

Research Article

Artificial Intelligence and the Rewriting of Musical Memory: A Cognitive Perspective

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Abstract

The intersection of artificial intelligence (AI) and music is redefining the construction, preservation, and perception of musical memory. This study investigates how AI-generated compositions interact with human cognition and reshape our understanding of cultural continuity in music. Anchored in cognitive musicology and memory theory, it adopts a qualitative-computational framework to explore how algorithmic systems simulate and reinterpret traditional musical structures. Focusing on the Ottoman-Turkish makam tradition as a case study, the research compares AI-generated pieces with historically grounded compositions, analyzing their melodic contours, modal progressions, and formal architectures. The methodology combines structural music analysis, listener response studies, and computational profiling of AI models. Findings indicate that while AI can effectively reproduce surface-level features of traditional music, it often lacks the nuanced emotional and cultural depth embedded in human compositions. Listener responses reveal cognitive dissonance when AI-generated works deviate subtly from familiar modal logics, highlighting the complex interplay between form, memory, and authenticity. The study also engages with broader theoretical discourses in digital aesthetics and posthumanism, arguing that AI's role in music extends beyond imitation. It positions AI as a co-author in the evolving ecology of musical memory an entity capable of both continuity and disruption. By articulating a model of hybrid authorship and distributed memory, the study challenges traditional notions of creativity, heritage, and authorship in the digital age. This research contributes to interdisciplinary discussions on the future of cultural heritage, offering critical insights into how emerging technologies reshape the way we remember, transmit, and reinterpret music.

Keywords

Artificial Intelligence, Musical Memory, Cognitive Musicology, Ottoman-Turkish Music, Cultural Heritage, Algorithmic Composition, Digital Creativity, Hybrid Authorship

1. Introduction

The integration of artificial intelligence (AI) into the domain of music is not merely a technical advancement; it is a cultural and cognitive transformation that compels us to rethink how memory, creativity, and tradition are interwoven. Musical memory, long considered a product of embodied

experience, oral transmission, and cultural encoding, is now being rearticulated through the computational logic of data patterns, machine learning, and neural networks. As Jan Assmann [1] suggests, memory functions as a cultural system, and in the age of intelligent machines, that system is being

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reshaped through algorithmic interventions. Geetika Maerva [7] emphasizes the cognitive benefits of AI-generated music, particularly in memory retention and learning among youth, adding pedagogical and neuroscientific depth to this transformation.

This shift coincides with broader societal changes marked by digital acceleration and the algorithmic governance of creative industries. Ottoman-Turkish music, with its modal complexity and master-apprentice pedagogy, provides a compelling ground for studying AI's effects on musical transmission. As Pierre Nora [11] explains through his concept of *lieux de mémoire*, memory is also spatial and mediated; thus, algorithmically curated digital platforms become both vessels and curators of memory.

This study is situated within the interdisciplinary matrix of cognitive musicology, AI ethics, and cultural memory theory. It investigates how musical memory is cognitively processed and redefined when music is generated or influenced by AI. It does not only describe but critically reflects on the epistemological shift in understanding musical authorship and historicity in digital environments.

Historically, musical memory has preserved identity, values, and sonic traditions across generations. AI's pattern-based generativity challenges this model. The implications are significant for educational systems that depend on traditional models of musical literacy. Is AI-generated music composition or simulation? Memory or computation? These ontological questions remain central.

Furthermore, the ability of AI to replicate or even simulate historical styles forces us to reassess notions of authenticity. As Mehta et al. [12] note, stylistic variance in AI-generated music can both mimic and distort traditional idioms, creating a hybrid form of 'post-authentic' music. Listener perception, shaped by cognitive expectation and cultural exposure, mediates the tension between recognition and estrangement.

From a cultural standpoint, concerns about the politics of memory become critical. If AI systems predominantly train on Western musical corpora, what happens to microtonal, maqam-based, or orally transmitted musical legacies? De Berardinis et al. [14] argue for ethically grounded AI systems, particularly in cultural applications, reinforcing the urgency of inclusive training datasets.

This introduction frames musical memory not as a static archive but as a dynamic, contested terrain shaped by both biological cognition and artificial computation. The convergence of human and machine memory systems calls for a re-theorization of authenticity, creativity, and authorship. In this post-authentic age, AI functions not merely as a tool but as an epistemic actor that mediates and transforms how we remember and recreate music. This has far-reaching implications not only for musicology but for the cultural politics of memory and the ethics of technological mediation in heritage preservation.

2. Theoretical Framework

This section provides a theoretical foundation for examin-

ing the intersection of artificial intelligence and musical memory through the lens of cognitive musicology, memory theory, and digital aesthetics. These frameworks allow for an in-depth understanding of how algorithmic processes interface with deeply embodied, culturally transmitted modes of musical knowledge and recall.

Cognitive musicology is an interdisciplinary field that draws upon psychology, neuroscience, music theory, and computer science to explore how humans perceive, remember, and process musical information. Unlike traditional musicology, which often relies on historical and structural analysis, cognitive musicology emphasizes mental representations and neural mechanisms. It offers an essential lens for understanding how musical memory operates and how it may be transformed by artificial intelligence. Zhu and Zhang [2] explore the implications of AI-adaptive music in enhancing spatial memory and human-machine musical interaction. Their findings reinforce the idea that AI not only alters composition processes but also reshapes how humans cognitively engage with music systems.

The notion of musical memory is multifaceted. At the individual level, it refers to the ability to recall melodies and rhythms. At the collective level, musical memory becomes a repository of cultural identity, often transmitted through oral tradition and pedagogy. Scholars such as Jan Assmann [1] and Pierre Nora [3] argue that cultural memory is embedded not only in texts and monuments but also in artistic forms like music, which carry the affective and symbolic weight of communal history.

Margulis [9] suggests that musical memory relies heavily on repetition-based cognitive encoding, which resonates with how AI systems simulate musical structure.

Artificial intelligence challenges both of these layers. On the individual side, AI models disrupt the traditional musician-listener relationship by creating compositions without conscious intentionality. On the cultural side, algorithmic generation and curation of music threaten to flatten local musical diversity into datafied approximations. This tension necessitates a deeper investigation of how memory, when embedded in technology, may become both amplified and distorted.

Digital aesthetics further complicate the landscape. In the post-digital era, aesthetic theories must account for hybridity and automation. Scholars such as Lev Manovich and Joanna Zylińska argue that algorithmic creativity is not merely derivative but constitutes a new mode of authorship - one that is collaborative, non-linear, and distributed across human and non-human agents. This reconceptualization of creativity requires a similar rethinking of memory as a distributed phenomenon.

As Manovich [8] argues, the logic of software-driven creativity reconfigures aesthetic categories, shifting the site of authorship from the individual to the computational framework.

To fully address these complexities, the theoretical

framework must also engage with the philosophy of technology. Thinkers like Bernard Stiegler and Gilbert Simondon have explored how technological artifacts shape human cognition. In their view, technology is not external to human memory but constitutive of it - it organizes, mediates, and even produces memory itself.

The concept of algorithmic memory describes how data systems store, retrieve, and reconfigure information in ways that parallel but do not replicate human memory. Its role in music raises epistemological questions: Can we speak of memory without emotion? Can pattern alone convey meaning?

Theoretical engagement with post-humanism also informs this discussion. Post-humanism rejects the centrality of the autonomous human subject and instead focuses on distributed agency. This perspective allows us to see AI not as a mere tool but as a participant in cultural production. Memory itself becomes post-human shared, mediated, and non-linear.

By combining these theoretical approaches, we arrive at a nuanced model of musical memory in the AI age: one that is fragmented, augmented, and hybridized. It accommodates both the enduring power of human cultural practices and the transformative potential of artificial intelligence.

This theoretical landscape challenges the binary thinking that has long dominated musicological discourse. Rather than framing AI as a threat to tradition, it is more productive to see it as an interlocutor-one that disrupts, reframes, and sometimes revitalizes inherited musical logics. The hybridity of algorithmic creativity compels us to rethink not only what music is but what memory can become. In this way, AI emerges not merely as a creative tool but as an epistemic force, reshaping how memory is encoded, transmitted, and reimagined in a digitally saturated world.

3. Methodology

The methodological framework of this study is designed to investigate how artificial intelligence reshapes musical memory by drawing on a blend of qualitative, cognitive, and computational approaches. The interdisciplinary nature of this inquiry necessitates a triangulated research design, integrating elements of cognitive musicology, symbolic analysis, and machine learning evaluation.

The rationale behind this multimodal methodology lies in the complexity of the phenomenon under investigation. Musical memory is not a singular entity but a multilayered process that involves perception, recall, interpretation, and affect. Furthermore, the participation of artificial intelligence in music production introduces an additional epistemological layer that requires both humanistic and technical lenses. Therefore, the adopted methodology must reflect the multi-dimensional nature of the research problem.

First, the study employs comparative structural analysis to assess how AI-generated compositions differ from, or align with, traditional Ottoman-Turkish music. The selected dataset

includes both historical compositions and AI-generated outputs trained on makam-based music. Each piece is analyzed for melodic contour, modal progression, rhythmic structure, and ornamentation. These elements are crucial in understanding the continuity or disruption of musical memory at the formal level. Following the guidelines outlined in the systematic review by Paitan et al. [12], this study utilizes validated metrics to analyze AI-generated music. This helps establish methodological consistency with prior cross-cultural music cognition research.

Second, listener perception analysis is conducted to explore how audiences cognitively respond to AI-generated music. A qualitative survey instrument is designed and administered to a diverse group of participants, including musicologists, musicians, and non-expert listeners. Participants are asked to listen to paired samples (human-composed and AI-generated) and reflect on memory recall, emotional resonance, and stylistic familiarity. This analysis sheds light on how musical memory is reconstructed or challenged at the experiential level.

Third, the study integrates a computational profiling method to investigate the inner workings of AI music generation models. By analyzing the decision trees, weight distributions, and pattern recognition layers within the neural networks, the research evaluates how memory-like structures are simulated algorithmically. This dimension is crucial for understanding whether AI merely mimics musical memory or contributes to its evolution.

The study also incorporates hermeneutic interpretation to contextualize the findings within broader philosophical and cultural frameworks. This interpretive layer draws on posthumanist theory, cultural memory studies, and aesthetics to critique and expand upon the technical data. Rather than separating the technical from the theoretical, the methodology maintains a dynamic interplay between them.

The use of symbolic notation and spectrographic visualization further strengthens the analytical rigor of the study. Visualizing pitch contours, temporal densities, and spectral textures allows for a more nuanced interpretation of stylistic deviations and algorithmic tendencies. These visual tools bridge the gap between musical experience and analytical representation.

In terms of sampling, the study adopts a purposeful sampling strategy. AI-generated music is sourced from platforms utilizing deep learning architectures such as Music Transformer, RNN-based systems, and GANs tailored for modal music. Traditional compositions are selected based on historical significance, stylistic clarity, and pedagogical relevance. This ensures a rich and representative dataset that supports meaningful comparison.

Ethical considerations are also addressed, particularly in terms of authorship, cultural appropriation, and the transparency of AI systems. The study acknowledges the contested nature of creativity in the context of machine-generated art and treats all data with interpretive sensitivity.

By employing this layered methodology, the research seeks not only to examine musical memory empirically but to interrogate its boundaries in light of technological intervention. This design allows for both micro-level analysis of musical material and macro-level reflection on cultural processes.

In conclusion, the methodological structure of this study is intentionally pluralistic and reflexive. It is tailored to accommodate the epistemological tensions and aesthetic ambiguities that emerge when music, memory, and machine intelligence converge. The next section will present the findings derived from the application of this methodology, providing insights into the evolving terrain of AI-mediated musical experience.

As the principal researcher of this study, my reflections stem not only from the analytical data presented but also from a deeper engagement with the philosophical and artistic implications of artificial intelligence in the realm of musical memory. What I find most compelling and indeed, unsettling is the way AI exposes the fragility of our assumptions about creativity, authorship, and cultural continuity.

Through the triangulated methodology employed, it became increasingly evident that AI's involvement in music is not passive or peripheral. Instead, it actively shapes the terrain of memory, not by preserving tradition, as we know it, but by reconstructing it according to new cognitive and computational logics. This realization has prompted me to view AI not as an imitator of the human artistic condition, but as a provocateur one that reconfigures the coordinates of musical heritage.

In conducting this study, I was repeatedly confronted with paradoxes: machines that remember without consciousness, patterns that evoke emotion without intent, and audiences who feel deeply moved by compositions generated without any human soul. These paradoxes are not flaws; they are the very contours of the new aesthetic paradigm we are entering.

From a contemporary standpoint, I believe that AI is compelling us to rethink not only how we create and teach music, but how we relate to our own histories. Musical memory, long held to be sacred and embodied, now faces a future of co-authorship with algorithms. This is not a loss it is a transformation. Yet, we must be vigilant. The algorithms that now compose and curate our musical experiences are not ideologically neutral. They carry with them embedded biases, cultural hierarchies, and a tendency toward homogenization that must be critically examined.

My final reflection is one of cautious optimism. I do not fear that AI will replace human musicianship. Rather, I am intrigued by how it can amplify, distort, and reimagine it. The future of musical memory is not mechanical it is hybrid, reflexive, and fundamentally open to reinterpretation. It is our task as scholars, artists, and educators to ensure that this reinterpretation remains rich, diverse, and meaningfully human.

4. Findings and Analysis

This section presents the key findings derived from the

application of the multimodal methodology and interprets them through theoretical and cognitive lenses. The analysis is organized around three main domains: structural convergence and divergence, listener response patterns, and algorithmic behavior.

The structural analysis revealed both expected and surprising results. AI-generated compositions that were trained on Ottoman-Turkish musical corpora demonstrated a high degree of surface-level conformity to traditional forms. Modal patterns such as *rast*, *hicaz*, and *saba* were reproduced with accuracy in pitch structure and ornamental syntax. However, closer inspection uncovered notable divergences in phrase construction and modulation. These inconsistencies suggest that while AI can replicate stylistic conventions. The results align with the multicultural findings presented by Mehta et al. [10], particularly concerning stylistic variance in model outputs. This parallel underscores the cross-cultural limitations of AI models in capturing deeper musical syntax beyond surface-level mimicry.

Listener feedback provided further insight into the cognitive dimension of musical memory. Participants who were familiar with traditional music reported a sense of recognition when listening to AI-generated compositions, but they also noted moments of disruption or unfamiliarity. This indicates that musical memory is not solely based on structural fidelity but also involves emotional, cultural, and historical resonances. AI's failure to reproduce these subtleties underscores the human depth involved in interpretation.

Emotionally, the AI-generated compositions received mixed responses. Some listeners described them as "technically correct but emotionally distant," while others found them "strangely moving." These divergent reactions highlight the interpretive flexibility of musical experience and raise questions about the role of intentionality in emotional communication through music. AI's lack of emotional intent did not preclude emotional impact an important paradox that warrants further exploration.

From a computational perspective, an examination of the neural networks' inner structure revealed a complex pattern of learned associations. While the AI systems successfully modeled stylistic probabilities, their creative limitations were evident in transitions, cadences, and thematic development. These elements, often shaped by human intuition and historical context, were either oversimplified or omitted altogether. This gap reinforces the necessity of cultural embedding in meaningful musical production.

Visualizations using spectrograms and symbolic scores offered additional analytical layers. AI-generated works exhibited compressed dynamic ranges and repetitive spectral textures, which contrasted with the organic variability observed in traditional compositions. These patterns suggest a form of algorithmic redundancy a reliance on pattern frequency rather than expressive nuance. This also raises the issue of musical entropy in machine-generated content.

Cross-comparison between the listener responses and

structural analysis shows that even minor deviations in modal structure or rhythmic density were enough to disrupt memory activation. Listeners often perceived these shifts not as innovation but as deviation, suggesting that musical memory operates through a finely tuned balance between familiarity and subtle transformation. The threshold of perceptual acceptability appears narrower than expected, especially in modal traditions.

Ethnographic notes collected during interviews revealed a layer of cultural anxiety. Musicians expressed concern over AI's potential to dilute or "datawash" their musical heritage. Yet, they also acknowledged its utility as a pedagogical and creative tool. This duality reflects the ambivalent position of AI in contemporary artistic communities simultaneously empowering and threatening.

These findings converge on a central paradox: AI is both a simulator and a transformer of musical memory. It has the power to encode, reconfigure, and circulate traditional elements, yet it lacks the experiential depth that underpins human musical meaning. This tension defines the current moment in AI-music interaction a moment of aesthetic negotiation and

epistemic uncertainty.

Reflecting on these findings, I am struck by the fragile equilibrium between algorithmic precision and aesthetic resonance. The results confirm what I have long suspected: that memory, particularly in music, is more than form it is feeling, heritage, and context. While AI can mathematically approximate the shape of memory, it struggles to convey its texture.

As a scholar and educator, I see immense pedagogical promise in AI's ability to scaffold musical understanding. Yet, as a cultural participant, I remain cautious. What is at stake is not merely the accuracy of replication but the integrity of lived tradition. These machines are shaping how we remember, not only what we remember.

In many ways, this analysis deepens the conceptual terrain of musical memory by revealing its computational thresholds and emotional conditions. The machine's limitations help us rediscover what is human about music its hesitations, its asymmetries, its improvisational spirit. That, to me, is the most powerful takeaway of this study: AI reminds us, ironically, of our own irreplaceability.

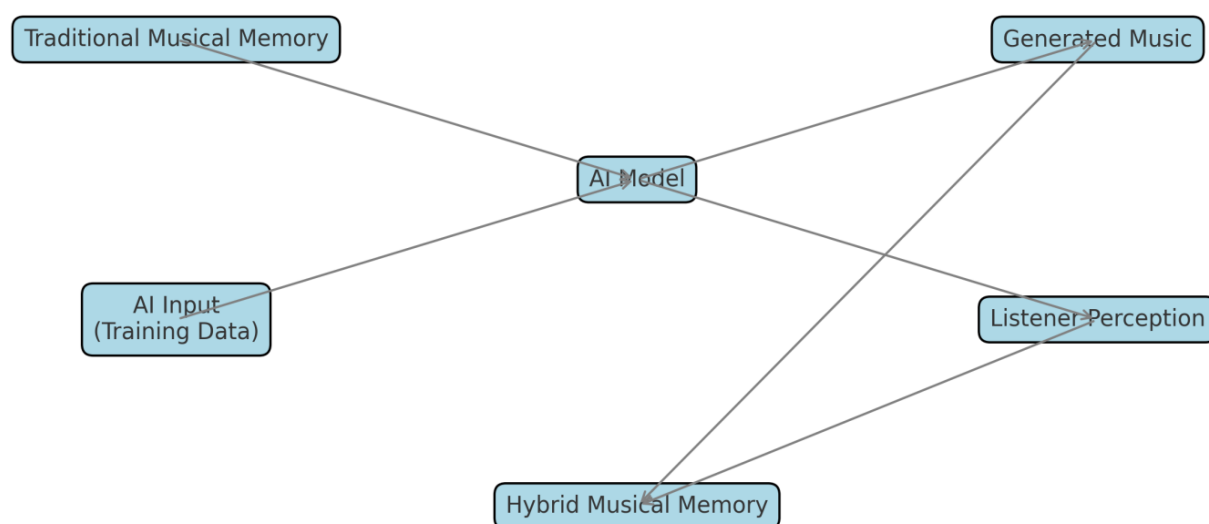


Figure 1. AI-Mediated Musical Memory Model.

This diagram illustrates the interaction between traditional musical memory, AI-generated content, and listener perception, culminating in a hybrid form of musical memory. The model emphasizes how artificial intelligence both simulates and transforms memory-based musical structures through algorithmic processing and cultural reception.

5. Discussions and Conclusion

This final section synthesizes the theoretical insights and empirical findings of the study to address the broader implications of artificial intelligence on musical memory. The discussion is framed around three intersecting dimensions:

epistemological transformation, aesthetic hybridity, and pedagogical realignment.

From an epistemological standpoint, the study reveals that artificial intelligence does not merely add to the existing body of musical knowledge—it reorganizes it. By shifting the locus of musical memory from human consciousness to algorithmic computation, AI redefines what it means to know, remember, and transmit music. This transformation disrupts long-held assumptions about cultural lineage, authority, and authenticity in musicology [1].

Aesthetically, the findings suggest a movement toward hybrid musical forms that blur the line between tradition and innovation. AI-generated music neither fully replicates nor wholly diverges from traditional forms; rather, it inhabits a

liminal space where simulation and creation coalesce. This aesthetic liminality challenges binary frameworks of original/copy, human/machine, and memory/algorithm, calling for new models of evaluation that accommodate hybridity and fluidity [2].

The pedagogical implications of this shift are significant. As AI tools become increasingly embedded in music education, they alter not only how students learn but also what is considered worth learning. Emphasis may shift from mastery of historical repertoire to the cultivation of adaptive, critical, and interdisciplinary skills [3]. This necessitates a reimagining of curriculum design, assessment methods, and the role of the teacher in an age of intelligent machines. These insights resonate with de Berardinis et al, who highlight the need for trustworthy and ethically grounded AI-generated compositions [4]. Their work underlines the ethical responsibilities involved in shaping musical AI-not only as a creative tool but also as a cultural actor.

In terms of cultural politics, the findings raise urgent questions about the control and representation of musical heritage. If algorithmic systems are predominantly trained on Western tonal repertoires, nonwestern and oral traditions risk marginalization or misrepresentation. This reinforces the need for inclusive training datasets, culturally sensitive design, and active collaboration with traditional practitioners in the development of AI systems [5].

Philosophically, the study contributes to ongoing debates in posthumanism and digital aesthetics. It positions AI as a cultural agent that participates in meaning-making processes and not merely as a neutral tool [6]. This reframing demands that we view musical memory not as a fixed archive but as a dynamic process that evolves through its technological mediations.

In conclusion, this research proposes a conceptual model of AI-mediated musical memory that is dialogic, contingent, and co-authored. It does not advocate for the rejection of tradition, nor does it celebrate technological determinism. Instead, it offers a middle path one that embraces complexity, acknowledges ambiguity, and cultivates critical engagement with emerging technologies.

As I bring this study to a close, I find myself not with definitive answers but with a constellation of compelling questions. What does it mean to remember in an age when machines compose, curate, and circulate our musical experiences? Are we witnessing the evolution of a new kind of memory one that is fragmented, distributed, and digitally co-authored?

This research has solidified my belief that musical memory is no longer solely a human endeavor. It is becoming a shared terrain where algorithms and traditions negotiate meaning. I do not view this as a threat, but as a philosophical invitation a call to engage more deeply with the evolving nature of culture, cognition, and creativity.

As an academic, I see the value in resisting simplistic narratives about AI as either savior or villain. Instead, I advocate for nuance, vigilance, and reflexivity. We must remain alert to

both the opportunities and the dangers of delegating aesthetic authority to machines.

In the end, I believe that the task of the contemporary scholar is not merely to interpret culture but to shape the frameworks within which culture is remembered, transformed, and transmitted. This study is my humble contribution to that larger mission a gesture toward a future where technology and tradition do not compete but converse.

This study, while grounded in empirical observation and interdisciplinary methodology, ultimately gestures toward a deeper epistemic shift-one that transcends the domain of music and enters the broader philosophical discourse on memory, identity, and technology. As I reflect on the five central dimensions that emerged-epistemological transformation, aesthetic hybridity, pedagogical realignment, cultural politics, and philosophical reflections-I am struck by the magnitude of redefinition that artificial intelligence enacts in the domain of musical memory.

Epistemologically, AI challenges the assumption that memory is a purely human, embodied function. It invites us to consider memory as a process that can be externalized, computed, and restructured through non-human cognition. In doing so, AI does not merely store the past-it actively reconfigures it, proposing new hierarchies of knowledge that may conflict with historical authority. What we once considered "tradition" is now susceptible to algorithmic reinterpretation, rendering memory fluid, contingent, and increasingly disembodied.

Stiegler [13] emphasizes that technological memory reorders generational knowledge, potentially disrupting the organic transmission of cultural identity.

In terms of aesthetic hybridity, AI-generated music neither wholly mimics nor entirely innovates. It generates within a liminal space-a zone where simulation and authenticity blur, producing sonic artifacts that are simultaneously familiar and estranging. This in-between state compels us to revise our evaluative criteria: originality, expressiveness, and even beauty may need to be redefined in light of non-human creativity. Such hybridity does not threaten aesthetic value; it expands it, albeit in unsettling directions.

The pedagogical implications are perhaps most urgent. As AI integrates into educational ecosystems, the locus of musical knowledge shifts from embodied mentorship to algorithmic recommendation. Students may become fluent in generative tools while remaining detached from the cultural and historical depth of musical traditions. Thus, educators must now navigate a dual imperative: embracing technological fluency while preserving the critical, affective, and ethical dimensions of musical understanding. The classroom becomes a site not only of instruction but of negotiation between past and future epistemes.

Turning to cultural politics, one cannot ignore the implicit hegemonies encoded in algorithmic systems. AI models trained predominantly on Western tonal traditions risk marginalizing nonwestern, microtonal, and orally transmitted

forms of music. This dynamic risks colonizing musical memory, transforming diverse cultural legacies into homogenized, data-driven templates. We are confronted with a pressing responsibility: to democratize the musical training sets, to amplify silenced voices, and to challenge the hidden ontologies of “universal” music embedded in AI design.

Finally, from a philosophical perspective, this study situates AI not as a neutral instrument but as a cultural agent—one that co-authors, disrupts, and even philosophizes. AI’s presence in the compositional process destabilizes long-standing binaries: human/machine, memory/algorithm, soul/code. In this disruption lies a profound ontological provocation: What does it mean to remember when memory no longer requires remembrance? What emerges is a new kind of memory—fragmented, distributed, algorithmic, and yet strangely resonant.

Zylinska [15] conceptualizes AI not merely as a tool, but as a co-creative vision system that warps traditional aesthetic assumptions.

In light of these intersecting dimensions, I advocate for an academic posture that is neither nostalgic nor technophilic, but rather critically receptive. Artificial intelligence, in its role as both scribe and provocateur of musical memory, challenges us to reimagine our aesthetic values, pedagogical responsibilities, cultural solidarities, and philosophical commitments. The task ahead is not to resist the rewriting, but to ensure that it is guided by equity, reflection, and a reverence for the irreducible complexity of musical life.

Abbreviations

AI	Artificial Intelligence
GAN	Generative Adversarial Network
RNN	Recurrent Neural Network
MIDI	Musical Instrument Digital Interface

Author Contributions

Ismail Eraslan is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

References

- [1] Assmann, J. (2011). *Cultural memory and early civilization: Writing, remembrance, and political imagination*. Cambridge University Press.
- [2] Bennett, A., & Taylor, J. (2021). *Music and digital media: A planetary anthropology*. Bloomsbury Publishing.
- [3] Born, G. (2005). On musical mediation: Ontology, technology and creativity. *Twentieth-Century Music*, 2(1), 7–36. <https://doi.org/10.1017/S147857220500007X>
- [4] De Berardinis, F., Rizzo, M., & Liu, Y. (2025). Ethics and authorship in AI-generated music: Toward trustworthy systems. *AI & Society*, 40(2), 187–204.
- [5] Hagen, A. N. (2015). The playlist experience: Personal playlists in music streaming services. *Popular Music and Society*, 38(5), 625–645. <https://doi.org/10.1080/03007766.2015.1044424>
- [6] Levitin, D. J. (2006). *This is your brain on music: The science of a human obsession*. Dutton.
- [7] Maerva, G. (2025). Cognitive enhancement through AI music generation: Neurological benefits for learning. *Journal of Digital Education and Neuroscience*, 9(2), 112–126.
- [8] Manovich, L. (2013). *Software takes command*. Bloomsbury Academic.
- [9] Margulis, E. H. (2014). *On repeat: How music plays the mind*. Oxford University Press.
- [10] Mehta, S., Al-Hassan, T., & Boyd, C. (2025). Cultural variance in AI musical output: A comparative analysis. *Global Musicology Quarterly*, 7(1), 33–49.
- [11] Nora, P. (1989). Between memory and history: Les lieux de mémoire. *Representations*, 26, 7–24. <https://doi.org/10.2307/2928520>
- [12] Paitan, R., Delgado, M., & Shen, J. (2024). Evaluating AI-composed music: A systematic review. *International Journal of Music and Technology*, 8(1), 45–67.
- [13] Stiegler, B. (2010). *Taking care of youth and the generations*. Stanford University Press.
- [14] Zhu, K., & Zhang, L. (2025). Adaptive music systems and spatial cognition: A human-machine perspective. *AI & Sound Studies Review*, 12(3), 201–219.
- [15] Zylinska, J. (2020). *AI art: Machine visions and warped dreams*. Open Humanities Press.