Creative Compression: Rethinking Musicianship in AI-Mediated Music

Laura Bouget
Department of Musicology
Sorbonne University
laura.bouget@etu.sorbonne-universite.fr

Abstract

This paper introduces the concept of creative compression to describe the temporal transformation of music-making in AI-mediated environments. New digital platforms collapse traditional stages of composition and production into near-instantaneous workflows, reshaping both creative practice and cultural value. Drawing on theories of affordance, dispositif and social acceleration, the paper analyzes how prompt-based composition reconfigures musicianship at both micro and macro levels. At the micro level, creative agency shifts from embodied practice toward curation and prompt literacy. At the macro level, accelerated production contributes to cultural saturation, redefines authorship and challenges traditional notions of originality. Situating these developments within longer histories of technological mediation, the paper argues that AI-driven music exemplifies a broader "generative turn" in which artistic creation becomes distributed, accelerated and increasingly ephemeral under conditions of creative compression.

1 INTRODUCTION

Thinking, writing, arranging, recording, revising and refining over days, weeks, months or even years. This is the traditional music-making path from an initial idea to a finished piece. This temporal investment is not a logistical necessity but a constitutive part of the creative process. Indeed, it allows ideas to mature and evolve through time and lived experiences. With the emergence of AI-driven platforms such as Udio and Suno, this arc has been radically compressed. A process that once required extended periods of heavy work can now yield a complete track in a matter of minutes. We will refer to this phenomenon as creative compression[1]: the condensation of the creative timeline through technological mediation, in which different stages of ideation, production and realization are collapsed into an almost instantaneous workflow. While this acceleration offers unprecedented speed and accessibility, it also reshapes the temporal dynamics of musicianship, potentially altering the cultural perception of music itself. This paper critically examines the implications of creative compression in AI-mediated music across two levels: a micro-level focus on creative workflows, and a macro-level perspective on cultural and economic dynamics. It makes two main contributions. First, it develops the concept of "creative compression" as a framework for understanding how AI systems restructure the temporal dynamics of music-making. Second, it situates this transformation within broader cultural and historical processes of technological mediation, offering a critical perspective on how AI reshapes musicianship, authorship and musical value in the context of the generative turn.

2 METHODOLOGY

This paper adopts a qualitative, theory-driven approach to analyze AI-mediated music production. The analysis is based on observational engagement with AI-driven platforms and software, focusing on user–system interactions, prompt-based workflows, and generated outputs. The study is structured across two analytical scales. On a micro level, it compares the workflows of conventional composition and AI-generated music to highlight how temporal structures are reconfigured in practice. On a macro level, it explores how this acceleration intersects with broader cultural dynamics, including questions of value, saturation, and the shifting aesthetics of music-making in the 21st century.

3 CONTEXT

AI-mediated music production can be understood as part of a broader shift toward prompt-based creative systems. In this paradigm, the act of musical creation begins with the formulation and the input of a textual or semantic instruction. In platforms such as Udio and Suno, musical creation is initiated through prompts that function simultaneously as instructions and generative seeds, activating a latent space of stylistic possibilities embedded within the AI model.

[1] The expression "creative compression" is not widely established in academic discourse on music or AI. While it has occasionally appeared in literary and media studies contexts to describe condensed narrative or expressive forms (e.g., Karam, Khaled M. about *creative literary compression*), this paper applies it as a new conceptual category to music-making, specifically in the context of AI-mediated production workflows.

In practice, prompts may range from highly specific descriptions to more referential formulations, and even to linguistically formed but semantically incoherent inputs. This may involve describing the intended atmosphere in precise narrative terms, for instance "a melancholic electronic synth ballad at 70 BPM, featuring breathy female vocals layered with subtle harmonies, glitchy percussive artifacts, granular textures, and evolving ambient pads, with long-tail reverb and sparse piano motifs, creating a sense of isolation, fragility, and late-night introspection." Prompts can also invoke specific artists as stylistic anchors, such as "in the style of Björk and FKA twigs," or rely on tag-based systems that guide the generative process toward a particular sound world. These inputs guide the system toward particular aesthetic outcomes, often supported by interface elements such as tags, presets, and regeneration tools. On platforms such as Rate My Music, users often refine such tags, developing shared vocabularies that optimize the model's output. At the same time, a single minimalistic input such as " relaxing beat for studying," can lead to a fully arranged and mastered track in under a minute.

At the other extreme, prompts that may be syntactically structured or not, and semantically meaningful or incoherent, can still produce coherent sonic outputs. Even when the instruction appears arbitrary or devoid of clear meaning, it nevertheless operates as a linguistic signal that the model is able to interpret and translate into structured musical material. This range highlights both the interpretative flexibility and the opacity of generative systems, which are able to process and respond to a wide spectrum of inputs regardless of their coherence or semantic clarity. Every prompt is treated as an actionable signal, revealing the model's ability to extract patterns and generate sonic substance from any form of linguistic input. What might once have required hours or days of studio work is thus compressed into a near-instantaneous creative event, raising questions about whether the term "creation" still adequately describes this process.

The interaction between the user and the system can be understood through James J. Gibson's concept of affordance, referring to the actionable possibilities that an environment offers to an agent (Gibson, 1979). In the case of AI music platforms, interface elements such as buttons, style tags, and regeneration functions shape the range of stylistic options available, prioritizing immediacy and rapid iteration over more time-intensive forms of musical practice. These affordances do not merely make particular actions possible but make them immediately actionable. A regeneration button, for instance, turns what would previously have required a decision to re-record or rework a musical passage into an almost instantaneous operation. The temporal significance of the interface therefore lies not only in what it allows the user to do, but in how quickly these actions can be performed. This aligns with Foucault and Agamben's notion of the dispositif, understood as a socio-technical arrangement that structures not only what can be done, but also how it can be done (Foucault, 1978; Agamben, 2009). In this context, the AI interface does not simply facilitate creation, but subtly dictates the pace, sequence, and form of creative process. Whereas a conventional production workflow may unfold through successive stages of ideation, composition, arrangement, recording, editing, mixing and revision, each of these stages can involve extended periods of reflection. This reflection is part of a complex process involving uncertainty, doubt and reconsideration. At each stage, there is no predetermined path forward. A decision may lead to the next step, require returning to an earlier one, or even redirect the entire process, as intentions, emotions and artistic directions evolve over time. The creative process is therefore not simply a linear sequence of tasks, but an open-ended process in which decisions can be questioned, abandoned, revisited and transformed gradually. AI-mediated workflows can instead condense these temporalities into a rapid sequence of prompting, generation, evaluation and regeneration. The *dispositif* does not explicitly require the user to work in this way. By making generation and regeneration immediately available, it makes accelerated cycles of production and selection more natural than prolonged periods of development, uncertainty and revision. For example, when Udio delivers a full track in under a minute, the low temporal cost of regeneration reduces the incentive to remain with a single musical idea and instead encourages users to move rapidly between alternatives. Therefore, the interface becomes a dispositif that actively conditions the temporal experience of musicianship, not by imposing explicit constraints, but by shaping the field of possible actions and the rhythms through which they unfold. As Agamben suggests, dispositifs function by orienting, guiding and modulating practices and behaviors. In this case, the interface privileges immediacy, iteration and responsiveness over duration, patience and gradual development. In doing so, it reconfigures the very way in which musical time is inhabited and perceived. In this sense, musical time itself is compressed within these mediated processes.

The phenomenon can be situated within a broader cultural logic of acceleration. Hartmut Rosa's theory of social acceleration describes how technological developments reduce the time required for action, producing a constant pressure to "keep up" with the speed they enable (Rosa, 2013). In parallel, Jonathan Sterne's work on the temporalities of reproduction highlights how media technologies reshape not only the speed of production, but also the rhythms and patterns of consumption (Sterne, 2012). His analysis of mp3 compression is particularly relevant here because compression is not neutral. It involves determining what can be removed while preserving what is considered essential. As Sterne argues, "Encoded in every MP3 are whole worlds of possible and impossible sound and whole histories of sonic practices." (Sterne, 2012, p. 2). Applied to creative processes, this raises a similar question of what is considered valuable and what can be compressed when musical production is reorganized around instantaneous generation. These dynamics are evident in AI-mediated music. Platforms collapse the time of composition, production, and distribution into a single moment of interaction. A track can be generated,

shared, remixed and forgotten within the same day, contributing to an increasingly rapid cycle of cultural production and obsolescence. Temporal compression has thus become a defining feature of contemporary creative industries. In this context, Udio and Suno are not anomalies, but rather intensified expressions of a broader temporal regime in which artistic time is both accelerated and flattened. AI-mediated music does not simply accelerate existing practices, but fundamentally transforms the temporal structure of musical experience.

From a historical perspective, this transformation can be understood as part of a longer trajectory of musical automation and technological mediation. From recording technologies to digital audio workstations, each innovation has progressively reshaped the relationship between time, labor and musical production. AI systems extend this trajectory of the bedroom production revolution, further reducing technical barriers and empowering individuals to create without traditional gatekeepers. However, they push this logic to an unprecedented extreme. Where digital audio workstations once compressed the time of recording and mixing, prompt-based generation collapses the entire compositional arc into a single moment of interaction. In this context, AI music platforms exemplify the broader "generative turn," in which artistic creation becomes increasingly mediated, accelerated and automated. Rather than replacing human creativity, these systems reconfigure its conditions, shifting the role of the musician from producer to curator, and redefining the temporal and conceptual boundaries of musical practice. The result is not simply faster music-making, but a fundamental transformation of what it means to inhabit musical time.

4 MICRO-LEVEL CONSEQUENCES: COMPRESSION OF CREATIVE TIME

The temporal transformations described above have direct consequences at the level of everyday musical practice. In this section, the comparison with pre-AI music-making focuses primarily on composition and production workflows in which musical material is progressively developed through writing, arranging, recording, editing and mixing, particularly within DAW-based environments. This does not encompass the full range of compositional practices, such as staff notation or live improvisation, but establishes a specific point of comparison for examining how AI-mediated systems compress the time traditionally involved in refining musical material.

At the micro level, creative compression is reshaping the structure of the creative workflow, reorganizing the skills required in the creation process. Instead of patiently developing a sonic idea through extended rehearsal or production, the user's creative energy is redirected toward generating and filtering multiple outputs in rapid succession. What once unfolded as a gradual deepening of material now appears as a curating process. For example, a user may produce dozens of generated variations of a track in seconds and simply select the most satisfying outcome, shifting the creative act from step by step transformation to instant selection. This shift from continuous development to discrete interaction resonates with Christopher Hasty's theory of musical temporality, in which musical meaning emerges through processes unfolding in time rather than through pre-formed structures (Hasty, 1997). In other words, meaning is built in time. Here, Hasty's approach is mobilized from the perspective of creation, rather than reception, as the focus of this paper is the compression of the creative process through which musical material takes shape, rather than the temporal experience of listening. Musical material is not treated as a pre-existing structure to be realized but as something that unfolds through successive acts of engagement. This allows us to consider how musical meaning emerges through the temporal evolution of that material. In this perspective, musical creation is not simply the execution of predefined ideas, but a dynamic process shaped by temporal continuity and experiential engagement. By compressing this temporal unfolding, AI systems alter how the meaning is formed. Instead, musical meaning feels produced and selected rather than gradually formed and experienced. The creative operation thus shifts from a temporal continuum to a series of discrete, accelerated interactions.

Indeed, this curatorial mode of musicianship brings both empowerment and limitation.

On the one hand, it reduces technical barriers: a user no longer needs to master harmony, production software or mixing skills to create a convincing track. This expertise previously required months or even years of study, whether self-taught through countless hours of YouTube tutorials or acquired in expensive sound-engineering and music schools. Nowadays, they can be bypassed in seconds. In this sense, AI-driven platforms carry an empowering potential, breaking open a domain once guarded by technical gatekeeping and artistic "snobbery", making the act of producing music accessible to anyone with a laptop and an idea. In fact, even without a clear idea or any idea at all, the system will still generate an output. For instance, one could type a seemingly arbitrary prompt, "turquoise blue table", and the model would still produce a track. The interest then lies less in the semantic clarity of the prompt than in how the system interprets and reconfigures fragments of meaning within its latent space. This opacity turns even nonsensical prompts into generative seeds, highlighting both the flexibility and the unpredictability of AI-mediated composition.

On the other hand, this very immediacy risks flattening creative agency to acts of description and selection. Traditional forms of musical expertise, such as instrumental proficiency or compositional technique are partially displaced by a new form of competence. This displacement should be understood specifically in relation to production workflows rather than musical performance more broadly: in live performance and improvisation, embodied instrumental expertise remains central. Returning to this AI-mediated pipeline under discussion, musical skill becomes entangled with what can be called "prompt literacy." This refers to the ability to translate aesthetic intentions and intuitions into

effective textual instructions that can guide the generative system toward desired outputs. Rather than manipulating sound directly, users engage with language as the primary medium of creation. The creative act becomes one of description, specification and selection, where success depends on the capacity to navigate and exploit the affordances of the interface. In this sense, musical skill is not eliminated, but reconfigured within a different semiotic and operational framework. While this literacy is undoubtedly creative, it diverges from embodied traditions of music-making, where time spent practicing or composing was itself a mode of discovery. This aligns with David Sudnow's account of musical practice, in which knowledge emerges through embodied, situated interaction with an instrument rather than through abstract instruction (Sudnow, 1978). By contrast, AI-mediated systems displace this embodied engagement, shifting musical knowledge from physical exploration to linguistic input and interface navigation.

This shift also destabilizes the identity of the music-maker. Interestingly, throughout this analysis on AI platforms, the term "user" has consistently been preferred to "creator". This semiotic choice is revealing, reflecting the ambiguity introduced by AI-mediated systems. This terminological uncertainty reflects a broader difficulty in identifying the role occupied by the human participant in AI-mediated creation. The individual interacting with the platform occupies a hybrid position between creator, consumer and merely an operator interacting with the system. Rather than originating musical material through embodied practice, the user selects, filters, and evaluates outputs generated by the system. This reconfiguration blurs the boundaries between creation, curation and consumption, emphasizing how AI reshapes not just practice but the very identity of the music-maker. The creative process becomes distributed across human input and machine generation, challenging traditional notions of artistic intentionality. In this context, musicianship is no longer defined solely by the ability to produce sound, but increasingly by the capacity to navigate algorithmic processes.

Taken together, these shifts illustrate how creative compression transforms music-making at the level of practice. By accelerating workflows, redefining skills and creative identity, AI-mediated systems fundamentally alter the conditions under which musical creativity takes place, laying the groundwork for broader cultural and economic implications.

5 MACRO-LEVEL CONSEQUENCES: COMPRESSION OF CULTURAL VALUE

At a macro-level, creative compression intersects with cultural and economic dynamics, reshaping how music is valued and consumed. The acceleration of production enabled by AI platforms risks saturating the musical landscape. When anyone can generate multiple tracks in minutes, abundance quickly becomes overabundance. For example, on platforms like SoundCloud, countless tracks are uploaded daily, many created with AI tools, making it harder for any single piece to stand out. This proliferation destabilizes traditional notions of scarcity and cultural significance, as the effort and time historically invested in music no longer serve as markers of value. This echoes Theodor Adorno's critique of the culture industry, where he argued that mass production tends to standardize cultural products, reducing them to interchangeable commodities. AI tools intensify this tendency by enabling reproduction leading to exponential generation, flooding the cultural space with new tracks that all compete for limited attention. In this environment, abundance easily becomes oversaturation. Contemporary artistic practices engaging with AI further illustrate both the creative potential and the overwhelming excess of generated content within digital environments. Artists like Holly Herndon have actively explored AI-assisted music, most notably in her album *PROTO*, where she trained an AI "baby" voice named Spawn to collaborate on compositions. Holly Herndon's work demonstrates the creative potential of AI while also highlighting the challenging amount of AI-generated tracks available online. Therefore, it becomes increasingly difficult for any single piece to capture sustained cultural attention.

The question of authorship also becomes more complex. Who exactly is the "composer" in AI-mediated music? Returning to the example discussed above, where a user enters a prompt, receives several complete musical outputs, and selects one with minimal modification, the question of authorship becomes particularly ambiguous. While this system illustrates the shift from production to curation at the micro level, it also raises a broader question about where authorship resides within this distributed process. Is it the *user* formulating prompts, the developers who trained the model or the collective body of artists whose work underlies the system's latent space? Creative compression disrupts conventional ideas of originality and authorship by shifting the creative act from producing to directing. As discussed above, the user often provides minimal input that triggers algorithmic recombination on a massive scale. The resulting track is less the outcome of individual craftsmanship than of a distributed process across human and machine agencies. This redistribution of authorship has profound cultural consequences. It challenges the notion of music as the expression of a singular artistic voice and instead frames it as the output of a hybrid system. In this sense, originality no longer resides in the material itself but in the way prompts are designed and then contextualized. The solitary figure of the composer gives way to a networked model of creation, where intention and identity are shared and blurred. This calls into a deeper question: what does originality mean under conditions of creative compression? Since AI systems generate outputs by drawing on pre-existing works embedded in their training data, novelty arises less from producing entirely new forms than from accelerating and amplifying the operation of recombination. In other words, the model's speed and scale make visible what

has always been part of artistic practice, the reworking of influences,[2] while simultaneously eroding the illusion that creation emerges in isolation. Within this compressed temporality, originality becomes less about inventing something new and more about recontextualization.[3] In practice, this means that value shifts from the uniqueness of sounds themselves to the way they are situated in new contexts. This is not entirely new. Sampling has long shown that recontextualization can be profoundly creative, but AI platforms extend this practice to unprecedented speed and scale. Therefore, this phenomenon risks generating an abundance of outputs that, while superficially different, share the same underlying grammar of the model. The danger is not just overproduction, but aesthetic flattening: when recombination becomes automatic, musical works may begin to feel interchangeable, their novelty measured more by immediacy than by depth. Once again, this dynamic echoes Adorno's concerns: if mass production risks flattening cultural difference, AI-driven recombination raises the question of whether originality itself risks being reduced to permutations of the same underlying grammar. In this light, creative compression not only accelerates production but also compresses the very spectrum of musical difference, narrowing originality into variations of the same underlying patterns. This reveals the paradox of AI music: by multiplying outputs at unprecedented speed, it may simultaneously reduce the depth and distinctiveness that give music its enduring cultural value. In multiplying musical possibilities, AI risks accelerating their cultural obsolescence, resulting in a form of what could be called cultural compression. This could be understood as a reduction of the lifespan and impact of cultural objects.

Finally, music becomes increasingly ephemeral, consumed as fleeting events rather than lasting cultural artifacts. In this sense, the macro-level implications of creative constriction mirror and amplify the micro-level transformations. Skills, identity and aesthetic judgment are all recalibrated within an accelerated interface-mediated musical ecosystem.

6 CONCLUSION

In conclusion, AI-driven creative compression reshapes music both as a practice and as a cultural phenomenon. At the micro level, it transforms how individuals engage with sound, privileging curation, prompt literacy and rapid decision-making over traditional craftsmanship. At the macro level, the acceleration and proliferation of outputs challenge established markers of value, blurring notions of authorship as well as compressing the temporal condition of cultural attention. This dynamic reveals a central paradox: AI makes music instantly, but in doing so, it risks altering the conditions through which value is attributed. Precisely because technology expands access and pushes experimentation to unprecedented speeds, it also forces us to reconsider what it means to create and to value. The future of AI and music may not lie in resisting AI, but in learning how to inhabit this accelerated space thoughtfully, inviting us to reconsider the creative process itself. This transformation calls for new forms of critical engagement. Indeed, it offers an opening to reflect on how technology mediates the very meaning of musical expression, and how human imagination can coexist with, and actually guide, the algorithmic tide. Even within this compressed landscape, there remains room for thoughtful engagement. Artists and listeners may still choose to inhabit the accelerated space critically, deciding how to navigate abundance without surrendering discernment. In this sense, the generative turn in music is not only technological, but epistemic: it requires rethinking what it means to create, to listen, and to attribute value in an age of saturation. The stakes lie in what may be lost when the time devoted to uncertainty and hesitation is compressed. What remains certain is that the rules of musical time have changed, and with them, the conditions of musical meaning.

AUTHOR DECLARATION

The author declares no conflicts of interest.

This research did not involve human participants and did not require ethical approval.

AI systems were used as objects of analysis and experimentation in this study. All outputs were generated using publicly available platforms.

REFERENCES

Adorno, T. W., & Horkheimer, M. (2002). Dialectic of enlightenment: Philosophical fragments (G. Schmid Noerr, Ed.; E. Jephcott, Trans.). Stanford University Press.

Agamben, G. (2009). What is an apparatus? And other essays (D. Kishik & S. Pedatella, Trans.). Stanford University Press.

Bloom, H. (1973). The anxiety of influence: A theory of poetry. Oxford University Press.

Foucault, M. (1978). The history of sexuality, volume 1: An introduction (R. Hurley, Trans.). Pantheon Books.

[2] The "reworking of influences" refers to the idea, notably developed by Harold Bloom (*The Anxiety of Influence*, 1973), that every artistic creation exists within a tradition and is shaped by interaction with prior works, rather than appearing completely out of nothing.

[3] As discussed by Mark Katz in *Capturing Sound: How Technology Has Changed Music* (2010), recontextualization describes the process by which existing sounds or fragments acquire new meanings when placed into different frameworks. In this sense, creativity lies less in producing unprecedented material than in reshaping the perception of what already exists.

Gibson, J. J. (1979). The ecological approach to visual perception. Houghton Mifflin.
Hasty, C. (1997). Meter as rhythm. Oxford University Press.
Karam, K. M. (2021). An experimental appraisal of the acquisition of creative literary compression versus descriptive texts. Creativity Research Journal.
Katz, M. (2010). Capturing sound: How technology has changed music. University of California Press.
Rosa, H. (2013). Social acceleration: A new theory of modernity (J. Trejo-Mathys, Trans.). Columbia University Press.
Sterne, J. (2012). MP3: The meaning of a format. Duke University Press.
Sudnow, D. (1978). Ways of the hand: A rewritten account. MIT Press.