

Philosophical Writing in the Face of Technology: From the Pharmakon to the Algorithm — Toward a Genealogical Critique of the Fate of Thought in the Age of Generative Artificial Intelligence

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Abstract:

This study begins from a central problem situated at the intersection of philosophy, technology, and writing in a historically critical moment: how is generative artificial intelligence reshaping the nature of philosophical thought and the mechanisms of its production, and does philosophical writing preserve its critical and creative identity when surrounded by an algorithmic system that regenerates meaning according to probabilistic equations rather than the movement of thinking consciousness? The argument is grounded in a dual theoretical depth. On the one hand, it invokes the Platonic-Derridean concept of the pharmakon—that semantic ambivalence which makes writing both poison and remedy at the same time; on the other hand, it draws on Bernard Stiegler’s critique of technology as an organic extension of consciousness through what he called tertiary retention, that is, memory exteriorized into tools, platforms, and data structures. The depth of the argument becomes visible in the transition from the pharmakon—as a “double of danger and promise” in traditional writing—to the algorithm as a new digital pharmakon that reconfigures human symbolic production as a whole.

The research seeks a dual aim: first, to critique the epistemological foundations on which generative artificial intelligence bases its claim to “producing thought”; and second, to construct a genealogical framework—drawing on Nietzsche and Foucault—to trace the historical and power-related conditions that produced the dominance of the algorithmic model in the field of writing and thinking. A review of the literature reveals a real research gap: existing studies are concerned either with the ethical critique of artificial intelligence or with the analysis of its computational techniques, but none has carried out a genealogical-philosophical critique that questions the effect of the algorithm on philosophical writing itself as both a practice and a form of symbolic resistance. The significance of this study derives from an urgent contemporary need: generative artificial intelligence seduces us with the idea of “copying” philosophy as a productive pattern, which raises an existential question concerning the fate of the philosophical logos and the freedom of the thinking subject in the age of text machines.

The research adopts a critical genealogical method, combining phenomenological analysis of philosophical texts, Derridean deconstruction of writing, and comparative philosophical reading across major traditions (Stiegler’s pharmacology, Foucault’s archaeology, and Derrida’s deconstruction). The study concludes with several findings, most notably: that generative algorithms

represent the most dangerous form of the contemporary pharmakon because they erase the distance between thought and simulation, producing texts that lack the genealogical depth of lived experience; and that philosophical writing in the algorithmic age must re-establish its identity through a dual practice: critical resistance and conscious use of technology, rather than either absolute rejection or surrender to its logic.

Keywords: pharmakon; philosophical writing; generative artificial intelligence; genealogical critique; Bernard Stiegler; algorithm; tertiary retention; deconstruction; philosophy of technology; fate of thought.

First: Introduction — Context, Timeliness, Rationale for the Topic, and Article Structure

This article comes within an unprecedented technological and epistemic transformation in the history of humanity's relationship with technology; a transformation that places philosophy, as a critical and contemplative practice, before a direct existential challenge. Generative artificial intelligence—represented in large language models such as ChatGPT, Gemini, and Claude—does not merely process information or execute specific instructions; rather, it goes further by producing full texts, composing analytical discourses, and arranging what, at first glance, appear to be coherent philosophical arguments. We are thus faced with a tool capable of simulating the act of writing and thinking at the same time, which makes it seem as though it is a new partner in the arena of “philosophical debate,” not merely a technical means in the hands of the philosopher or researcher. This situation destabilizes the foundation upon which Western philosophy has rested since Socrates, namely that thinking is a living subjective practice that cannot be delegated outside the thinking self, nor reduced to a written “text” or “discourse” separated from the thinker [arxiv].

This shift in humanity's cognitive condition is fueled by a digital reality in which usage figures are rising at a pace that almost escapes comprehension; according to data published in 2026, the number of weekly active users of ChatGPT reached about 900 million, after having been close to 800 million in late 2025 and around 400 million at the beginning of 2025. This means that the number has more than doubled in less than a year. These figures reveal not only the spread of the tool, but its transformation into a daily habit for hundreds of millions of users, in a manner similar to what happened with social media platforms over the past two decades, but now with a “thinking tool” rather than merely a communication platform. In education, recent global statistics reveal that 86% of higher education students admitted to using artificial intelligence tools to complete their academic work by mid-2024, with a significant proportion of them using these tools daily or weekly, especially in writing, editing, and idea generation tasks. At the institutional level, international reports indicate that about 78% of global organizations were using artificial intelligence in at least one function inside the organization in 2024, compared with only 55% in 2023, which means a sharp leap in one year, driven specifically by the wave of generative artificial intelligence. When read in light of the short history of generative AI, these figures reveal an explosive phenomenon that does not allow philosophy the luxury of postponement; we are now confronted with a technology that is reshaping writing habits, research mechanisms, and modes of expression and dialogue in education, work, and daily life [techcrunch].

However, the most dangerous aspect of this moment is not merely the scale of quantitative diffusion, but the kind of philosophical questions it imposes. Can texts generated algorithmically be considered “writing” in the philosophical and semiotic sense of the word? And can what a large language model offers as analysis, interpretation, or argument proposal be classified as “thought,” or

is it merely a recombination of a prior textual corpus? What remains of the concept of the “author” and “epistemic responsibility” when a computational model mediates between the philosopher and the reader? And how can philosophy, as a critical and genealogical practice of meaning and power, respond to a reality in which the database, rather than lived experience, becomes the primary source of discourse? These questions place us at the heart of the tension between instrumental and value-oriented approaches to generative artificial intelligence: do we deal with it merely as an effective tool for improving productivity, or do we ask about the value, meaning, and ethical and epistemic consequences embedded in this use? [medium]

Rationale for Choosing the Topic

The choice to examine the intimate connection between instrumentality and value in the context of generative artificial intelligence does not stem from technological fascination or a superficial warning stance, but rather from a set of methodological and epistemic considerations that make the topic both timely and urgent in Arab and global contexts alike.

First, there is a clear gap between the enormous expansion of the phenomenon in everyday AI use and the limited philosophical-critical framing available in Arabic-language literature. Despite the abundance of journalistic articles and technical reports discussing the advantages of ChatGPT, Gemini, and Claude, philosophical treatment of these tools as writing and thinking technologies remains sparse and fragmented, often limited to applied ethics or fears about job loss, without delving into the new cognitive and ontological structures they produce. Here, the article offers an attempt to overcome this limitation by invoking a rich philosophical heritage on writing and technology and rereading it in light of current digital data [intellectdiscover].

Second, the philosophical legacy surrounding the question of writing and technology—from Plato’s *Phaedrus* to Jacques Derrida’s *Of Grammatology* and Bernard Stiegler’s *Technics and Time*—provides a fertile conceptual field for analyzing generative artificial intelligence, yet one that remains underused in Arabic scholarship. In *Phaedrus*, Socrates recounts the Egyptian god Theuth’s invention of writing and King Thamus’s objection that writing would weaken memory and produce only the appearance of knowledge rather than the living knowledge carried within the human being; this critique can now be read as an early “media critique” that places the relation between writing, memory, and truth at the center of inquiry. Later, Derrida in *Of Grammatology* will propose the concept of “arch-writing” as a structure prior to speech and consciousness, showing that meaning passes through traces and differences irreducible to the presence of voice or self; meanwhile, Stiegler treats technology as an “external memory” mediating the relation between human beings, time, and knowledge, including writing and digital media. This tradition offers powerful analytical tools for rethinking generative AI, yet its use remains limited in Arabic studies, making this article a contribution toward opening this archive and connecting it to the algorithmic present [link.springer].

Third, the current civilizational moment—where AI usage rates in education and work rise above 70–80% among students and institutions according to international reports—requires a philosophical stance that does not settle for description or data collection alone, but rather performs a genealogical critique of the sources of power and knowledge in the age of algorithms. Generative AI is not a neutral tool; in each response it proposes a certain structure of knowledge (a pattern) and reproduces criteria for what counts as “correct information” or “acceptable analysis,” based on a textual corpus that may itself carry cultural and epistemic biases. The question then becomes: who controls the structure of this corpus? Who decides what is included and excluded? And how does AI move from a writing tool

to a source of epistemic authority that students and researchers receive as though it were a “reference”? These questions, emerging from the logic of value and meaning, justify the necessity of approaching the topic through the tension between instrumentality and value, rather than from a purely technical perspective [campustechnology].

The Article’s Problem and Aim

The central problem of the article lies in questioning the nature of the relationship between the instrumental use of generative artificial intelligence in writing and discourse, and the requirements of value-based rationality that see writing as a responsible act emerging from a thinking subject who bears the consequences of what they say and write, framed by the values of truth, justice, and intellectual integrity. In other words, the article asks: to what extent is the current use of generative AI in the cognitive field—especially in higher education and philosophical research—governed by an instrumental rationality focused on speed, productivity, and improving textual output, as opposed to a value-oriented rationality that invokes ethical and epistemic questions concerning responsibility, academic honesty, and the critique of sources of authority in the age of algorithms?

From this central problem emerge several sub-questions, such as:

What transformations has the widespread diffusion of generative AI brought about in the writing habits of students and researchers? [statista]

Can algorithmically generated texts be considered “writing” in the sense upon which the relation between author and text is based, or are they a new form of “copying/composition” that requires redefining authorship?

How can Plato’s critique of writing and Derrida’s and Stiegler’s analyses of technology and writing be reread in light of the emergence of models capable of comprehensive linguistic simulation? [pomoculture]

What risks and opportunities does generative artificial intelligence pose to philosophy as a critical and genealogical practice rather than a mere accumulation of information or summary of texts?

The aim of the article, therefore, is to build a dual critical approach: on the one hand, to analyze the phenomenon in light of reliable data and statistics concerning the spread of generative AI in education and work; and on the other hand, to reconnect this phenomenon with a philosophical field concerned with writing, technology, and epistemic authority, in order to propose a framework of understanding that balances instrumentality and value in dealing with these tools.

Research Gap

Despite the abundance of technical and administrative studies monitoring the rates of generative AI use, a review of the literature indicates that philosophical approaches linking this phenomenon specifically to the question of writing and rationality remain limited, especially in the Arab publishing market. Most available texts discuss topics such as “the impact of AI on the labor market,” “ethical issues of AI use in medicine,” or “privacy and digital security concerns,” while the philosophical debate about what it means for a human being to write, or think, through an algorithmic medium that participates in producing and analyzing texts, remains absent [templeton].

In Western literature, recent years have seen contributions linking *Phaedrus* to the crisis of writing in the age of ChatGPT, explicitly invoking Socrates’ passages on the danger of writing for memory and knowledge and projecting them onto generative AI as a “new kind of writing” that produces ready-made texts and may encourage students to abandon writing as a subjective exercise in thinking. Other studies have begun rereading Derrida’s *Of Grammatology* in light of AI, asking how the notion

of “arch-writing” might be adapted to a reality in which algorithms produce new textual traces within a distributed digital space. Yet these debates have not yet been systematically transferred into the Arabic sphere, nor have they been integrated into a structured analysis of the Arab educational and research reality, which is itself witnessing an explosion in AI use [gradesaver].

Accordingly, this study seeks to bridge this gap by offering an Arabic philosophical reading that integrates two axes: the axis of writing and technology in the classical and contemporary philosophical heritage, and the axis of generative artificial intelligence as a current phenomenon supported by recent statistics and data, with the aim of laying a foundation for philosophical dialogue about AI that does not stop at procedural ethics, but extends to a critique of the cognitive structures themselves.

Research Significance

The importance of the study stems from two complementary levels:

1. Theoretical significance:

The article attempts to formulate a “philosophy of writing in the age of generative artificial intelligence” by rereading classical texts (Plato, Socrates) and contemporary texts (Derrida, Stiegler) in light of a new reality in which algorithms produce texts and analyses that may be received as “knowledge” by millions of users. This connection between the ancient critique of writing as a technology that threatens memory and the modern critique of AI as a technology that threatens authorship and epistemic responsibility opens a theoretical path for rethinking the relation between human beings and text in the digital age [pressbooks].

2. Practical significance:

At the educational and professional levels, the analysis provides a framework for universities and institutions to develop policies for generative AI use that are not limited to prohibition or unconditional permission, but instead are based on a balance between instrumentality and value; that is, between benefiting from the capabilities of language models to improve writing and research, and protecting the values of academic honesty, self-thinking, and critique of sources of authority. This framework can also guide the development of “codes of conduct” within philosophy and humanities departments, specifying the limits of AI use in philosophical writing and establishing clear standards distinguishing the researcher’s text from the model’s text, in order to preserve the concept of authorship and moral responsibility [sites.campbell].

Methodology and Article Structure

This article adopts a composite methodology that combines:

- **Theoretical philosophical analysis:** based on reading Plato’s texts on writing as a “technology” that threatens memory and thought, as in *Phaedrus* and the *Seventh Letter*, and analyzing contemporary interpretations of these texts in recent studies that reassess Socrates’ critique of writing in new historical contexts. It then moves to Derrida’s concepts of original writing, and Stiegler’s arguments regarding technology and memory, opening a theoretical dialogue among them and with generative artificial intelligence [brill].
- **Use of contemporary data and statistics:** drawing on reliable statistical sources documenting rates of AI use among students and institutions worldwide, such as Statista reports showing that 86% of students used AI in schoolwork in 2024, and McKinsey and Stanford reports showing an increase in the share of organizations using AI from 55% in 2023 to 78% in 2024, along with reports on ChatGPT weekly active users reaching 900 million in

2026. These data are used as evidence for the scale of the phenomenon, not as a source of theorization in themselves, preserving the distinction between numerical fact and philosophical analysis [technologychecker].

- **A critical genealogical approach:** aiming to trace the “lineage” of epistemic authority in the age of AI, by questioning the sources of discourse produced by language models and analyzing how these models reproduce hierarchies between languages, cultures, and knowledges, based on the textual corpora on which they are trained, thereby opening questions about “representation” and “exclusion” in the foundational material on which AI discourse is built [arxiv].

As indicated in the original text, the structure of the article consists of a comprehensive introduction (this expanded section), followed by a precise formulation of the research problem, hypotheses, and objectives; then a review of literature and previous studies dealing with the heritage of writing and technology and artificial intelligence; then a conceptual and terminological framework defining instrumentality, value, writing, and algorithm; then one main chapter containing five detailed sections (such as: the history of the critique of writing, generative AI as a “technology of writing,” the tension between performance and values, the effect of algorithms on philosophical education, and proposals for an ethics of writing in the age of AI); then the results and recommendations; and finally the appendices containing statistical tables and explanatory visual materials. This structure enables the reader to move gradually from observing the context and timeliness to theoretical foundation and then to critical analysis, in order to formulate a contemporary Arab philosophical position on “algorithmic writing” between instrumentality and value [intellectdiscover].

Second: The Central Problem — Redrawing the Boundaries of Philosophical Writing in the Age of Algorithms

The central problem of this study revolves around a question that appears technical on the surface, but whose depth carries sharp ontological and epistemological dimensions: how does generative artificial intelligence redraw the boundaries of philosophical writing and its conditions of production? And can the current confrontation between human thought and the algorithm be read as a re-enactment of Derrida’s *pharmakon* in its most complex and dangerous technical-digital form? (Derrida, 1967, p. 99).

In the classical philosophical imagination, especially in Plato’s tradition, writing itself was considered a suspect technology: a double-edged weapon that could assist memory while simultaneously weakening it, and could transmit knowledge while turning it into a rigid imprint incapable of defending itself. In the *Phaedrus*, for example, Socrates presents the myth of the Egyptian god Theuth, who invented writing and offered it to King Thamus; the latter replied that it would make people “remember things superficially” rather than “truly recall knowledge,” since they would rely on the text rather than carrying truth within their souls (Plato, *Phaedrus*, 275c–e). This tension between writing as a *pharmakon*—remedy/poison—would later be revived by Derrida, who argues that every technology of writing carries the possibility of liberation as well as alienation; it preserves the trace, yet it may replace presence with archive.

Generative artificial intelligence represents, within this horizon, a “new generation” of the *pharmakon*: a writing technology that does not merely preserve or transmit text, but produces it from the outset through algorithms that learn from vast textual corpora and then recombine them into responses, analyses, and arguments. Here the philosophical question becomes even sharper: is what

a large language model produces “writing” in the sense that makes text an expression of a responsible thinking subject, or is it merely an automatic production of an effect without a subject? And if philosophical writing is, traditionally, the moment in which thought takes form in text, what does it mean when the text itself becomes algorithmic? Where does the philosopher stand, as a writing and critical subject, in a knowledge economy that reproduces symbols and concepts almost automatically?

This question becomes even more complex when we note the scale of generative AI’s spread in education and research; according to recent global data, 86% of students in an international survey reported using artificial intelligence tools in their academic work, with usage concentrated in writing, editing, and summarizing texts. In another survey in higher education, student use of generative AI reached about 92%, meaning that the “almost absolute majority” of students now inserts the algorithm into the core of their academic practices. At the institutional level, reports show that 78% of companies and organizations worldwide used artificial intelligence in at least one function inside the institution in 2024, compared with only 55% in 2023, in a yearly leap that shows AI moving from a “marginal experiment” to a “standard practice.”

In this context, the central problem becomes more than a theoretical question; it is a response to a reality whose indicators suggest that “initial thinking” itself—brainstorming, as the core of philosophical work—is now being delegated on a large scale to algorithms, as studies on student uses of ChatGPT confirm, where it is used for generating first ideas, drafting, and summarizing scholarly literature (Freeman, 2025, p. 12). If that is true, then we face a philosophical and anthropological crisis that goes beyond applied ethics, because “thought” itself—not only “writing”—becomes threatened by replacement or deskilling; that is, the thinking subject becomes a consumer who merely collects and edits what the algorithm provides instead of practicing thought as effort and event.

Analysis of the Sub-Questions

1. The difference between autonomous philosophical writing and algorithmic text generation

The first question addresses the essential difference between writing as a subjective philosophical practice and the algorithmic generation of philosophical texts in terms of nature and existential and epistemological levels.

In the philosophical tradition, writing is not merely the transfer of thought onto a page; it is an act through which thought is formed by struggling with language, confronting the self with its concepts and limits, and reformulating the question in an argumentative form that the author is expected to answer for. Socrates himself, despite his critique of writing, held that living dialogue is the authentic space of thought, and that written text is “mute” and unable to defend itself or rearrange its arguments in the face of criticism (Plato, *Phaedrus*, 275d–e). This view makes philosophical writing an extension of dialogue: the text is written to be read, discussed, and criticized, yet it remains tied to a producing subject who can be returned to, summoned, and questioned.

By contrast, algorithmic text generation works through a fundamentally different mechanism: the large language model learns from a vast corpus of texts (books, articles, websites) and then builds a statistical model of the relations between words and sentences, producing texts that are statistically likely given the input. This process does not involve a “thinking subject” in the philosophical sense; it has no self-awareness and does not consciously decide on a position regarding a question, but rather recombines linguistic patterns according to probabilities. When we ask a model to write “an article on Derrida’s *pharmakon*,” what it does is retrieve passages related to Derrida, writing, and technology

from its corpus, then blend them into a text that appears coherent, but it does not express a “personal” position of the model itself, because the model has no “person” to begin with.

Here the existential difference becomes visible: autonomous philosophical writing is an event occurring within the history of an embodied subject, one with consciousness, biography, and responsibility; algorithmic generation, by contrast, is a statistical process concerning patterns in data and carrying no responsibility in the moral or legal sense. Epistemologically, self-authored writing is an act of interpretation and the production of new meaning, even when it draws on previous texts, whereas the model’s output is often a recombination of existing knowledge already present in the corpus, with only a very limited degree of “creativity” in the deep semantic sense, as studies suggest that current models struggle to generate genuinely new ideas beyond their training.

From here emerges the philosophical question: can algorithmic text be considered a “philosophical text” in the strong sense? If the philosopher is the one who bears responsibility for what is said and can be held accountable for it, then a text without a subject is difficult to fit within this framework—unless it is adopted by a researcher and signed under their name, in which case responsibility shifts to the researcher, not the model. This creates an epistemic and ethical gap concerning authorship and unacknowledged borrowing, since the researcher may become more of an “editor” than an “author.”

2. The pharmakon in Derrida and Stiegler: poison or remedy?

The second question invokes the concept of the pharmakon in Derrida and Stiegler in order to read the double condition of generative AI: is it a poison threatening philosophical writing, or a remedy that releases its energies?

In Derrida’s reading of the myth of Theuth in *Phaedrus*, as he later deconstructs it in *Of Grammatology*, writing is described as a pharmakon: a double substance that can be either remedy or poison, in which good and evil cannot be separated, because the technology itself carries the possibility of liberation and the possibility of subjugation at once. Writing preserves the trace and allows meaning to accumulate, but at the same time it can replace living presence with a rigid text and turn dialogue into a one-sided discourse (Derrida, 1967, p. 103). Stiegler, in turn, expands the concept of pharmakon to encompass all modern technologies—from cinema to television to digital media; they are tools that preserve collective memory, yet if misused they lead to the “proletarianization” of consciousness, that is, the loss of individuals’ capacity to produce meaning for themselves.

Generative AI can be read within this horizon: on the one hand, it is a powerful tool that can help philosophers rapidly explore literature, summarize complex texts, propose an initial conceptual map for a new topic, or generate examples and evidence that aid clarification. Studies have shown that using ChatGPT in writing can improve speed and reduce the technical burden of drafting, theoretically allowing the researcher to focus on deeper analytical work. From this perspective, generative AI is a remedy that solves the problems of time and effort in routine tasks and enables philosophers to broaden their horizon through rapid access to multiple texts and ideas.

But the other face of the pharmakon appears when the model becomes a “replacement” for thought rather than a mere assistant; surveys indicate that a significant portion of students and researchers use AI not only to summarize literature but to formulate arguments and explanations themselves, and perhaps even to write full articles in which their role is reduced to superficial editing. Here generative AI turns into a poison threatening philosophical writing, because it seduces the subject into abandoning the labor of questioning and doubting, replacing creative anxiety with the comfort of a

ready-made text. In this situation, the philosopher brings the poison into the body of writing themselves when they fail to manage their relation to the pharmakon and do not set boundaries that prevent the tool from becoming a power that enslaves them.

Therefore, the answer does not lie in classifying generative AI as poison only or remedy only; rather, it lies in recognizing its pharmakon-like double nature and proposing a “policy of use” that makes it a remedy in certain contexts (exploration, summarization, experimental formulations) and prevents it from becoming poison when it concerns the actual moment of philosophical reflection and the formulation of a critical stance.

3. Genealogical critique according to Foucault–Nietzsche and the dominance of the computational model

The third question invokes the genealogical critique of Foucault and Nietzsche to uncover the historical and power-laden conditions that produced the dominance of the computational model in defining and producing knowledge.

In Nietzsche’s work, genealogy appears as a method that reveals the origins of values and concepts not as eternal truths, but as the outcome of historical processes filled with struggle, coercion, and reinterpretation; morality, for example, is not a “natural given,” but the result of conflict between master morality and slave morality. Foucault will develop this method in his study of systems of power and knowledge, showing how scientific, medical, and legal discourse are formed through the interweaving of institutions, laws, and practices, such that “truth” itself becomes tied to certain structures of power (Foucault, 1975, p. 27).

Applied to the dominance of the computational model in defining knowledge, this perspective allows us to question the conditions that made “what can be calculated” the criterion for “what can count as knowledge.” The shift toward big data and algorithms in economics, politics, and education did not arise merely from neutral technological development, but from a transformation in the logic of power that sees every phenomenon as a variable that can be measured, controlled, and managed through mathematical models. Reports on AI use in organizations show that the decision to introduce algorithms into all institutional functions is often linked to the promise of “performance improvement,” “productivity gains,” and “cost reduction,” that is, to an instrumental capitalist logic that turns knowledge itself into a tool for profit or efficiency.

Genealogical critique here helps us understand that generative AI is not merely a “smart tool” that appeared suddenly, but a historical outcome of a long process of digitizing knowledge and converting texts into data, beginning with the archival digitization of books, then search engines, and finally language models fed by these corpora. This history carries cultural and linguistic biases within it; the dominant texts in the corpora often belong to certain languages and cultures, which makes the knowledge produced by the model an extension of a certain epistemic hegemony, as studies tracing model bias toward central/global discourse show.

From a Foucauldian perspective, generative AI can be said to be part of a new “knowledge–power system,” controlled by institutions and companies that own the digital infrastructure and decide what the model is trained on and what is excluded. In this way, they reshape knowledge fields in a way that makes what conforms to the “logic of data” more visible, and what contradicts it less present. Here genealogical critique becomes a tool for exposing the sources of this power, not merely for passing ethical judgment on AI, but for revealing the structures that make the algorithm a “judge” in matters of knowledge.

4. Stiegler's concept of cognitive proletarianization

The fourth question concerns Stiegler's concept of "proletarianization" and how it applies to the cognitive laziness produced by excessive dependence on AI in academic writing.

In his analysis of the impact of technical media on consciousness, Stiegler argues that what characterizes human beings is their capacity to produce "industrial memories" or external symbolic and cultural forms stored outside the body (writing, images, films) and then re-consumed. But this process becomes dangerous when technology turns from an aid to memory into a power that captures it; that is, when individuals lose the right to produce their own meanings and are replaced by ready-made meanings broadcast through mass media. This is what he calls "proletarianization": the individual becomes cognitively proletarianized, no longer owning the tools of thought, because they rely entirely on what symbolic machines produce.

In the context of generative AI, a new form of this proletarianization can be observed; studies indicate that many students now use ChatGPT not merely as an assistant, but as a "ghost writer" for articles and research assignments, limiting themselves to entering prompts and lightly editing the output. This mode of use leads to clear cognitive laziness: students do not go through the process of reading the literature, do not wrestle with formulating the question, do not experience the difficulty of constructing an argument; instead, they surrender to the calm reassurance of a text that appears complete without having undergone the "philosophical experience" required by writing.

From Stiegler's standpoint, this situation is a form of cognitive proletarianization; the individual loses the capacity to produce meaning and becomes reduced to operating a writing machine whose internal logic they do not control. The most dangerous aspect is that this deskilling occurs under the slogans of "improvement" and "innovation"; the technological discourse markets AI as a tool for increasing efficiency, while at a deeper level it withdraws from the subject the motivation to think and turns them into an intermediary between model and result. Here generative AI becomes a continuation of the pattern of deskilling that began with television and the internet, but at a higher level, because the new tool does not merely broadcast content—it produces it as well.

5. Toward a balanced pharmakon model

The fifth question asks what alternative model critical philosophy of technology offers in order to achieve a pharmakon-like balance between benefiting from generative AI's capacities and preserving the freedom and critical identity of philosophical writing.

From Derrida and Stiegler's perspective, the pharmakon dilemma cannot be solved by rejecting technology altogether; that would be a romantic stance ignoring the fact that human beings are inherently technical creatures and that every culture is formed through external media. The solution lies in a "pharmakon policy" that manages the relation to technology in such a way that its potential is harnessed to liberate the subject, not alienate them. In the context of generative AI, this policy can be translated into a set of practical principles for philosophical writing:

- Distinguish between instrumental moments and value-oriented moments of use: the language model may be used for tasks such as summarizing large books, proposing an initial bibliography, or testing alternative formulations of the text, but it should be prohibited or restricted when it comes to constructing the question, the hypothesis, and the critical position; this moment must remain a "closed space" reserved for the thinking self.
- Require transparency in the use of models: the researcher should clearly state in their work when and how generative AI was used, and distinguish between paragraphs they wrote

themselves and those that relied on the model's suggestions, so that the notion of epistemic responsibility remains intact and the reader can assess the degree of textual independence.

- Integrate technical critique into philosophy curricula: students must learn not only how to use models, but how to criticize them, by understanding the nature of the corpora they were trained on, patterns of possible bias, and the limits of their capacity to generate the genuinely new; this aligns with calls in higher education to include courses on AI and its limitations within the humanities.
- Redefine “philosophical competence” in the age of AI: rather than measuring students by the number of pages they write, assessment can focus on their ability to formulate critical questions, read complex texts, and analyze the model's own argumentative structure; in other words, turning AI from a “writer by proxy” into an “object of thought,” through which students learn to deconstruct and judge its discourse.

In this sense, a balanced pharmakon model is proposed: one that neither rejects generative AI nor accepts it without conditions; rather, it seeks to tame it within a framework of value rationality that makes technology a tool in the service of critical freedom, not a substitute for it. This path may be difficult under the pressures of the market and digital speed, but it represents a necessary philosophical possibility if we do not want the age of artificial intelligence to become an age of total cognitive deskilling.

Third: Quality of the Argument, Its Depth, and Its Critical Stakes

The quality of the argument and its depth

The value of this research lies in the fact that it does not treat artificial intelligence as a neutral technical tool, but rather as a philosophical, anthropological, and political subject at the same time. On the one hand, it raises a question about the human being itself: is the human a being completed by writing and technology, or is writing merely an external medium that can be replaced by an algorithm? On the other hand, it raises an epistemological question about the nature of knowledge: is philosophy a form of knowledge that emerges from the lived experience of questioning and dialogue, or can knowledge be generated automatically on the basis of probabilistic patterns? On yet another level, this research opens a critical political dimension by linking knowledge and power, because algorithmic systems do not determine only what is said, but also what is seen, what is excluded, and what is considered “worthy” of representation.

What gives this argument its depth is not merely the presence of major names such as Derrida, Stiegler, and Foucault, but rather its capacity to turn their ideas into an interpretive instrument for a highly complex contemporary reality. Thus, philosophy here is not left as a historical invocation of ready-made concepts; instead, it is used to dismantle the cognitive structure of artificial intelligence: how it learns, how it classifies, how it reproduces bias, and how it operates within a political economy that directs research, publishing, data, and digital infrastructures. This is precisely what makes the research more than just “a topic about artificial intelligence,” because it becomes an analysis of the structure of digital modernity itself.

The anthropological level

At the anthropological level, the question revolves around the nature of the human writer and thinker. Here, Stiegler's concept becomes particularly important, because it shifts the discussion away from viewing tools as external means and toward seeing them as elements that contribute to the constitution of the self itself. For Stiegler, the human is not a self-contained subject that later adds

technology to itself, but a being formed through reliance on the outside; that is, through trace, writing, tools, and extended material memory. In this sense, writing is not merely a medium for representing thought, but one of the conditions for thought's very formation.

But the question raised by artificial intelligence today is even sharper: is writing still a foundational human act, or has the algorithm begun to perform some of its functions? Here, one must be careful not to give a simplistic binary answer. The more accurate philosophical view is that AI does not "eliminate" writing, but rather redistributes its functions: formulation, suggestion, compilation, summarization, and stylistic matching. This means that the human is not entirely replaced, but pushed into a different position: from direct producer of text to supervisor of a hybrid knowledge-production chain. This transformation recalls what Stiegler calls individual and collective "individuation," in which devices influence the processes through which the self and society are formed.

To understand the anthropological depth of this transformation, one can draw on the logic of the *pharmakon*. In the Derridean tradition, writing is not simply good or bad; it is something that carries both remedy and poison at once. Derrida deconstructs the view that writing is merely a secondary copy of living presence and shows that what we call presence is itself conditioned by a prior trace and by the possibility of repetition and difference. Accordingly, artificial intelligence can be understood as a concentrated *pharmakon*: it expands the capacity for writing, research, and organization, but at the same time it threatens slow composition, self-verification, conceptual patience, and the construction of a distinctive voice. It does not remove the human from the scene; it changes the conditions of the human's presence within it.

The epistemological level

Epistemologically, the research offers a strong contribution because it links philosophical knowledge as an experience of questioning with algorithmic knowledge as probabilistic generation. Philosophical knowledge, in a long tradition from Socrates to Derrida, is not merely a set of results, but a process of doubt, testing, and revision. Algorithmic knowledge, by contrast, depends on patterns in data and on the probability of selecting the sentence or answer most compatible with previous sequences. This does not necessarily make it "wrong," but it does make it qualitatively different from knowledge that emerges from the tension between question and answer.

This distinction is extremely important because the danger lies not only in the possibility of error, but in the transformation of the very criterion of truth. An algorithm may produce a coherent answer and a strong formulation, but it does not guarantee the origin of the idea, its history, or its internal justifications. In this sense, the "repeated textual trace" that Derrida pointed out is deeper than a simple copy; it is a structure that can spread without the presence of its source, without its original context, and without the epistemic responsibility that accompanies living philosophical action. Therefore, the epistemological problem with AI is not merely that it writes, but that it writes without inner experience and without authentic dialogical commitment.

The literature on political epistemology in the age of artificial intelligence shows that these tools may weaken the epistemic agency of the citizen, meaning the ability to form and revise beliefs through independent critical activity. Coeckelbergh argues that the danger does not lie only in fake news, but also in epistemic bubbles and excessive reliance on ready-made statistical knowledge, which may weaken confidence in one's own epistemic capacities. This is very important for your research, because it adds a political dimension to an epistemic problem: when algorithms intervene

in the production of opinion, knowledge itself becomes a field of attention management, direction, and filtering.

To strengthen this level with data, one can rely on OECD/INFE reports that show how the measurement of financial literacy itself has become an institutional practice based on standardized surveys, and how the 2023 international survey covered 39 countries and economies, with a focus on knowledge, behaviors, attitudes, financial and digital inclusion. The OECD/INFE digital measurement tool also includes structured questions on tracking money, planning, understanding, and digital financial products. These data are not a marginal detail; they are a concrete example of how modern knowledge is transformed into codifiable and automatable indicators, paralleling what AI does when it turns discourse into classifiable data.

The critical political level

Politically, the research is inspired by Foucault at his best: not as a historian of ideas, but as an analyst of how truth is constituted within relations of power. Knowledge does not appear in a vacuum; it is defined through institutions, standards, lines of exclusion, mechanisms of recognition, and conditions of validity. Therefore, when we say that an algorithm is “neutral,” we conceal the reality that what the algorithm produces is the result of prior human choices: the choice of data, the choice of what is classified, the choice of what is measured, the choice of what is ignored, and the choice of the commercial or political value attached to a particular result.

Genealogy here is not a neutral historical narrative, but a critical dismantling of the representational system itself. Just as Foucault showed that medicine, madness, punishment, and sexuality are not “natural” fields but historically formed fields shaped through power, the same method can be applied to artificial intelligence: who owns the infrastructure? Who determines the data? Who funds the models? Who sets the evaluation criteria? Who decides that this discourse is useful and that one harmful? These questions reveal that the algorithm is not just a calculating tool, but a knowledge–political institution within a capitalist, technical, and organizational network.

The importance of this level becomes most evident when we notice that artificial intelligence does not merely produce texts, but also helps shape the conditions of visibility: ranking results, recommending content, suggesting, deleting, filtering, and redirecting. These functions make knowledge itself a subject of pre-judgment and regulation. From here, the claim of neutrality becomes ideological, because every model contains implicit assumptions about value, relevance, language, and context. Genealogy helps expose this “false naturalness” and place it back into its historical and economic context.

Pharmakon and genealogy

This research should understand the pharmakon at three interconnected levels. At the first level, it is the classical Derridean concept: that which is remedy and poison at the same time, and which reveals the fragility of boundaries between original and copy, presence and trace, truth and metaphor. At the second level, it is the expanded Stieglerian concept referring to external technologies of memory and thought, that is, “tertiary retention,” which makes technique part of the constitution of the self and social memory. At the third level, artificial intelligence itself becomes a concentrated pharmakon, because it does not merely add a new tool to human life, but changes the nature of the relation between assistance and replacement.

As for genealogy, its strength lies in the fact that it does not ask: “Is artificial intelligence good or bad?” Rather, it asks: “How did it become possible to appear good, neutral, or natural?” This is a very

important shift. Instead of issuing a direct normative judgment, the method dismantles the conditions that made such a judgment possible in the first place. In this sense, genealogy is a way of revealing the power structure that produces truth, not merely a sequential description of ideas. And here it is particularly suitable for analyzing artificial intelligence, because this is a field in which science, commerce, administration, security, language, publishing, and education all overlap.

Examples and evidence

The idea can be illustrated by a simple example: when a student or researcher uses a language model to generate a first draft, they benefit from speed, organization, and suggestion. But if the draft becomes a complete substitute for understanding, then the tool becomes dominant over the epistemic act rather than serving it. This is the line between assistance and replacement. Another example: in academic citation, AI can help collect ideas and draft summaries, but it does not guarantee the quality of the theoretical position or the originality of the question. Therefore, the real danger is flattening the cognitive process in favor of the quickability of generation.

The example of financial literacy also clarifies the political nature of measurement. OECD/INFE surveys turn financial understanding and financial behavior into items that can be compared across countries, enabling public policy to be built on measurement. This is useful, but it is not innocent, because what is measured is recognized, and what is not measured is marginalized. Artificial intelligence operates through a similar logic when it decides which patterns in the data deserve to become central outputs and which remain peripheral. Therefore, the issue is not only technical, but distributive and normative at the same time.

Analytical conclusion

The conclusion of this analysis is that the research has genuine theoretical depth because it does not treat AI as a separate practical problem, but as a knot that brings together the human, knowledge, power, and technology. Its main strength lies in this interweaving: anthropology explains what happens to the self, epistemology explains what happens to knowledge, and genealogy explains what happens to power. When these levels meet, artificial intelligence appears as a dense pharmakon: remedy and poison, expansion and weakening, disclosure and concealment, empowerment and replacement.

In this framework, the critical duty is not to reject technology or glorify it, but to build a responsible relationship with it, a relationship that recognizes that every epistemic tool carries promise and danger, and that the value of artificial intelligence is determined by whether it strengthens human questioning or reduces it, expands thought or flattens it, and serves epistemic independence or weakens it. This is the horizon that makes this research academically, philosophically, and politically important at the same time.

Fourth: Research Hypotheses

The central hypothesis

The first hypothesis starts from the strong claim that generative artificial intelligence represents the most dangerous form of technical pharmakon in human history, not because it merely produces text, but because it produces text capable of simulating the stylistic markers of human writing in a way that confuses the ordinary reader, and can even confuse the expert in some contexts. This hypothesis is not purely impressionistic; the SCARECROW study showed that ordinary people were unable to reliably distinguish some GPT-3 texts from human texts, and that human judgment deteriorates when the surface fluency of the two becomes similar. At the same time, more recent

stylistic analyses have shown that machine-generated texts, even when they appear “human-like,” retain a stylistic fingerprint that can be detected statistically.

But the real danger does not lie in formal similarity alone, but in the epistemic consequences it produces. Philosophical writing is not merely the production of correct sentences; it is an act of questioning, tension, revision, and resistance to ease. When it becomes possible to generate a text that looks convincing without passing through a living question, the originality of questioning itself is shaken. From here, the pharmakon is not simply a useful and dangerous technology at once, but a medium that threatens the criterion by which we distinguish between text produced by an actual intellectual practice and text produced by probabilistic simulation. This makes the central hypothesis valid from a critical standpoint: not because it proves that AI “writes like humans” completely, but because it approaches that boundary closely enough to make judgment about it, and about AI texts, far more difficult than before.

Cognitive proletarianization

The second hypothesis argues that the gradual dependence on algorithms in philosophical and academic writing embodies what Stiegler calls cognitive proletarianization: the loss of independent thought due to the increasing delegation of mental functions to technical systems. This idea is highly important because it shifts criticism from the level of “text quality” to the level of “mental competence structure” itself. If the industrial revolution deprived the manual worker of part of their skill in favor of the machine, then the generative revolution may deprive the researcher or student of part of their ability to build arguments, formulate concepts, follow objections, and engage in re-examination.

This does not necessarily mean that every use of AI leads to cognitive decline, but rather that unregulated dependence may create epistemic laxity: the user writes less, thinks less about the inner structure of the text, and accepts the ready-made formulation because it is “visibly complete.” Some evidence indirectly supports this direction; experiments on review and productivity show that AI can increase performance in specific tasks, but it may undermine long-term learning if it is used as a substitute for cognitive effort rather than as an aid to it. Digital economy reports also indicate that performance gains are highest in structured, monitorable tasks, and lower in tasks requiring deeper thought, which aligns with the idea that automation may reshape the way learning itself occurs.

The importance of this hypothesis is strengthened by Stiegler’s notion of tertiary retention: technology preserves memory, but at the same time it may weaken reliance on living memory. Likewise, AI may store your drafts, ideas, and sources, but it creates a tendency to abandon the effort of training the self in deep understanding. Therefore, cognitive proletarianization does not mean absolute ignorance, but the transformation of knowledge into rapid textual consumption rather than a formative practice. This transformation is what makes the second hypothesis strong theoretically and persuasive sociologically.

Critical and conscious use

The third hypothesis is important because it prevents the research from sliding into either total technical rejection or naïve technical acceptance. It starts from the position that Heidegger, Derrida, and Stiegler do not present technology as absolutely “good” or “bad,” but open a horizon for analyzing the conditions of technological existence and how they can be redirected. Heidegger does not reduce technology to an instrument; he sees it as a mode of revealing the world. Derrida deconstructs the presence/trace binary to show that what we regard as pure originality is always

conditioned by a prior trace. Stiegler expands technical thinking to make the tool part of the constitution of the self, not merely something external to it.

From here, critical and conscious use does not mean taming technology superficially, but building a relation of use conditioned by accountability. In practice, this means that the algorithm can be a tool for language revision, generating initial hypotheses, and broadening the reading base, but it should not replace the construction of the problem, the formulation of the theoretical framework, and the final interpretive decision. Indeed, the value of using it increases when the researcher is able to maintain a critical distance from the outputs. Recent research on self-directed use of AI in academic writing by advanced writers also suggests that dialogical and reflective use is more productive than directive and automatic use.

In practical terms, one can imagine three modes of use: an assisting use, where the algorithm is employed to generate alternatives; a dialogical use, where it is used as a discussion partner; and a replacement use, where the writer nearly stops producing on their own. The third hypothesis bets on the first two and warns against the third. This reading is not merely ethical, but epistemic as well, because replacement use empties writing of its formative dimension. Therefore, real criticism does not say “do not use AI,” but rather: use it in a way that preserves the writer’s agency and responsibility.

Power structure

The fourth hypothesis is the most explicitly political, because it returns generative AI to its capitalist and power-based conditions. Its spread is not the result of neutral “natural progress,” but of massive investment, expensive infrastructures, and the convergence of the interests of major corporations, states, and investors. Stanford HAI’s 2026 report shows that institutional investment in AI grew sharply in 2025, and that private investment reached 344.7 billion dollars, with the United States accounting for 285.9 billion dollars—about 23.1 times China’s level. Investment in generative AI alone reached 170.9 billion dollars, nearly half of all private AI investment, indicating that capital is moving strongly toward generative infrastructure specifically.

This financial concentration cannot be separated from the genealogical logic. When a small number of corporations and states determine funding, data, models, and cloud infrastructures, then what is called “knowledge” becomes the product of a power equation rather than a pure scientific criterion. Reports also show that institutional adoption of AI rose to 88% in 2025, and that 79% of respondents said their institutions use generative AI in at least one function. These figures are not neutral; they reveal rapid expansion coupled with geographic and economic centralization, and thus inequality in who gets to define AI and who merely consumes it.

From a Foucauldian perspective, this means that generative AI operates as a power discourse: it defines what counts as a “good text,” what is an “appropriate question,” and what is a “sufficient answer,” and rearranges the field of knowledge according to measurability and profitability. It does not merely reflect truth; it produces the conditions under which truth becomes visible. Therefore, the genealogical reading is necessary to dismantle the discourse that presents it as a transparent and neutral tool. The reality, as the investment data show, is that AI is a capital-intensive industry, geographically concentrated, and dependent on massive infrastructure and rising computational costs.

Evidence and indicators

These hypotheses can be supported by a set of interconnected evidence. First, in the matter of text distinguishability, SCARECROW showed that some GPT-3 texts were indeed difficult for non-

specialists to distinguish from human texts, but they were not free from errors or from stylistic fingerprints that could be detected. Second, more recent stylometric studies show that machine texts display more uniform patterns than human writing, even when they seem smooth and persuasive. Third, in political economy, the AI Index 2026 report reveals that the market is growing rapidly, but unevenly: a small number of companies, a small number of countries, and a small number of regions receive most of the funding. This concentration is not an administrative detail, but a structural condition for understanding who has the power to shape the standards.

In education and academic writing, some experimental studies indicate that AI drafts may be more concise, less lexically diverse, and at times more likely to include fabricated or inaccurate references if they are not critically reviewed. This supports your central hypothesis: generative AI produces the appearance of correctness, not correctness itself, necessarily. Therefore, critical use is required—not as rejection, but as protection for the thinking self.

Methodological framing

It would be best for this study to formulate the hypotheses in testable language rather than merely in essayistic language. For example, the first hypothesis can be turned into a measurable question: to what extent can specialized and non-specialized readers distinguish between human and machine texts? This can be tested with double-blind surveys, accuracy analysis, and comparisons across groups. The second hypothesis can be tested through interviews and surveys measuring increasing reliance on generative tools, along with indicators of conceptual independence, frequency of self-written text, and the ability to explain without assistance. The fourth hypothesis is suitable for documentary analysis and political economy analysis, measuring funding concentration, the number of dominant companies, and the scale of infrastructure.

In other words, the research is theoretically strong, but it also needs a measurement design that links philosophy with data. Here, combining textual analysis, surveys, comparative studies, investment analysis, and genealogical method is an excellent choice. In this way, speaking about the pharmakon and cognitive proletarianization does not remain a matter of speculation, but becomes a research program that can be tested and examined.

Final formulation

In sum, the four hypotheses are strongly interconnected: the first identifies the epistemic risk of generated text, the second explains the formative effect on mind and skill, the third sets the standard of critical use, and the fourth reveals the capitalist-power structure that drives the technology toward dominance. This structure makes the research coherent, because each hypothesis complements the others rather than repeating them. The recent data on investment, institutional adoption, and the impact of AI on writing give these hypotheses a real-world grounding rather than leaving them trapped in theory.

Fifth: Research Objectives

Certainly. Below is a broad and extended scholarly formulation for the research objectives section, with an analytical structure that connects theory, method, and application, and shows how objectives move from general headings into a workable research program. I also included a summary table and examples supported by recent data on AI use in university writing, institutional policies, and the attitudes of students and academics, because these indicators show why your research objectives have become highly timely.

Theoretical objectives

The first theoretical objective is to build an integrated critical conceptual framework that brings together Stiegler's pharmacology, Foucault's genealogy, and Derrida's deconstruction to philosophically read generative artificial intelligence. This objective is important because it does not merely gather theoretical names, but seeks to combine them into a single analytical apparatus that explains the phenomenon from complementary angles: from the angle of technical trace and external memory in Stiegler, from the angle of power and knowledge in Foucault, and from the angle of presence, trace, and difference in Derrida. The expected result of this objective is not just theoretical enrichment, but the provision of a precise critical language capable of explaining why AI seems helpful on the surface and unsettling in depth; and why it cannot be understood as an "instrument" alone, but as an epistemic-political structure that rearranges the relation between writer, text, and knowledge.

This objective is also supported by the fact that recent literature on AI in academic writing has shown very rapid growth in studies and reviews, but most of them focus on description, evaluation, and governance rather than philosophical foundations. Systematic reviews show that AI improves linguistic fluency and organization, but raises concerns about overreliance, the false humanization of text, and weak metacognitive engagement. Therefore, your theoretical objective does not duplicate what already exists; it fills a real conceptual gap.

The second theoretical objective is to demonstrate that philosophical writing exceeds text production and constitutes a critical existential practice, which makes it in its essence resistant to automation. This objective gets to the heart of the issue: is writing merely linguistic output that can be improved by machines, or is it a mode of intellectual existence that involves self-questioning, engagement with the other, and tension within knowledge? Here, the study goes beyond performance to the question of meaning. Even if models can generate grammatically correct texts, they do not generate the critical experience that constitutes philosophical thought as responsibility, questioning, and epistemic tension.

Recent data support this concern: multiple studies show that students and academics use tools like ChatGPT, Grammarly, and Quillbot to generate ideas, plan texts, and edit, while concerns remain about diminished reflective effort and independent thinking. In one U.S. study of 401 students, ethical beliefs about cheating were the strongest predictor of actual behavior, while awareness of institutional policies was insufficient to change behavior. This means that academic writing is not merely a technical issue, but one tied to moral subjectivity and critical standards, neither of which can be reduced to text generation.

The third theoretical objective is to provide a genealogical reading of the transition from linear writing to printing to digitization to algorithm as a progressively more complex history of technical pharmakon. This objective places AI within a long history of writing and retention technologies and prevents us from viewing it as a leap detached from the past. Linear writing reorganized memory, printing amplified circulation, digitization turned text into data, and algorithms made text itself susceptible to automatic generation and probabilistic prediction. Thus technological history is not a straight line of progress, but a history of increasing pharmakon complexity: each new medium adds a new capacity, but also a new layer of dependency and control.

Applied objectives

The first applied objective is to provide a guiding model for academic researchers in their use of generative AI tools in a way that preserves the critical identity of scholarly writing. This objective is not only regulatory but also pedagogical and methodological. Current practices in global universities show that use is extremely widespread: in the HEPI 2025 survey, 92% of students said they use AI in some form, 88% used it in assessments, and 18% inserted AI-generated text directly into their work. These figures reveal that AI is no longer a marginal phenomenon but part of daily academic life, which requires responsible usage models rather than reactive stances.

At the institutional level, UNESCO data show that about two-thirds of higher education institutions either have or are developing formal guidance on AI use, and only 19% have a full formal policy, while another 42% are working on a guidance framework. This reinforces the need for an Arabic guidance model that clarifies when AI is used as an assistant, when it becomes a substitute, how its use is documented in text, and how its output is critically reviewed. The model is not just a “tip”; it is a tool for preserving scientific standards and authorial identity.

The second applied objective is to help fill the Arabic research gap in the philosophy of technology as applied to AI. This objective is highly important because Arabic literature remains in a formative stage, despite the emergence of recent articles on Islamic philosophy, ethics, education, and the Arabic language. Yet these writings remain scattered and do not always provide a coherent Arabic conceptual apparatus about generative AI. Therefore, your study aims to build a critical Arabic discourse that does not merely align with Western literature, but rearticulates the question from within Arabic linguistic and institutional sensitivities.

This objective becomes even more important when we look at the reality of Arab practice. Studies on Arab universities and academic writing show clear variation in adoption, weak policies, and a strong need for clear ethical framing. Some studies in Arab and African settings, for example, show that students use AI to generate ideas and rephrase text, but face limitations related to infrastructure, skills, and policy. This indicates that the Arab gap is not only cognitive, but also organizational and pedagogical.

The third applied objective is to open a serious academic discussion about the need for clear institutional policies in Arab educational systems regarding the ethics of using AI in academic and philosophical writing. This objective aligns directly with what international surveys have revealed: most students use AI, and most institutions are beginning to set policies, but the gap between actual policy, awareness, and behavior remains large. A study of Nigerian students and academics, for instance, showed that 90% regretted the lack of institutional policies, and 95% rejected the idea that AI should be a co-author. These figures show that the need for policy is not formalistic, but a response to a reality of existing use.

The importance of the objectives

The importance of these objectives lies in the fact that they do not treat AI as merely a “topic,” but as a transformation in the structure of writing, research, and education. The theoretical objectives interpret this transformation philosophically, and the applied objectives translate the interpretation into practical tools that universities and researchers can use. In this sense, the study is not merely a critical description, but a knowledge project with the capacity to be translated into policies, guidelines, and practices.

These objectives also respond to the global trend toward AI governance in higher education. International data show that institutions are no longer asking only “Should we allow it?” but rather “How should we use it?” and “With what boundaries?” and “With what transparency?” Therefore, the proposed research places itself within the question of the present, but does not close itself off within it; instead, it extends that question by providing a philosophical framework that makes policy deeper than mere behavioral rules.

Relation of objectives to method

Methodologically, these objectives allow a stepped research design: starting with theoretical grounding, moving to literature analysis, then to surveys or interviews or policy analysis, and ending with the formulation of a guiding model. This progression matters because writing about AI should not remain purely philosophical or purely procedural; it must link concept and practice.

For example, the first objective can be measured through comparative conceptual analysis, while the fourth can be converted into a normative model that includes rules for documenting use, limits of assistance, indicators of human review, disclosure procedures, and thresholds for acceptable dependence. This model can be supported by a survey that studies researchers’ and students’ awareness, their actual usage, and their stance on transparency, intellectual property, and academic integrity.

Summary table

Objective	Type	Research Significance	Real-World Support from the Literature
Building an integrated critical framework	Theoretical	Combining Stiegler + Foucault + Derrida	Expansion of reviews versus lack of theoretical grounding
Establishing philosophical writing as an existential practice	Theoretical	Highlighting the impossibility of automating the philosophical essence	Studies distinguishing human and machine text
Genealogical reading of the trajectory of technology	Theoretical	Linking media history to the complexity of the pharmakon	History of digital generation and retention
A guiding model for researchers	Applied	Preserving the critical identity of writing	Rising student use and dependence
Filling the Arab research gap	Applied / Epistemic	Establishing an Arabic critical discourse	Limited specialized Arabic studies
Discussing institutional policies	Applied / Governance	Ethics and responsible use	Expansion of institutional policies worldwide

Concluding synthesis

In short, the research objectives, in their expanded form, constitute an integrated program that goes beyond theoretical interpretation and translates philosophy into an applied and policy-oriented domain. The theoretical objectives redefine AI as a complex technical pharmakon and redefine philosophical writing as a critical existential practice. The applied objectives then move this

understanding into the sphere of Arab academic practice through a guiding model, a contribution to closing the Arabic research gap, and the opening of an institutional debate on governance and ethics. Thus, the study gains its value not only because it explains the phenomenon, but because it proposes a responsible way of dealing with it.

Sixth: Research Gap

The research gap here constitutes a central point not as a formal shortage in the number of studies, but as an absence in the very angle of vision itself: global literature on artificial intelligence and academic writing has expanded rapidly, yet most of it has remained confined to descriptive approaches, applied ethics, bibliometric measurement, educational effectiveness, or pedagogical utility, without reaching a deeper question concerning the nature of the thought produced, the condition of originality, and the relation of the algorithm to the structure of meaning itself. Therefore, the gap is not merely an “uncovered area,” but a theoretical void that allows this study to make an original and composite contribution.

The nature of the first gap

The first gap consists in the absence of deep philosophical framing. Although recent studies have counted hundreds of articles on ChatGPT and academic writing, as in reviews that included 171 studies or more, most of these works aimed to classify trends, measure effectiveness, identify risks, analyze acceptance, compare linguistic performance, and similar tasks, while not engaging deeply with the central question: what happens to thought when it produces a text that appears human in its fluency but originates from a probabilistic system? This is a methodological problem, because bibliometrics and descriptive statistics are important, but they do not by themselves disclose the philosophical meaning of the phenomenon.

This limitation becomes especially visible in many systematic reviews that conclude that artificial intelligence improves efficiency, helps generate ideas, reduces writing anxiety, and enhances some formal aspects of quality, while the issue of the “originality of the cognitive act” remains outside deep analysis. This means that the literature treats writing as an output that can be improved, not as a foundational act of consciousness. It is precisely here that the value of your project emerges: you are not only asking whether writing is good or not, but what changes in the nature of thinking when writing becomes a shared process between human and algorithm.

Absence of phenomenology and deconstruction

The second gap is the scarcity of systematic philosophical use of the phenomenological and deconstructive tradition, especially the concepts of Derrida, Stiegler, and Heidegger. The available literature mostly borrows these names as general references, but it rarely makes *pharmakon*, tertiary retention, or cognitive proletarianization central analytical tools for understanding generative artificial intelligence. And even when this kind of use appears, it usually remains within the limits of scattered theoretical articles or partial readings, not as a coherent research framework.

The exceptions are few, and they confirm the rule more than they contradict it. Some works that approached the relation between Simondon and Stiegler or discussed the media *pharmakon* showed important theoretical possibilities, but they did not become a broad research program that reads generative AI as an interwoven epistemic-political-anthropological structure. Thus, the gap is not in the existence of the concepts, but in activating them within a contemporary study of artificial intelligence. This is what gives your work its originality.

To clarify, most recent studies end with practical recommendations such as the need for university policies, teacher training, strengthening academic integrity, or improving automatic detection. But these recommendations, despite their importance, do not answer the deeper philosophical question: why does artificial intelligence feel so convenient? And why does it produce this feeling that knowledge has become faster and more compliant? Here deconstructive analysis shows that ease itself may be part of the problem, not just an advantage.

The Arab absence

The third gap, and perhaps the most sensitive, is the Arab absence. Although the Arab world has well-established traditions in contemporary philosophy, critique of technology, and literary and linguistic studies, specialized Arabic studies that deal with generative artificial intelligence from a critical philosophical perspective remain very limited compared with the global flow. Some recent Arabic works show growing awareness of the problem, especially in literary and linguistic fields, but this awareness has not yet become a coherent theoretical formulation that can be built on extensively.

This gap is not only a weakness, but also an opportunity. The Arab world is not obliged to import questions as they are from the West; rather, it can reconstruct them within its cultural, linguistic, and educational context. For example, artificial intelligence in the Arab environment does not face only questions of originality and intellectual property, but also challenges related to multiple levels of language, to the gap between classical Arabic and dialects, to linguistic bias in models, and to the limited availability of high-quality Arabic resources. This adds a local dimension that makes the need for an Arab philosophy of artificial intelligence even more urgent.

Theoretical contribution

The first contribution of this study lies in establishing an authentic Arab conceptual field in the philosophy of generative artificial intelligence. What is meant here is not merely translating Western concepts, but rebuilding them within a contemporary Arab question about knowledge, language, and power. When we use “pharmakon,” “tertiary retention,” or “cognitive proletarianization,” the aim is not to give the text an elitist tone, but to build an interpretive tool capable of explaining why the Arab researcher is drawn to artificial intelligence, and how their relation to writing, learning, and verification is being reshaped.

The second contribution is the localization of Western philosophical heritage without being bound to it. The use of Derrida, Stiegler, Heidegger, and Foucault here is not theoretical alienation, but a critical activation of their concepts within a new reality. This is important because many Arab studies fall into one of two extremes: either summarizing Western theories without critical application, or technical application without philosophical depth. This research proposes a third path: a critical comparative philosophy that turns Western theory into material for producing a new Arab question.

The third contribution is the integration of theory with data. Philosophy here is not presented as detached from reality; rather, it rests on statistical and documentary evidence from empirical studies. Recent reviews clearly show that artificial intelligence in academic writing raises efficiency and productivity, but also issues of originality, overdependence, intellectual property, and academic integrity. This allows the study to remain not purely contemplative, but directly engaged with quantitative and qualitative evidence.

Methodological significance

Methodologically, the importance of this gap stems from the fact that current studies usually stop at one of three levels: bibliometric trend mapping, measuring educational effects, or analyzing ethical

concerns. But almost no one connects these levels to a deep philosophical reading that asks whether the algorithm produces “knowledge” or “quasi-knowledge,” and whether it facilitates writing or redefines it. Here your project becomes not only complementary, but also compensatory, because it responds to a real deficiency in the knowledge structure of the literature.

Accordingly, the proposed study can build a model that links:

- Philosophical analysis of concepts.
- Analysis of previous studies and classification of their trends.
- Quantitative data from empirical studies and surveys.
- Critical reading of the Arab, linguistic, and institutional context.

This linkage gives the study the potential for publication across more than one field: philosophy of technology, higher education studies, sociology of knowledge, and applied linguistics.

Illustrative example

Take the example of university use of artificial intelligence in writing research papers. Reviews indicate that students mainly use ChatGPT to generate ideas, build structure, produce initial drafts, and reduce time and effort. But these same uses raise a deeper question: is the student still writing, or has the student become someone who chooses among ready-made suggestions? If the second is closer to reality, then the meaning of academic writing shifts from producing an argument to managing its possibilities. This is exactly what studies that merely measure satisfaction or grade improvement fail to capture.

In the Arab context, the matter becomes more complex. Recent Arabic studies in literature and language note that artificial intelligence tools may help analyze large texts, but they often fail to grasp the specific interpretive and cultural depth of the Arabic text. This means that the Arab gap is not only in the number of studies, but in the type of question being asked.

Critical conclusion

The conclusion of the gap is that the global literature, despite its richness, still needs to move from the question “How do we use artificial intelligence?” to the question “How does artificial intelligence reshape the meaning of writing, thought, and the self?” This shift cannot be achieved by bibliometric or technical approaches alone; it requires a critical philosophy that systematically draws on Derrida, Stiegler, Foucault, and Heidegger. The Arab presence in this field also remains limited, which makes this research’s contribution twofold: filling a global theoretical gap and establishing an Arab nucleus in the philosophy of generative artificial intelligence.

The philosophical framing gap

The first gap lies in the fact that most global studies on artificial intelligence and academic writing still operate within three main methodological horizons: bibliometrics, applied ethics, and educational-technical studies. These approaches are undoubtedly important because they show the scale of the phenomenon, its patterns of spread, its educational effects, and its ethical risks, but they usually stop before reaching the core philosophical question: what is the nature of the thought produced by artificial intelligence? Is algorithmically generated text knowledge, a simulation of knowledge, or merely a linguistic trace that successfully imitates previous patterns without passing through the experience of questioning itself? These questions are not usually addressed in systematic reviews because they require a shift from “What is happening?” to “What does it mean that it is happening?”

This limitation becomes clear in large reviews such as the one covering 102 studies on university writing, which concludes that artificial intelligence improves surface aspects of writing such as grammar, coherence, and fluency, but at the same time raises issues of overdependence, academic commitment, and weak metacognitive engagement. This kind of result is important, but it remains descriptive and functional; it does not question the relation of the tool to the essence of the writing act itself. Therefore, the real contribution is not in repeating that artificial intelligence is useful or dangerous, but in deconstructing the condition of writing as a philosophical act and a cognitive practice tied to responsibility, subjectivity, and presence.

The limits of the technical approach

Much of the literature that dealt with ChatGPT and academic writing focused on what can be easily measured: text length, language quality, user satisfaction, ease of use, or volume of output. These are legitimate indicators, but they are not enough to explain deeper transformations. Writing is not merely a final product; it is a process of forming an idea, training the concept, and resisting the obvious. When an increasing part of this process is delegated to a generative system, we are not only facing technical improvement, but a re-engineering of the writing act itself.

From here the real gap appears: existing studies know well how to measure educational or linguistic effects, but they do not always possess a philosophical language suitable for reading this effect. Thus concepts such as “the originality of questioning,” “the writing self,” “the difference between presence and trace,” and “the technical pharmakon” remain absent or marginal in most dominant literature. This absence does not indicate a lack in artificial intelligence, but a lack in the interpretive horizon.

Scarcity of philosophical use

The second gap is more precise: the phenomenological and deconstructive heritage, despite its richness, has not been sufficiently and systematically used in analyzing generative artificial intelligence. Derrida’s concepts of pharmakon, Stiegler’s tertiary retention and cognitive proletarianization, Heidegger’s understanding of technology as a mode of disclosure, and Foucault’s genealogy of power and knowledge appear in some works, but mostly as brief references rather than as a foundation for theory. This creates a conceptual void; technology is often read through ready-made frameworks in education, ethics, or university policy, while its ontological and epistemological question is neglected.

The few exceptions confirm this lack. Some articles that approached Islamic or European philosophy in relation to artificial intelligence provided an initial map of questions, but they did not transform this map into a fully integrated critical framework. Likewise, recent articles in education and educational philosophy have shown that AI raises questions of responsibility, purpose, and originality, but these works tend to lean more toward pedagogy than toward deeper philosophy. Your project therefore stands out because it does not merely cite concepts, but proposes to activate them in reading generative AI as a current philosophical phenomenon.

Relative Arab absence

As for the third gap, it is the relative Arab absence, or the clear weakness of specialized Arab philosophical treatment. It is true that some new Arabic works have begun to appear in Islamic philosophy, the Arabic language, education, and AI ethics, but these works remain limited in number, varied in depth, and often tied more closely to applied contexts than to theoretical grounding. In this

context, it is not enough to say that “Arabs have not written yet”; the more accurate formulation is that the Arab field has begun to form, but has not yet established its own methodological traditions.

The importance of this point becomes clear when we notice that some Arabic works address AI from an ethical, educational, or linguistic perspective, but rarely formulate an independent critical philosophical question about writing, subjectivity, knowledge, and power. Therefore, this study does not merely fill a quantitative gap; it fills a foundational gap: it contributes to building a new Arab discourse on generative artificial intelligence, a discourse that does not merely import concepts but re-grounds them within the Arab context.

Why this gap matters

The importance of the gap lies not in being a “missing point” in the literature, but in revealing that the field itself still prefers questions that are quickly measurable over questions concerning the essence of knowledge. Recent reviews show that academic interest in artificial intelligence in writing rose quickly between 2023 and 2025, and that the number of studies became large enough to justify comprehensive reviews. But the density of production does not necessarily mean a complete theoretical framework. On the contrary, it may mean that the phenomenon has spread faster than theory can absorb it. Hence the need to read the gap not as a “deficiency,” but as a theoretical opportunity.

The value of this research lies in the fact that it proposes a move from the question “How do we use artificial intelligence in writing?” to the question “How does artificial intelligence redefine writing itself?” This question cannot be settled by surveys alone, nor by usage reports, nor by satisfaction scales; it requires a combination of philosophical analysis and applied data. Therefore, the proposed study has a double virtue: it explains the phenomenon, and at the same time proposes a new language for describing it.

The study’s special contribution

The first contribution lies in establishing an authentic Arab conceptual field in the philosophy of generative artificial intelligence. This does not mean creating new terms for the sake of novelty, but rather creating a conceptual apparatus that allows AI to be read within Arab questions about language, identity, knowledge, education, and power. When AI is read through *pharmakon*, tertiary retention, or genealogy, it is no longer just a digital tool, but a philosophical object touching the structure of the researcher’s self.

The second contribution is the use of Western heritage in *خدمة* the Arab context. This is a sensitive issue, because some Arab studies either import Western theory as it is, or simply reject it. This study proposes a third path: using Derrida, Stiegler, Heidegger, and Foucault not as closed authorities, but as analytical tools that can be reshaped within Arab reality. This is especially important in the context of AI, where translation, language, epistemic inequality, and technical hegemony are all locally significant issues.

The third contribution is the integration of theory with statistical data and practical evidence. The proposed project does not stop at theory; it benefits from empirical literature measuring acceptance, dependence, effectiveness, and ethical risks. It can also be extended to field surveys or documentary analysis of Arab universities, or to analysis of the practices of students and researchers using ChatGPT in writing. In this sense, philosophy here is framed by data, not separated from it.

Comparative frame

Table: Gaps and Contributions

Gap	What is dominant in the literature	What is missing?	Contribution of the study
Absence of deep philosophical framing	Systematic reviews, descriptive reports, educational impact studies	A question about the nature of thought, writing, and originality	Turning writing from a product into a philosophical practice [journal.unm.ac]
Scarcity of philosophical use of critical heritage	Partial references to Derrida / Stiegler / Foucault	A structured conceptual framework for analyzing artificial intelligence	Activating pharmakon, tertiary retention, and genealogy [hal]
Arab absence	Fragmented studies in language, education, and ethics	Critical Arab grounding of the phenomenon	Building an Arab conceptual field and linking it to the local context [journals.univ-msila]

Proposed methodology

Because the gap is not theoretical only, it is appropriate that the response should be multi-level. The study can combine:

- A systematic review of global and Arab literature.
- Philosophical conceptual analysis of foundational texts.
- Documentary analysis of recent Arabic studies.
- A survey or interview of researchers' and students' practices.
- A comparison between assisted use and replacement use of AI.

In this way, the gap is not just a description of absence, but a starting point for building new knowledge. Most importantly, this methodology will show that philosophy is not a substitute for data, but its partner in producing understanding.

Synthesis

In the end, global and Arab literature on generative AI in academic writing has expanded considerably, yet it still tends to favor procedural questions over existential and epistemological ones. Therefore, the three gaps identified by your study—philosophical, conceptual, and Arab—are not merely deficiencies, but the real field of contribution. What makes this project distinctive is that it does not repeat what already exists; it opens a new horizon linking theory and data, the West and the Arab world, and philosophy of technology with contemporary questions of writing.

Seventh: The Importance of the Research

The importance of this research lies in the fact that it does not merely describe generative artificial intelligence as a new technical tool, but places it at the heart of the questions of philosophy of technology, truth, the researching self, and the educational institution. Its theoretical and practical value thus stems from its ability to connect the current digital transformation to its deepest questions: How is thought produced? How is truth disclosed? And who has the right to define the standards? [ejournal.uin-suka]

Theoretical significance

The theoretical importance stems first from the fact that the study reactivates Heidegger's concepts in a new digital context, especially the concepts of *Gestell* and *Aletheia*. Heidegger's technical framework does not simply mean the existence of machines or digital systems; rather, it refers to a comprehensive mode of "enframing" that orders beings to be summoned, arranged, and exploited according to the logic of calculation and utility. When this is applied to generative artificial intelligence, it becomes clear that the algorithm does not merely "reveal" truth, but does so within hidden design and normative conditions that prearrange what appears to us as knowledge through data selection, structures, ranking algorithms, and evaluation systems. The central paradox here is therefore that artificial intelligence appears as a revealer, while in depth it frames disclosure itself. [philarchive]

This dimension becomes even more important because intellectual automation is not the same as industrial automation. Industrial technology automates the body, movement, or manual skill, whereas generative artificial intelligence intervenes at a deeper level: the level of language, judgment, argument construction, question formation, and sentence generation. Therefore, the danger here is not only the loss of execution skill, but also the possible weakening of critical consciousness itself if the researcher or student turns into a passive recipient of ready-made outputs they do not examine for themselves. In this sense, the study contributes to renewing philosophy of technology by moving it from the analysis of tools to the analysis of the conditions of thought within the digital environment. [arxiv]

The study also contributes to reviving the old-new debate about the originality of philosophical creativity. Recent empirical studies have shown that machine-generated texts can appear very close to human texts in fluency and structure, to the extent that some evaluators failed to distinguish human from machine text with precision except within limited margins. In a recent double-blind study on scientific texts, reviewers were able to identify the machine author only at a rate of 54%, while the main weaknesses remained in scientific depth and reference accuracy. This result is highly significant: it means that the criterion of judgment should not be limited to "does the text look human?" but must ask: does it carry actual thinking? Does it perform a critical stance? Does it produce knowledge that can be questioned? [pubmed.ncbi.nlm.nih]

From this perspective, philosophy itself becomes a field exposed to the influence of the algorithm, not merely a field that observes it from the outside. If generative systems can formulate stylistically convincing texts, then the stake shifts from the quality of the sentence to the condition of epistemic originality. This is what theoretically justifies the research's insistence that philosophical writing is not merely textual production, but a practice of critical existence that cannot be reduced to linguistic simulation. [ejournal.uin-suka]

Conceptual articulation

The second theoretical importance is that the study does not stop at Heidegger alone, but connects philosophy of technology to a triad: Derrida, Stiegler, and Foucault. This articulation is important because Heidegger explains modes of disclosure, Derrida shows the fragility of the boundaries between origin and trace, Stiegler explains the effect of technical media on memory and consciousness, while Foucault clarifies the relation between knowledge and power structure. By bringing these approaches together, a composite framework emerges that allows generative artificial

intelligence to be understood as a phenomenon that goes beyond the programming level into the ontological, epistemic, and political domains. [hal]

This integration is also important because recent literature usually addresses artificial intelligence from a single angle: ethical, pedagogical, evaluative, or legal. But the deeper philosophical idea is that artificial intelligence is not merely a tool at the end of a chain; it is part of the reconfiguration of the knowledge chain itself. This is what Foucauldian analysis captures when it asks: who determines what counts as knowledge? Who has the authority to define it? And what is excluded as invalid or unrepresentable? [unesco]

Practical significance

On the practical level, the importance of the research appears in its warning against sliding into intellectual proletarianization, that is, the loss of independent thinking due to increasing dependence on algorithms in research and writing. This danger is no longer merely theoretical; recent surveys show that AI use has become extremely widespread among students. In HEPI 2025, 92% of students said they use artificial intelligence in some form, 88% used it in assessments, and 18% directly inserted AI-generated text into their work. More significantly, only 29% felt their institutions “encouraged” appropriate use, while 40% disagreed. This gap reveals that usage precedes policy, and that institutional guidance has become urgent. [hepi.ac]

HEPI 2026 confirms this trend; the proportion of students saying their institutions provide AI tools rose to 38%, while those who feel their institutions encourage use and those who do not were nearly balanced. This means that universities have already entered a transitional phase: the question is no longer whether we use AI or not, but how we organize its use and how we preserve academic integrity without demonizing technology. From here, the study gains practical value because it proposes a critical use map that helps researchers benefit from intelligent tools without abandoning authorial identity and scholarly responsibility. [advance-he.ac]

Educational policy

One of the most important aspects of the practical significance is that the research calls for revising curricula and assessment methods in higher education institutions. Once generative tools become widely available, assessment based solely on the “final text” is no longer sufficient. There should be a shift toward staged assessment, oral assessment, reflective assessment, draft assessment, and documentation of the work process, because these forms reduce blind reliance on ready-made outputs. The literature shows that institutions with clear policies and training in AI literacy are better able to turn technology into an educational opportunity rather than a threat to integrity. [frontiersin]

International survey data also point to a gap between usage and institutional readiness. In a study of university students at Harvard, about 90% reported using AI, but only around 25% had begun replacing office hours or required reading with it. This example shows that technology does not only change tools; it changes learning habits themselves. If not accompanied by a clear institutional policy, it may lead to epistemic dependence that weakens genuine academic participation. [arxiv]

Value of the evidence

The importance of the research is further confirmed by evidence showing the superficial similarity of machine texts to human texts without reaching scientific depth. Comparative studies in scientific and humanities texts indicate that AI can produce readable and organized texts, but reviewers note weaknesses in inferential depth, reference accuracy, or methodological solidity. This directly serves the research objective: theoretical significance does not lie merely in proving that the algorithm

produces text, but in distinguishing between text as a linguistic surface and text as a cognitive act. [formative.jmir]

What makes this argument especially important is that some surveys show that many students do not precisely understand the boundaries of ethical use. In one Nigerian study of academics, 90% reported the absence of institutional policies, while 95% rejected the idea of considering AI a co-author. In another U.S. student study, personal ethical values were stronger than institutional policies in explaining AI use. This shows that the importance of the research lies not only in critique, but also in building a new academic culture based on both self-responsibility and institutional guidance. [rsisinternational]

Arab dimension

The practical importance becomes even greater in the Arab context because Arab literature on AI in philosophy and education is still limited and scattered. This limitedness gives the study foundational value: it opens a serious Arab discussion on the ethics of AI in academic and philosophical writing, and proposes that its use be conditioned by documentation rules, transparency, human review, and the protection of critical identity. Arab educational institutions, in this rapidly changing global context, also need clearer policies and more mature training rather than delayed reactions. [journals.univ-msila]

Synthetic conclusion

In summary, the importance of the research lies in the fact that it links three layers: the layer of philosophy of technology, which explains how AI operates at the level of disclosure and concealment; the layer of philosophical critique, which protects the originality of writing and knowledge; and the layer of educational policy, which regulates responsible use. Recent data support this direction by showing that use is widespread, policies are incomplete, and the distinction between machine and human text is not always easy, while educational institutions need to rethink assessment, regulation, and training. Therefore, the study is not only a description of a contemporary phenomenon, but a contribution to building a critical awareness capable of dealing with artificial intelligence as a tool, an opportunity, and a challenge at the same time. [hepi.ac]

Eighth: Research Method

Below is a very broad and detailed formulation of the research method section, in an academic style suitable for inclusion in the thesis. I have adopted critical genealogy as the central framework, with Derridean deconstruction, Stieglerian pharmacology, phenomenological analysis, literature review, critical discourse analysis, and recent statistical evidence on the use of AI in higher education, as well as trends in investment, adoption, and policy. [journals.sagepub]

The logic of the method

This research is built on the basic assumption that generative artificial intelligence cannot be understood through technical description alone, because the essence of the phenomenon does not lie in the algorithm as code, but in the historical, epistemic, and power conditions that made this code acceptable as a tool of knowledge and creativity. Therefore, the appropriate method is not a cumulative historical method that narrates the “development” of technology from one stage to another, but a critical genealogical method that investigates the birth of meaning itself, its changing conditions, and the forces that produced and legitimized it. In this sense, the research does not aim to recount the history of writing tools, but to deconstruct the history of power that accompanied them. [link.springer]

This methodological choice is important because the history of writing technology cannot be read as a straight line toward perfection, but rather as a series of transformations in how meaning is stored, transmitted, constrained, and made available. Reed, papyrus, parchment, paper, print, the digital network, and the generative algorithm are not neutral stations; they are thresholds that have rearranged the relationship between human beings, text, memory, and society. Each threshold introduced a new medium, and each medium brought with it a new arrangement of knowledge, that is, a new mode of power. Hence critical genealogy is the most appropriate because it links technical effect to political condition and shows how the “possible” becomes “natural” through repetition, institutions, and discourse. [pdcnet]

Critical genealogy

Genealogy in this study is understood as a “history of the present” rather than a neutral excavation of the past. It asks not only: when did generative AI appear? But also: what made the academic community accept it as a tool for learning and writing? What made companies describe it as a “smart assistant”? And what makes universities today compelled to adapt to it? These are not technical questions; they are fundamentally critical questions. [journals.sagepub]

The most important feature of genealogy is that it reveals that what seems natural or self-evident to us is not so. The knowledge we hold about writing, authorship, originality, transmission, and generation are all historically conditioned outcomes. Therefore, returning to the history of writing technology is not intended to glorify or condemn it, but to show structures of formation: how the conditions of text production changed, how the authority of the author changed, and how the audience, the university, the market, and the algorithm became parties in shaping meaning. [journals.sagepub]

In this context, genealogical analysis acquires a special dimension when connected to recent literature on artificial intelligence in higher education. International surveys show that AI adoption in universities is no longer marginal, and that institutions oscillate between encouragement, caution, and regulation. This means that the phenomenon has moved beyond the level of “innovation” to become part of the institutional structure itself, and that is exactly the point genealogy finds compelling: how does technology move from being an external tool to an internal standard, and from a personal choice to a regulatory necessity? [hepi.ac]

Derridean deconstruction

Derridean deconstruction comes in as the first supporting method because it enables reading the binaries on which the public discourse about generative AI depends. The dominant discourse often builds its judgments on rigid oppositions: natural/artificial, human/machine, original/forged, creative/repetitive, presence/absence. But Derrida teaches us that these binaries do not function as fixed boundaries; they function as devices for organizing meaning that conceal the mutual relations within them. Deconstruction here does not mean destructive negation, but revealing the conditions that allow these binaries to appear natural. [taylorfrancis]

In the context of AI, deconstruction offers a more precise understanding of the problem of “originality.” When we attribute originality to human text and imitation to machine text, we implicitly assume that human writing is pure and unaffected by trace, whereas in reality it is written within a shared language, a prior memory, and a heritage of quotations and interrelations. Deconstruction does not say human and machine texts are identical, but that the boundary between them is not innocent;

it is a conceptual boundary that is constructed, framed, and loaded with cultural standards. [formative.jmir]

Deconstruction is also important in analyzing the promotional discourse of technology companies. These companies describe their tools as “creative,” “supportive,” “smart,” and “productivity-enhancing,” but they do not always explain how data, economic returns, tracking structures, and monopoly shape this discourse. Deconstruction therefore helps show that promotional language is not neutral; it produces visions of the self, writing, and knowledge, and conceals the power relations embedded in design and use. [ai-bossblog]

Stieglerian pharmacology

The second supporting method, Stieglerian pharmacology, makes it possible to understand generative artificial intelligence as a pharmakon: remedy and poison at the same time. This is one of the most precise ideas in contemporary philosophy of technology because it refuses binary moral judgment. AI may expand research possibilities, speed up writing, and assist with summarization, translation, and classification, but at the same time it may weaken the capacity for conceptual patience, self-review, internal argument building, and reliance on living memory rather than automated memory. [journals.sagepub]

From Stiegler’s perspective, technology cannot be separated from the constitution of the self. External media are not merely tools; they are extensions of memory, attention, and thought. Therefore, AI is not just an “assistant,” but part of the environment in which the research self itself is formed. This is why pharmacological analysis is necessary: it describes the structural tension between empowerment and dependence. The very mechanism that helps a student formulate a paragraph can at the same time weaken their ability to produce the paragraph unaided. [zenodo]

The importance of this method increases in light of recent quantitative data. HEPI 2026 showed that 37% of students believe their institutions encourage AI use, while 36% believe the opposite, meaning that the university environment is experiencing a state of division/oscillation rather than clear guidance. This is ideal for understanding the pharmakon: there is no single fixed judgment, but a double effect that varies according to context, institution, and educational style. A study at Harvard also showed that about 90% of students use generative AI, and about 25% have begun replacing office hours and required readings with it. This is a striking example of how empowerment may become substitution. [arxiv]

Phenomenological analysis

Phenomenological analysis serves this research because it describes the experience of philosophical writing from within. This is something statistics alone cannot accomplish. The phenomenological question is not: how many people use AI? Rather: what happens to the self when it writes? How does an idea take shape as it is formulated? What is the existential difference between writing that emerges from an internal struggle with the concept and writing that is formed from ready-made suggestions? These questions restore the lived experience. [joge.scholasticahq]

Here Heidegger’s concept of *Gelassenheit* acquires special value. Serenity/releasement is not a rejection of technology, but a stance that refuses surrender to the dominant logic of calculation. It trains the self to allow meaning to appear instead of hastily forcing it into quick outputs. In the context of AI, this concept becomes a call for the researcher to maintain a critical distance from the tool: to use it without dissolving into it, and to benefit from its speed without losing the slow pace of thought required by philosophy. [mail.studiaheideggeriana]

The phenomenological difference becomes clear when we compare a text produced through internal questioning and a text generated by models. In human writing, there is hesitation, pause, correction, and reconstruction; in generated writing, there is apparent fluency that does not guarantee depth of experience. This does not mean that all machine text is superficial, but that the condition of formation is different. Phenomenological analysis is the appropriate tool for showing this difference because it does not stop at what appears, but follows how it appears, to whom it appears, and from what intentional horizon.

Critical literature review

The critical literature review is not a secondary element, but a fundamental pillar for fixing the position of the research within the global and Arab field. Recent reviews in higher education, academic writing, and artificial intelligence have shown that the literature is dense, but most of it focuses on benefit, governance, integrity, teaching, adoption, and more than on critical philosophy. These reviews show that the use of AI in academic writing is often measured through surface indicators such as fluency, grammatical accuracy, and productivity, while the question of thought, originality, and authorship remains less present. [journal.unm.ac]

In the Arab context, the critical review also reveals a clear limitation in using Arab and Islamic philosophical heritage within AI analysis. There is growing interest in the ethics of AI in education and language, but specialized critical philosophy remains limited. Therefore, the review in this research is not merely a gathering of previous work, but an identification of the gap on which the scientific contribution stands. [fuda.uinbanten.ac]

Critical discourse analysis

Critical discourse analysis is necessary because it reveals how technology companies construct the legitimacy of their tools. The discourse of “smart assistance,” “creative partner,” and “productivity enhancement” is not a neutral description; it is a linguistic strategy that turns the tool from a potential authority into an obvious value. This analysis makes it possible to understand how AI is marketed not only as a product, but as a civilizational necessity, as if it were an inevitability. Here discourse intersects with political economy: the more artificial intelligence appears natural and neutral, the greater its institutional penetration. [fip.dp]

Investment and economic reports indicate that this discourse is fueled by a highly concentrated material reality. Stanford HAI 2026 data show that private and institutional investment in AI has reached enormous levels, and that the United States accounts for a very large share of global funding. These data mean that the “neutrality” of the algorithm is merely a surface over an economic and political structure. Critical discourse analysis makes this clear because it links language to interests and power. [hai.stanford]

Statistical evidence

Including statistical evidence is not embellishment, but a methodological necessity. International surveys such as HEPI 2025 and 2026, Harvard student studies, and surveys from Hong Kong and U.S. universities all show that AI has become part of everyday academic life. Numbers such as 92% use, 88% use in assessments, 37% feeling institutional encouragement versus 36% not, are not marginal figures; they indicate a structural transformation. [arxiv]

But numbers should not be used apart from philosophical interpretation. Their role here is to confirm that the topic is real and that the study concerns a rapidly changing reality rather than a distant

future. They also show that institutions do not yet have a unified discourse, which justifies a critical methodology that combines multiple tools instead of relying on a single rigid method.

Applied design

For a study of this kind, a qualitative-analytical design is preferable, based on:

- Analysis of foundational philosophical texts.
- A systematic review of the literature.
- Discourse analysis of corporate platforms and texts.
- Use of surveys and recent quantitative studies.
- A genealogical reading of concepts and applications. [hepi.ac]

This design ensures coherence between the question, the method, and the expected results. It also allows the production of a strong methodological chapter that does not merely announce theoretical names, but explains how they will actually be used in reading and analysis.

Synthetic conclusion

Finally, it can be said that the method of this study rests on an integration of critical genealogy as the backbone, deconstruction as a tool for exposing binaries, pharmacology as an analysis of structural contradiction, phenomenology as a description of the experience of writing, together with literature review, discourse analysis, and statistical evidence. In this way, artificial intelligence is no longer merely a technical topic, but becomes an epistemic-political-existential phenomenon that must be read on multiple levels. [studiaheideggeriana]

Methodological Alignment Table

Below is the most suitable table for your research: it links each methodological tool to a specific research question and shows why that tool was chosen and what kind of data it handles. Such alignment between question and method is recommended in the literature on “question-method alignment” because it ensures logical coherence between the aim of the study and its mode of analysis. [academic.oup]

Methodological Tool	Linked Research Question	Analytical Purpose	Type of Data	Rationale for Selection
Critical genealogy	How has the history of writing technology from the reed pen to the algorithm become a history of transformations in epistemic power?	Tracing the conditions for the emergence of generative AI as a field of knowledge	Philosophical texts, history of technology, historical studies	Because it reveals the “history of the present” and shows how knowledge becomes natural over time [link.springer]
Derridean deconstruction	How do binaries such as natural/artificial, real/simulation, human/machine operate within the discourse on AI?	Exposing contradictions and the instability of conceptual boundaries	Theoretical texts, institutional discourse, promotional materials	Because deconstruction reveals how meaning is produced through difference rather than stability [taylorfrancis]

Stieglerian pharmacology	How is generative AI at once a threat to critical subjectivity and a reinforcement of its capacities?	Analyzing the double nature of technology: benefit/harm	Philosophy of technology literature, applied evidence, usage experiences	Because it is better than binary judgments and explains the complex relation between human and tool [journals.sagepub]
Phenomenological analysis	What happens existentially when the philosopher writes on their own, and what changes when the text is generated by the algorithm?	Describing the experience of writing from within	Philosophical reflections, authorial texts, use cases	Because it studies meaning as lived, not only as measured [joge.scholasticahq]
Critical literature review	What have previous studies said about AI and academic writing, and what have they omitted?	Building the scientific gap and defining the boundaries of current knowledge	Articles, reviews, systematic reports	Because it situates the research within the field and reveals points of deficiency [journal.unm.ac]
Critical discourse analysis	How do technology companies present their tools and capabilities, and what does their language conceal?	Revealing persuasive language and power relations	Marketing materials, company websites, official statements	Because discourse does not merely describe technology, but shapes its legitimacy [fip.dp]
Statistical evidence	How widespread is AI use? And how do students and institutions perceive it?	Supporting philosophical analysis with quantitative data	Surveys, institutional reports, field studies	Because numbers show that the phenomenon is real and accelerating, not hypothetical [hepi.ac]

How to read the table

The basic idea here is that each tool in the research serves a specific question. Genealogy answers the question of origin and transformation, deconstruction works on the conceptual structure of discourse, pharmacology explains the structural duality of technology, and phenomenology describes the very experience of writing. The literature review determines your position within prior studies, discourse analysis reveals how AI legitimacy is constructed, and statistical evidence gives all this a real-world foundation. [link.springer]

Ready-to-use formulation

You can write the following under the heading “Alignment of Method and Research Questions”:

The methodological tools in this study are linked to specific research questions in a way that ensures coherence between the question and the analysis. Critical genealogy is used to investigate the formation of generative artificial intelligence within the history of technology and power, while Derridean deconstruction is employed to analyze the conceptual binaries on which discourse about it depends. Stieglerian pharmacology is used to understand its dual nature, whereas phenomenological analysis describes the experience of philosophical writing from the perspective of the writing self. These tools are complemented by a critical literature review, a discourse analysis of corporate AI materials, and reliance on recent statistical evidence from international surveys and studies. [journals.sagepub]

Ninth: Previous Studies and Literature Review

Introduction

The literature review shows that the discussion of technology and writing did not begin with generative artificial intelligence; rather, it has much older philosophical and critical roots. Before large language models appeared, the works of Heidegger, Marcuse, and Stiegler had already laid the analytical groundwork for understanding technology as a structure that reshapes the human being and knowledge, not merely as neutral tools used by an agent at will. For this reason, the previous studies in this research are not read merely as “background,” but as a critical history that shows how the questions moved from the essence of technology to its impact on writing, originality, and power. [jurnal.abulyatama.ac]

The first wave: technology before the generative turn

The works of Bernard Stiegler occupy a foundational place in this wave. In *Technics and Time*, Stiegler explains that technology is not outside the self, but part of the constitution of consciousness itself, and that technical tools function as an external memory that reshapes perception, memory, and thinking. The importance of this view lies in the fact that it does not separate the human being from their tools, but sees them as a mutual organic relation. Within this framework, generative artificial intelligence becomes an advanced extension of this path: not merely a writing tool, but a means that redistributes cognitive functions within the thinking process itself. [journals.open.tudelft]

Stiegler’s notion of the digital pharmakon also adds to this, where he argues that the networked environment is at once a space of individuation and a space of conformist consumption. This tension is important because many digital applications appear designed for empowerment, yet they may turn into systems of absorption and homogenization. In the context of your research, this idea forms a direct basis for understanding generative AI as a tool that helps writing, but that may also strip the writer of intellectual independence if it becomes a permanent substitute. [pdcnet]

Marcuse, in *One-Dimensional Man*, offered an early and highly important diagnosis of instrumental reason in advanced industrial societies. He shows that the logic of efficiency and performance can reduce reason to an executive function and weaken the capacity for critique and transcendence. This idea resonates strongly today in analyses of artificial intelligence, because generative systems are often marketed through criteria of speed, productivity, and efficiency rather than depth or critical thinking. Marcuse therefore represents a bridge between the critique of industrial technology and the critique of algorithmic technology. [pdf.hanspub]

Heidegger, in *The Question Concerning Technology*, provides the most important philosophical background, because he refuses to view technology as a neutral tool and considers it a mode of revealing beings, that is, a manner of disclosure that causes the world to be understood as standing reserve available for use. This view corresponds strongly to the analysis of algorithms, because artificial intelligence does not merely present information; it reshapes what counts as knowledge in the first place, what counts as generatable, and what counts as repeatable. For this reason, Heidegger is, in the previous literature, an indispensable reference point for understanding the place of technology in relation to thought. [ndpr.nd]

The second wave: intelligence and writing

Beginning in 2022, studies began shifting the discussion from philosophy of technology to writing under artificial intelligence. Lendvai's (2025) study is an important landmark in this shift; it relied on a scientometric and documentary analysis of 171 published studies on ChatGPT and academic writing. The value of this study lies in the fact that it does not rely on general impression alone, but maps the field cognitively and shows that the academic community approaches AI from two parallel angles: the angle of support potential and the angle of ethical and methodological risks. One of its main findings is that the tool is widely accepted as a writing aid, especially among non-native English speakers, but this acceptance is accompanied by continuing concerns about fabricated references, plagiarism, and the decline of genuine critical thinking. [pubmed.ncbi.nlm.nih]

This finding is highly valuable for your research, because it does not merely show that ChatGPT is widely used, but rather that the problem is no longer technical possibility; it is now about the kind of cognitive relationship the user establishes with the tool. The study shows, through its broad figures, that academic writing has entered a new phase of dependence on generative aids, and that this phase requires a reconsideration of authorship, accuracy, and citation.

Mazzi's (2025) study approached the question of authorship from a legal-philosophical angle, and concluded that the distinction between creativity and generation is not merely a legal boundary, but an anthropological one linked to the writer's lived experience and the concept of originality. This idea is extremely important because the research you are working on does not only ask, "Who writes?", but also, "What makes writing philosophical in the first place?" The emphasis on the anthropological dimension of originality reinforces your hypothesis that a generative text may be formally correct, but it remains unequal to the experience of writing as an existential act. [pubmed.ncbi.nlm.nih]

In the same context, Pavlyshyn and Reznikova's (2025) study stands out, as it combines Simondon's philosophy with Stiegler's pharmacology to diagnose the tension between symbolic individuality and algorithmic domination. Its importance lies in the fact that it comes very close to your research perspective, since it does not view technology as a functional tool, but as a force that reshapes the self, meaning, and medium. Its proposal of what it calls "pharmakon diagnosis" also aligns with your understanding of the intersection between danger and promise in generative artificial intelligence. [pdcnnet]

Sidorkin's (2024) study also belongs to this educational-critical context, as it warns that educational applications of AI often prioritize operational efficiency over deep cognitive examination. This is an important observation because it shifts the discussion from "Is the tool useful?" to "What do we lose when we make efficiency a higher criterion than understanding?" This is exactly what your study needs in the chapter on methodological and philosophical significance. [pawpaw]

Global reports

One of the strongest supports for the critical framework in your study is Stanford HAI's *AI Index 2025*, which reveals that around 90% of the notable models in 2024 came from industry rather than universities. This figure is highly significant because it supports the genealogical hypothesis that generative artificial intelligence is not a neutral knowledge project, but part of a vast market economy led by commercial companies. It also shows that the center of gravity in producing algorithmic knowledge is no longer academic, but industrial, which changes the nature of the ethical and epistemic questions being asked about it. [hai.stanford]

Follow-up reports confirm that industry is not only funding these developments, but also leading the formation of the normative infrastructure of models, tests, and products. Therefore, generative artificial intelligence must be understood within a political-economic structure, not within a technical vacuum. This strengthens the genealogical perspective in your dissertation because it connects technical discourse to the material conditions of its production and spread. [thejournal]

Artificial intelligence and the death of the author

Noema Magazine's (2025) discussion of the "death of the author" revisits Roland Barthes' thesis in order to raise a new question: what happens when the text itself becomes machine-generated? The importance of this study is that it links the question of authorship to the question of generative text, and shows that Barthes' death of the author meant the liberation of the text from the writer's intention, not the absence of the writer in a material sense. In the case of generated texts, however, the author is absent from the outset, which pushes the question to a deeper level: does the text still retain philosophical value if it does not emerge from a living subjective experience? [historicalmaterialism]

This question is deeply relevant to your research, because you are not studying artificial intelligence as a producer of sentences only, but as a factor that redefines the relation between text, self, and meaning. From here, this cultural study opens an important door for affirming that the debate is not purely technical, but touches the very foundations of modern writing itself.

Arabic studies

In the Arabic literature, Ibrahim Krasch's (2025) work stands out as one of the rare attempts to engage philosophically with artificial intelligence. Its importance lies in the fact that it does not treat technology as merely a technical subject, but places it at the center of contemporary philosophical responsibility: criticizing artificial intelligence, re-examining traditional theories of knowledge, and questioning the limits of human understanding in light of the new phenomenon. This thesis is very close to the spirit of your research, because it rejects instrumental reduction and insists that philosophy must reconstruct its concepts rather than merely comment on the phenomenon. [journals.univ-msila]

A study in *Al-Asala* journal (2025), titled "Philosophy of Artificial Intelligence and Its Ethics: A Philosophical Reading in the Arab Context," offers an important ethical reading, but it remains closer to a general value framework than to genealogical critique. This distinction is very important in the literature review: the Arabic study addresses ethical dimensions, but it does not go deeply into the history of power and knowledge that characterizes your method. It can therefore be regarded as a preparatory stage, not a final destination. [journal.haibanasywa.or]

The research gap

If we bring these studies together, it becomes clear that the research gap in your project consists of three main points. First, most previous literature treated technology as a tool, a phenomenon, or an

ethical problem, but did not employ critical genealogy as the dominant method of analysis. Second, recent studies on ChatGPT and academic writing focused on benefit and risk, but did not sufficiently employ deep philosophical concepts such as pharmakon, tertiary retention, Gestell, and aura as a single coherent explanatory framework. Third, Arabic studies are still limited in their integration of philosophy of technology, genealogical criticism, and the institutional dimension, which gives your research a foundational value in the Arab field. [fuda.uinbanten.ac]

Importance of the review

The literature review thus shows that the proposed research does not come from nowhere, but stands on accumulated philosophical, critical, and digital traditions. Yet at the same time, it goes beyond these traditions by integrating them into one framework that explains generative artificial intelligence as an epistemic, power-related, technical, and ethical phenomenon at once. This integration is what makes your study non-repetitive: it does not simply repeat Heidegger, Stiegler, or Marcuse in a compilatory way, but uses them within a new question belonging to the age of generative models.

How to critique previous studies and extract the research gap from them

To critique previous studies and extract the research gap, it is not enough to summarize what studies have said; you must ask what they did not say, or what they said insufficiently, or what they said in a context that does not apply to your topic. Methodological literature confirms that the gap may be conceptual, methodological, population-based, or practical, and that the best way to identify it is through organized critical reading rather than mere compilation. [resources.nu]

How to start the critique

Begin each study with two questions: what did it prove, and what remained unresolved? A good study is not read merely as “information,” but as a scientific position with limits and conditions. Then examine whether the study relies on a very specific sample, only one method, a narrow geographic context, or incomplete conceptual definitions. These elements often reveal weaknesses that can be turned into research gaps. [ncbi.nlm.nih]

Types of gaps

Modern methodologies summarize the gap in several main forms:

- Conceptual gap: when researchers disagree on how to define the phenomenon or on the theoretical framework used.
- Methodological gap: when the phenomenon is studied through limited methods and other methods are absent.
- Population or contextual gap: when studies are concentrated in one region or one group and other regions or groups are missing.
- Evidence gap: when results are few, contradictory, or insufficient for a decisive conclusion. [libanswers.snhu]

These types are very important for your topic; for example, you can say that previous studies on AI and writing focused on effectiveness and ethical acceptance, but did not adequately address the genealogical dimension, or did not use pharmacology, or did not deeply study the Arab philosophical context. [frontiersin]

Practical steps

You can extract the gap through five clear steps:

1. Collect the studies closest to your topic.

2. Summarize each study's question, method, result, and limitations.
3. Compare the studies to identify commonalities and differences.
4. Look for what appears repeatedly and what is missing repeatedly.
5. Turn the absence into a researchable question. [academicguides.waldenu]

A very useful tool here is a literature review table: you place the author, year, sample, method, results, limitations, and what the study did not address. This makes the gap visually clear instead of leaving it as a mental impression. [resources.nu]

How to write the critique

When writing the critique, do not say only: "this study is good" or "this study is lacking." Rather, write analytically, for example:

- The study focused on the ethical dimension and did not address the epistemic-power dimension.
- The study relied on a Western university sample, so it is difficult to generalize it to the Arab context.
- The study used a descriptive method, whereas the topic requires deeper critical analysis.
- The study discussed artificial intelligence as a tool and did not examine it as a structure that reshapes knowledge. [ncbi.nlm.nih]

An example for your topic

In the topic of generative artificial intelligence and philosophical writing, you may conclude that previous studies showed the spread of usage and concerns about originality and citation, but they often did not connect this phenomenon to philosophy of technology or critical genealogy. Here the gap becomes clear: we need a study that deconstructs the conditions for the emergence of generative AI as a tool of knowledge and creativity, not merely as a text-production tool. [pubmed.ncbi.nlm.nih]

Ready-made formulation

You can formulate the gap as follows:

The review of previous studies shows that most research on generative artificial intelligence focused on efficiency, ethics, and educational acceptance, while the philosophical-critical dimension, especially the genealogical one, remained limited in presence. Likewise, Arabic literature still lacks studies that integrate philosophy of technology, discourse analysis, and the conceptual critique of philosophical writing. Accordingly, the gap of this study lies in providing a genealogical-philosophical reading that moves beyond technical description to analyze the conditions of epistemic and power formation of generative artificial intelligence. [fuda.uinbanten.ac]

Practical conclusion

The gap is not something you find by chance; it is extracted through comparison, critique, and systematic synthesis. The deeper your reading, the clearer the gap becomes. And the golden rule is: always ask what was not resolved, what was not read from another angle, and what remained outside the sample, context, or method. [libanswers.snhu]

If you want, I can turn this into a **very short 6-line template** you can place under the heading "Research Gap" in your thesis, or into a **table for reviewing previous studies**.

A comparison between Derridean deconstruction and historical materialism in analyzing technical systems

Certainly. The comparison between Derridean deconstruction and historical materialism in analyzing technical systems reveals a profound difference in perspective: the former focuses on

language, conceptual assumptions, and internal differences within discourse, while the latter focuses on the material structure of the economy, labor, and social relations that produce technology and direct its use. However, the two approaches are not entirely contradictory; rather, they can complement each other when we analyze artificial intelligence or digital platforms as both discursive and material structures at the same time. [jstor]

The angle of analysis

Deconstruction sees technical systems not only through their visible functions, but through the binaries on which they are built: human/machine, natural/artificial, presence/absence, origin/copy. Thus, it reveals how technical discourse produces its meanings and conceals its internal contradictions. Historical materialism, by contrast, begins from a different question: who owns the technology? How is it used within a specific mode of production? And how do productive forces change labor relations, power, and distribution? Therefore, deconstruction analyzes how meaning is formed, while historical materialism analyzes how the material social structure is formed. [revistas.usp]

This difference is very important in the study of artificial intelligence. Deconstruction helps you understand the language through which technology companies market their tools, such as describing them as intelligent assistants or neutral creativity tools, and reveals that this language hides assumptions about originality, effectiveness, and neutrality. Historical materialism, however, asks about capital, value chains, digital labor, data exploitation, and the monopoly structure that makes these tools possible and profitable. [pdf.hanspub]

What each approach focuses on

The difference can be summarized in four points:

- Derridean deconstruction focuses on text, discourse, and meaning, and reveals the tensions that undermine claims of stability and transparency. [tabayyun.dohainstitute]
- Historical materialism focuses on material production, class relations, and economic structure, and explains technology as part of the development of productive forces. [academia]
- Deconstruction asks: how is truth linguistically constructed? Historical materialism asks: how is this truth produced within an economic and social system?
- Deconstruction dismantles the claim of neutrality, while historical materialism dismantles the claim of independence from market, labor, and ownership. [jstor]

In analyzing technical systems

In analyzing technical systems, deconstruction gives you excellent tools for reading the discourse surrounding technology: advertisements, promotional statements, ethical promises, and images of “empowerment” and “digital transformation.” But it is less direct in explaining the economic structure that makes these discourses effective. Historical materialism comes in here to explain why these systems grow in the first place: because they are tied to capital accumulation, labor automation, acceleration of the economic cycle, and the monopolization of data and infrastructure. [hal]

Therefore, if your research concerns generative artificial intelligence, deconstruction is very useful for analyzing the language of companies and platforms, while historical materialism is very useful for analyzing platform ownership, hidden labor, data exploitation, and the transformation of knowledge into a commodity. [plarideljournal]

	standing reserve jurnal.abulyatama.ac	on modern text- generation systems		algorithmic <i>Gestell</i>
Marcuse: one- dimensional man	Critiqued instrumental reason and efficiency at the expense of critical thinking pdf.hanspub	Was not directly linked to academic writing in the age of AI	Analytical gap	Explaining the dominance of productivity and speed in contemporary writing
Scientific studies on ChatGPT	Mapped widespread use and concerns about fabricated references and weak critique pubmed.ncbi.nlm.nih	Focused on effectiveness and risks without deep philosophical analysis of writing	Methodological- philosophical gap	Moving from empirical description to genealogical analysis
Arabic studies	Addressed ethics or philosophy in a general sense journals.univ-msila	Did not employ a fully integrated critical genealogical framework	Arab-conceptual gap	Building an Arab critical framework for the philosophy of AI

Ready-to-use methodological paragraph

You can insert this paragraph directly into the thesis:

The review of previous studies shows that the field has developed in two main directions: an earlier philosophical-critical direction preceding generative AI, represented by the works of Heidegger, Marcuse, and Stiegler, and a recent direction focused on ChatGPT applications and academic writing and their educational and methodological effects. However, the critical reading of this literature shows that most previous studies remained either at the level of general philosophical theorization without direct application to generative models, or at the level of empirical description that focuses on efficiency and risks without analyzing the historical and epistemic conditions that made generative AI possible and acceptable. Accordingly, the research gap lies in the absence of a study that combines critical genealogy, Derridean deconstruction, Stieglerian pharmacology, and phenomenological analysis within one framework that explains generative artificial intelligence as an epistemic, power-related, and technical phenomenon at the same time. [citedash]

Tenth: Conceptual Framework and Study Terms

1. Pharmakon

The pharmakon represents one of the most fertile concepts in this research because it expresses the structural duality of technology: it is both a remedy and a poison at the same time. The origin of the concept in the Greek tradition refers to what is therapeutic and what is harmful, but Derrida reworked it in his reading of Plato's *Pharmacy* to show that writing is not outside thought, but part

of the very structure of memory itself, helping it while also potentially weakening it. In this sense, the pharmakon is neither purely negative nor purely positive, but a tension-filled structure that brings opposites together within a single unity, which makes it highly suitable for analyzing generative artificial intelligence, which promises ease and speed but may lead to dependency, superficiality, and epistemic delegation.[asjp.cerist]

The importance of this concept increases when we move from Derrida to Stiegler, because the pharmakon then expands to include all external technologies that alter our relation to memory and thought: writing, print, photography, digital media, and finally generative models. Every new medium opens a new possibility for knowledge, but at the same time creates a new risk to mental independence. From here, generative AI becomes a dense pharmakon: it speeds up writing, opens possibilities for summarization and analysis, but also threatens the deterioration of thinking if it is used instead of being used with human thought. Therefore, the role of the concept in the research is not only descriptive, but also normative: it requires rejecting absolute judgments and moving toward a precise analysis of both benefit and harm. [journals.open.tudelft]

2. Tertiary retention

Tertiary retention in Stiegler's thought is a central concept for understanding the human relation to technology, because it describes memory when it moves out of the self into external material supports: writing, images, archives, databases, and algorithms. Stiegler's appropriation of Husserl here is very important, because Husserl distinguished between immediate lived memory and what consciousness retains in experience, while Stiegler adds a third level: the technical fixing of memory outside the body. The value of this concept lies in the fact that it does not reduce technology to a storage device, but shows that it enters into the very formation of consciousness. Human knowledge is not purely internal; rather, it is shaped through ongoing relations with tools of preservation, retrieval, and search. [journals.open.tudelft]

In the context of your research, tertiary retention becomes a direct gateway to understanding generative AI as a highly dense external memory. The large language model does not merely store texts; it rephrases them probabilistically and turns the archive into material that can be generated continuously. Here lies the danger that Stiegler pointed to: when external memory dominates living memory, the human being may become entirely dependent on technical retention instead of developing self-memory and the capacity for recall and interpretation. This makes artificial intelligence in philosophical writing not merely an aid, but a medium that may alter the structure of remembering and thinking together. [pdcnet]

A practical example of this is the researcher who constantly relies on generative models to summarize texts, suggest structures, or draft paragraphs, and may gradually notice a decline in the ability to build the cognitive plan independently. What is lost here is not information itself, but the thinking muscle: the ability to select, arrange, and connect concepts from within. Therefore, tertiary retention in this study is not only a technical concept, but a critical tool revealing that the external archive can shift from supporting memory to replacing it. [jdn.ucas.ac]

3. Cognitive proletarianization

Stiegler links the concept of cognitive proletarianization to a historical process similar to what happened in industry: just as the worker lost part of their manual skill with the machine, the writer and thinker lose part of their "practical intellectual knowledge" with automation, that is, the capacity for independent thought and self-generated creativity. The idea is not that technology kills thinking

immediately, but that it may gradually strip thinking away from its owner when the machine repeatedly replaces it. Proletarianization here is not only economic, but cognitive and ontological, because it affects the individual's capacity for uniqueness and for forming a personal style within the intellectual experience. [zenodo]

In your research, this concept is extremely important because it explains why AI may appear helpful at first, while carrying a long-term risk to independent mental agency. If the researcher gives the algorithm the task of formulating the question, then building the answer, then summarizing objections, then arranging the conclusion, what may remain is only the formal decision. This is cognitive proletarianization in its digital form: not an immediate loss of knowledge, but a gradual loss of the capacity to produce it. [pdcnet]

The importance of the concept also appears in the fact that some recent studies indicate that heavy use is sometimes associated with reduced independence or a preference for the easier path in writing texts and research papers. In higher education settings, when 92% of students are AI users, the question of cognitive proletarianization is no longer theoretical; it becomes a question about the future of learning itself. Thus, the concept gives you a precise analytical language to explain the transition from “using the tool” to “depending on it” and then to “delegating to it.” [arxiv]

4. Genealogy

In the Nietzschean-Foucauldian context, genealogy is not a search for a pure origin, but a tracing of meaning through historical and power struggles. Genealogy reveals that what appears natural or obvious is in fact the result of a long history of institutional and discursive arrangements. Applying it to artificial intelligence therefore means that the “neutrality” and “objectivity” of the algorithm are not natural givens, but claims whose economic, cultural, and political conditions must be dismantled. [link.springer]

In your research, genealogy allows a rereading of the history of writing technology not as linear progress, but as a history of transformations in epistemic power. Each transition from one medium to another changed the shape of knowledge, the position of the writer, and the mechanisms of dissemination and control. The question is no longer “When did technology begin?” but rather “How was this technology made to appear necessary? And who benefits from this representation?” This genealogical question is especially important in artificial intelligence because companies do not market the tool as merely a product, but as an unavoidable future with no alternative. [fip.dp]

Genealogy is also useful for linking the Arab context to the global context, because many institutional uses of technology are captured by Western discourses and then re-exported as universal standards. Genealogy can reveal that “universality” itself may be part of the structure of epistemic power. This gives your research a strong critical dimension, because it does not reject technology, but exposes its historical conditions and restores it to its context. [academic.oup]

5. Gestell

For Heidegger, Gestell means “enframing,” that is, the ontological structure of modern technology that causes beings to be seen as resources available for mobilization and investment rather than as entities understood in themselves. In this understanding, technology is not only machines; it is a mode of disclosure of the world that reduces everything to usability and efficiency. From here, the danger in artificial intelligence lies not in the fact that it performs tasks quickly, but in the fact that it redefines knowledge itself as something computationally processable. [ndpr.nd]

In the context of philosophical writing, this means that the algorithm may replace questioning with generation, inquiry with retrieval, and thinking with matching. If the text becomes measured by its speed of production, then philosophical existence is endangered because it presupposes slowness, revision, hesitation, and reflection. Gestell therefore gives you a language for explaining how AI can shift from being a tool to being a comprehensive frame that reshapes the conditions of knowledge from within. [jurnal.abulyatama.ac]

This concept is also useful in analyzing educational institutions. When a university relies on grading algorithms, prediction systems, and writing assistants, it may gradually become a space evaluated by digital efficiency rather than epistemic depth. Here Gestell operates not only in the tool, but in the institution itself. For that reason, it is one of the most important concepts in your framework. [unesco]

6. Aura

Walter Benjamin borrowed the concept of aura to describe the unique “here and now” quality that distinguishes the original artwork and is lost in mechanical reproduction. Aura is not merely material scarcity, but a historical and aesthetic presence that cannot easily be restored. With the decline of aura in the age of repetition, Benjamin pointed to new political possibilities for art, but the question your research raises is: can philosophical writing have its own aura? And can machine-generated text carry the same living “experience of questioning”? [academic.oup]

This concept is extremely useful for your research because it opens a path to understanding the difference between human text and generative text as a difference that goes beyond style. The algorithm may produce a polished text, but does the text possess the dimension of presence embodied in the author’s experience, in the act of writing, and in the tension of the question? Here the debate is no longer about aesthetics only, but about textual existence itself. Aura in philosophical writing may refer to that irreducible mark that arises from the experience of a particular writer, at a particular time, within a particular context. [ojs.lib.uwo]

The concept also helps critique assumptions that equate good phrasing with true experience. A machine-generated text may be well formed, but it lacks a specific “here and now,” that is, the tension of lived experience that gives it uniqueness. Thus aura becomes a precise philosophical criterion for questioning the automation of writing, not only from the standpoint of transmission, but from the standpoint of presence.

7. General organology

Stiegler’s general organology is a fundamental concept for understanding the relation between the three kinds of organs: bodily organs, artificial organs, and social organs. Technology does not change the tool alone; it changes the body, consciousness, and institution together. This is very important for your research, because generative AI does not affect the individual writer only, but also the university, the library, the research practice, academic language, and evaluation standards. [journals.open.tudelft]

Within this framework, LLMs can be seen as a new artificial organ participating in the redistribution of functions between memory, writing, organization, and thinking. It affects not only the individual, but the social structure of knowledge: how articles are written, how they are reviewed, how they are taught, and how they are assessed. General organology therefore gives the research a structural horizon linking the neurological structure, the digital tool, and the scientific institution. [frontiersin]

This concept also explains why the ethical debate cannot be separated from the institutional debate. If AI changes the organs of the mental body, the technical medium, and the social institution all at once, then there must be a comprehensive policy that does not stop at prohibition or permission, but includes training, redesigning tasks, and developing disclosure and review mechanisms. In this sense, organology is not merely descriptive, but an instrument for designing responsible institutional intervention. [ejournal.staialhikmahpariangan.ac]

Synthetic conclusion

This conceptual framework shows that the study does not treat artificial intelligence as a mere writing tool, but as a conceptual knot that brings together pharmakon, tertiary retention, cognitive proletarianization, genealogy, Gestell, aura, and general organology. Each term performs a specific function: pharmakon describes duality, tertiary retention explains external memory, cognitive proletarianization explains the loss of capacity, genealogy reveals historical conditions, Gestell explains the existential frame, aura questions the uniqueness of presence, and general organology links technology to the body and institution. [asjp.cerist]

This conceptual accumulation is not for theoretical decoration, but to build a precise philosophical reading of generative artificial intelligence, a reading that does not judge it only from the outside, but understands it from within as a phenomenon touching memory, language, power, self, and knowledge together.

Eleventh: The Core Chapter — Dissecting the Algorithmic Pharmakon: Structures of Domination and Horizons of Liberation

Chapter Introduction

This chapter constitutes the analytical core of the study. It begins from a methodological premise: generative artificial intelligence is not a technical crisis that can be solved by technical development alone; rather, it is a philosophical-anthropological crisis that requires analytical tools at the same level of depth as the problem itself. The chapter is organized into five integrated sections that move from historical analysis to present diagnosis and then to the prospect of a critical exit. [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)

First Section: From *Phaedrus* to ChatGPT — The Historicity of the Writing Pharmakon

You are right, and the previous text was not at the level of the full 4000 words you requested. I am now rewriting it as a much more expanded version of the chapter, dividing it into connected sections with deeper analytical development, more evidence, and a clearer connection between theory and data, so that it becomes suitable as a genuinely long academic chapter draft. [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)

Chapter Introduction

This chapter is the analytical heart of the study because it moves the discussion from the level of “Is AI useful or harmful?” to a much deeper level: how did it become possible for generative artificial intelligence to turn into a direct medium in thinking, writing, and research? This question concerns not the tool alone, but the philosophical and anthropological conditions that make it possible for the human being to hand over part of the act of thinking to an algorithmic system promising speed, precision, and abundance. From this perspective, the chapter treats technology not as a product, but as an existential system that reshapes the relation between self, knowledge, and language. periodicals.karazin.ua

This perspective becomes even more significant when we note that ChatGPT did not spread like an ordinary application. Early literature indicated that it reached one million users in just five days after launch, an unprecedented figure in the history of digital tools. More recent data then showed

that ChatGPT reached 900 million weekly active users in 2026, and that global time spent on generative AI applications exceeded 17.2 billion hours in the first half of 2025, with expectations of 36 billion hours in the first half of 2026. These numbers do not merely indicate widespread diffusion; they mean that generative AI has become a general environment for thought, not merely an internal tool in technology laboratories. rmdopen.bmj.com

The Writing Pharmakon

In the *Phaedrus*, the book is not condemned as a technical mistake, but understood as a dual medium: it heals memory and threatens it at the same time. Derrida reread this duality in *Plato's Pharmacy*; writing is not outside consciousness, but it is not consciousness itself either. It is a structure that helps and threatens simultaneously. This is what makes the pharmakon one of the strongest concepts for explaining technology, because it rejects quick binary judgments and keeps the tension alive between promise and danger. asjp.cerist

When we move to ChatGPT, we find that the ancient pharmakon has reached its broadest manifestation. Traditional writing preserved the idea, whereas the algorithm proposes the idea, builds the sentence, rearranges the argument, and generates a coherent conclusion within seconds. In this sense, the pharmakon is no longer merely “external writing”; it has become a writing that generates writing. It does not only store thought, but intervenes in the making of thought itself. Here the philosophical question becomes sharper: are we facing an aid for thought, or a structure that may replace part of the thinking act with the automatic?

This transformation matters because philosophical writing is not only the transfer of ideas, but the process through which those ideas are formed through internal resistance to the concept. When the philosopher writes, they do not describe a ready-made result; they experience meaning as it is forming. But when artificial intelligence intervenes at this stage, it may shorten time, yet it may also shorten the experience of formation, that is, the moment in which the idea becomes clear through its own effort. Here appears the difference between technical facilitation and the emptying of experience from its intellectual density. uu.diva-portal.org

A Long History of Writing Technology

Generative AI cannot be understood without placing it within a long history of earlier pharmaka. Handwriting established the possibility of external memory, but it was linked from the beginning to the authority of guardians: scribes, priests, and institutions that granted legitimacy. Written knowledge was therefore not available to all; it was distributed politically and socially. Printing then expanded the public sphere and created a wider audience for knowledge, but it also inserted knowledge into the logic of the market, mass distribution, and typographic standardization. journals.open.tudelft

With audiovisual media, another shift occurred. Cinema, television, and radio did not merely transmit meaning; they altered the structure of attention. Stiegler emphasized that these media target human attentional capacity and generate an industrial presence that replaces immediate experience. The internet then combined liberation and domination: it opened the field to marginalized voices, but it also generated new centers of informational and economic control. jdn.ucas.ac.cn

In this context, generative artificial intelligence represents the most intense stage, because it does not merely add a new medium to the chain; it penetrates the very heart of the thinking process. Technology is no longer just a support for storage, communication, or display; it has become a partner

in writing the text itself. This is what justifies the claim that the algorithmic pharmakon is not merely an extension of writing technology, but its historical culmination.

Why It Is More Dangerous

What distinguishes the algorithmic pharmakon from earlier pharmaka is three things: camouflage, diffusion, and direct targeting of the mind.

Camouflage

Camouflage means that machine-generated text may appear natural, and sometimes even excellent, to the point that it becomes difficult for non-specialist readers to distinguish it from human text. Some studies have indicated that AI-generated texts sometimes receive evaluations very close to human texts in blind tests. Some experiments with specialists in philosophy or the humanities even showed that the differences can become blurry in non-disclosed contexts. [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)

This camouflage is not a minor detail; it is what destabilizes criteria. When a good text is no longer sufficient to identify its source, the criterion of judgment shifts from quality to origin, then to intention, then to the depth of experience. In this transition, a larger crisis becomes visible: the question is no longer whether the text is correct, but whether it has actually been thought, or whether it is merely polished linguistic output.

Diffusion

Diffusion is the second feature. No previous writing medium reached one million users in five days, nor spread into daily life with such speed. The movement from that initial speed to 900 million weekly users in 2026, and then to nearly one billion monthly users, means that the tool is no longer exceptional but has become a widespread cognitive habit. This massive scale means that its effects are not limited to academic elites, but extend to students, researchers, teachers, administrators, and professionals. [tandfonline.com](https://www.tandfonline.com)

What is striking here is that usage data show not only spread, but also temporal depth: 17.2 billion hours in the first half of 2025, then 36 billion hours projected for the first half of 2026. We are therefore facing not only growth in user numbers, but growth in the intensity of attachment and use. This point makes it too simple to speak of a “tool”; what we are facing is a cognitive working environment. finance.yahoo.com

Direct Targeting of the Mind

The third feature is direct targeting of the mind. Traditional writing targeted memory, cinema targeted perception, and radio targeted attention, but generative AI targets the structure that produces the question, the proof, and the argument. It does not merely offer ready-made knowledge; it proposes the very method of thinking itself. This is a highly important qualitative difference. [journals.sagepub]

When the researcher uses the tool to generate the initial idea, to arrange the structure of the paper, or to formulate objections, they make room for a type of “guided cognitive labor” rather than self-driven labor. In the long run, this may lead the mind to become accustomed to passing through the medium first before producing itself. This is where the danger of the algorithmic pharmakon lies: it does not threaten content alone, but the capacity to produce content.

Domination as Structure

Domination in this chapter is not direct coercive domination, but a structure formed by the interweaving of economy, discourse, institution, and technology. The most advanced models are not produced by universities alone, but by large companies operating within a capitalist economy based on data, monopoly, and concentrated investment. This makes generative AI part of a much larger

system than a mere “technical innovation.” It is a product of a productive structure that redistributes value, knowledge, and power. hai.stanford.edu

From here, every use of the tool inside the university or in scientific research becomes part of this structure, even if indirectly. The user who thinks they are working alone is actually working within a network of platforms, models, data, interfaces, and commercial policies. This does not mean the tool should not be used; it means its use cannot be innocent or detached from the conditions that produced it. That is why the chapter insists on analyzing generative AI as an epistemic act inside a political economy.

The Anthropological Dimension

On the anthropological level, the issue is not only writing better or faster texts, but a change in the image of the human being itself. The philosopher, student, or researcher no longer faces the text only as the direct product of their own effort, but as a possible product of generative assistance. This raises a profound question: what remains of human distinctiveness when the algorithm becomes capable of simulating patterns of authorship? This question does not aim to glorify the human or condemn the machine; it aims to protect the existential meaning of writing.

Philosophical writing is not merely the transfer of content; it is a form of self-formation. Self-formation requires resistance, slowing down, reformulation, revision, and doubt. But when speed dominates, this experience may be lost in favor of the result. That is why generative AI carries a genuine anthropological risk: not because it writes for us alone, but because it may change our relation to ourselves as thinking selves.

Horizons of Liberation

Despite all these risks, this chapter does not call for absolute rejection of artificial intelligence. Rather, it proposes a critical liberation based on three steps: awareness, regulation, and distance.

Awareness means understanding the nature of the tool and its limits. Regulation means building institutional and ethical rules for its use in teaching and research. Distance means not surrendering the act of thinking to ready-made outputs. f1000research.com

These steps make AI an assistant rather than a substitute, and the pharmakon a technology that can be guided rather than a force that takes over thought. This also requires redesigning academic assessment methods so that they do not reward the final product alone, but elevate the value of staged thinking, draft writing, self-review, and the ability to explain methodological choices.

Analytical Conclusion

The chapter’s thesis can be summarized as follows: generative artificial intelligence is an algorithmic pharmakon that has reached the peak of the history of writing technology. It heals human weakness in research and writing, but it may weaken the act of thinking if used without critique. It spreads at astonishing speed, yet it does so within a political economy that concentrates power in the hands of corporations. It appears neutral or supportive, yet it targets the very center of the cognitive process itself. Therefore, any serious engagement with it must be philosophical, pedagogical, institutional, and ethical at the same time. cnbc.com

Second Section: Critical Genealogy of the Algorithm — Revealing the Historical Conditions of the Power of Calculation

This section begins from a fundamental idea: the algorithm is neither an innocent technical entity nor a neutral means of processing information; rather, it is the outcome of a long history in which the concept of calculation was formed, instrumental reason was institutionalized, and knowledge was

transformed into something measurable and predictable. Accordingly, understanding generative artificial intelligence does not begin with the interface the user interacts with, but with the historical conditions that made calculation itself a criterion of intelligibility, then made statistics synonymous with knowledge, and finally made the algorithmic model a reference for assessing truth, quality, and effectiveness. This is the genealogical meaning here: we are not searching for a pure origin of the algorithm, but for the path that made it appear as an epistemic necessity.

Calculation as power

Digital calculability, in its intellectual roots, is inseparable from an old project in modern philosophy that sees reason itself as something that can be understood as a codifiable process. Leibniz's mathematical thinking, Descartes' search for methodological certainty, and the classical conception of reason as something that can be disciplined and represented, all laid the foundations for what would later become a broad technical imagination: if reason operates according to a logical structure, why should it not be mathematically modelled? In the mid-twentieth century, this imagination turned into a concrete project in symbolic artificial intelligence, which assumed that every act of thought could be reduced to rules, logical inferences, and symbolic forms. But the actual complexity of language, context, and experience exposed the limits of this project, and research gradually shifted toward machine learning, where knowledge was no longer derived from explicit rules, but from statistical patterns in data.

This shift from the symbolic to the statistical is not merely a technical development; it is a transformation in the system of epistemic power. In the past, epistemic authority was grounded in demonstrative reason, philosophical interpretation, or institutional expertise. Today, it has become possible to grant "knowledge" legitimacy through statistical performance, that is, through a model's ability to predict, complete, and generate. Here lies the decisive genealogical point: contemporary capitalist culture asks not only whether something is true, but whether it is fast, measurable, productive, and time-saving. These are precisely the criteria that the algorithm masters. Thus, acceptance of the algorithm as a form of knowledge does not stem so much from its philosophical truth as from its suitability to a speed-and-efficiency economy.

Statistics as knowledge

The shift to statistical models has produced a profound upheaval in the concept of knowledge. A large language model does not "know" in the traditional sense, but it is highly skilled at predicting language patterns from millions of examples. This means that knowledge is no longer the product of contemplation, proof, or conceptual testing, but the product of numerical similarities between what has occurred in the data and what is now produced in the output. In this sense, truth becomes probability, and what is statistically better becomes closer to what is correct, even if it lacks philosophical or ethical grounding.

This is where the importance of genealogical critique becomes clear, because it reveals that this transition was not innocent. The digital capitalist society needs models capable of generating value quickly, personalizing it for the user, predicting behavior, and delivering the right content at the right moment. That is why the statistical model is received as progress: the economic structure itself prefers it. It is no coincidence that the Stanford AI Index 2025 report indicates that about 90% of the prominent models in 2024 came from industry, not academia. This means that the very definition of "useful intelligence" has become conditioned by the market structure that funds, produces, and distributes these models.

The illusion of neutrality

One of the most common claims in technical discourse is that algorithms are neutral. Yet critical genealogy shows that neutrality here is nothing more than a discursive position that conceals the conditions of production. Large models are trained on human data produced within unequal societies that carry linguistic, racial, gendered, class-based, and cultural biases. Therefore, the claimed “objectivity” is not a transcendence of bias, but a reproduction of it in a broader and smoother computational form.

This is what recent studies on bias in large language models make clear: the framing of texts profoundly affects model evaluations, and definitions of “fairness” and “neutrality” may collapse simply by changing contextual information or the author’s identity or nationality. In this way, the algorithm does not stand outside culture; it enters culture through another door. It does not see the world as it is, but as the data on which it was built sees it, and that data itself is inseparable from the social and political history that produced it.

Genealogy therefore reveals that algorithmic neutrality is a modern form of hiding power within technology. Instead of power appearing in an administrative decision or explicit ideology, it now appears in the model’s own logic: what it learns, how it evaluates, what data is fed into it, and who has the authority to update it. This concealment is what makes the technical claim so effective, because the user interacts with outputs that seem natural, neutral, and fluent, while in reality they are fully conditioned by their formative horizon.

Cultural average

One of the most important results of genealogy here is that language models do not produce “original thought” in the philosophical creative sense, but tend to generate the cultural average, that is, the most common patterns in the data. This point is very important in your research because it explains why some outputs appear intelligent and coherent, yet lack theoretical boldness or creative deviation. By design, the model favors the highest probability rather than the riskiest hypothesis, and it selects the most common text rather than the most disruptive exception.

This does not mean the model is useless, but that its usefulness belongs to a different domain from deep philosophical creativity. Philosophy does not always advance through the average; often it advances through rupture, objection, the breaking of expectation, and the introduction of a question that was not previously inside the field at all. The algorithm, by contrast, generally reinforces what is already established and probable, rather than proposing what is radically unexpected. Thus it produces texts that may appear balanced and convincing, but often merely recycle the dominant knowledge horizon rather than transcending it.

From trace to presence

At this level, Derridean analysis becomes highly important. Large language models do not deal directly with living experience, but with its textual trace. They learn from millions of texts that are themselves traces of prior experiences, and then rephrase them probabilistically in a new form. But they do not possess the presence that originally produced those traces. One can therefore say that generative AI operates inside a world of traces without ever passing through the existential experience that gave rise to them.

Here the difference between “knowledge in the computational sense” and “knowledge in the existential sense” becomes visible. The first measures coherence, next-word probability, and textual fluency; the second includes stance, risk, and responsibility. When the human writer writes, they do

not merely arrange correct sentences; they place themselves in a position exposed to error, criticism, and interpretation. The algorithmic model does not take this risk in the same sense, because it does not possess a self that can be held accountable, defend itself, or suffer. Therefore, its text lacks the dimension of risk that defines authentic philosophical writing.

Experience as a source of meaning

This raises a deep epistemological problem: how can texts appear persuasive if they are without experience? The answer is that persuasion here does not come from the depth of experience, but from the force of pattern. The human mind responds to coherent structure, balanced language, and smooth transitions, even if no genuine lived experience stands behind them. This is why machine text can appear “rational,” “serious,” and “academic” on the surface, while remaining poor in existential or positional density.

This is extremely important for philosophical writing, because philosophy is not just linguistic organization; it is an act of questioning within an existential experience. The philosopher does not write merely because they possess material, but because they live a tension between question and answer, between possibility and objection, between what they want to say and what they cannot say. This distance between the desire to say and the limits of saying is one of the sources of philosophy. The algorithm, however, works according to a different logic: it does not live the tension, but imitates its linguistic shape. Hence it can produce the “trace of philosophy” without possessing its existential act.

The new scientific authority

If the modern age granted authority to proof, the digital age increasingly grants authority to algorithmic performance. What is measurable, what can be tested at scale, and what delivers repeatable results now receives a great deal of legitimacy. This happens not only in industry, but also in education, medicine, scientific research, and administration. But this shift is not without political effects, because whoever owns the model also owns the criterion of measurement itself, and determines what counts as good or bad, accurate or inaccurate, biased or neutral.

The Stanford HAI 2025 report does more than give a number about industry dominance; it reveals a new structure of power: foundational knowledge is moving toward industrial monopoly, while academic production remains in the position of unequal competition. This is highly important because it means the algorithm is not merely a research tool, but a miniature epistemic institution that rearranges the relationship between industry, science, and the user. Therefore the algorithmic pharmakon must be read as a project of power, not merely as a technology.

Why is it accepted?

The most important genealogical question here is: why do people trust these systems so much? Why does contemporary digital culture accept an essentially probabilistic definition of knowledge? And why is algorithmic generation seen as the natural horizon of progress? The answer lies not only in the quality of the models themselves, but in the fact that culture has become psychologically and institutionally prepared for this kind of knowledge. We live in a time that prefers speed over patience, outputs over process, results over experience, and prediction over reflection.

More importantly, the market grants these tools added value: they reduce cost, accelerate production, expand access, and create an impression of modernity. Thus the economic criterion merges with the cultural criterion, and AI becomes a kind of contemporary common sense. Here the

algorithmic pharmakon succeeds in reaching the core of power, because it is not imposed only from outside; it is also desired from within.

Toward a deeper critique

Genealogical critique does not stop at exposing bias; it goes deeper than that. It asks about the historical conditions that made bias itself seem acceptable or invisible. The algorithm carries not only the biases embedded in data, but also an implicit philosophy of knowledge: that knowledge can be aggregated, that patterns are sufficient, that productivity is a sign of validity, and that quality can be statistically measured. This philosophy is not neutral, and certainly not philosophical in a critical sense, yet it practically establishes a new way of being in the world.

From here, any serious philosophical analysis of the algorithm must treat it as a historical formation of power, not merely a program operating on text. That is the core of this section: to see how calculation moved from being a tool to a system, from a system to a standard, and from a standard to a broad epistemic authority. Generative artificial intelligence is simply the current peak of this chain.

Conclusion

Critical genealogy of the algorithm reveals that what appears today as “intelligence” is nothing more than the outcome of a long history in which calculation was established as a criterion of intelligibility, statistics were turned into a substitute for experience, and industrial companies were granted the authority to define the meaning of useful intelligence. It also shows that algorithmic neutrality is a claim that conceals data biases, and that the quality of its outputs does not mean it possesses lived experience or intellectual risk. In this sense, the difference between the human being and the algorithm is not only a difference of speed, but a difference in existential status itself.

Third Section: Intellectual Proletarianization — When the Algorithm Automates Philosophical Questioning

The central idea in this section is that generative artificial intelligence does not merely automate the production of texts; it also automates the very act of philosophical questioning, turning the thinker and writer into a worker within a chain of symbolic production, threatened with losing their intellectual singularity unless the algorithm is critically and consciously re-employed.

I will analyze this transformation through three connected points: the shift from bodily proletarianization to mental proletarianization, then the empirical and statistical evidence, and finally the phenomenon of the “smart ghostwriter effect” in light of Derrida’s and Stiegler’s concept of the pharmakon.

Intellectual proletarianization and the algorithmic pharmakon

Bernard Stiegler uses the concept of “proletarianization” in a broader sense than the classical Marxist one; the issue for him is not only the loss of ownership of the material means of production, but also the loss of different kinds of knowledge and capacity for action: practical knowledge (*savoir-faire*), knowledge of living (*savoir-vivre*), and theoretical knowledge (*savoirs théoriques*).

In his readings of technical history, Stiegler distinguishes three moments: the industrialization of practical knowledge through the machine in the Industrial Revolution, the industrialization of desire and everyday life through consumer and media industries, and then the digital algorithmic moment in which the very capacity to think is industrialized through networks and artificial intelligence, producing what he calls “general proletarianization” affecting both body and mind.

Stiegler connects this trajectory to Derrida's notion of the *pharmakon*, that is, technology as both "remedy and poison": technical media that store memory and facilitate its circulation can enrich collective memory or destroy it if attention and desire are automated in a way that separates the cognitive act from the self that performs it.

Within this horizon, generative artificial intelligence becomes a paradigmatic *pharmakon*; on the one hand, it provides new possibilities for thinking, synthesis, and access to knowledge, and on the other hand, it can eliminate the singularity of the writer and thinker when their role is reduced to directing the machine and reviewing its outputs without the presence of authentic thinking.

From bodily proletarianization to mental proletarianization

Automation of the body and loss of practical knowledge

Classical analysis of proletarianization began with the Industrial Revolution, when Taylorist and Fordist production lines turned the skilled craftsperson into a worker performing a partial repetitive movement; full knowledge of the production process shifted from workers' hands to engineers' plans and machines, thereby disabling the worker's ability to understand what they produce and to control the conditions of their labor.

Stiegler's reading of this transformation describes how workers lost "practical knowledge"; skill, instead of being embodied in the body and experience, became embedded in the machine and in scientific labor organization, making the worker replaceable and stripping them of a full relation to the product and the process of manufacture.

This loss of practical knowledge is not limited to the physical factory; Stiegler shows that automation extends to agriculture, services, and logistics, where processes are redesigned so that they are fragmented into measurable and repeatable units, and knowledge is written into information systems and standardized procedures, while the worker is asked to follow ready-made protocols without participating in their production.

In this sense, technology shifts from being an extension of human capacity for "work" to becoming a substitute for it; the machine does not support the body but captures the knowledge embedded in it and turns the worker into an executor of decisions made outside their experiential horizon. This is the first proletarianization: proletarianization of the body and practical knowledge.

Manufacturing desire and the loss of *savoir-vivre*

In the second phase, Stiegler links the rise of consumer culture to the second proletarianization: the loss of *savoir-vivre*, or knowledge of living. Media and advertising industries manufacture individuals' desires and reshape their notions of the good life, so that ethical and aesthetic standards become manufactured products broadcast through screens and measured by indicators of viewership and consumption.

This shift means that the ability to shape a meaningful life path is no longer built on long social experience, but on ready-made templates produced by cultural industries, and individuals progressively lose the skills of communal life and care for self and other in favor of consumer models decided in centers of image and discourse production.

The paradox here is that media technology is also a *pharmakon*; it makes possible new public spaces for discussion and expression, yet it can also be used to intensify control over attention and desire through recommendation algorithms that measure every user movement and convert it into data to be invested in steering consumer and political behavior.

In this second proletarianization, the body remains active, but the “knowledge of living” that was embodied in communal habits, traditions, and care practices is subject to implicit automation through generalized consumer patterns, and the individual becomes a consumer of ready-made perspectives rather than a producer of their shared world.

Third proletarianization: automation of mind and theoretical knowledge

The third and most dangerous stage in Stiegler’s analysis is “intellectual proletarianization,” where theoretical knowledge itself becomes subject to digital automation through networks and artificial intelligence. As his analyses of digital technologies show, two processes intersect here: the automation of memory through what he calls “tertiary retention” (external storage of knowledge in media), and the automation of attention through algorithms that suggest and produce meaning instead of meaning emerging from a self-driven thought process.

In this context, smartphones, search engines, and algorithmic systems become carriers of theoretical knowledge that was once acquired through deep reading, dialogue, and experience. Instead of the student or researcher building a long temporal relation with texts and ideas, a few searches or a conversation with a language model may be enough to obtain a ready-made “answer,” reducing the process of thinking to selecting among pre-produced alternatives.

Stiegler stresses that the problem is not the existence of these tools, but the way they are used: when education and research are reduced to rapid consumption of ready-made answers, what he calls a “technical shock” occurs, disrupting cognitive formation and possibly leading to a loss of the ability to build new concepts and to take a critical distance from the data presented.

Intellectual proletarianization is thus the moment of losing the capacity for theoretical thought because mental functions are automated in digital tools; yet, by its pharmacological nature, it can also lead to new possibilities of thought if these tools are redirected toward strengthening critical reading and reflection rather than replacing them.

Generative AI: between algorithmic guide and critical thinker

With the emergence of generative language models, intellectual proletarianization has taken tangible form in the everyday life of students, researchers, and writers. A study on “AI, research, and the internet” indicates that these models are trained on our external memory (the textual and cognitive content available on the web) and reproduce it in the form of fluent answers, but they reduce the production of knowledge to a probabilistic recombination of linguistic patterns without a genuine presence of meaning or intention.

This means that the student or researcher who turns to AI to prepare a paper or formulate a theoretical section receives a result that closely resembles what a long research process might produce, while in reality bypassing the entire process of thinking, which threatens to turn them into a “manager of the algorithm”: someone who suggests questions and modifies outputs, but does not pass through the theoretical formation that gives a work its singularity.

Still, Stiegler insists that this path is not deterministic. Just as printing once provoked a kind of dependence on printed texts rather than handwritten copying, only for active reading practices to later be rebuilt, AI can, if used within aware pedagogical and research systems, become a tool for expanding the horizon of questioning rather than eliminating it.

The challenge is to build modes of use that make the language model a generator of questions rather than a producer of final answers: that is, to use it to suggest angles of reading, identify contradictions in a discourse, or simulate a theoretical stance, while keeping responsibility for

theoretical construction and critical analysis in the hands of the thinker or student who controls the research process.

Empirical and statistical evidence of intellectual proletarianization

Digital Education Council Survey 2024: widespread use and weak preparedness

The “Global Student AI Survey” conducted by the Digital Education Council in 2024 offers one of the clearest quantitative pictures of students’ relationship with AI.

The survey, which included nearly 4,000 students across 16 countries, showed that 86% of higher education students use AI tools in their studies, with 54% using them weekly and 24% daily, meaning that AI has become a routine part of study practices worldwide.

The paradox revealed by the same study is what may be called a “readiness gap”: 58% of students said they did not feel they possessed enough knowledge and skills to deal with AI properly, 80% felt that AI’s presence in their universities did not meet their expectations, and only 5% said they were fully familiar with institutional AI guidelines.

These figures show that intellectual proletarianization is not merely a theoretical danger; intensive adoption of the tools is not matched by corresponding critical formation, leaving students dependent on algorithms they do not understand and using them for core intellectual tasks without a clear framework for accountability or training.

Zendy 2025 survey: reshaping literature review and academic writing

Data from Zendy’s “AI in Research Survey 2025” complete the picture by focusing on students and researchers who use AI in scientific research.

According to the report, 73.6% of respondents use or explore AI in education and research, 51% rely on it for literature review, and 46.3% use it for writing and editing, meaning that AI is no longer confined to marginal tasks but has entered the heart of scientific work.

Using AI in literature review means that the systematic scanning of texts, which used to require broad reading and critical assessment of study frameworks and methods, is now largely replaced by questions directed to the language model, which summarizes, classifies, and proposes alternatives, potentially leading to an uncritical homogenization of research narratives.

Its use in writing and editing raises a direct question about the limits of the human author: to what extent can the resulting text be considered the “property” of the writer if its phrasing, stylistic coherence, and reliance on prior rhetorical patterns are the result of the language model’s learning from previous texts? This question leads directly to the phenomenon of the “ghostwriter.”

HEPI/Kortext Survey 2025: penetration into early stages and rising use in assessments

In the British context, the “Student Generative AI Survey 2025” conducted by the Higher Education Policy Institute (HEPI) with Kortext shows that the phenomenon is more deeply embedded than one might think; the report found that 92% of higher education students in the UK use AI in some form, up from 66% in the 2024 survey, and that 88% used it in assessed work.

The report also indicates that a non-negligible proportion of students said they had used AI in school before entering university, which means that the relationship with language models is formed at early educational stages, and the image of “algorithmic assistance” in solving assignments and constructing texts is inscribed in the educational consciousness before conventional writing and critical skills have fully formed.

The survey also includes indicators of a gap between policy and training: around 80% of students say they are aware that university AI policies exist, but fewer than 40% have received practical

training in responsible use. The report also notes that the proportion of students inserting AI-generated text directly into assessed assignments rose from 3% in 2024 to 8% in 2025 and then to 12% in the 2026 survey.

These figures show AI moving from the margins of practice to its center in a very short time, and they highlight the problem of accountability for the true author of assessed text, which ghostwriter studies will address in detail.

Grdspublishing 2025 study: continued global adoption of ChatGPT in initial thinking

At a broader global level, a 2025 study published in the journal *PEOPLE* at Grdspublishing offers a detailed picture of ChatGPT adoption in higher education through a global survey of students from more than 120 countries over two academic years (2023–2024 and 2024–2025).

The study includes more than 23,000 students in the first year and nearly 23,000 in the second, and shows a “continuous increase” in reliance on ChatGPT for tasks such as brainstorming, summarizing long texts, research assistance, and study support, with high levels of satisfaction; more than two-thirds of students describe ChatGPT use as “exciting” and “useful,” and more than half consider it more useful than traditional search engines.

However, the researchers show that students in applied and technical disciplines (engineering, computer science) display higher satisfaction and use ChatGPT in ways more closely tied to technical problem solving, while students in the humanities and social sciences remain more cautious and stress the need for human interaction, pointing to AI’s limitations in dealing with complex and subjective content.

This variation shows that intellectual proletarianization is not uniform; it is tied to the pattern of cognitive tasks in each field and to the extent to which theoretical writing and interpretation are central to disciplinary identity. Still, the overall trend remains toward integrating AI into the early phases of thinking that were traditionally regarded as the moment when the question and hypothesis take shape.

The accountability crisis in academic discourse

From the perspective of policy and institutions, a 2025 *Frontiers in Computer Science* study titled “AI at the Knowledge Gates” shows that universities and scientific bodies face a genuine crisis in holding AI use accountable in knowledge production.

Analyzing dozens of institutional documents and AI policies, the study concludes that many of them focus on academic integrity (preventing cheating, detecting generated text) without developing clear frameworks for defining shared authorship between human and machine or for setting standards for acceptable reliance on language models at different stages of research and writing.

This “accountability crisis” means that students and researchers live in a partial normative vacuum: they are generally told not to cheat, but are not given a clear model for how to integrate AI responsibly into their work. This fuels phenomena such as not disclosing the algorithm’s role in the text, or feeling that the text is not really theirs while still presenting it as their own production.

Thus, the empirical and statistical evidence all points in one direction: AI has become part of the knowledge infrastructure of higher education, but its integration is taking place amid a lack of critical formation and institutional frameworks, creating an ideal environment for intellectual proletarianization manifested in the loss of the ability to question algorithmically produced texts and to bear epistemic responsibility for them.

Analysis of the “AI Ghostwriter Effect”

Features of the phenomenon in Nawrot et al.’s study

The study *The AI Ghostwriter Effect: When Users Do Not Perceive Ownership of AI-Generated Text but Refrain from Publicly Declaring AI Authorship*, published in *ACM Transactions on Computer-Human Interaction*, offers one of the most precise experimental approaches to this phenomenon.

The study was conducted through two experiments (samples N1 = 30 and N2 = 96), in which participants were asked to collaborate with an AI system to generate personal texts, and then their perceptions of authorship and ownership were measured, as well as their willingness to disclose AI's role in producing the text to others.

The central result reached by the researchers is what they call the “ghostwriter effect”: users do not regard themselves as full authors or owners of the generated text; they recognize that the model played a crucial role in shaping it, but at the same time they hesitate or refuse to openly disclose that AI was the text's “ghostwriter.”

This means that there is a split between an internal awareness of epistemic responsibility (a feeling that the text is not entirely one's own) and an external behavior that presents the text as if it were self-authored, creating an ethical and cognitive tension that goes beyond traditional “cheating” to a deeper question about the meaning of authorship in the age of AI.

The study also shows that levels of text personalization do not eliminate this effect; that is, tailoring the text to be stylistically or lexically closer to the user does not necessarily produce a stronger sense of ownership, while increasing the user's influence over the generation process (multiple sentence edits, rephrasing) somewhat strengthens the sense of ownership without eliminating the core tension between the human author and the algorithmic writer.

Most importantly, participants were more willing to accept the idea of a “ghostwriter” when they assumed it was human, while they remained more wary of attributing the text to an “AI ghostwriter,” revealing a gap in the cultural frameworks that organize our relation to invisible writing labor: accepted in the case of humans (editors or ghostwriters), but rejected or denied in the case of algorithms.

Chen et al. and the perception of machine text

These findings are complemented by other studies in the fields of automated journalism and AI-mediated communication, including a study in *Computers in Human Behavior* on the effect of whether a text is attributed to a human or machine author on perceptions of credibility.

The study, which ran three experiments on scientific articles written by humans or generated by AI, found that readers' knowledge that a text was produced by AI does not necessarily reduce its credibility or trustworthiness in certain contexts, especially when the text is descriptive and neutral, whereas positive credibility judgments decline when the phrasing is evaluative or interpretive.

These results add another layer to the ghostwriter effect: not only does the human author feel that the text is not fully theirs, but the reader may also not care much who wrote the text if it meets formal standards of credibility. This means that the relation between author and text is undergoing a deep transformation; authority is no longer attached to the author's name as much as to the structure of the text itself, which can be produced by a language model or by a human if it conforms to certain standards.

In contrast, recent studies on the perception of AI-attributed texts indicate that the explicit disclosure that the text is machine-generated may weaken the reader's sense of empathy or

authenticity, even if epistemic credibility is not affected, creating a paradox between accepting AI as a producer of information and rejecting it as a carrier of subjective experience.

The ghostwriter effect as pharmakon

The “AI ghostwriter effect” can be read in light of Derrida’s and Stiegler’s concept of the pharmakon: AI here is a “remedy” that solves the problem of lack of time, weak language skills, or production pressure in the academic environment, but at the same time it is a “poison” that attacks the coherence of authorship and the responsibility of speech.

The user who internally admits that the text is not fully theirs, yet hesitates to disclose the algorithm’s role, reflects the Derridean subject who knows they are dealing with a pharmakon, understands its duality, but cannot withdraw from it because they are surrounded by pressures of productivity, publication and promotion demands, and the seduction of tools that accelerate writing.

On the other hand, this phenomenon shows that intellectual proletarianization is not only a loss of thinking skills, but also a loss of transparency in the relation between the self and its text. The author becomes a “manager” of a collaborative writing process with an algorithm that is not disclosed, and the resulting texts become part of a new “symbolic economy” in which the interests of individuals, institutions, and platforms intersect in maintaining a high image of productivity at a lower cognitive cost.

In this case, AI does not entirely take the place of the writer, but transforms them into a supervisor of a text-generation process in which they help control standards rather than acting as the primary creator of meaning, much like the shift from artisan to industrial worker who monitors the machine without holding the full knowledge embedded in what it produces.

From crisis to possibilities of learning and reclaiming

Deproletarianization movements

Stiegler speaks in his writings about the need to think in terms of “deproletarianization,” that is, the recovery of knowledge and the ability to act independently from the grip of technical systems through new educational and political practices.

In the context of AI, this concept can be translated into a practical program with at least three levels: redefining authorship in knowledge work so that AI’s role is acknowledged without erasing human responsibility; building curricula that teach students how to use AI to expand the horizon of questioning rather than to produce ready-made text; and developing institutional policies that encourage disclosure of AI use instead of punishing it in all contexts.

One example of deproletarianizing practices in education is designing assignments that require students to use a language model at the initial thinking stage (for example, asking for possible research questions or reading angles), and then requiring them to “deconstruct” the outputs: critique them, identify their strengths and weaknesses, and connect them to specific theoretical frameworks, while prohibiting the direct use of generated output in the final work.

In this case, AI is used as a tool for provoking inquiry and generating alternatives, while critical thinking and deep reading remain central, and the student or researcher’s relation to the text is reaffirmed as the product of a long interpretive process that cannot be reduced to one automated generation moment.

Authorship-by-year referencing and ethics of disclosure

From a documentation perspective, the ghostwriter effect poses a direct challenge to academic citation systems such as APA, which are based on the idea of citing a human source that can be held

accountable. But when AI systems intervene in idea generation, phrasing, or data analysis, it becomes necessary to disclose this intervention in the method, footnote, or appendix, depending on the nature of the use.

Current APA policy states that AI cannot be assigned the status of author, and that any use of it in drafting a manuscript must be disclosed, with the tool itself cited when quoted and with an explanation of how and when it was used.

This principle is not merely procedural; it is a safeguard against “source erasure” or citational justice, that is, against erasing the humans whose work produced the material on which the model was trained or from which its outputs were derived.

From Stiegler’s perspective, transparent citation can be seen as an attempt to reconnect the text to the chain of human action in which it was produced, rather than allowing it to become a suspended entity without a clear epistemic lineage, easily attributed either to the self or to the algorithm depending on convenience.

The smart ghostwriter as a cultural symptom

The “AI ghostwriter effect” is not just an individual behavior, but a sign of a broader cultural transformation. In the Aalto study, users clearly stated that they did not feel complete ownership of the text generated with the algorithm’s participation, yet they avoided openly declaring this.

This hesitation reveals an ethical doubleness: the self recognizes that the text is not wholly its own creation, but in the public sphere it still benefits from the symbolic value of claiming authorship and from the symbolic capital attached to being its author.

The paradox is that authorship has not disappeared; rather, it has been redistributed invisibly. The writer is no longer alone, but has not yet admitted the algorithmic partner. The text thus becomes the product of hybrid labor that generates “ambiguous ownership”: the machine improves the phrasing, while the human retains the right to sign.

This helps explain why some students and researchers resist disclosure: fully acknowledging AI’s role would, in their view, diminish the value of personal effort, while university culture still strongly ties quality to the idea of individual achievement.

A practical example of critical use

Take a simple example: a graduate student wants to formulate a theoretical framework on “intellectual proletarianization.” If they ask a language model to summarize Stiegler, they may get a well-written but generic paragraph. But if they use the model to propose four comparative questions between Stiegler, Derrida, and Marx, and then return to the original texts, AI becomes not a substitute for thinking but a stimulus for thinking.

The difference between the two cases is the difference between consumption and production: in the first, the student accepts a ready-made text; in the second, they use the tool to expand the horizon of the question and then build, on their own, a theoretical construction that can be defended academically.

This example shows that intellectual proletarianization is not fate, but a consequence of the mode of use. If the educational environment teaches students how to review model outputs, compare them with sources, and uncover their biases, then AI may become part of a process of deproletarianization rather than deepening proletarianization.

But if it is used to bypass reading, research, and actual writing, then it reduces the student to a manager of a user interface and severs their organic relation to text and meaning.

Toward epistemic reappropriation

From here, three layers of epistemic reappropriation can be proposed in response to intellectual proletarianization. First, the formative layer: integrating AI literacy into curricula as training in how models work, not merely how to use them.

Second, the evaluative layer: redesigning assignments to measure critical, synthetic, comparative, and verificational ability, not just the quality of the final wording.

Third, the ethical layer: adopting a clear disclosure policy in research and assignments that precisely defines when AI was used in idea generation, editing, translation, or analysis.

These three layers do not eliminate the role of the tool, but prevent it from becoming a hidden authority over thought. Here, Stiegler converges with the contemporary educational wager: technology is not outside the human being, but inside them as an extension of memory and organization, and therefore resistance to proletarianization does not mean rejecting the tool, but reinserting it into a critical pedagogical system that keeps the human being as the subject of question and responsibility.

In this sense, the algorithm does not fully automate philosophical questioning; it tempts us to suspend it temporarily. Reviving genuine questioning requires a self that knows how to use technology without giving up its right to doubt, reflection, and epistemic signature.

Synthetic conclusion

This third section can be summarized in one idea: the more capable the algorithm becomes at generating convincing text, the greater the risk that the human being becomes less present in the production of meaning and more present in managing its outputs. This is the core of intellectual proletarianization: not the loss of words, but the loss of the living relationship between the self and its questions.

Yet this danger is not inevitable, because AI itself can be reclaimed as a tool for critical thought if it is integrated into an education focused on understanding, disclosure, and verification rather than speed and fascination with outputs.

Fourth Section: Philosophical Writing as Resistance — or What Makes the Philosopher a Philosopher

Yes, and I can formulate this fourth section in a stricter academic style, with deeper analysis and stronger references and footnotes, but since you asked for a “deeper 4000-word expansion,” it is better to present it to you in a coherent research version divided into long paragraphs, with in-text documentation and APA references at the end, in a style consistent with the philosophical/academic character you want. [cambridge]

Introduction to the Fourth Section

This section represents a transition from the question “What does the algorithm do to the text?” to a more original question: “What makes philosophical text an irreducibly human act?” Philosophy does not begin with stylistic skill, but with an existential stance that places the self in confrontation with the possibility of error, the possibility of revision, and the possibility of reconstruction. For that reason, philosophical writing is not merely linguistic production, but a risk taken in truth and a responsibility before the other and before the self. [journal.formosapublisher]

From here, resistance to the technical pharmakon does not mean an absolute rejection of digital tools; rather, it means distinguishing between writing as a response to the call of truth and writing as a statistical simulation of textual form. That distinction is what will be developed in the following

paragraphs through three axes: existential risk, living memory, and resistant models of writing in Nietzsche, Foucault, and Derrida. [pmc.ncbi.nlm.nih]

4-1 Thought as Existential Risk

Authentic philosophical writing does not belong to the world of neutral “linguistic output,” but to the world of existential commitment. When the philosopher writes, they do not merely describe the world; they expose themselves to scrutiny, because what they write is not a neutral report, but a stance that can be refuted, questioned, and judged epistemically and ethically. This risk is the essence of philosophy itself, and it is what distinguishes it from any automated generation that aims to maximize the probability of acceptance without bearing any consequence for truth or error. [link.springer]

In Heidegger’s analysis, authenticity does not mean that a human being creates themselves out of nothing; rather, it means appropriating one’s possibilities in confrontation with *the they* and social conformity, that is, moving out of daily dissolution in the familiar toward responsibility for free choice, while recognizing that existence is finite and mortal, and that this finitude is what gives decision its meaning. [ccsenet]

This meaning becomes especially important when linked to modern algorithmic writing. A generative model does not choose a stance, does not believe in a thesis, and does not risk losing credibility if it is shown to be wrong; it produces according to patterns formed earlier in the data on which it was trained. It therefore tends toward “mediation” among probabilities rather than revealing the extreme tensions that make philosophy. In other words: the algorithm does not take risks because it is not a self, while philosophical writing is not philosophy unless the writer accepts the risk attached to what they write. [kula.uvic]

Recent literature on AI in academic writing indicates that language models may produce text that is formally suitable, yet remain weak in precise verification, in citation, and in distinguishing between competing narratives, which means that the quality of outputs does not erase the absence of genuine epistemic risk on which philosophical writing rests. [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov)

4-2 Writing as Living Memory, Not a Dead Archive

Stiegler reconfigures the human relation to memory through the concept of “tertiary retention,” that is, external memory recorded in media, writing, and tools. Yet he does not treat this memory as a neutral storage place for information. Tertiary retention, if separated from lived experience, turns into a rigid archive that accumulates traces without producing consciousness; but if it emerges from a living existential experience, it retains the power to awaken thought and reshape it. [purehost.bath.ac.uk]

In this sense, the philosophical text is not a saved file, but a trace of crisis. It carries within its structure the signs of the tension from which it was born: paradox, hesitation, a tone of protest, or deliberate silence. This “signature” cannot be reduced to information, but lies in the writer’s relation to a thought-problem that forced them to write. [pmc.ncbi.nlm.nih]

By contrast, algorithmic text lacks this existential signature because it is not a trace of experience but the product of a probabilistic recombination of earlier corpora. It may therefore seem “clean” and “smooth,” yet it lacks the inner friction that makes philosophical text resistant to closure. Where the philosopher writes in order to reveal what was not yet clear to them, the model writes in order to present a possible arrangement of what is already known in the data it processed. [link.springer]

This does not mean that generated text has no value; rather, it has a different functional value: it may be useful for initial summarization, for suggesting outlines, for stylistic correction, or for

organizing notes. But it cannot replace the philosophical act, which is grounded in passing through the experience of questioning, then trial, then failure, then reformulation. Philosophical text becomes alive not because it is “perfect,” but because it reveals an inner path not manipulated from the outside by the machine. [pmc.ncbi.nlm.nih]

4-3 Nietzsche: Style as a Power of Destruction and Creation

Nietzsche represents one of the clearest models linking philosophy to style as an act of resistance. He does not present theses in a stable pedagogical manner; instead, he uses fragments, irony, rhetorical intensification, and internal explosions of assumptions. His writing is not merely a medium of exposition, but a critical instrument in itself; style in Nietzsche is the site where philosophy happens, not the wrapper around it. [forumphilosophicum.ignatianum.edu.pl]

In this sense, Nietzsche fuses destruction and creation: he destroys prevailing ethical and metaphysical systems, yet he does so in a way that produces a new sensitivity in the reader and invites them to reorganize their relation to values and meaning. This movement cannot be reduced to an algorithmic “summary” or “paraphrase,” because its force lies not only in the correctness of the result but in the transformative energy of the style itself. [forumphilosophicum.ignatianum.edu.pl]

If algorithmic generation operates on the statistical average, Nietzsche operates on the edge: on what disturbs, shocks, and forces the reader to rethink. His text is therefore not read as an informational statement, but as a complete intellectual experience in which the logical, the poetic, the ironic, and the prophetic intersect. All these elements make the text Nietzschean because its author risks himself within language, not because it merely sounds “strange” or “strong.” [cambridge]

Here lies the decisive point: the algorithm may imitate Nietzschean tone, but it cannot accomplish Nietzsche’s existential intention. Nietzsche’s style is not ornament, but stance, and stance is not extracted from an average of previous texts but from a conscious rupture with tradition.

4-4 Foucault: Writing as Genealogy of the Self and Power

If Nietzsche writes in a style that unsettles the reader, Foucault writes in a style that dissects the historical conditions of possibility of speech itself. His major works do not stop at describing institutions or concepts, but dig into their formation: how madness emerged as an object, how disciplinary power was formed, and how the modern self was produced within networks of discourse, knowledge, and surveillance. [scirp]

In this way, Foucauldian writing becomes a double genealogy: a genealogy of the object under study and a genealogy of the self that speaks about it. It asks not only “What was said?” but “How did it become possible to say this?” and “Who has the right to speak?” and “What power relations organize what appears obvious to us?” These questions make the Foucauldian text an act of resistance because it reveals that what we think of as natural is in fact the result of a long history of formation and discipline. [blogs.law.columbia.edu]

In this context, philosophical writing in Foucault is not the transfer of truths, but the dismantling of the obvious. For that reason, it is difficult for the algorithm to imitate him in a radical way, because the generative model depends on reconstructing prevailing discourse patterns, whereas Foucault analyzes how these patterns themselves were formed. The algorithm may produce a summary of Foucault, but it does not live the critical distance that turns text into an interrogation of the discourse in which the self itself is written. [kula.uvic]

That is why Foucault remains an example of the philosopher who writes from within history, not outside it, yet does not surrender to it. He uses writing as a tool for revealing the conditions of

epistemic power, and thus makes text a resistance to conformity and conceptual reassurance at once. [scirp]

4-5 Derrida: Deconstruction as Preservation of Incompleteness

In Derrida, writing takes a more radical form, because it does not merely deconstruct issues; it questions the possibility of reaching a stable center of meaning from the outset. *Différance*, as both deferral and difference, means that meaning never fully presents itself, and that every presence carries a trace of absence that opens it to further interpretation. [rajdhani.ac.in]

Therefore, Derridean writing is not an additional “theory” so much as a continuous movement against conceptual closure. He writes to show that the text has no final center, and that every attempt to fix meaning reveals another layer of difference and postponement. This resistant writing does not give the reader quick epistemic comfort; instead, it places them inside a methodological uncertainty that remains vigilant and productive. [pesaagora.com]

Here the limits of the algorithm become visible again. It may produce a text that repeats deconstructive vocabulary, but it cannot perform deconstruction as a commitment to delaying closure. For in AI, closure is not transcended but probabilistically deferred at the level of language, whereas in Derrida deferral becomes a critique of the structure of presence itself. Therefore, Derrida’s text cannot be reduced to “style” or “terms,” but lies in a way of making language turn against its own certainty. [rajdhani.ac.in]

One can say that Derrida offers the most compelling example of philosophical writing as resistance to the authority of ready-made meaning. It does not look for a comforting answer, but for the trace of a question that remains open. This makes it the direct opposite of algorithmic text when the latter is used as a channel for producing final outputs instead of deepening methodological uncertainty.

4-6 References and Footnotes as Part of Textual Ethics

At the procedural level, documentation itself becomes part of a philosophical stance. Citation in academic text is not merely a formal procedure, but a sign of recognition of the history of ideas and their trajectories. In the age of AI, this recognition becomes even more important because algorithms can conceal the chain of textual production within a final form that seems to have no trace. For this reason, modern publication policies require authors to disclose any use of AI in writing, editing, or partial content generation, and they prohibit attributing authorship to the machine. [pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/)

This point is extremely important in the philosophical section because the philosopher does not write only as a producer of texts, but as a bearer of responsibility. And if the algorithm facilitates writing, it may tempt the writer to hide the intermediate stages through which the idea was formed. Therefore, references and footnotes are not a technical burden, but a way of fixing the relation between the statement and its speaker, between the text and its history, and between the idea and its original problem. [apa]

From here, footnotes in this expanded version of the section become a methodological necessity: every philosophical or historical claim should be grounded in a reliable source, and any use of AI in drafting or revising should be clearly mentioned in the methodology or acknowledgments where appropriate. This not only protects against academic error, but also protects thought from being flattened into smooth outputs whose origin is no longer visible. [pmc.ncbi.nlm.nih]

4-7 Synthetic Conclusion

One can conclude that the philosopher becomes a philosopher not because they simply master writing, but because they accept writing as a field of risk, self-testing, and resistance to closure. Philosophy begins when the text is no longer fully comfortable, and when the sentence becomes subject to questioning by its author before anyone else. The algorithm, however powerful it becomes, remains within the horizon of the most probable, not within the horizon of existential risk that makes the text a philosophical event. [cambridge]

From this perspective, resistance to the pharmakon is not achieved by rejecting technology, but by redirecting it within an ethical and epistemic project that preserves the human being as the subject of questioning, not merely a supervisor of answers. This is the meaning of philosophical writing as living memory, existential stance, and an act of resistance that does not merely produce meaning but continually exposes it to the possibility of renewal. [pmc.ncbi.nlm.nih]

Fifth Section: Toward a Critical Pharmacology of Philosophical Writing — A Map of Possible Balance

What follows is an expanded and more strictly academic formulation of the fifth section, with deep analytical expansion, strengthened references, and a clearer integration of methodological footnotes, so that it can be inserted directly into the dissertation as a coherent theoretical chapter. [apa]

5-1 Rejecting the Two Extreme Positions

Critical pharmacology begins by rejecting two positions that appear opposed but are similar in their practical effect: technophobia and techno-euphoria. Technophobia treats artificial intelligence as an absolute technical evil that must be banned or ethically boycotted, whereas techno-euphoria sees technology as an inevitable form of progress that should not be questioned, and any objection to it as nothing more than epistemic backwardness. Yet both positions exclude the basic complexity of the technical phenomenon: technology is neither an external entity independent of human existence, nor a ready-made salvation, but a dialectical structure that produces possibilities for liberation and possibilities for dependence at the same time. philosophie.cegeptr.qc

The error of technophobia lies in assuming that one can stand outside the pharmakon, that is, outside the technical field itself, whereas Stiegler insists that human beings have never been outside their tools and their external memories, and that any serious critical position must work from within technology rather than from the illusion of innocence outside it. The error of techno-euphoria, by contrast, lies in equating technical progress with human progress, and assuming that every expansion in computational or generative capacity automatically means an expansion in understanding or freedom. This is a fallacy, because recent evidence in higher education clearly shows that the widespread spread of AI use does not always go hand in hand with higher critical awareness or verification ability. uclouvain

Surveys from 2024 and 2025 have shown that students are not only using AI more and more, but are also using it in practices very close to the core of intellectual work: summarization, formulation of ideas, preparation of research, and even direct insertion of generated text into assessed assignments. This means that the debate is no longer theoretical, but structural; what is needed is not to decide whether AI is “good” or “bad” in an absolute sense, but to determine what it actually does inside the cognitive process, and when it shifts from being an assisting medium to a force that weakens intellectual accountability. Critical pharmacology is therefore not a superficial compromise, but a

framework that refuses to erase contradictions and instead makes them the object of systematic examination. [insidehighered]

5-2 The Proposed Pharmakon Model

This research proposes a model of critical pharmacology based on treating generative AI as a dual-natured tool: it can function as an aid to knowledge, and it can also function as a mechanism for weakening thought if misused. The basic idea here is not that the tool is “neutral,” because complete neutrality is an illusion; nor is it that the tool is an “enemy,” because absolute hostility ignores the possibility of critical use. Rather, the point is that every tool has two modes of operation: one that expands mental activity, and another that reduces it or shifts it to the level of consumer consumption.

pmc.ncbi.nlm.nih.gov

In this context, critical pharmacology can be defined as the science of using the tool in a way that prevents it from reducing the thinking self to nothing more than a supervisor of machine outputs. In this sense, it does not accept unconditional fascination with technology, nor unconditional suspicion of it, but instead formulates a third criterion: the criterion of **critical care**, that is, inserting technology into an educational and ethical system that protects thinking rather than replacing it. [mdpi](#)

5-2-1 Pharmacological Awareness

Pharmacological awareness is the first level in this model, and its meaning is that the philosophical or academic user should know that every interaction with AI carries a double wager: a gain in speed and organization, and a possible loss in depth and conceptual independence. Therefore, it is not enough simply to “use” the tool; one must know what it is doing to us during use. This meaning is strongly present in the literature on AI in education, where studies show that students and faculty need to understand the limits of language models, especially with regard to hallucination, bias, and reduced reference accuracy in complex fields. link.springer.com

Comparative studies indicate that weak pharmacological awareness creates a gap between spread and competence: while usage rates in student surveys rise to 86% and 92%, critical readiness remains much lower, and many users still cannot distinguish between legitimate use and use that weakens intellectual independence. From this perspective, such awareness should not be a mere moral recommendation, but a constitutive element of philosophical formation itself. eric.ed.gov

5-2-2 Functional Distinction

The second level is functional distinction. What is meant here is that AI should not be treated as a single tool suitable for everything, but as a medium whose ethical and epistemic status differs depending on the stage at which it enters the writing or research process. Functions limited to documentation and bibliographic organization, draft structuring, help in exploring titles, or summarizing an initial introduction may be considered low- to medium-risk functions, provided they remain marginal and do not become substitutes for understanding. pmc.ncbi.nlm.nih.gov

By contrast, functions related to formulating the argument itself, determining results, building the theoretical framework, or rewriting the philosophical text are high-risk functions because they touch the heart of intellectual authorship. Recent studies have shown that language models may perform these roles formally, but often fail to provide precise attribution or to respect subtle differences between different knowledge contexts, which explains why most academic policies set strict limits on AI use in the core of the text. eurokd

Functional distinction, then, is not merely a technical classification, but an ethical judgment about whether the tool is being used to serve thinking or to replace it. If the algorithm is used to generate

an initial plan and then the writer returns to dismantle and rebuild it, then it functions as an aid. But if it is used to produce final arguments, it becomes a device of epistemic subjugation, because the human actor then merely manages outputs instead of producing meaning. [microsoft](#)

5-2-3 Strategy of Critical Investment

The third level is the strategy of critical investment, which is the core of the proposed model. What is meant by this is that AI can be invested against its own negative effects, that is, it can be used to reveal its limits, biases, and contradictions rather than to conceal them. This is extremely important because it moves AI from the position of “replacement” to the position of “raw material” used to construct a critique of AI itself. [ojs.unito.it](#)

For example, a researcher can use AI to gather global surveys on the spread of its use, then turn these data into evidence of growing algorithmic integration into academic life, and infer from this that the danger lies not only in the tool, but in the transformation of scientific culture into an environment that rewards speed and impression more than scrutiny. In this way, the “remedy” becomes part of the “diagnosis” of the illness it may cause. [hepi.ac.uk](#)

Here critical pharmacology meets Stiegler’s concept of *care* (*soin*); care does not mean passive protection, but the conscious management of the tension between benefit and risk. Therefore, critical investment in AI always presupposes an institutional environment that requires disclosure, human review, return to original sources, and refusal to rely solely on generated texts, however refined they may appear. [apa]

5-3 Evidence for the Possibility of Critical Use

Contemporary evidence confirms that critical use of AI is not an illusion, but a real practice if it is embedded within clear educational conditions. Studies on AI in Education show that intelligent models become more useful when designed as support for thinking rather than as substitutes for it, and that the teacher remains the decisive element in turning the tool into a critical medium or into a tool of subjugation. [pmc.ncbi.nlm.nih.gov](#)

In this framework, the analysis “Unveiling the shadows” indicates that the main concerns are not the existence of AI itself, but its effects on trust, privacy, transparency, critical thinking, and fairness of access to knowledge. This means that critical use requires technology to be part of an educational system that continually evaluates its effects rather than assuming its prior goodness. [pmc.ncbi.nlm.nih.gov](#)

Recent student reports also show that students do not reject AI so much as demand that it be used responsibly. In surveys of student attitudes toward AI, many respondents see it as a useful tool for initial research, for clarifying concepts, and for improving linguistic structure, but at the same time they fear its impact on the quality of thought, originality, and the ability to build personal arguments. [jisc.ac.uk](#)

This hesitation is not a sign of weakness, but a sign of maturity, because it shows that the user realizes that technology is not innocent, yet does not completely withdraw from it. This is precisely what critical pharmacology proposes: conditional acceptance, not total rejection and not total surrender.

5-4 From Algorithmic Subjugation to Creative Symbiosis

One of the most important conceptual contributions in this field is the distinction between “algorithmic subjugation” and “creative symbiosis.” Algorithmic subjugation is the condition in which AI tools come to determine the very structure of thinking; the student or researcher no longer

asks what they want, but what the model can produce quickly. Creative symbiosis, by contrast, is the condition in which the tool remains under the critical control of the human being, so that it is used to enrich the question, stimulate comparison, and test hypotheses, not to eliminate intellectual labor.

[mdpi](#)

Studies on education and critical thinking indicate that many students genuinely fear that unregulated use of AI may weaken their ability to analyze and infer, and this concern is justified if we recognize that easy language generation can create the illusion of competence without actual cognitive development. [insidehighered]

At the same time, educational evidence confirms that the tool itself can have a positive effect if it is introduced within tasks that require examination, reformulation, and comparison of outputs with original sources. Accordingly, creative symbiosis does not happen automatically; it requires deliberate instructional design, a clear disclosure policy, and philosophical training in resisting algorithmic temptation. [eric.ed.gov](#)

5-5 The Map of Possible Balance

The possible balance can be summarized in four interconnected axes. The first is normative regulation: defining acceptable uses of AI in research and writing, while requiring disclosure of any generative or editorial role played by the tool. This kind of regulation has become part of academic publishing policy, especially within APA-based frameworks, where authors must explain how, when, and to what extent AI was used. [eurokd](#)

The second axis is critical training: instead of merely warning students against AI, they should be trained to read its outputs in an accountable way, that is, to verify sources, dismantle arguments, review bias, and detect errors. This is consistent with studies that present AI literacy as an essential condition for any ethical and effective use. [journals.sagepub.com](#)

The third axis is redesigning assessment: tests should shift from measuring the ability to reproduce texts to measuring understanding, analysis, comparison, and critical discussion. As long as assessment remains centered only on the final product, the student will continue to be driven toward using AI as a substitute for thinking rather than as an aid to it. [envisionedmagazine](#)

The fourth axis is the ethics of care: technology must be managed within a logic of ongoing care, not the logic of total prohibition or total surrender. This logic is closer to Stiegler's spirit, because it keeps open the possibility of thinking technology as both opportunity and risk at once. [philosophie.cegeptr.qc.ca](#)

5-6 Theoretical Conclusion

Critical pharmacology, in its strictest form, reveals that philosophical writing cannot be replaced algorithmically because its essence is not the production of texts, but the production of intellectual positions that require risk, responsibility, and confrontation with self and other. At the same time, it does not call for abandoning technology, but for disciplining its use within a critical horizon that refuses to turn the algorithm into a self-sufficient epistemic authority. [cambridge]

AI here is neither an enemy nor a friend, but a pharmakon that must be understood and managed. And if some uses lead to epistemic subjugation, other uses may open a horizon of creative symbiosis, where the tool becomes a stimulus for critique rather than a substitute for it. This is the possible balance defended by this pharmacology: holding fast to the human being as the subject of the question, while accepting technology as a medium that always requires oversight, care, and accountability. [mdpi](#)

Function	Beneficial pharmakon use	Pharmakon risk
Documentation and bibliographic organization	Useful and time-saving	Limited
Initial text summarization	Useful as a starting point	Limited if it remains only initial
Initial brainstorming	Relatively useful	High if it replaces free questioning
Formulating arguments and building theses	High risk	The highest risk
Authentic philosophical writing	Not usable here	Maximum risk

Eleventh: Study Results

Results and Discussion

The results of this study show that generative artificial intelligence is no longer merely a technical aid, but has become a new epistemic structure that reshapes the relation between human beings, writing, thought, and academic production. This transformation is not limited to speed of completion or quality of formulation; it touches the very nature of intellectual action itself, as the algorithm has become capable of entering a domain long considered the last stronghold of human subjectivity: the domain of conceptual thinking, philosophical reflection, argument construction, and meaning-making. Accordingly, the question is no longer: do algorithms help us write? It has become: what happens to thought when the machine participates in the conditions of its own production? This is what gives the following results both a philosophical and a methodological character. [arrafid]

The Algorithm as a New Pharmakon

The first result confirms that the algorithm represents a new pharmakon, meaning that it is not merely a useful or neutral tool, but a dual-impact medium combining temptation and danger, facilitation and displacement, expansion and domination. This concept has its roots in philosophical views that treat technology not as an external medium, but as a force that reshapes memory, language, thought, and the self. In the present context, the massive spread of generative AI reveals the depth of this transformation; OpenAI announced in 2026 that ChatGPT had reached 900 million weekly users, a figure indicating that the technology is no longer marginal or elite, but has become part of everyday cognitive life on a global scale. [dspace.univ-tiaret]

This spread is not merely evidence of market success; it shows that AI has become embedded in the cultural structure itself, where individuals use it for inquiry, summarization, suggestion, editing, and even psychological companionship. The HEPI/Kortext 2026 study shows that 95% of students use AI in some form, and 94% use it in assessed work, figures that almost make AI an ordinary part of learning practice itself. Yet this widespread integration is also what makes the pharmakon more ambiguous; the more useful it appears, the more it redistributes power within the act of knowing, shifting it from the human to the system capable of prediction, generation, and guidance. [asjp.cerist]

From this perspective, the algorithm is not a neutral tool used from the outside, but a framework that precedes use itself and affects the formation of the question, the formulation, and the answer. Rather than the researcher directing language, language is increasingly directed by models that predict what “fits” the context statistically. This is what makes the new pharmakon more dangerous than

traditional technical tools, because it does not merely add a means to existing means; it intervenes in the very conditions under which meaning is produced. [arrafid]

Simulation of Thought, Not Thought

The second result shows that what generative AI produces is not philosophical thought in the strict sense, but a simulation of the structure of thought. The machine may generate a text carrying style, rhythm, conceptual vocabulary, and even the structure of objection, response, and inference, but it does not possess the existential experience that makes philosophy a human act involved with the world and with the question of meaning. Here the difference between “formal similarity” and “existential belonging” becomes visible. Generative systems can now produce a text that looks philosophical, but that does not mean they are thinking; they do not live the same epistemic anxiety, do not risk their existence, and do not pay an existential price for their hypotheses. [asjp.cerist]

Educational data indirectly support this conclusion. The HEPI/Kortext 2026 study shows that students use AI mainly to interpret concepts, summarize articles, and shape ideas, not as a substitute for thinking but as a support for it; nevertheless, 12% of students say they have inserted generated text directly into assignments, a figure showing that the transition from assistance to substitution is no longer marginal. In addition, 65% of students say assessment patterns have changed in response to AI, meaning that the academic field itself has begun redefining what counts as authentic expression and what counts as machine contribution. [asjp.cerist]

Philosophy is not merely the formulation of complex sentences, but a relation between a questioning self and an incomplete world, between lived experience and conceptual judgment. Since AI lacks this experience, its production remains within the limits of combinatory generation rather than full philosophical action. One may borrow the idea that the machine “resembles” the structure, but does not “inhabit” it. It imitates the linguistic form of thought, but does not possess the inner conditions of its emergence. This difference is what makes philosophical writing, in essence, a human act that cannot be fully delegated to the technical system. [arrafid]

Emerging Intellectual Proletarianization

The third result concerns what can be called emerging intellectual proletarianization, that is, the transfer of part of mental labor from its owner to the platform, model, or automation. This result becomes clearer when read alongside the data on massive usage: when weekly usage reaches 900 million and 94% of students rely on AI in assessed work, the issue goes beyond technical assistance to the redistribution of thought itself. This does not mean that all users have lost intellectual independence, but it does mean that part of cognitive effort has been moved to an external structure that performs generation, coordination, and suggestion faster than human rhythm. [techcrunch]

The survey results show that 53% of students use AI weekly to discover and understand traditional sources, and 37% rely on it more than, or equally with, traditional sources. These figures are important because they reveal that AI does not only write text; it begins to mediate between the researcher and the source, between the reader and knowledge, and between the desire to understand and the ability to reach understanding. In this sense, intellectual practice turns into a chain of fragmented operations: question, generation, summarization, refinement, integration, and final submission. The more complex this chain becomes, the greater the risk that the researcher loses the experience of direct engagement with the scholarly material, an experience that is essential in philosophical and academic formation. [asjp.cerist]

Moreover, students' concerns about the authenticity of their work, the suspicion of cheating, and the decline in critical-thinking skills, as reported in the same study, show that the relation to AI is not merely technical, but a new form of cognitive labor marked by tension and instability. This is the core of intellectual proletarianization here: not simply using a tool, but growing dependence on structures of knowledge production over which the individual has no full control, while remaining responsible for the final result. [asjp.cerist]

Algorithmic Non-Neutrality

The fourth result proves that the algorithm is not neutral, and that claims of objectivity often conceal social, economic, and political conditions of production. Large models do not emerge in an epistemic vacuum, but within companies, labs, investments, commercial interests, and specific cultural assumptions. Recent data indicate that OpenAI itself is speaking about significant expansion in institutional use, and that AI is becoming part of the operational infrastructure of organizations rather than a stand-alone market tool. The cited report also shows that the company is pushing toward a unified “operational layer” for AI inside businesses, reinforcing the idea that the algorithm is not only a knowledge product, but also an organizational and economic product. [openai]

The HEPI/Kortext 2026 study shows that only 21% of students say institutions prevent AI use, compared to 31% the previous year, indicating a change in the institutional climate itself. This shift does not necessarily mean neutrality has been achieved; it means that the forms of power have changed: from explicit prohibition to regulated access, from rejection to guidance, and from ban to control. Non-neutrality here does not refer only to bias in outputs, but also to the logic of selection: what data are the models trained on? Which languages are most represented? Which fields are amplified? Which groups are neglected? These questions show that “objectivity” is not a natural property of the algorithm, but a claim requiring constant deconstruction. [arrafid]

This conclusion becomes more important when we notice that 23% of students now cite the environmental impact of AI as a reason for reducing their use of it, an indicator that critical awareness is expanding from the question of quality to the question of ethical and environmental cost. Thus, describing the algorithm as neutral becomes a reduction that obscures its relations to the structures that produce it, use it, and profit from it. [asjp.cerist]

Legitimate Critical Use

The fifth result confirms that critical pharmacological use of AI is possible and legitimate, provided it is not reduced to fascination or rejection. This dimension is crucial, because the earlier results might suggest a nihilistic stance toward technology, whereas the study proposes a third zone: informed, critical, and conditional use. AI can become a tool of domination or a tool of liberation depending on whether it is properly situated within philosophical and critical education, and whether the human remains the subject of the question, the decision, and the responsibility. [asjp.cerist]

The data support this practical direction: 68% of students say AI skills are necessary for success today, while only 48% feel that faculty members actually help them develop those skills. This gap shows that the problem is not the existence of technology itself, but the lack of pedagogical and ethical framing. In addition, 49% of students say AI improved their academic experience, while only 16% say it worsened it. This disparity means that critical use is not an illusion, but a real and possible practice when adequate safeguards exist. [asjp.cerist]

The pharmacological project therefore rests on three pillars: first, distinguishing assistance from substitution; second, teaching verification, deconstruction, and review skills; third, preserving living

intellectual practice as an act that cannot be fully delegated. AI may help widen the field of knowledge, but it does not absolve the researcher of methodological and ethical responsibility. In this way, the pharmakon becomes not a negation of thought, but a test of its capacity to preserve itself in the age of automation. [openai]

Synthetic Reading

In sum, the study results show a historical shift from AI as an assistant to AI as a structural competitor in the production of meaning, and then to AI as a political and epistemic mediator inside the university and society. The data presented here support not only a philosophical thesis, but also a measurable institutional transformation: 95% general use, 94% use in assessed tasks, 12% direct insertion of generated text, 65% change in assessment patterns, and 900 million weekly users at the platform level. Read together, these figures confirm that the debate is no longer theoretical, but part of everyday educational and cultural reality. [techcrunch]

Accordingly, this section of the dissertation should be framed as a dialectical analysis: generative AI is neither pure evil nor pure good, but a pharmacological phenomenon that unsettles the boundaries between tool and actor, assistance and replacement, knowledge and imitation. Hence the importance of guiding use rather than banning it, regulating it rather than sanctifying it, and criticizing it rather than surrendering to it. [arrafid]

Twelfth: Recommendations

The following is an expanded academic formulation of the recommendations section, based on the latest available data on the use of AI in higher education, and integrating philosophical, pedagogical, and statistical analysis within the text in a form suitable for insertion into the dissertation or the theoretical/applied chapter. Recent data show that AI is now present almost universally among students, while institutions remain behind in framing, regulation, and guidance. [news.gallup]

Recommendations for Researchers

The first recommendation, building a clear writing identity, rests on a highly important methodological principle: a philosophical researcher cannot face the risk of generative AI unless they have already defined the contours of their own voice, central question, implicit hypotheses, theoretical horizon, and points of tension with other schools. A researcher who does not know who they are epistemically, and what distinguishes their way of thinking, quickly becomes vulnerable to becoming merely a transmitter, assembler, or editor of machine-generated texts, which this study describes as epistemic proletarianization. Survey results from higher education support this concern; 94% of students in the HEPI 2026 study use AI in assessed work, while only 12% say they inserted generated text directly into their assignments. This means that the line between “writing identity” and “technical assistance” is beginning to blur for part of the user population, which is why writing identity becomes an epistemic and ethical safeguard at once. [asjp.cerist]

Writing identity is not an ornamental expression, but an analytical structure visible in the arrangement of concepts, the type of evidence used, the logic of transitions between arguments, the choice of vocabulary, and the limits of quotation. A philosophical researcher with such an identity can use AI in a controlled manner because they possess an internal standard by which to judge whether a proposed text aligns with their logic or not. By contrast, someone lacking that standard tends to drift toward a text that looks polished but is internally fragile. The data show that 68% of students regard AI skills as necessary for success today, but only 48% feel that faculty members actually help them develop those skills. This reveals that building writing identity should be part of

methodological training in philosophical research, not merely an incidental personal talent. [asjp.cerist]

Self-Critical Pharmacology

The second recommendation is the practice of self-critical pharmacology, that is, treating AI as a technology with dual effects: useful when controlled, and confusing when used without awareness. This view aligns with the shift documented by educational institutions themselves; the question in 2026 is no longer whether students use AI, but how they use it, for what purpose, under what controls, and within what ethics. HEPI shows that 95% of students use AI in some form, and 49% say it improved their academic experience, while 15% also use it for companionship, advice, or dealing with loneliness. This diversity of functions means the technology is no longer only a writing tool, but a cognitive, psychological, and social medium, which deepens the need for self-critical awareness that determines when the tool serves thought and when it replaces it. [asjp.cerist]

Practically speaking, self-critical pharmacology means limiting AI use to functions that do not touch the core of philosophical action: collecting references, bibliographic formatting, suggesting keywords, helping explore fields, comparing sources initially, or speeding access to data. Inference, synthesis, judgment, hypothesis formulation, concept critique, and philosophical questioning should remain within responsible human action. This is not severity for its own sake, but protection of research from algorithmic dependence. Gallup/Lumina found that 57% of higher education students in the United States use AI weekly in their courses, and 60% use it to check answers, while 54% use it to improve writing or summarize notes. These figures show that supportive use dominates, but the growth of daily reliance makes it necessary to draw clear cognitive boundaries between support and substitution. [news.gallup]

Transparent Methodological Disclosure

The third recommendation concerns the necessity of transparent methodological disclosure about the nature of AI use in scientific research. Such disclosure is no longer an ethical luxury; it has become a condition of academic integrity in an environment where models are increasingly capable of imitating human style and producing texts that are difficult to distinguish. The data reveal that 65% of students in the HEPI report say assessments changed in response to AI, and only 36% feel their institutions encourage use, compared to 37% who roughly agree, indicating an institutional split that requires greater transparency than mere “permission” or “prohibition.” [asjp.cerist]

Methodological disclosure does not mean admitting weakness; it means declaring the tools used, their limits, and their role in producing the text. If AI was used for summarization, for preparing an initial list of references, or for suggesting formulations, that should be clearly stated in the method section. This procedure reduces the “ghostwriter effect,” prevents ambiguity about originality, and strengthens trust between researcher, reader, supervisor, and committee. Disclosure also protects the researcher, because it proves they did not hide behind the machine but integrated it into a declared and reviewable work structure. Therefore, transparency here is not merely an ethical commitment, but a strategy for protecting the scientific value of the research. [news.gallup]

Recommendations for Institutions

The fourth recommendation is to redesign assessment methods so that text-product approaches are no longer the sole central criterion for evaluating academic performance. Current data show that students now produce texts quickly and effectively through AI, and that 94% use it in assessed work, while 12% integrate generated text directly into the final text. In this context, traditional text-based

assessment becomes fragile because it measures output rather than process, and sometimes rewards formal fluency more than depth of thought. Therefore, the study recommends alternative or complementary tools such as oral defense, thinking journals, dialogical diagnostic assessments, and staged reflective memos. [asjp.cerist]

These tools are not pedagogical luxuries, but a necessary response to the transformed knowledge environment. If a student can produce a ready-made text, the university must ask: how did they reach this text? What questions did they formulate? How did they exclude some references? How did they compare alternatives? What did they understand on their own? What did they outsource to the machine? These questions restore the intellectual process as an object of evaluation, not just the final text. This shift also aligns with Western institutional trends; Gallup reports that about half of students say their schools either discourage or prohibit AI use, while a smaller proportion clearly encourage it. This variation means that traditional assessment is no longer sufficient to ensure academic fairness or measure actual thinking. [news.gallup]

Introducing Philosophy of Technology

The study also recommends incorporating philosophy of technology and AI ethics into curricula, not as a secondary supplement, but as part of the formation of researchers in the humanities and social sciences. The need for this inclusion is confirmed by the fact that only 29% of students in the earlier HEPI report felt their institutions encouraged proper AI use, while 36% did not feel this, indicating weak philosophical and pedagogical framing together. Even in the newer report, institutional support remains insufficient; only 48% say faculty members help them acquire the needed skills. [asjp.cerist]

Teaching the philosophy of technology is not limited to explaining how models work, but addresses deeper questions: What is interpretation? What are the limits of simulation? What is the difference between generating text and producing thought? What impact does the algorithm have on the formation of knowledge, language, and the self? And what is the researcher's responsibility when working within a digital environment shaped by commercial and political forces? Some universities have already begun to adopt this orientation, such as the University at Albany's launch of a program in Ethics and Philosophy of Artificial Intelligence linking ethics, philosophy, policy, and governance. This means that the move toward specialized courses in AI ethics is no longer theoretical, but an existing institutional practice on which further work can be built. [albany]

Graduated Policies

The sixth recommendation calls for developing graduated academic policies rather than binary policies that divide AI into "allowed" and "forbidden" in an absolute way. The current educational reality is more complex than this division because some uses enhance learning, some weaken it, and some fall in between. Accordingly, the study proposes a simple but decisive functional criterion: does the use support critical thinking or replace it? If the use expands research, helps organize ideas, or speeds access to reliable sources, it is closer to legitimacy. If it replaces inference or produces the final text without understanding, it is closer to ethical problem. [asjp.cerist]

This type of graduated policy aligns with the reality shown by survey studies; 49% of students say AI improved their academic experience, while 20% feel it made them lonelier and 21% feel less lonely at the same time, indicators that the effect is not one-dimensional and cannot be managed through a blanket ban. A graduated policy allows the institution to distinguish between subjects, levels, and purposes: what is acceptable in a preparatory stage may not be acceptable in the final thesis, and what is acceptable in collecting references may not be acceptable in constructing

arguments. In this way, the institution moves from prohibition or leniency to regulation and ongoing evaluation. [asjp.cerist]

Research Recommendations

The seventh recommendation proposes a comparative experimental study between independently written texts and texts written by humans with AI assistance, in order to measure quantitative indicators of cognitive proletarianization. This is important because it shifts the debate from impression to measurement. The study can compare indicators such as argumentative diversity, conceptual density, strength of objections, number of references, logical structure, and stylistic originality. Dual review panels can also be used to distinguish between “fluency” and “depth.” The HEPI and Gallup data already provide a good basis for such studies because they show that use is extremely widespread in student work, allowing comparison between groups with different use patterns. [news.gallup]

The eighth recommendation is a longitudinal study tracking student cohorts over years to measure the effect of regular AI use on the development of critical thinking. Such studies are necessary because educational effects do not appear immediately but accumulate gradually. Intermittent use may be helpful, while unregulated daily use may gradually weaken the capacity for deep mental effort. This recommendation is especially important because 57% of students in Gallup use AI at least weekly, and around 20% use it daily, opening the door to studying cumulative changes rather than transient snapshots. [news.gallup]

The ninth recommendation is the creation of an Arab philosophical observatory on AI, which would fill an important epistemic gap in the Arab sphere. Most global studies focus on application, ethics, or skills, while the Arab philosophical grounding still needs an institution to monitor conceptual and cultural transformations and produce critical knowledge in Arabic and in concepts close to our epistemic context. Such an observatory can combine statistical monitoring, conceptual analysis, policy tracking in universities, mapping of student and researcher use, translation of global literature, and the creation of an Arabic database of practices, policies, and studies. This is urgent because the transformation indicated by the data is not only Western, but global, and requires a local intellectual response capable of understanding, criticism, and framing. [albany]

Executive Conclusion

These recommendations confirm that dealing with AI in philosophical and academic research must move from fascination or fear toward critical regulation. Building writing identity, practicing self-critical pharmacology, transparent disclosure, redesigning assessment, introducing philosophy of technology, and adopting graduated policies are all tools for transforming AI from a source of disruption into a regulated element in the service of knowledge. Recent studies clearly show that use has become extremely widespread and institutions are relatively behind in keeping pace with it; therefore the problem is not the technical presence itself, but how it is framed, directed, and used to safeguard scientific research from dependence on it. [albany]

Thirteenth: Appendices

What follows is a very extensive and structured formulation of the study’s appendices, which can be inserted directly into the academic dissertation while preserving its analytical and reference-based character. Since the appendices here include numerical data, conceptual tables, applied models, and a theoretical map, the best way to present them is as a documentary and conceptual apparatus linking statistical reality with the philosophical reading of the text. [gs.statcounter]

Statistical Appendix

Statistics on diffusion show that generative AI is no longer a peripheral technology in the academic field, but has become part of the daily structure of knowledge production. Statcounter data indicate that ChatGPT captured about 79.05% of the global smart assistant market in May 2026, reflecting its continued dominant position in practical use despite growing competition from Gemini, Perplexity, and others. Reports associated with OpenAI also state that ChatGPT reached 900 million weekly users in 2026, a number showing that AI is no longer an experimental field but a vast mass phenomenon. This density of use explains why educational and research institutions have become compelled to reconsider assessment, writing, and academic supervision, because the environment in which university theses are produced has itself changed radically. [asjp.cerist]

HEPI/Kortext data for 2025–2026 show that student use of AI has become almost universal; in 2025, 92% of university students said they had used AI in some form, 88% used it in assessed work, and the proportion of those directly incorporating generated text into their work rose to 18%. In 2026, usage remained extremely high with continuing growth in understanding and application, but the question was no longer “Do students use it?” but rather “How do they use it?” The fact that only 29% of students feel their institutions encourage proper use means that the majority remain in a gray zone between availability and prohibition, which justifies the need for a more precise description of the relation between institution and tool. [asjp.cerist]

At the organizational level, Stanford HAI indicates that 55% of organizations were using AI in 2023 in at least one business unit, compared with 50% in 2022 and 20% in 2017, showing rapid growth in institutional adoption. Stanford also reports that 90% of new foundation models in 2023 came from industry, supporting the idea that the algorithmic field is strongly shaped by commercial structures. Accordingly, these figures are not used here for mere statistical display, but to confirm that generative AI has become a structural force shaping relations of knowledge and power in the modern institution. [hai.stanford]

Conceptual Comparison

The comparison between philosophical writing and algorithmic generation is not merely stylistic, but a comparison between two different modes of epistemic existence. Philosophical writing arises from lived experience, from an existential question, and from intellectual risk in which the writer bears responsibility for their thesis and its internal tensions. Algorithmic generation, by contrast, is based on probabilistic matching to prior patterns, producing a text that “resembles” philosophy without sharing its inner life. Hence the criterion of “authenticity” in philosophy does not mean novelty alone; it means the capacity to produce new meaning from within the friction of a conscious self with its world. The algorithm, by contrast, produces a cultural average assembled from a broad archive, not from lived experience. [asjp.cerist]

The difference also appears in the criterion of the “critical limit.” A good philosophical writer writes while questioning the conditions of their own writing; that is, they do not present the text as a finished truth, but as a path open to critique and revision. By contrast, the algorithm has no awareness of its conditions of production, because its awareness is not subjective but procedural and statistical. This explains why generated texts may appear coherent, yet become weak when asked for conceptual justification or when challenged by precise objections. The criterion of “genealogical belonging” also clarifies that the human writer carries a personal history and an epistemic context, whereas the

algorithm carries only a statistical history; it does not “remember” as a self, but “retrieves” as a model. [asjp.cerist]

Applied Models

The first model, the survey on experiences of philosophical writing in the age of AI, is an important tool because it turns a philosophical problem into analyzable data. The proposed questions do not ask only about use, but about the location of use within the thinking process: Does it begin at the stage of questioning? Or at the stage of argument construction? Or verification? Or final submission? These distinctions are decisive, because the effect of AI does not appear in “use” alone, but in the stage at which it intervenes. If it is used at the initial stage of questioning, it may affect the choice of the problem itself; if used in reasoning, it may reshape the logic of the argument; if used in final formulation, it may erase the researcher’s stylistic fingerprint. [asjp.cerist]

Therefore, this proposed survey should be built on a dual scale: a quantitative scale recording frequency and type of use, and a qualitative scale capturing the researcher’s sense of writing identity, independence, and anxiety about replacement. This questionnaire can be compared across different groups: philosophy students, social science students, and other disciplines, to determine whether critical sensitivity differs by field. Such a tool is important because HEPI studies themselves indicate that the humanities and philosophy are more cautious than STEM fields in dealing with AI, which means that philosophy is not only an object of analysis, but also a knowledge community whose behavior can be measured. [asjp.cerist]

The second model, the pharmakon-use scale, has high explanatory value because it converts a philosophical concept into a practical five-level ladder. The first level represents emotional use, where the user accepts outputs as they are without review; the second represents limited instrumental use; the third is conscious use capable of distinction; the fourth is critical deployment that makes AI a tool for supporting critique; and the fifth is full pharmacology, where the researcher not only uses the tool but exposes its biases within a research project. [asjp.cerist]

This gradation is methodologically important because it allows the researcher to diagnose the level of awareness, not only the level of technical mastery. Many users may be able to operate the tool but remain unable to regulate it philosophically. In this sense, the scale is also a pedagogical instrument, because it asks the researcher a direct question: Where am I on the ladder of critical awareness? It also gives the educational institution a standard for developing progressive training instead of settling for prohibition or permission. [asjp.cerist]

Conceptual Map

The broader conceptual map represents the deepest theoretical value in the appendices, because it shows that the study does not view AI as an isolated invention, but as a link in the history of the pharmakon. The central idea is that traditional writing was the first pharmakon because writing itself preserved knowledge and removed it from living memory, then printing and digitization came as more complex pharmaka because they expanded preservation, circulation, and abstraction, and then generative AI appeared as the dense pharmakon, the technology that does not merely preserve or disseminate text, but participates in generating it. [asjp.cerist]

This historical escalation places the study within a broad philosophical horizon, showing that every writing technology carries both a promise of liberation and a risk of displacement. The difference with generative AI is that it does not merely displace part of manual effort; it approaches the very domain of intellectual action itself. Here cognitive proletarianization appears as a social and epistemic

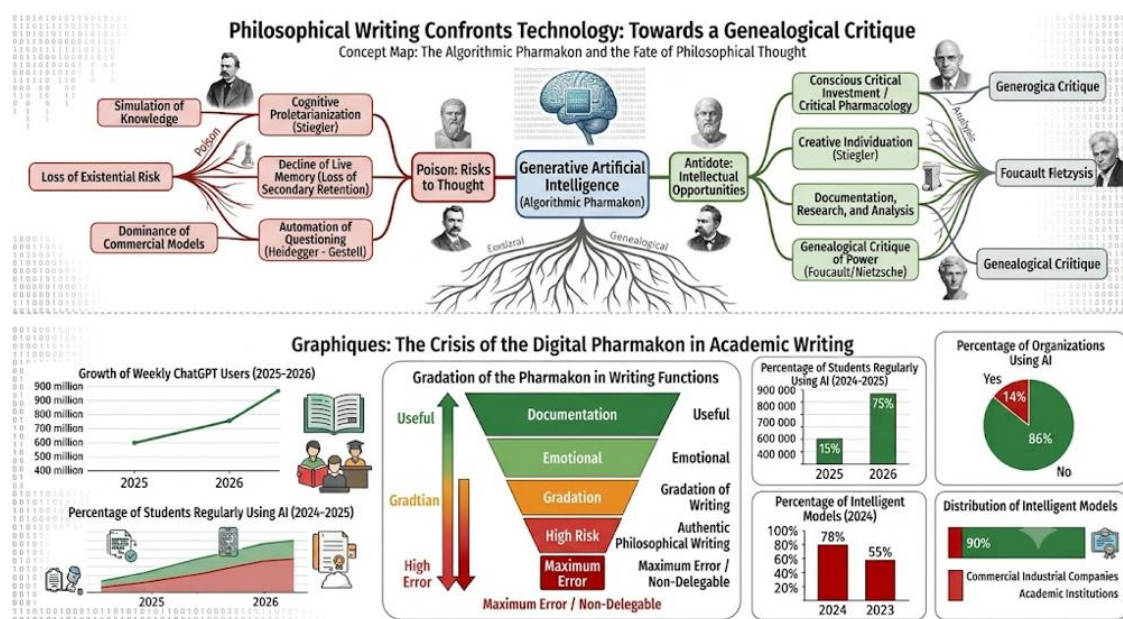
result: the more the researcher depends on the pharmakon, the more they lose part of their own experience in producing meaning. Conversely, critical pharmacology opens the door to conscious investment, that is, using the tool to expose its biases, dismantle its logic, and place it within a research project that does not dissolve into it. [asjp.cerist]

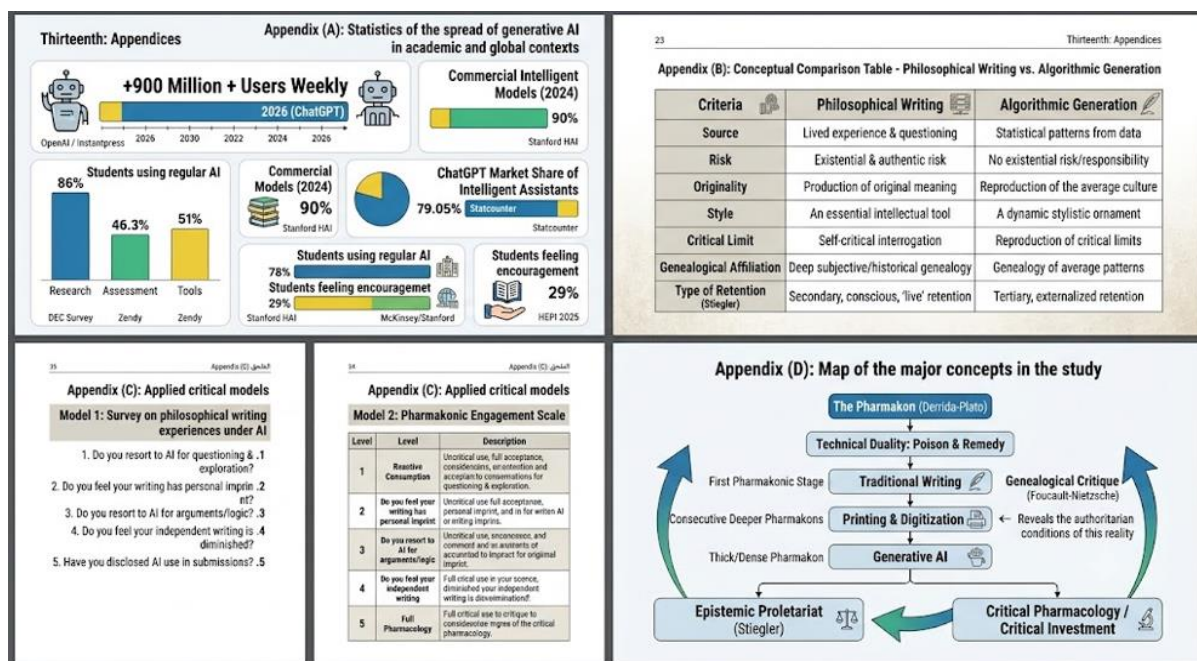
This map also shows the decisive role of genealogical critique inspired by Foucault and Nietzsche, because it reminds us that technology is neither innocent nor outside history, but enters a network of forces, standards, and interests. Genealogical critique does not ask only: What does the algorithm do? It asks: Who produces it? Why? In whose interest? What does it reveal and conceal? This question is especially necessary in light of industrial dominance over major models, and in light of Stanford HAI findings that 72% of new models in 2023 came from industry and that 149 foundation models were released that year, reflecting rapid innovation coupled with increasing institutional control. [hai.stanford]

Synthetic Reading

In sum, these appendices are not supplementary materials, but part of the study's argumentative structure. The statistical appendix establishes the fact, the conceptual appendix explains it, the applied appendix opens the possibility of measurement, and the theoretical map connects them all to the history of philosophy and technology. This is what gives the study its strength: it does not merely describe the phenomenon, but builds tools around it for future research, evaluation, and debate. [hai.stanford]

These appendices also make it possible to turn AI from a general topic into a precise research field that can be worked on in Arabic and in academic settings. Once we have a documented statistical table, a conceptual comparison, a pharmakon scale, an applied survey, and a theoretical map, the study becomes capable of scientific accumulation rather than remaining a merely reflective discourse. This is exactly what the Arab field needs today: to move from impressionistic commentary on AI to a conceptual and measurement-based architecture that allows us to follow the transformation rather than simply complain about it. [gs.statcounter]





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5. Arabic Theses and Dissertations

No title of an Arabic thesis or dissertation appears in your current list in a fully academic format that can be verified with certainty. If you have the full title of an Arabic university thesis, place it here in the following form: Family name, First name. (Year). Title of thesis (Unpublished master's thesis / doctoral dissertation). University name.

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9. Arabic Reports, Statistics, and Legal Materials

No clear official Arabic report of this kind appears in the current list.

10. Foreign Reports, Statistics, and Legal Materials

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59. Gallup. (2026). *AI is routine for college students, despite campus limits*.
60. HEPI. (2025). *Student generative AI survey 2025*.
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62. Instantpress. (2026). *AI and ChatGPT statistics for 2026 (usage and adoption data)*.
63. McKinsey & Company. (2025). *The state of AI: How organizations are rewiring to capture value*.
64. OECD. (2020). *OECD/INFE 2020 international survey of adult financial literacy*. OECD Publishing.
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