



CAN AI LEARN TO AGE? DISMEDIATIONS IN PARIS

Judith Deschamps¹

¹Artist and researcher. She recently earned her Ph.D. from École Universitaire de Recherche (EUR) ArTeC in Paris.

Abstract

This paper investigates the intersection of artificial intelligence and the aging processes through two artistic research projects conducted as part of a practice-based doctorate at École Universitaire de Recherche (EUR) ArTeC. AI is frequently conceived in terms of performance, optimization, and transcending human limits. In other words, in terms of its omnipotence. In this article, however, I suggest considering AI in accordance with its material dependencies, its slowness, its failures, and the bodies it usually marginalizes. I propose placing childhood and old age, often excluded from contemporary technological practices, at the center of a critical and creative process. The projects *an-other voice* (2023), *La Mue* (2024) and *Quand la parole se mêle à des objets, qui se mêle à l'argile, qui se mêle à la machine* (2022-25) took place in two different sites within Paris: the Institute for Research and Coordination in Acoustics/Music (IRCAM), a collaborative research institute bringing together composers and scientists, and the Furtado Heine nursing home, a care facility for people requiring ongoing medical support.

Keywords

Aging, Artificial Intelligence, Dismediation, Participatory Art

Introduction

This paper investigates the intersection of artificial intelligence and the aging processes through two artistic research projects conducted as part of a practice-based doctorate at École Universitaire de Recherche (EUR) ArTeC. AI is frequently conceived in terms of performance, optimization, and transcending human limits. In other words, in terms of its omnipotence. In this article, however, I suggest considering AI in accordance with its material dependencies, its slowness, its failures, and the bodies it usually marginalizes. I propose placing childhood and old age, often excluded from contemporary technological practices, at the center of a critical and creative process. The projects *an-other voice* (2023), *La Mue* (2024) and *Quand la parole se mêle à des objets, qui se mêle à l'argile, qui se mêle à la machine* (2022-25) took place in two different sites within Paris: the Institute for Research and Coordination in Acoustics/Music (IRCAM), a collaborative research institute bringing together composers and scientists, and the Furtado Heine nursing home, a care facility for people requiring ongoing medical support. The first project involved the AI-mediated reconstruction of the voice of Farinelli, an 18th-century castrato, working with adolescent participants undergoing puberty. The second project comprised a series of fifteen workshops conducted with elderly residents, conceptualized as an artistic intervention wherein participants trained the language model GPT-3 while engaging with clay, subsequently collaborating with the AI in co-authored textual production. Both projects address critical moments of existential transformation, thereby positioning AI not merely as a technological tool but as a relational medium through which embodied human experience can be explored. They show that the significance of AI lies not only in its computational and generative capabilities, but in the way that it can be transformed and adopted to support practices of participation, transmission, and interpretation, which are constitutive of the processes of creation and subjectivization.

The Potential of Entropy

The primary theoretical concern of this paper is how the intersection of aging and artificial intelligence represents a dual process of invisibilization. Old age is marginalized through its characterization as economically unproductive and socially superfluous within technical systems that ascribe value exclusively to productive labor and functional bodies (Mussett, "Human Aging" 3). Artificial intelligence, on the other hand, is grounded in Cartesian

philosophical frameworks that establish a separation between mind and matter, a bifurcation that encourages conceptualization of AI as immaterial information divorced from material substrates. This theoretical positioning derives from an imaginary centered on performance metrics and technological progress; one that systematically elides the finitude inherent to all systems, whether biological or computational.

For philosopher Shannon M. Mussett, entropy should not necessarily be viewed as an enemy: “Thinking through and working within it provides a far more powerful countermeasure to nihilism than merely denying or fearing it” (*Entropic Philosophy* 4). Considering inevitable planetary collapse, Mussett proposes that we view entropic systems not as “exhausting themselves in a downward death spiral, but rather as diverse arrangements borrowing energies from each other in their circuitous, spiraling transformations” (140). This approach invites us to rethink decline, old age, and death as moments urging us to ethically and poetically reconfigure our relationship to the world. From this perspective, entropic inevitability does not prevent creativity and may even encourage the emergence of new possibilities.

Invisible Users

The systemic rejection of older adults from technological development processes demonstrates how ageist stereotypes become embedded within the construction and representation of digital technologies. Characterized as a demographic category in decline and perceived as technologically incompetent, elderly people are excluded from participatory design processes, thereby rendering them “invisible users” in the technological ecosystem, to borrow a term from Anne M. Kanstrup and Anja Bygholm (“The Lady with the Roses” 17-33).

Children also occupy the status of invisible users within technological development frameworks. Vincent Romagny argues that the devaluation of children’s agency originates from an adult-centric ideological construction (“Pourquoi politiser l'enfance ?” 221) predicated on the assumption that children represent incomplete and underdeveloped iterations of adulthood. This subordinate status delegitimizes children’s experiential knowledge, affective responses, and cognitive perspectives, as their subjectivity becomes mediated entirely through adult supervision within asymmetrical power relations.

My research posits a structural homology between the marginalization of childhood and that of old age, the latter considered a degraded—and therefore incomplete—form of adult experience. Confronting this recurring injustice in AI development requires a rethinking of existing methodological approaches. Rather than perpetuating a *design-for* approach, which maintains the epistemological authority of developers, we must adopt a participatory *design-with* framework that recognizes the situated knowledge of both children and elderly people as epistemologically valuable resources indispensable to the construction of more equitable and pluralistic technological systems.

Castration and Transhumanism

The first art project positioned children navigating puberty¹ as primary participants in training an artificial neural network to reconstruct the vocal qualities of the Italian castrato singer Farinelli, whose prepubescent castration was performed to preserve an androgynous vocal timbre.

Reconstructing Farinelli’s voice through machine learning provides a conceptual nexus highlighting the parallels between historical bodily intervention and contemporary technological aspiration. Farinelli’s voice merits analytical attention not as a natural phenomenon but as an artificially constructed artifact—literally requiring corporeal intervention in the eighteenth century. The practice of castration, which interrupted pubescent development and maintained prepubescent vocal characteristics (Barbier, *Histoire des castrats*), emerges as an epistemological precursor to contemporary transhumanist ideology. Both contexts share a fundamental axiom: that technological intervention can transcend biological constraints².

The neural network architecture developed at IRCAM incorporated five vocal typologies to account for the vocal heterogeneity of Farinelli’s timbre. Despite castration’s ostensible objective of preserving an unmediated child’s voice, Farinelli’s documented vocal output represented a synthesis of multiple registers (Desler, “Il novello Orfeo’ Farinelli”)—combining characteristics associated with prepubescent children, male and female voices. The neural network training involved two children, soprano, countertenor, alto, and light tenor recordings to reconstruct timbral and pitch qualities. The alto register, linking all the voices, was then extended computationally to encompass vocal ranges beyond its natural physiological limits.

¹ In this project, puberty—a transition as profound as the existential passage from life to death—echoes old age. Like the latter, puberty evokes a sense of uncertainty; indeed, it is impossible to know what one will become after this moment of transformation.

² Whereas castration fantasized about halting temporal development and maintaining eternal youth, transhumanist philosophy fantasizes about the elimination of aging and mortality through technological augmentation.

This generative process produced a polyphonic, temporally layered vocal construction that embraces both Farinelli's vocal multiplicity and the transformative changes in his voice throughout his life. Rather than replicating a homogenized, ethereal vocal ideal, the project deliberately emphasizes vocal hybridity and instability in opposition to the violent bodily optimization implicit in castration and the narrative of technological perfectibility central to transhumanist discourse.

From Song to Film

The technical complexities arising from the AI-driven voice synthesis process engendered a paradoxical outcome: while the neural network successfully reconstructed vocal parameters, it remained fundamentally incapable of grasping the embodied narratives surrounding vocal transformation. This computational constraint led to a methodological pivot toward filmic narrative as a means of recovering the subjective and relational dimensions that quantitative vocal analysis necessarily excludes.

The filmic tale³ *La Mue* functioned as an artistic alternative to the instrumental rationality of the acoustic laboratory research. By being constructed in parallel with the voice synthesis process, the film served a dual function: first, it remediated the sense of disconnect from technical operations caused by the highly specialized research environment, and second, it provided a narrative framework through which the participants could articulate experiences of corporeal transformation that resisted computational capture. Through fictional dramatization, the singers expressed their own embodied knowledge—the phenomenological reality of voice change—thereby restoring human agency and meaning-making to what the machine learning procedure had abstracted into timbre and pitch parameters.

This narrative strategy proved particularly generative for the three participants. Arthur's impending voice break, Elsa's navigation of gender transition amid puberty, and Vincent's experience of what he terms a “silent voice break” collectively demonstrate how vocal transformation intersects with identity formation in ways that exceed the technical scope of AI processing. Vincent's case is particularly instructive: his retention of his “authentic” high-pitched voice—deemed anomalous by medical authority—exemplifies how the human voice is a site of ontological resistance. This story resonates with Carol Gilligan's theoretical framework regarding the political dimensions of vocalization and the systematic erasure of marginalized voices within patriarchal structures (Gilligan and Snider 183).

Resisting Patriarchy

Both projects undertaken at IRCAM and the Furtado Heine nursing home contribute to the critical approach of resisting patriarchal systems as theorized by Carol Gilligan and Naomi Snider. Within a contemporary context wherein technological mediation increasingly displaces relational engagement with mere connection (Nurock 258), these artistic interventions reconceptualize listening as a political and relational practice.

Gilligan and Snider demonstrate how patriarchy operates through a systematic “conspiracy of silence” that prevents the articulation of lived experience and the recognition of embodied knowledge (Gilligan and Snider 70). According to the two authors, patriarchy functions as a structural force that transforms inherent human capacities for care and compassion into sources of shame and vulnerability, thereby perpetuating the suppression of human voice and agency. Listening, therefore, emerges not as a passive reception but as an active form of subversion—a deliberate interruption of the silence and a reconstruction of what Gilligan and Snider term the “bonds of love” that such systems persistently dismantle (Gilligan and Snider 185).

The positioning of marginalized voices at IRCAM and in the nursing home reflects a deliberate epistemological commitment. These two projects create spaces for intergenerational encounter wherein subaltern subjectivities gain audibility, recognition, and what Gilligan and Snider conceptualize as “resonance”—the harmonization of voices whose synchronized expression forestalls the conversion of grievance into despair and subsequent social detachment (Gilligan and Snider 184). Through this practice of relational attentiveness, both projects instantiate resistance to patriarchal silencing as a generative artistic methodology.

Touching AI with one's fingers

The second project, conducted at the Furtado Heine nursing home, extends and deepens the inquiry initiated at IRCAM by redirecting focus toward tactile and material dimensions. The experiential distance from technological systems encountered during the IRCAM residency, further exacerbated by pandemic-era anxieties regarding physical contact, prompted a deliberate methodological reorientation toward embodied practice. This reframing engaged a nursing home wherein corporeal materiality cannot be elided or abstracted.

In this context, the project sought to address a methodological challenge: how to make artificial intelligence systems accessible and meaningful to people who did not grow up with the internet or who feel disconnected from digital technologies? The proposed solution used clay as a mediating material. Participants took

³ The film takes the form of a tale or a fable, recounting moments of transition in life (childhood to adulthood and life to death).

part in a series of workshops during which they manipulated clay and incorporated everyday objects into it, a practice analogous to the data ingestion processes inherent in machine learning. The conversations recorded during these tactile sessions were then used as training data to fine-tune the GPT-3 language model, which participants subsequently used in collaborative writing exercises. Through this iterative training process, the model gradually assimilated the linguistic patterns and vernacular specificities of the older participants.

Clay was a means to resist technological disembodiment. Its material properties, temporal rhythms and malleability, established the parameters of a new human-AI interaction. Rather than instrumental efficiency, this approach prioritized relationality and sensitivity, deliberately slowing technological acceleration through haptic involvement. The reversibility intrinsic to tactile experience—to touch is also to be touched (Puig de la Bellacasa, “Touching Technologies” 298)—facilitated vulnerability and creative practices that were wobbly and non-instrumental.

Analysis of the fine-tuned model compared to the GPT-3 reference model revealed significant thematic bifurcations. The trained model showed an increased emphasis on topics such as fatigue, illness, and mortality, with discursive patterns reflecting the existential horizons of the participants. In addition, the language was found to be considerably less filtered and more direct than generic models, demonstrating greater linguistic freedom. These divergences suggest that machine learning models, far from being neutral or universal, absorb and reproduce the most recurrent features of their training data.

The blurred boundaries between the fragmented speech of elderly residents and the machine-generated discourse raise epistemological questions about the possibilities of collaborative knowledge production. It shows that engagement with AI in specific and underrepresented contexts can facilitate the implementation of more equitable and responsive AI systems, resisting both technological universalism and the marginalization of voices traditionally excluded from technological development.

Dismediation in a nursing home

To counter the predominantly “rehabilitative” paradigm of advanced technology, this project draws upon the theoretical framework of *dismediation*, as articulated by Mara Mills and Jonathan Sterne. Grounded in the premise that impairment is an inherent condition rather than an insurmountable impediment (Mills and Sterne, “Afterword II - Dismediation” 366), the concept of dismediation examines the historical co-constitution of disability and media technologies. Recognizing that mediation operates through heterogeneous rather than unified modalities, dismediation facilitates the emergence of alternative technological usages and lived experiences.

This approach suggests a reconfiguration of media praxis through multiple appropriations—including those conventionally designated as “atypical” or “deficient” by dominant innovation discourses. Applied to the GPT-3 language model, dismediation guided its adaptation to accommodate the temporal rhythms, cognitive capacities, and distinctive characteristics of nursing home residents. Speech patterns of older adults differ significantly from the standardized parameters used in calibrating digital technologies. By influencing GPT-3, these patterns have given rise to machine-generated outputs that mirrored the speech of older adults. The physical and mental conditions of the residents thus profoundly reshaped the technology, deviating it from its seamless and normative language.

From the extra- to the infra-ordinary

The transition from an institution dedicated to cutting-edge technological research to a nursing home constituted not merely a geographical shift but rather a substantive aesthetic reorientation. The initial investigation at IRCAM was characterized by an emphasis on the *extra-ordinary*. The phenomenological dimensions of the voice examined in the filmic tale *La Mue*—defined by the *merveilleux*⁴—interrogated the ontological boundaries between human and machine through the historical figure of Farinelli, whose supernatural vocal characteristics (simultaneously masculine and feminine, childlike and adult, human and transcendent) blurred such categorical distinctions.

By contrast, the nursing home project generated an alternative aesthetic structure, which might be characterized as *infra-ordinary*. This aesthetic emerged through sustained engagement with the realities of aging and is reflected in the GPT-3 model’s frugal and constrained outputs (trained on just 21 hours of participants’ voice recordings). This shift in methodology—from the spectacular to the quotidian, from a highly technological process to a low-tech one—substantially shaped the artistic production in the nursing home. Whereas the IRCAM project sought to reconstruct an extraordinary vocal phenomenon through advanced technological means, the nursing home’s one strategically employed accessible technologies as part of an ongoing dialogue with the ordinary linguistic practices, repetitive gestures, and slowed rhythms of the elderly.

This evolutionary trajectory prompted critical self-examination regarding the researcher’s positionality: how might artistic practice productively disengage from spectacular fascination in favor of attending quotidian

⁴ By the French term *merveilleux* I am referencing the French literary genre that has no direct equivalence in English.

micro-events and the ostensibly insignificant textural details constitutive of lived experience? Furthermore, might the ordinary itself function as a site of resistance against the valorization of perpetual innovation?

This epistemic shift from the extra-ordinary to the infra-ordinary aligns with Barbara Formis's theoretical articulation of research as a basic human activity. Formis contends that the research process should not be understood as a distinct intellectual endeavor divorced from quotidian life; rather, it represents the foundational texture of human existence itself. The aesthetic and methodological commitment to the infra-ordinary, as demonstrated through the relationship with AI developed in the retirement home, thus permits a return to what Formis identifies as “the primary and rudimentary state of the most ordinary existence”, thereby revealing that research constitutes not an exceptional or anomalous practice but rather an intrinsic dimension of lived experience (Formis, “La recherche” 69).

Conclusion

This research demonstrates the ability of children and elderly people to take part in complex and challenging technological and artistic projects. The initiatives at IRCAM and Furtado Heine nursing home show that innovation need not be the sole preserve of engineers and artists. Innovation can be based on common experiences such as puberty and old age. It can take root in the most everyday and basic areas of life. This paper argues that it is only on this condition that technologies can become truly inclusive and collective.

The two projects thus converge towards the same possibility of a non-instrumental and sensitive relationship with artificial intelligence, where the latter would no longer be seen as a tool for overcoming physical and cognitive limitations, but as a co-actor in the exploration of our respective fragilities. At the nursing home, the language model was gradually transformed through the speech, gestures, and concerns of the residents, integrating a fragmentary language as well as themes of fatigue, illness, and mortality, rarely present in standardized datasets. Learning to age thus describes a process in which AI becomes responsive to the rhythms and experiences of old age, participating in a shared space of vulnerability rather than promising to transcend it. This perspective shifts the focus from performance and optimization to the frictions, discrepancies, and unpredictabilities that emerge from our encounters with technical systems. It suggests that it is in these areas of uncertainty, incompleteness, and mutual transformation that the emancipatory potential of contemporary technologies lies.

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