

AI in Digital and Applied Humanities

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Abstract

This conceptual paper examines how artificial intelligence (AI) reconfigures the conditions under which humanistic interpretation is performed in digital and applied humanities. Rather than presenting the study as primary phenomenological research, the revised article adopts a conceptual phenomenological approach informed by van Manen's phenomenology of practice and by critical scholarship on algorithmic mediation. A purposive, interdisciplinary literature corpus is interpreted through four analytic dimensions: epistemology, ontology, ethics, and temporality. The central research question asks: How does AI-mediated inquiry alter the temporal, epistemic, relational, and ethical conditions of humanistic scholarship, and what forms of scholarly reflexivity are required in response? The analysis develops four linked concepts, temporal dissonance, the algorithmic unconscious, technological reflexivity, and relational ambiguity, to explain how machine-speed inference, opaque data histories, human–AI co-production, and asymmetrical agency reshape scholarly judgment. The paper also considers counterarguments concerning deskilling, loss of interpretive authority, labor displacement, cultural homogenization, and unequal access. It connects these concerns to information ethics, human-centered AI principles, UNESCO's global ethics framework, and the European Union's risk-based AI governance. The resulting framework argues neither for uncritical adoption nor categorical rejection of AI. Instead, it proposes a reflexive model in which AI can support discovery and collaboration while human scholars retain responsibility for interpretation, contextual judgment, source criticism, and ethical accountability.

Keywords: *artificial intelligence; digital humanities; applied humanities; phenomenology; temporality; algorithmicmediation; AIethics; technological reflexivity.*

1. Introduction

Artificial intelligence has moved from a specialized computational technique to a general layer of mediation across research, education, cultural production, archives, translation, design, and public communication. This shift matters acutely for the humanities because humanistic inquiry is not defined only by the production of outputs; it is also constituted by interpretive judgment, historical situatedness, ambiguity, dialogue, and the slow formation of meaning. Digital humanities has long examined how computational tools transform research objects and methods, while applied humanities translates humanistic knowledge into practical settings. Generative and analytic AI intensify the convergence of these fields by making computational interpretation accessible at the level of everyday scholarly practice.

Existing work documents substantial opportunities. AI can assist pattern recognition across large corpora, support multilingual access, accelerate exploratory analysis, enable new forms of digital storytelling, and facilitate interdisciplinary collaboration. In cultural heritage, machine learning and extended-reality techniques have widened possibilities for digitization, reconstruction, and public engagement (Pavlidis, 2022). In language education and digital storytelling, AI can support personalization and multimodal production while still requiring human direction for narrative purpose and creative judgment (Chen, 2024; Kovalenko & Baranivska, 2024; Tarigan et al., 2024). These developments suggest that AI can extend humanistic practice, but they do not establish that acceleration or automation is epistemically neutral.

Critical scholarship has shown that computational systems inherit social classifications, institutional priorities, and historical asymmetries. Noble (2018), for example, demonstrates how search infrastructures can reproduce racialized hierarchies. Contemporary AI ethics likewise emphasizes opacity, bias, autonomy, accountability, and the distribution of benefits and harms. Such concerns are especially relevant to the humanities because algorithmic mediation may influence not only what scholars find, but which questions appear salient, which sources are surfaced, and which interpretive pathways become easier to pursue.

A further issue is temporal. Humanistic scholarship has traditionally valued forms of 'thick time': rereading, hesitation, contextual reconstruction, dialogue, and the maturation of interpretation. AI systems operate at a radically different tempo, producing summaries, classifications, associations, and generated prose almost instantaneously. The resulting temporal dissonance is not simply a matter of efficiency. It changes the



lived rhythm of scholarship and can produce cognitive friction between rapid machine output and slower human judgment. The scholar may be empowered by speed while simultaneously being tempted to treat fluency as understanding or completion as adequacy.

This revised paper therefore narrows its contribution. It does not claim to report the firsthand lived experiences of interviewed participants. Instead, it uses phenomenology as a conceptual and interpretive orientation for examining descriptions, problems, and practices reported in interdisciplinary literature. The study asks: How does AI-mediated inquiry alter the temporal, epistemic, relational, and ethical conditions of humanistic scholarship, and what forms of scholarly reflexivity are required in response? The aim is to develop a coherent conceptual framework that clarifies what is at stake when AI becomes a participant in the practical ecology of humanistic interpretation.

2. Conceptual Background

This section establishes the conceptual foundations for examining AI integration in digital and applied humanities. Rather than treating AI solely as a technical instrument, the discussion situates it within broader debates concerning knowledge production, human–technology relations, and the values that shape humanistic inquiry. Three interconnected areas provide the foundation for the analysis: the evolving relationship between AI and the humanities, phenomenological perspectives on technology and scholarly experience, and critical approaches to algorithmic bias and epistemic power. Bringing these strands together makes it possible to examine not only what AI enables scholars to do, but also how its use may alter the conditions under which interpretation, judgment, and meaning-making occur. This conceptual background therefore prepares the ground for the four analytical constructs developed later in the paper: temporal dissonance, the algorithmic unconscious, technological reflexivity, and relational ambiguity.

2.1. Digital and applied humanities under AI mediation

Digital humanities has always involved negotiation between computational affordances and humanistic interpretation. Collaboration is therefore not new: digital projects often depend on teams that combine archival, linguistic, historical, design, and technical expertise (Deegan & McCarty, 2012). AI changes the scale and immediacy of that collaboration. A scholar can now interact directly with systems that classify, retrieve, translate, generate, visualize, or recommend. Applied humanities adds another layer

because humanistic knowledge is mobilized in education, healthcare, cultural institutions, policy, communication, and design. In these contexts, AI is not only a research instrument; it can shape decisions, interfaces, narratives, and encounters with publics.

2.2. Phenomenology as a conceptual lens

Van Manen's (2016) phenomenology of practice is concerned with meaning as it appears in lived situations and with reflective writing that remains attentive to experience. In empirical phenomenology, such attention normally requires rich experiential material from participants or first-person accounts. The present paper does not possess such primary data. Accordingly, it does not claim empirical phenomenological validity. It adopts a conceptual phenomenological lens: published descriptions of AI-mediated practice are interpreted to identify structures of experience that deserve further empirical investigation. This distinction is methodologically important. The paper offers theoretically informed sensitizing concepts rather than findings about a defined population.

2.3. Information, agency, and ethical mediation

The framework also draws on the philosophy and ethics of information. Floridi's work treats informational environments as ethically significant and broadens attention beyond isolated human actions toward relations among agents, artifacts, data, and environments. This is useful for humanities scholarship because AI systems participate in an infosphere of texts, metadata, rankings, training corpora, prompts, interfaces, and institutional rules. Yet participation should not be confused with human understanding. Current generative systems can exercise consequential agency without possessing the reflective vulnerability, historical self-understanding, or moral accountability expected of human interlocutors. This asymmetry is central to the concept of relational ambiguity developed below.

3. METHODOLOGY: CONCEPTUAL PHENOMENOLOGICAL LITERATURE INQUIRY

The original manuscript described the study as a phenomenological inquiry while relying exclusively on literature. To remove that mismatch, the revised method is explicitly defined as a conceptual phenomenological literature inquiry. Its purpose is theory construction and philosophical interpretation, not empirical description of a participant sample.



3.1.Literature selection

The corpus was purposively assembled to represent four domains needed by the research question: (a) digital and applied humanities practice; (b) philosophy and phenomenology of technology and information; (c) critical studies of algorithmic bias, opacity, and human–machine interaction; and (d) AI ethics and governance. Foundational works were retained when they established concepts used in the argument, while recent scholarship and policy frameworks were added to address contemporary generative AI. Sources were included when they directly informed at least one analytic dimension, epistemology, ontology/agency, ethics, or temporality, and excluded when AI was merely incidental. The review is therefore integrative and purposive rather than systematic; it does not claim exhaustive coverage or meta-analytic generalizability.

3.2.Analytic procedure

Analysis proceeded in four stages. First, sources were read for explicit descriptions of what AI enables, constrains, accelerates, obscures, or redistributes in scholarly and applied practice. Second, these descriptions were grouped under the four analytic dimensions. Third, recurrent tensions were compared across domains—for example, acceleration versus reflection, assistance versus deskilling, personalization versus homogenization, and collaboration versus dependency. Fourth, the tensions were interpreted phenomenologically by asking how AI changes the scholar's relation to time, evidence, other interpreters, and responsibility. The four conceptual constructs presented in Section 4 emerged as interpretive syntheses of these recurring tensions. They should be understood as propositions for further debate and empirical testing, not as coded themes with frequency-based evidential status.

3.3.Reflexivity and limitations

Conceptual synthesis is shaped by the authors' theoretical choices. To limit overreach, the analysis distinguishes claims supported by prior research from concepts introduced by this paper, explicitly addresses counterarguments, and avoids treating 'the humanities' as a homogeneous domain. Practices differ across literary studies, history, archaeology, language education, design, cultural heritage, and other fields. The corpus also remains weighted toward English-language scholarship. Global and decolonial perspectives therefore require deeper treatment in future work, particularly because AI infrastructures can privilege dominant languages, institutions, and epistemologies. Most importantly, no claim is made that the framework substitutes for interviews, observation, or other primary phenomenological research.

4. FINDINGS OF THE CONCEPTUAL ANALYSIS

The conceptual analysis identified four interrelated dimensions through which AI is reshaping scholarly experience and practice in digital and applied humanities: temporal dissonance, the algorithmic unconscious, technological reflexivity, and relational ambiguity. These dimensions emerged from bringing phenomenological reflection into dialogue with scholarship on digital humanities, critical AI studies, human–technology relations, and AI ethics. Rather than representing independent effects of AI, they describe interconnected aspects of the changing conditions under which humanistic knowledge is produced, interpreted, and evaluated. Together, they extend the conventional epistemological, ontological, and ethical discussion of AI by drawing attention to scholars’ relationship with the speed, mediation, assumptions, and apparent agency of AI systems. Table 1 provides a structured overview of these four conceptual findings and their significance for digital and applied humanities.

Table 1:
Four dimensions of AI-mediated humanistic inquiry

Dimension	Central tension	Conceptual contribution
Epistemological	Expanded discovery vs. unearned confidence	Technological reflexivity
Ontological/relational	AI as tool vs. AI as consequential participant	Relational ambiguity
Ethical	Visible rules vs. latent histories and values	Algorithmic unconscious
Temporal	Machine-speed output vs. slow interpretive formation	Temporal dissonance

As **Table 1** indicates, the four dimensions are analytically distinguishable but closely interconnected. Temporal dissonance concerns the tension between the accelerated processing capacities of AI and the slower interpretive practices traditionally associated with humanistic inquiry. The algorithmic unconscious shifts attention to the assumptions, biases, and epistemic priorities embedded within AI systems and their underlying data, while technological reflexivity describes the critical awareness required of scholars when working with such systems. Relational ambiguity, in turn, captures the increasingly complex position of AI within scholarly practice: although AI lacks human intentionality and interpretive responsibility, its outputs can nevertheless influence decisions, interpretations, and the production of meaning. These relationships suggest that the significance of AI for the humanities cannot be adequately understood through questions of efficiency or technical capability alone. The following subsections therefore examine each dimension in greater depth and clarify its implications for knowledge production, scholarly agency, and responsible AI integration.



4.1.Epistemology: from access to judgment

AI can broaden access to patterns, sources, translations, and provisional interpretations, but access is not equivalent to knowledge. The epistemological question is therefore not whether AI 'produces knowledge' in the abstract, but how AI-mediated outputs enter chains of scholarly justification. Generated fluency can obscure uncertainty; retrieval systems can rank some materials above others; and opaque models can make it difficult to reconstruct why an output was produced. The appropriate response is technological reflexivity: a disciplined practice of asking how a tool's data, interface, ranking, model behavior, and institutional context shape what becomes visible and plausible. Reflexivity requires source verification, comparison with non-AI pathways, documentation of consequential AI use, and deliberate preservation of moments in which scholars make independent interpretive judgments.

4.2.Ontology and relational ambiguity

AI complicates familiar distinctions between instrument and collaborator. It can propose formulations, reorganize evidence, generate alternatives, and influence the direction of inquiry. In this practical sense, it has consequential agency. Yet it does not enter dialogue under the same conditions as a human scholar: it cannot be held morally responsible in the ordinary sense, cannot disclose a lived standpoint, and does not experience the vulnerability of revising a belief in response to another person. Relational ambiguity names this asymmetrical condition. The scholar neither fully controls every consequence of the system nor encounters an equal interpretive subject. The concept therefore differs from simple 'human–AI collaboration': it highlights the need to assign responsibility precisely because influence and accountability are distributed unevenly.

4.3.Ethics and the algorithmic unconscious

Noble's (2018) account of algorithmic oppression demonstrates how computational infrastructures can reproduce structural inequality in visible social outcomes. The algorithmic unconscious proposed here is narrower and phenomenological: it refers to the latent assumptions and historical sediments that can shape a scholar's field of attention before explicit judgment occurs. Training data, content moderation, ranking logic, language coverage, benchmark design, and interface defaults can pre-structure which associations are readily available. The concept is not offered as a replacement for algorithmic oppression. Rather, it identifies an experiential and epistemic mechanism through which structural conditions may become normalized

in everyday scholarly use. Its practical implication is hermeneutic suspicion toward the mediating tool itself, not only toward the text being interpreted.

4.4. Temporality and temporal dissonance

Temporal dissonance describes the friction between machine-speed production and the slower temporalities through which humanistic understanding often develops. Acceleration can be beneficial when it reduces clerical work or makes exploratory comparison possible. It becomes problematic when speed silently becomes the criterion of good scholarship. The risk is a substitution of rapid completion for interpretive depth: the scholar may move from question to polished answer without dwelling in ambiguity, contradiction, or failed interpretation. A reflexive workflow therefore treats slowness as a methodological resource. Deliberate pauses, rereading primary materials, reconstructing provenance, and writing without AI at key interpretive stages can preserve the temporal conditions under which judgment matures.

5. COUNTERARGUMENTS AND RISKS

A credible account of AI in the humanities must consider reasons for resisting integration, not only conditions for responsible adoption. Four objections are especially important.

1) Loss of interpretive authority

If scholars increasingly accept machine-generated summaries, classifications, or prose, interpretive authority may migrate from accountable researchers to opaque systems. This is not solved merely by keeping a human nominally “in the loop”; the human must retain meaningful capacity to challenge outputs and reconstruct evidence.

2) Deskilling and dependency

Automation can weaken practices that are learned through repeated effort, including close reading, translation, bibliographic search, drafting, and argument reconstruction. Efficiency gains should therefore be evaluated against the long-term maintenance of disciplinary competence.

3) Academic labor and inequality

AI can redistribute rather than simply remove labor. Verification, prompt design, data cleaning, disclosure, compliance, and correction may create new burdens. Benefits may also be unevenly distributed across institutions, languages, genders, regions, and



employment categories. Claims that AI universally “enhances collaboration” must therefore be qualified by access, infrastructure, role, and discipline.

4) Cultural and epistemic homogenization

Models trained disproportionately on dominant languages and highly visible sources may make already powerful traditions easier to retrieve and reproduce. For digital and applied humanities, this raises a direct Global South and cultural-diversity concern: convenience can become a mechanism by which minority archives, local concepts, and non-dominant epistemologies are further marginalized.

6. ETHICAL AND GOVERNANCE FRAMEWORK

The ethical analysis is strengthened by connecting the conceptual framework to established normative approaches. A deontological perspective emphasizes duties not to deceive, discriminate, plagiarize, or instrumentalize persons. Consequentialist reasoning asks whether AI-mediated practices improve or damage welfare, access, research quality, labor conditions, and cultural diversity. Virtue ethics focuses on the character of the scholar: intellectual humility, honesty, patience, courage, and practical wisdom. These approaches are complementary rather than mutually exclusive in research governance.

At the policy level, UNESCO’s Recommendation on the Ethics of Artificial Intelligence centers human rights and dignity and emphasizes fairness, transparency, accountability, human oversight, diversity, inclusiveness, and AI literacy. The European Union’s AI Act adds a legally oriented, risk-based framework and transparency obligations for specified AI uses. Although not every humanities application is high-risk in the legal sense, these frameworks are relevant because they shift ethics from abstract aspiration toward governance practices such as documentation, oversight, impact assessment, transparency, and literacy.

7. PRACTICAL IMPLICATIONS FOR DIGITAL AND APPLIED HUMANITIES

The preceding analysis suggests that responsible AI integration in digital and applied humanities requires more than the adoption of new technological tools. If AI can influence the pace of interpretation, reproduce embedded assumptions, reshape scholarly judgment, and complicate the relationship between human and machine agency, then institutions must develop practices that preserve critical human engagement throughout AI-assisted research. The conceptual concerns identified in this study can therefore be translated into practical measures for researchers, educators, institutions, and

interdisciplinary teams. These measures should support the productive use of AI while maintaining interpretive accountability, methodological transparency, cultural sensitivity, and meaningful human oversight. Table 2 summarizes the principal recommendations emerging from this conceptual analysis.

Table 2:
Reflexive practices for responsible AI integration in humanities work

Practice	Operational implication
Preserve accountable interpretation	Use AI for exploration, comparison, transcription, or drafting where appropriate, but identify stages at which a human scholar must independently evaluate evidence and own the interpretive claim.
Document consequential AI mediation	Record the system, task, date, and role of AI when its use materially affects analysis, translation, visualization, classification, or published language.
Design for epistemic friction	Build pauses and verification into workflows. Require comparison with primary sources and non-AI search routes before accepting consequential outputs.
Audit cultural visibility	Check whether sources, languages, communities, or interpretive traditions are systematically absent or poorly represented. Where possible, include local and Global South scholarship rather than treating English-language visibility as representativeness.
Protect disciplinary skill	Use automation selectively so that students and researchers still practice close reading, source criticism, writing, and argumentation without machine assistance.
Apply proportionate ethics and governance	Match oversight to the stakes of the task. Public-facing, educational, employment-related, cultural-heritage, or sensitive-data applications require stronger documentation and review than low-stakes brainstorming.

These recommendations should not be understood as isolated technical safeguards but as interconnected components of a reflexive approach to AI-assisted humanities scholarship. Multidisciplinary collaboration can expose assumptions that

may remain invisible within a single disciplinary perspective, while AI literacy and continuing education can help scholars understand both the capabilities and limitations of the systems they employ. Transparent documentation of AI use is equally important because it enables readers and research communities to evaluate how algorithmic mediation may have influenced scholarly processes and outcomes. Human oversight, meanwhile, should extend beyond simply verifying AI-generated outputs to preserving interpretive authority and responsibility for consequential scholarly judgments. Finally, attention to linguistic, cultural, and geographical diversity is necessary to reduce the risk of epistemic narrowing and the marginalization of perspectives poorly represented in dominant AI systems. Taken together, these practices operationalize technological reflexivity by encouraging scholars to examine continuously how AI participates in, constrains, and potentially transforms the production of humanistic knowledge.

8. DISCUSSION

The revised framework shifts the argument from a broad claim that AI can 'bridge' digital and applied humanities toward a more precise proposition: AI reorganizes the conditions of mediation under which humanistic work occurs. Its most significant effects may therefore be indirect. A model need not replace a scholar to reshape scholarship; it can change the pace of inquiry, the visibility of sources, the distribution of cognitive effort, and expectations about what counts as an acceptable research process.

The four concepts are analytically connected. Temporal dissonance can encourage premature acceptance of outputs; the algorithmic unconscious can shape which outputs appear plausible; relational ambiguity can obscure who is responsible for decisions; and technological reflexivity provides a practical response by making mediation itself an object of inquiry. This integration also clarifies why the temporal dimension belongs throughout the analysis rather than appearing as an isolated observation in the introduction.

The framework does not imply that slow scholarship is always superior or that AI necessarily diminishes understanding. Computational speed can make previously impossible comparisons feasible and can free time for interpretation. The normative question is whether saved time is reinvested in judgment or converted into pressure for greater output. Similarly, AI collaboration can widen participation when it supports accessibility and translation, yet it can narrow intellectual diversity when dominant data and languages become default pathways. The effects are contingent on institutional design, disciplinary norms, infrastructure, and researcher practice.

The paper's conceptual claims now require empirical testing. Interviews, diary studies, observation, and comparative case studies could examine how scholars actually



experience temporal compression, when they defer to AI outputs, how they negotiate responsibility, and whether reflexive practices change outcomes. Such research should deliberately include different humanities disciplines, career stages, languages, and regions, especially contexts underrepresented in current AI scholarship.

9. CONCLUSION

AI does not merely add another instrument to digital and applied humanities. It alters the ecology of interpretation by changing relations among scholars, texts, data, institutions, audiences, and computational systems. A conceptual phenomenological approach makes these changes visible at the level of scholarly experience without claiming empirical access to lived experience that the present literature-based study does not possess.

The paper's central contribution is a four-part framework. Temporal dissonance names the tension between machine speed and interpretive maturation; the algorithmic unconscious identifies latent mediation that can pre-structure attention; relational ambiguity describes asymmetrical human–AI co-production; and technological reflexivity names the disciplined practice required to interrogate these conditions. Together, these concepts support a position of critical adoption: AI can assist humanistic discovery and application, but interpretive authority and ethical responsibility must remain accountable to human scholars and institutions.

Future work should move from conceptual propositions to empirical phenomenology and comparative case studies. The most important question is not whether the humanities will use AI, but what forms of attention, responsibility, diversity, and intellectual practice will be preserved or transformed when AI becomes ordinary infrastructure for thinking.

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