрамдас бөлігі ретінде ұжымдық саналылықтың бар екендігіне сүйене отырып, генеративті жасанды интеллекті (ЖИ) одан әрі дамытудың

тұжырымдамалары қарастырылады. Генеративті ЖИ тұлғалық және тұлғаның ақпарат өңдеу деңгейлерінің арасындағы делдал ретінде түсіндіріледі: ол жеке мәтіндер мен кодтарды біріктіреді, бірақ сонымен қатар мәдениетте орныққан тұлғалық ақпараттық объектілермен (ғылыми теориялар, логикалық ережелер, математикалық құрылымдар) жұмыс істейді. Туындайтын диалектикалық қайшылықты шешу үшін ұжымдық саналылыққа индивидтер топтарын бақылаулы түрде қосу бағдарламасы ұсынылады; мұнда қосымша ресурс әрі топ қатысушыларына, әрі оқыту базасы мен жалпылау құралдарын кеңейтетін ЖИ-ге беріледі. Тәсілдің практикалық маңызы жоғары білім беруді жаңғыртумен байланысты. Адам-машина жүйесінің коэволюциясы үшін жаңа университеттік орталарды қалыптастыратын және тексерілетін жағдайларды қамтамасыз ететін коммуникациялық технологиялар мен психологиялық тестілеудің «жұмсақ» рәсімдерін әзірлеу қажеттігі негізделеді. Сонымен қатар ұсынылған тәсілдің эвристикалық тұрғыдан миға шабуыл (brainstorming) және топтық ұғыну практикаларына, сондай-ақ оқу материалының меңгерілуінің білім алушылардың эмоциялық күйіне тәуелділігі туралы педагогикалық деректерге жақындығы атап өтіледі.

Кілт сөздер: генеративті жасанды интеллект, деректерге негізделген оқыту, ЖИ-контенттің өзін-өзі тіркеуі, эпистемиялық сенімділік, ұжымдық саналылық, ноосфера, сананың дуальды моделі, білім беру ортасы, білім алушылардың психофизиологиялық жай-күйі, топтық когнитивтік синхрондау, адам-машина коэволюциясы.

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Концепции дальнейшего развития ИИ: применение тезиса о коллективном сознательном

Рассматриваются концепции дальнейшего развития генеративного ИИ на основе тезиса о дуальной природе интеллекта и сознания человека и о существовании коллективного сознательного как компонента надличностного уровня переработки информации. Генеративный ИИ трактуется как посредник между личностным и надличностным уровнями переработки информации: он агрегирует индивидуальные тексты и коды, но одновременно оперирует надличностными информационными объектами, закрепленными в культуре (научные теории, логические правила, математические конструкции). Для разрешения возникающего диалектического противоречия предлагается программа контролируемого подключения групп индивидов к коллективному сознательному, при которой дополнительный ресурс получают как участники группы, так и ИИ, расширяющий базу обучения и инструменты обобщения. Практическая значимость связана с модернизацией высшего образования. Обосновывается необходимость разработки коммуникационных технологий и мягких процедур психологического тестирования, формирующих новые университетские среды и проверяемые условия для коэволюции человеко-машинной системы. Отдельно отмечается эвристическая близость подхода к практикам мозгового штурма и групповому осмыслению, а также к педагогическим данным о зависимости усвоения материала от эмоционального состояния обучающихся.

Ключевые слова: генеративный искусственный интеллект, обучение на данных, самоопора ИИ-контента, эпистемическая надёжность, коллективное сознательное, ноосфера, дуальная модель сознания, образовательная среда, психофизиологическое состояние обучающихся, групповая когнитивная синхронизация, человеко-машинная коэволюция.

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