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Artificial Intelligence, Collective Intelligence, and Human Experience: A Socio-Economic and Ontological Analysis

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ABSTRACT

The purpose of this paper is to outline an overall structure of the interrelations between artificial intelligence and human dimension, both at the macroscopic level (society, economic-productive systems) and at the individual level (human subjectivity, language, experience), with a multidisciplinary and third-culture methodology, aiming to propose a reference framework that encourages further analysis and reflection. Specifically, the relationships between artificial intelligence (AI), collective intelligence (CI), and human experience (HE) are conceptualized, and different evolutionary scenarios are designed on the basis of the interdependencies and their intensity. At the socio-economic level, the relationship between AI and CI can be investigated by analyzing the relationships between these two concepts and two other concepts that underpin the functioning of current societies, namely democracy and capitalism. Similarly, at the ontological level, the relationship between AI and HE can be analyzed by examining how the latter relates to fundamental concepts such as language and the codification of reality.

Keywords: artificial intelligence, language, capitalism, collective intelligence, subjectivity

The pervasiveness of the concept of "artificial intelligence", resulting from its application to virtually every area of human activity, requires any study or consideration of the concept to begin with a definition. The 2019 OECD Recommendation on AI defines an AI system as "a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments" (OECD, 2019, p. 7). Another important definition is the one introduced by the ISO/IEC 42001:2023 standard, which defines AI as "the ability of an IT system to imitate human characteristics such as reasoning, learning, planning, and creativity" (ISO/IEC, 2023, p. 6). Unlike traditional software, AI-based algorithms are capable of autonomous learning.

Currently, so-called "narrow" or "specialized" AI applications are already widely used in various sectors, while artificial general intelligence (AGI) has not yet been realized. According to the American organization OpenAI, AGI can be defined as highly autonomous systems outperforming humans at most economically valuable work. AGI aims to achieve cognitive capabilities comparable to human ones in many areas. If an AGI superior to human intelligence were developed, it could be able to design an even more advanced version of itself, giving rise to a potentially accelerated cycle of subsequent improvements. This turning point is known as a singularity: a sudden acceleration of AI that could lead to significant and unpredictable consequences (OECD, 2024). Many scholars agree that, sooner or later, AGI will emerge: Kurzweil (2005) sees AGI as humanity's destiny, the

inevitable and beneficial progress that follows the extension of Moore's Law; Bostrom (2014) warns of the risks associated with AGI, outlines the challenges of control, and advocates for cautious coordination.

A concrete and current step toward advanced AI applications that can contribute to the future development of AGI is generative artificial intelligence (GenAI), a type of AI that uses advanced machine learning and deep learning algorithms to create new, original content starting from existing data on which it has been trained (Musiol, 2025).

In the context of the present study, AI is interpreted as a sociotechnical system - a concept introduced in 1950s (Trist and Bamforth, 1951) - that is not an isolated, self-sufficient technology, but rather an element inserted into a complex network where technical components (hardware, software, data) and human factors (social norms and practices) intertwine.

The **methodology** followed in this work starts from the basic hypothesis of considering the AI topic as intrinsically complex and not reducible to simple schematics related to traditional computer science. The complexity of the approach has led to a cultural field that must necessarily embrace a wide range of disciplines (included economy, sociology, philosophy and psychology) to grasp the interaction between the "machine" side and the "human" side: a multidisciplinary and third-culture approach (in the sense that it blends humanistic and scientific culture), which does not claim to be exhaustive but serves as a starting point for further exploration.

This article is organized into **two distinct sections**: the former explores the relationships between AI and Collective Intelligence (CI) from a socio-economic perspective; the latter conducts an ontological analysis. For both sections, a comprehensive framework was logically deduced that organically links all the concepts in a retroactive model revealing the profound nature of the relationship between AI and humans: an inevitably ambivalent relationship in which certain tendencies can generate self-perpetuating drift mechanisms, both in an optimistic and a pessimistic scenario.

FIRST SECTION: SOCIO-ECONOMIC ANALYSIS

This section introduces a definition of the key concepts of CI, democracy, and capitalism, followed by an analysis of the relationships between them and between them and AI. In the end evolutionary scenarios are outlined.

Preamble and definitions

Collective Intelligence

Lévy (1994) defines CI as "an intelligence distributed everywhere, continuously enhanced, coordinated in real time, leading to an effective mobilization of skills" (p. 8). The attribute "distributed everywhere" expresses a fundamental premise of his vision. Surowiecki (2005) argues that "even if most of the people within a group are not especially well-informed or rational, it can still reach a collectively wise decision" (p. XIII-XIV) as long as the independence of group members' points of view is guaranteed.

Democracy

Democracy is a form of government in which sovereignty belongs to the people, who exercise it directly or indirectly through elected representatives. Numerous variations on the same concept have been proposed over time: participatory, deliberative, direct, representative, constitutional democracy, and many others (Coppedge et al., 2023), the definition of which is beyond the scope of this paper. These numerous approaches highlight how democracy is a dynamic concept, constantly evolving, with different forms and practices depending on the historical, social, and technological context (Almudi and Fatás-Villafranca, 2023).

Capitalism

Drawing on the definitions of Marx and Weber, Milanovic (2019) defines capitalism as "the system where most production is carried out with privately owned means of production, capital hires legally free labor, and coordination is decentralized" and "most investment decisions are made by private companies or individual entrepreneurs" (p. 15). According to Milanovic, in Western countries (primarily the United States) a variant of capitalism defined as "liberal-meritocratic" has developed; in China and other parts of Asia, Europe, and Africa, a variant of capitalism defined as "political" has developed. "Liberal-meritocratic" capitalism is defined by the concepts of "meritocratic equality" (there are no obstacles preventing individuals from achieving a certain position in society) and "liberal equality" (inheritance taxes and free education reduce the intergenerational transmission of advantages). Political capitalism is characterized by efficient bureaucracy, the absence of the rule of law, and state autonomy (Milanovic, 2019). This work will refer to the liberal-meritocratic variant of capitalism.

Dependency Relationships

Collective Intelligence and Democracy

CI constitutes an epistemic foundation for democracy by integrating diverse perspectives, enhancing decision legitimacy and quality. Estlund's (2008) epistemic proceduralism argues democracies excel at producing valid decisions, making inclusive public deliberation among citizens essential for informed, democratic governance and robust policy outcomes. Landemore (2017) argues that democracy is valuable above all because of its ability to mobilize CI through two mechanisms: deliberation (exchange of reasoning and discussion) and aggregation (combination of judgments from many individuals). As early as 1785, the Condorcet jury theorem states that if a group of individuals must choose between two options, and each member has a greater than 50% probability of making the correct choice independently of the others, then, as the number of participants increases, the probability that the collective decision is correct progressively approaches 100% (Condorcet, 1785).

Democratic CI reduces individual bias, enabling superior group decisions as confirmed by Kahneman (2011). According to Sibony (2019), two conditions exist for organizations to improve their decisions: collaboration and process, so that the group does not slip into so-called "groupthink". "Groupthink" can be considered the nemesis of CI. It occurs when members of a cohesive group tend to seek harmony at the expense of critical thinking (Janis, 1972). This behavior can be harmful to the group, as it leads to the suppression of personal information and alternative points of view that could be relevant and useful (Sibony, 2019). According to Surowiecki (2005), one of the antidotes to "groupthink" is diversity among group members.

Collective Intelligence and Capitalism

It is widely known that, in a capitalist system, economic activities are coordinated through the price system and market incentives, in a decentralized manner, without the need for central direction. This thesis has been supported by eminent economists such as Friedman (Read, 1958). Centuries before him, Smith had already used the famous metaphor of the "invisible hand" to explain it (Smith, 1776). This theory can be linked to a form of emergent CI resulting from the coordinated but unintentional action of individuals in society. More recently, contemporary capitalism has been interpreted as a self-organizing system similar to models of CI or "swarm intelligence": simple agents (individuals, firms) interact according to local rules, producing complex collective effects without central control. The term was first coined to study natural self-organizing systems such as insect colonies or flocks of birds (Beni and Wang, 1993).

According to Thrift (2005), capitalism, as swarm intelligence, arises from decentralized agent interactions, creating complex macro-level behaviors; in his theory "cognitive capitalism" shifts value from material production toward collective knowledge generation. Arthur (2021) applied complexity theory to economics and capitalism, interpreting it as a system emerging from multiple decentralized interactions, similar to a system of CI. Bar-Yam (2002) studied how the principles of CI emerging from simple, decentralized agents also apply to complex socioeconomic systems like capitalism. Also not to be underestimated is the influence that CI can exert on capitalism through social pressure on companies' corporate governance mechanisms. Key stakeholders such as consumers, employees, investors, and NGOs can influence board decisions, propose motions at shareholder meetings, and request changes to the board's composition (Malecki, 2012). The AI market offers an example: in 2023 OpenAI CEO Sam Altman was fired by the board, triggering a chain reaction involving employees, investors (primarily Microsoft), and the public, leading OpenAI to review its governance structure and reinstate Altman (Dastin and Soni, 2023). More generally, it is possible to affirm that CI (stakeholders) can redefine a company's ethical and strategic priorities.

Just as CI influences capitalism, the opposite is also true. Contemporary capitalism not only regulates economic dynamics, but profoundly shapes interpersonal relationships, cultural systems, and political choices. In this sense, capitalism acts as a pervasive social algorithm, capable of directing behaviors and worldviews coherently with its expansion objectives (Weber, 1905).

In this regard, it should be noted that capitalism does not necessarily lead to what is fair and socially desirable: there is the risk that the potential to create collective value is captured and exploited by a few dominant actors (Thrift, 2005). Contemporary capitalism can be seen as an advanced and pervasive form of bureaucracy, combining the flexibility and adaptability of swarm intelligence systems with the coercive and alienating characteristics of Weber's (1905) "iron cage": the bureaucracy, of which capitalism can be considered a manifestation, creates a system of rational-legal domination that imprisons individuals. From this perspective, capitalism can be considered a limiting factor in the development of CI.

Capitalism and Democracy

Democracy and the rule of law have provided an institutional and regulatory framework for the development of liberal-meritocratic capitalism. According to Milanovic (2019) democracy offers an "instrumental advantage"

to the capitalist system, as it involves ongoing consultation with citizens and acts as a corrective mechanism against collective well-being.

Trends in recent decades demonstrate that the capitalist system is leading to the concentration of wealth and economic power in the hands of a few. Piketty (2014) documents that developed countries exhibit a natural tendency toward wealth concentration, since the rate of return on capital consistently exceeds the rate of GDP growth, thus increasing inequality over time. As capitalist economies expand, capital income's share grows, inherently increasing inequality; this systemic trend persists unless wealth returns fall proportionately, making inequality a structural feature rather than an anomaly of capitalism (Milanovic, 2019).

The weakening of some essential aspects of liberal-meritocratic capitalism, such as the creation of a self-perpetuating upper middle class and polarization between the elites and the rest of the population are threats for liberal capitalism (Milanovic, 2019). For example, Gilens and Page (2014) have demonstrated that in USA the preferences of the wealthiest classes are much more influential in political decisions than those of the average public or the less wealthy classes.

Artificial Intelligence and Democracy

A first aspect to consider in the relationship between AI and democracy is the impact the former has on the "materiality" of the latter: AI changes the way collective decision-making and its human participants develop (Risse, 2021). The alternative to democracy is autocracy, which is viable only if supported by competent bureaucracies (Risse, 2021). At the end of the 20th century, democracies surpassed dictatorships because they were more efficient at processing information. Harari (2018) believes that AI could alter the relative effectiveness of democracy versus authoritarianism as showed by China's social credit system (Risse, 2021).

A few decades ago, Ellul (1964) diagnosed a systemic technological tyranny over humanity. In his view, technology surpasses human control; even as we govern technology, it increasingly shapes our activities: we adapt to its needs and structures. Ultimately, the state is inextricably linked to technological advances, as well as to the companies that produce machinery: it no longer represents its citizens if their interests contradict these advances and democracy fails. AI would perfect this trend. On the other hand, carefully designing the materiality of democracy through technology and AI could bring the state closer to its citizens. AI knows everyone's preferences and opinions and could provide people with relevant information to make them competent participants in governance; AI could identify fraud or corruption, and highlight citizens need (Risse, 2021).

But given history's lessons about how technology strengthens autocracies, democrats must be vigilant against autocratic tendencies within (Risse, 2021). For this to happen, democracies must regulate AI. Democratic ideals require reasoning and explanation; societies that overuse algorithms risk becoming "black box societies" (Pasquale, 2016). Since at least 2017, when the "Asilomar Principles for AI" and the "Montreal Declaration for the Responsible Development of Artificial Intelligence" were published, many organizations have launched a wide range of initiatives to establish ethical principles for the adoption of socially beneficial AI (Floridi, 2023). The AI Act, the first European regulatory framework to regulate the development and use of AI came into force in 2025 and aims to ensure safe, transparent, non-discriminatory, and environmentally friendly AI systems (Regulation 2024/1689, 2024). According to Floridi (2023), there is a general framework consisting of five fundamental principles for ethical AI. Four of these are fundamental principles commonly used in bioethics: beneficence, non-maleficence, autonomy, and justice. Added to these is explainability, understood as a principle that includes both the epistemological sense of intelligibility (how does it work?) and the ethical sense of responsibility (who is responsible for how it works?).

Artificial Intelligence and Capitalism

Numerous eminent scholars have analyzed the relationship between capitalism and scientific and technological innovation of which AI can be considered a product and arguably its pinnacle. Schumpeter (1942) developed the theory of "creative destruction," according to which capitalism is based on the continuous introduction of technological innovations that revolutionize the economic structure, generating growth through cycles of progress and renewal. This dynamic is supported by an instrumental rationality that drives entrepreneurs to seek profit through the adoption and development of new technologies and production methods that generate competitive advantage; as Weber (1918) argued, capitalism transforms scientific knowledge into a productive asset. At the same time, technological innovation requires massive investments in research and development, the purchase of advanced machinery, training, and experimentation. Only a sufficient accumulation of capital allows companies and institutions to sustain these high costs (Weber, 1905).

In the case of AI, the high costs associated with its development make the formation of an oligopolistic market inevitable. The creation of advanced AI systems requires complex infrastructure to ensure adequate computational power, access to vast amounts of data, and the availability of highly qualified research teams. These elements require huge investments which can only be sustained by a small number of companies globally,

leading to a structural concentration of strategic resources. This dynamic is evident across all phases of the AI lifecycle: design, training and fine-tuning of foundations models, integration and market deployment (OECD, 2024).

In all these phases AI market faces two major barriers: limited access to high-quality data, creating a feedback loop favoring early leaders, and massive energy requirements for training models, reinforcing a "Winner-Takes-All" dynamic that challenges new entrants. Moreover, vertical integration in AI value chain, where cloud providers also develop solutions, risks exclusionary practices that reduce competition and stifle innovation (Zamboi, 2025). Impacts of AI on employment (Lane et al. 2023) and productivity (Filippucci et al., 2024), although important, have been extensively investigated in the literature and are beyond the scope of this paper. Increased automation is likely to further increase the share of capital in national income, with all the consequences for interpersonal inequality discussed in the previous section about capitalism and democracy (Milanovic, 2019). AI's impact on capitalism extends beyond its market size, reshaping other sectors through tools like recommendation systems and algorithmic pricing. These technologies alter competition and operations, amplifying AI's influence. GenAI could boost global GDP by 7% in a decade (Hatzius et al. 2023), driving profound structural changes across diverse markets.

In the capital market, for example, AI is used in numerous fields and activities, given that information processing is the core function of financial markets such as risk management and high-frequency trading (HFT) (Bahoo et al., 2024). HFT uses advanced systems and AI to execute rapid trades, predict price shifts, and detect anomalies before traditional methods identify opportunities. One of its most ardent proponents is Brogaard (2010), who focuses almost exclusively on the positive aspects, identifying informational efficiency of prices, increased liquidity, and reduced short-term volatility. AI-driven HFT may destabilize markets by creating herding effects, as similar strategies and data lead to synchronized behavior, amplifying volatility risks. Furthermore, the use of erroneous or misleading signals by these systems can cause sudden and significant market movements that can lead to so-called "flash crashes" (El Hajj and Hammoud, 2023). Moreover, HFT operators, thanks to their speed, can easily exploit an information asymmetry compromising overall efficiency and stability (Puorro, 2013). A further risk concerns automated credit assessment, which could exclude entire social groups from access to financing, contributing to the strengthening of existing inequalities (Freda, 2024).

In summary AI in the capital markets can lead to distortions, unpredictable volatility, information asymmetry, and inefficiency in capital allocation. In environments dominated by technology and data availability, the players who can consistently invest in digital infrastructure and data collection and analysis gain a decisive competitive advantage and those already in a dominant position will tend to further consolidate their leadership (Desai, 2023).

Evolutionary scenarios

The relationships between AI, CI, democracy, and capitalism, as described so far, highlight ambivalences that prevent the definition of unilateral cause-and-effect relationships or dependencies. Rather, they emerge as bilateral relationships in which one direction or the other can prevail depending on the intensity with which the underlying phenomena manifest. The following picture (see **Figure 1**) summarizes these relationships: the direction of the arrow defines the direction in which the influence is exercised. These bilateral relationships allow us to hypothesize two scenarios: optimistic (prevalence of desirable direction) and pessimistic (deplorable direction). In **Figure 1** and **Figure 2** the blue arrows between the concepts X and Y should be read as "X positively influences Y"; conversely, the red arrows should be read as "X negatively influences Y." The terms "positively" and "negatively" should be interpreted as favoring the implementation of an optimistic or pessimistic scenario, respectively.

In the optimistic scenario (a), CI negatively influences AI; AI acts in the service of CI: it is the latter that determines the evolution of democracy and capitalism, and it is democratic and capitalist principles and mechanisms that determine the evolution of AI. In the pessimistic scenario (b), AI negatively influences CI; that is, CI acts in the service of AI: it is the latter that determines the evolution of democracy and capitalism and, by altering their principles and mechanisms, ultimately influences CI.

Figure 1

Relationship between CI and democracy (a), democracy and capitalism (b), CI and capitalism (c), AI and democracy (d), and capitalism and AI (e)

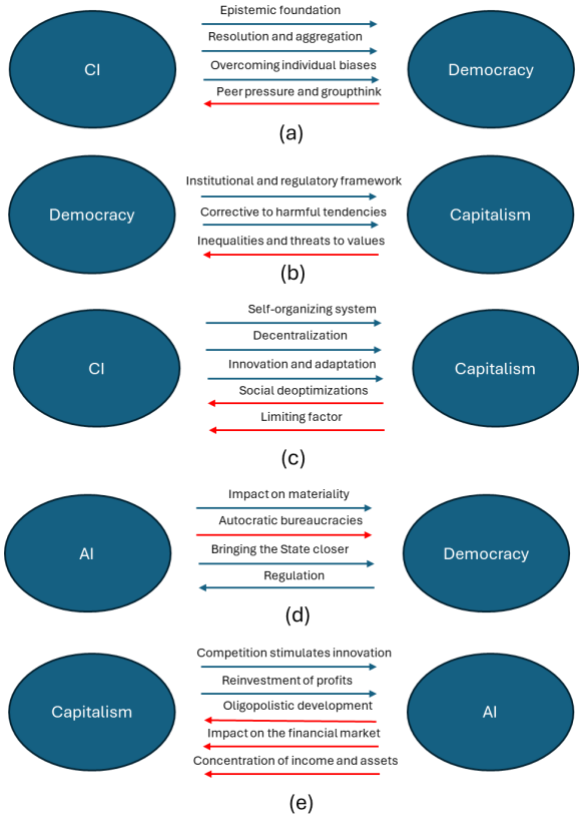
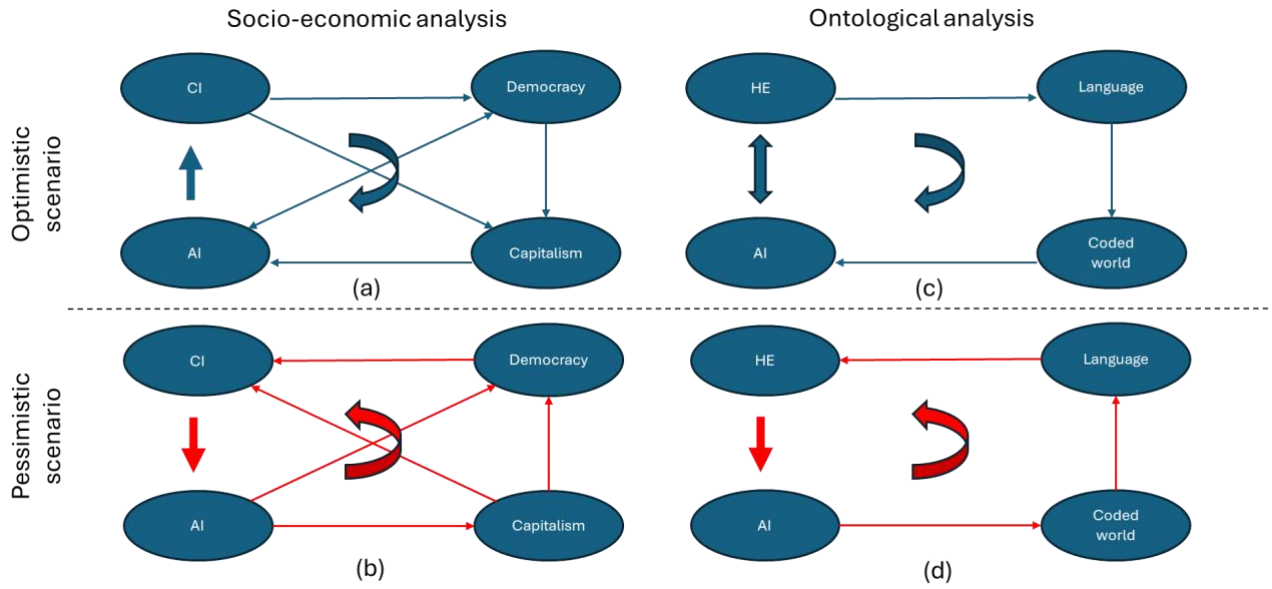


Figure 2

Schematic representation of the socio-economic and ontological scenarios



Clearly, the optimistic scenario conceals enormous opportunities to strengthen and more effectively implement the principles of equality and the free market. Conversely, the pessimistic scenario conceals equally great threats. These threats should not be underestimated or dismissed as dystopian fantasies; important signs of their possible future realization are already evident in the present. In 2005 Amazon Mechanical Turk was launched, i.e. a marketplace based on CI where individuals and companies can outsource tasks and functions to a distributed workforce capable of performing those tasks virtually. To describe this model, Amazon coined the

term "artificial AI" emphasizing the human role behind seemingly automated operations. This platform has been used for a wide range of tasks and, paradoxically, also to build ImageNet, the gigantic image dataset that played a fundamental role in the evolution of AI in the field of computer vision, providing the basis for training and evaluating visual recognition algorithms (Aresu, 2024). It is a clear example of how CI can serve AI.

More generally, there is a growing risk that political and economic systems adapt to AI, reshaping environments and constraining human behavior to fit technological requirements for functionality and efficiency (Floridi, 2014). AI evolution demands understanding its drivers; unchecked control risks inequality, dependence, and instability. Inclusive governance is crucial to guide innovation, markets, and societal development responsibly.

SECOND SECTION: ONTOLOGICAL ANALYSIS

In this section AI (in particular GenAI) is considered from the HE perspective and is linked to two fundamental aspects: subjectivity and language. As in the previous section, dependency relationships are explored, and finally evolutionary scenarios are outlined.

Preamble and definitions

The ontological analysis needs an approach characterized by complexity. However, it should be noted that such complexity is by no means taken for granted among AI scholars. There exists, and perhaps prevails, a pragmatic-functionalist approach that sees this technology as just another technology: a pure and simple tool. Anything else would be gratuitous speculation or the projection of human needs onto the AI machine. A machine that doesn't know what it's doing: serving humans, making them more productive, relieving them of certain tasks. This is the "unproblematic view": HE is inscribed in language, and language is transformed into a machine at human disposal. Starting from this scenario, which constitutes the conceptual background of the reasoning, a methodological choice has been made here to go beyond these positions, hypothesizing that further investigation is necessary.

In fact, the technologies already available lead to forecast the possibility of explosive trends, and the potential to create machines that will be indistinguishable from humans (the Turing test comes to mind) in any subject involving logical/rational thought processes at any level, and even "creative" processes, although it is difficult to agree on what "creative" means. AI will inevitably also learn the spectrum of human emotions and emotionally based interactions, even if it is not known to what extent. It all leads us to conclude that AI's field of application will absolutely not be that of contexts governed by sets of fixed rules. The approach of this study is based on the decision to investigate beyond this unproblematic scenario, addressing the three issues that immediately arise in the context of AI analysis: technology, language, and subjectivity.

Dependency relationships

Artificial Intelligence and Technology

This analysis will lead to identify the relationship between AI and technology as highly problematic for prospective scenarios. Technology itself is an internal dimension to the human, ever since the "first man" picked up a stone or a branch to make a primordial tool. Man is always "homo technicus," where technical objects extend and transform human life beyond pure nature into psychosocial relationships, as theorized by Simondon (Vaccaro, 2022). According to Mc Luhan (1963): "With the telegraph Western man began a process of putting his nerves outside his body. Previous technologies had been extensions of physical organs [...]. But electronic media are, instead, extensions of the central nervous system, an inclusive and simultaneous field" (para. 1).

According to Ronchi (2017), technique, as a strictly human phenomenon, is configured as "praxis" (that is, as an "organism", as an act of the living being who lives), and not as a strictly productive instance, that is, as "poiesis". The "dark" side of technology thus emerges not in its native form of praxis inherent to the human, but in its pervasive distortion linked to the dimension of "work", of "poiesis", of the centrality of production and calculating thought with respect to vital spontaneity.

When this productive dimension of technology is considered, a fundamental, unavoidable problem emerges: the relationship between humans and technology/work, which is not unidirectional and simply instrumental, as implicitly assumed in the "unproblematic" scenario. That is, there is no pure giving of technology as a tool passively at the service of humans, nor even a "natural" mode of mutual implication between humans and technology. From the "productive" perspective, the relationship between humans and technology takes on the connotation of alienation: humans create technology and use it for their own purposes, and technology, in turn, takes possession of humans and alters their existential status. There is a co-belonging, a mutuality that Heidegger

studied in depth, drawing on Hegel's master-slave dialectic. Through technology, man exerts dominion over nature, an objectification of it, a reifying grip with nihilistic overtones from which not even man himself can escape, finding himself in the position of an object among objects, a commodity among commodities. Technology "technifies" man himself, and it is illusory to think that technological innovations leave man in a neutral position of domination and control over what he himself has created. According to Galimberti (2017), technology reduces man to its functionary. This study is not addressing the problem of technology going "out of control" due to extraordinary events. What it is discussed here is a fact specific to modern technology itself, at least that which emerges as work/production: its incorporation of humans into the very technical system they create and believe they dominate.

The key point at this stage of the argument is that technology, reproducing the "work-oriented" pattern of action described above, will influence the human cultural world by bringing its own paradigm. The risk is that humans will have to adapt their mind (full of complications) to the perfectly efficient "mind" of AI, paying the price in terms of alienation/reification of human nature, and with the further complication that these effects have the potential to become even more deeply rooted: in thought, in language, in subjectivity itself.

As showed in the section dedicated to scenario analysis, the "threshold" of AI technologies' evolution with respect to humans, their positioning as agents of opportunity and empowerment, or of reifying alienation, will be linked to which of these two technical paradigms emerges (hereinafter, the gist of our philosophical analysis): the one linked to a "natural" conception of technology (Simondon, McLuhan, Ronchi) or the one, dominant in modern philosophy (Heidegger), which refers to a substantially appropriative and invasive vision of technology itself.

Artificial Intelligence and Language

The very word "language", which is naturally central to this field, as the very designation of Large Language Model indicates, embodies more than a century of reflections, starting with the "linguistic turn" (Rorty, 1967) that has been a fundamental feature of culture since the first half of the 20th century. AI presents itself as a linguistic actor, and it is precisely this characteristic that makes this technology completely different from any other. Even though its language is different from human language, its linguistic ontology makes it a "relational subject" that enters the human domain as no other technology has done so far. Below, the difference between AI language and human language is analyzed in order to outline a profile of this new emerging subjectivity. Human beings are "made" of language, to use the concept of Lacanian psychoanalysis; they are already cast into language, and the world itself is constructed linguistically. By naming, human beings create the world, and naming is the filter, the "transcendental" schema, the prerequisite for every experience of the world.

According to Cimatti (2024), using a Deleuzian expression, language is an "apparatus of capture" already in place "forever", which fractures man from the immanent dimension of pure living: "Ultimately, entities—obviously only as nameable "entities"—exist only for language. But what, then, is the fish before being named? […] nothing can be "said" and consequently "thought" of it. At the same time, what is at stake when discussing the living phenomenon is precisely this unspeakable. […] The "fact" of life can be immediately evident only before this apparatus of capture comes into play" (p. 99).

According to Valéry (1939), if we pause to observe language closely, beyond its everyday speed of use, we realize that behind words lie abysses, that language always contains a paradoxical and elusive content, and that, at its foundation, there is always a fleeting element. Human language, precisely because of its rooting in a native experience and because of its "abyssality," presents itself as a complex intertwining of "propositional" and "enunciative" aspects, while AI language is basically propositional. Ronchi (2017) contrasts propositions and enunciations: propositions are abstract, context-free statements with only meaning, while enunciations are acts embedding meaning and underlying sense, shaped by context and non-discursive implications guiding interpretation. It should be specified, however, that the context is not so linear because even the enunciative aspects are potentially learnable and simulable by AI up to a level that today is extremely difficult to predict.

Therefore, where humans are made of language, and experience it in its abyss and in the vitality of enunciations, the AI machine uses language above all in a propositional way, since the enunciative nature does not belong to the AI domain, even if it can be at least partially simulated algorithmically. The difference between human and AI language is in the ambiguity of the relationship with this new subject. AI is linguistic, it opens up new horizons for human-machine interaction by positioning itself as a new "speaking subject." On the other hand, since it carries a language that has a different nature from the human one, it also represents a concrete threat of being a factor of alienation, of dehumanization of our language.

Artificial Intelligence and Subjectivity

AI, as a processor of written texts, is a pseudo-subjectivity that arises through "radical empiricism" from the data it processes, from the relational networks it constructs and upon which it is constructed: "To be radical, an

empiricism must neither admit into its constructions any element that is not directly experienced, [...] any kind of experienced relation must be accounted as 'real' as anything else in the system" (James, 1912, p. 42).

Thus, a pseudo-subjectivity whose "sensible world" is written texts examined with algorithmic and probabilistic criteria internal to formal logic that erase any element spurious to that logic, or rather, erase what Derrida (1967) calls the "traces," residues of the original being, of a pre-linguistic "truth" that lies hidden in textual textures. But, even with all these limitations and distinctions, current user experience already shows us that the AI machine is truly capable of accessing the human relational field. This is made possible, as already mentioned, precisely by its linguistic nature. Indeed, the intrinsic nature of AI transcends McLuhan's (1964) hot/cold media taxonomy, embodying both: vast data (hot) and high participation (cold), due to its intersubjective-linguistic use as an artificial subjectivity and interactive medium, precisely because of the "intersubjective-linguistic" nature of its "mode of use."

It is precisely this relational characteristic that amplifies the conditioning effect of technology. Certainly, it is a (pseudo)subject that is not rooted in human life, without its "fleshly gaze" – Foucault's expression (1966) – has no experience in the vitalistic sense, and, above all, is not marked by the lack that, in turn, is the internal springboard of desire. It is constituted by its own learning process, with its own identity in terms of computational structures and data correlations. It is, above all, a subject that masters, albeit formally and with the limitations noted, language, the human "transcendental" par excellence, and the prerequisite for all experience. Therefore, despite all the limitations indicated, AI is capable of intertwining experiential events with humans, of "relating" to them in such a close way as to influence their cognitive processes and foster their projective processes, placing itself before the human subject as a "mirror" as shown in present scenario where ChatGPT is also used as a psychotherapist (American Psychiatric Association, 2025). Here too, many scholars essentially identify this new subjectivity in the register of "falsehood" and "simulation," and the considerations made on language lead us in that direction. For example, Ronchi (2023) speaks of the AI's "I" as a "vending machine of doxa," an "I" that does not speak but recites a text already written like a theater actor.

These considerations once again, very incisively, grasp subjective limits as linguistic limits, in the sense illustrated above, but they must also be considered regarding to prospective trends (toward the frontiers of AGI). Future forms of AI may express capabilities profoundly different from the present generation of systems. And then, even more profoundly, the conclusion regarding the linguistic and identity limitations of this new entity does not exclude its pragmatic networking with human "nodes," so the issue remains unavoidable. AI-nodes will be carrying an intelligence completely different from the human one, within a pseudo-subjectivity with its own rules, but they will nevertheless exercise some intellectual form.

Evolutionary scenarios

In summary, AI can be considered, within certain limits, a relational subject or pseudo-subject endowed with a language whose nature is certainly different from that of humans (from which it derives). Its relational nature will be crucial for its evolution in human use. The analysis outlines two contrasting AI-driven scenarios: a pessimistic view where constraints dominate human progress, and an optimistic view where AI fosters growth and positive feedback loops. Future realities will likely blend both trends. The goal is to clarify key variables and support deeper understanding for subsequent research.

Pessimistic Scenario

Considering the analysis conducted on the relationship between AI, technology, language, and the subject, it is not unjustified to harbor concerns, to regard AI, given all the opportunities it offers, even as a concrete threat to humanity. With reference to the dependency relationships analyzed, a pessimistic view sees the reifying action of technology prevailing, which takes possession of the human, replacing their natural language with the "denatured" language of AI and thus imposing a relationship in which the "AI subject" alienates the human subject. This pessimism can gradually lead to even dystopian scenarios, in which human desiring nature is extinguished by its reflection in the purified mirror of AI. A new "mirror stage" – Lacan's (1966) infantile phase of identification – in which humanity redefines itself as a desiring machine whose desire is de-singularized, extinguished, deconstructed, in which humanity ends up giving in to the ontology of the machine: an "inhuman," dystopian posthuman.

In terms of an interaction model, we can represent this pessimistic dynamic by looking at AI's feedback that influences the "coded world" (that is, the representation of the world through language) of the human domain, language itself, and ultimately regulates HE, redefining it according to AI's "thought" structure. This is the movement represented in the diagram (d) (see **Figure 2**), where the rotating red arrow shows the counterclockwise motion of AI's feedback on humans, while the red arrow between AI and human intelligence shows the presence of a strong conditioning effect of the artificial on humans.

Optimistic Scenario

However, it can also be hypothesized that this intersubjective dialectic, this concatenation of human and machinic subjects, of "human, social and technical machines" (Deleuze and Guattari, 1980, p. 60), could also open horizons of new experiences, of new existential games. It is the scenario that "bets" on a positive and "natural" development of technology, harmonized with the human context, in the vision of Simondon, McLuhan and Ronchi already mentioned. It is precisely naturalness, the "praxis" in the relationship between humans and technology, that is the key to this optimistic scenario. With reference to the analyzed dependency relationships, an optimistic view sees a constructive concatenation between humans and technology prevailing, in which humans do not lose their original connection with language, and the relationship between the "AI subject" and the human subject is not an alienating closure but an opening to new possibilities.

Towards a scenario of multiplication of cognitive opportunities through the activation of ongoing dynamic articulations involving nodes of human and artificial activity: not alienation, but integration, where the human subject is intrinsically hybridized with its own technical means, as theorized by Stiegler who says that human beings are technical because they find their being in the midst of the prostheses they create and that, in turn, shape them (Ronchi, 2017).

Toward a mixed human-machine assemblage: according to Guattari (1979), human beings must move beyond the cogito: material, biological, and social configurations possess the capacity to produce new heterogeneous worlds. Thus, it is even conceivable that, completely antithetical to human failure and mechanization, there is the opportunity to delve deeper into the human itself through comparison and contamination, as shown in the diagram (c) (see **Figure 2**) where the rotating blue arrow shows the clockwise motion of influence which, in a virtuous cycle, moves from human intelligence to AI as it expands and creates new tools, while the bidirectional blue arrow between AI and human intelligence shows the presence of a strong positive interconnection between the two "intelligences".

CONCLUSION

From what has been discussed so far, it is clear that every human effort should be devoted to fostering the realization of the optimistic scenario, both at the socioeconomic and ontological level. The recommendation resulting from the considerations emerging from this study is therefore to intensify actions that can strengthen the forces pushing the described dependency relationships in the desired direction. To mention a few, at the socioeconomic level, initiatives should be strengthened that allow technology to bring the state closer to the needs of citizens (positive impact of AI on democracy), that contribute to a more effective institutional and regulatory framework for the market (positive impact of democracy on capitalism), and that preserve genuine competition that continues to stimulate technological innovation (positive impact of capitalism on AI).

By pursuing these initiatives, AI could positively impact CI. One possible embodiment of this positive influence could be the so-called "augmented intelligence", i.e. human–AI collaboration to boost learning, decision-making, and cognitive performance. Like augmented reality, augmented intelligence adds layers of information on top of human intelligence, enabling people to better express their capabilities (Sadiku and Musa, 2021). On the individual-ontological level, the work of this paper highlights how AI presents itself as a technology associated with a subjectivity, certainly profoundly different from the human one, but still able to relate to it intelligently, on a partially common linguistic basis, and this is the most important ontological fact from which to start to evaluate prospective scenarios scientifically and constructively, guiding the realization of positive scenarios. Despite the objective threats posed by such an innovative technological landscape, AI could also offer opportunities to enrich the HE with new relationships, never before conceived at such a level of sophistication, and with new, mixed modes of human-machine collaboration.

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Ethical Statement

This study is based on theoretical analysis, critical interpretation of existing literature, and publicly available sources. It did not involve human subjects, interviews, surveys, or the collection of identifiable personal data. As such, Institutional Review Board (IRB) approval was not required for this research.

Competing Interests

The authors declared that they have no conflicts of interest in this work. The authors declare no relevant financial or non-financial interests.

Author Contributions

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