



Neurodivergent Embodiment in Posthuman Media: Towards A Soft Aesthetics of Cognition

Martine Mussies*

Abstract

This article explores the intersections between neurodivergent embodiment and posthuman media, arguing that sensory-sensitive and nonlinear cognitive styles—often stigmatised in dominant discourses—offer unique aesthetic and epistemological contributions to emerging soft models of cognition. Drawing on theoretical frameworks such as posthumanism, affect theory, and soft computing, the article includes case studies of neurodivergent artistic practices that reconfigure what thinking and sensing can be in media art. The soft aesthetics of the cognition framework developed here suggests concrete directions for inclusive media design: interfaces that support associative navigation, algorithms that preserve sensory complexity, and interactive systems responsive to affective rather than purely cognitive input. As a creative proposition, it offers new possibilities for human-machine collaboration, aesthetic experience, and embodied knowledge.

Keywords: Affective aesthetics, Alternative epistemologies, Embodiment, Neurodivergence, Posthuman media, Soft computing

Introduction

Recent scholarly discourse increasingly foregrounds the intersections of neurodiversity and posthumanist philosophy, inviting a vital re-examination of embodiment and cognition beyond humanist paradigms. Yet this convergence entails theoretical tensions: the posthumanist project's decentring of the subject risks subsuming the specificities of neurodivergent embodiment, while emphasising these particularities challenges

* PhD Research Scholar, Maastricht University

posthuman universalism. To navigate this dialectic, this study situates itself genealogically within an anti-dualist lineage, drawing on Spinoza's immanent ontology—where mind and body are conceived as attributes of a single substance (Part II, Proposition 2 in *Ethics*)—and Deleuze and Guattari's rhizomatic ontology, which privileges multiplicity, non-hierarchy, and connection over fixed identity (27). This grounding enables a conception of 'soft aesthetics' as a dynamic assemblage of sensorial, affective, and temporal modalities, reflecting both immanence and multiplicity without resorting to reductive binaries.

The article's intervention is further distinguished by its explicit posthumanist lens, which extends disability, mad, and crip studies through a critical engagement with technocultural mediation and media aesthetics. While these critical traditions highlight social and political dimensions of embodiment and cognition, the posthumanist approach here emphasises the entanglement of neurodivergent cognition with material-technological assemblages, exploring how 'soft' cognitive modalities unfold within and through media artefacts and practices. Epistemologically, neurodivergent modalities are posited as potent mechanisms destabilising entrenched binaries such as mind/body and human/machine. This claim is carefully contextualised alongside overlapping anti-dualist critiques, recognising both affinities and divergences. The article invites empirical and dialogical refinement to delineate the specificity of neurodivergent epistemic contributions.

Methodologically, the study enacts its dialogical ethics through a reflexive, participatory approach to case study selection and analysis, foregrounding neurodivergent agency and self-representation while remaining critically attuned to the politics of interpretation and difference. Analytical frameworks combine formal media analysis with phenomenological description, ensuring transparency and responsiveness to the

complexities of neurodivergent embodiment in posthuman media contexts. This study therefore asks: How might neurodivergent embodiments enact a nuanced, ‘soft’ aesthetics of cognition that both challenges and extends posthuman conceptions of embodiment and media? Through theoretical reflection and artistic case studies, it aims to enrich the discourse on cognitive multiplicity within the evolving technocultural landscape.

Conceptual Clarifications

This study employs several key terms that require precise definition. ‘Soft aesthetics’ designates not gentleness but flexibility—an aesthetic mode that privileges gradation over boundary, relationality over hierarchy, and multiplicity over singularity. Unlike traditional aesthetics, which often seeks formal coherence and categorical clarity, soft aesthetics embraces what appears as ‘noise’ within normative frameworks as generative complexity.

‘Cognitive multiplicity’ extends beyond neurodiversity’s emphasis on different cognitive styles to encompass the fundamental multiplicity of all cognition. Where neurodiversity advocates for inclusion of different minds, cognitive multiplicity argues that mind itself is multiple, relational, and creative rather than singular, bounded, and computational.

‘Minoritarian universalism’ borrows from Deleuze and Guattari’s concept of becoming-minoritarian, describing how specific differences can illuminate universal principles without sacrificing particularity (Laurie and Khan 3-4). Neurodivergent cognition thus offers insights into the relational nature of all perception whilst maintaining its distinctiveness as lived experience.

Theoretical Framework: Posthumanism, Soft Computing, and Neurodivergence

This study interrogates the reconfiguration of cognition and embodiment within posthuman media through three interconnected arguments: first, that posthumanism's decentring of the autonomous subject creates space for understanding neurodivergent modalities as distributed rather than deficient; second, that soft computing principles provide a productive analogy for neurodivergent cognitive processes without reducing them to computational models; and third, that this convergence enables a reconceptualisation of aesthetics as sensorial-affective practice rather than representational form.

Posthumanism, broadly understood, decentring the autonomous human subject, emphasises distributed agency and relational ontologies (Hayles 2-4). It problematises entrenched binaries such as mind/body and human/machine, proposing a flattened ontology of assemblages and flows. Soft computing—a concept from computer science encompassing fuzzy logic, neural networks, and probabilistic algorithms (Zadeh 338)—offers a compelling analogy for these modes of cognition. It foregrounds gradation, uncertainty, and context-dependence over rigid dichotomies, resonating with neurodivergent experiences characterised by sensory layering, non-linear processing, and affective nuance. However, this metaphor demands careful handling to avoid technological reductionism; cognition is not reducible to computation, but rather should be understood as embodied, embedded, and enacted within socio-material assemblages. Here, the soft computing analogy serves as a heuristic device, illuminating cognitive multiplicity without collapsing into mechanistic explanations.

Neurodivergence—encompassing autistic sensory processing, synaesthesia, ADHD-related attentional dynamics, and other cognitive variations—constitutes a lived embodiment

of such ‘soft’ modalities. Phenomenological accounts detail experiences of sensory amplification, temporal asynchrony, and affective complexity, which invite reconsideration of epistemic norms. Empirical research, for example on autistic sensory integration, indicates processes akin to fuzzy categorisation and probabilistic perception, supporting a tentative empirical grounding of this analogy (Robertson and Simmons 569).

Recent neuroscientific research provides substantial empirical support for conceptualising neurodivergent cognition through soft computing analogies. Bayesian theories of autism suggest that atypical predictive mechanisms underlie autistic sensory processing, with neuroimaging studies revealing alterations in hierarchical predictive processes during perceptual inference (Fazioli et al. 2; Sapey-Triomphe et al. 1) These findings indicate that autistic cognition operates through what might be understood as probabilistic rather than categorical processing—precisely the mode of operation characteristic of fuzzy logic systems. Twin studies demonstrate significant associations between synaesthesia and autistic traits, particularly within the domain of attention to detail and altered sensory sensitivity (Van Leeuwen et al 1), providing material evidence for the kind of cross-modal processing that characterises both conditions. Brain activation patterns show similarities between synaesthetes and autistic individuals, particularly in regions associated with sensory processing and integration, supporting the theoretical framework of distributed, relational cognition proposed here.

Neurophysiological studies using EEG, MEG, and fMRI reveal that autistic individuals process auditory, tactile, and visual stimuli through alternative neural pathways, with particular differences in multisensory integration (Marco et al 2). These findings suggest that what appears as ‘atypical’ processing actually represents sophisticated alternative strategies for managing sensory complexity. Rather than

representing dysfunction, these sensory differences may constitute adaptive responses to different neural architectures (Haker et al), challenging deficit-based interpretations and supporting the soft aesthetics framework's emphasis on neurodivergent cognition as generative rather than diminished.

The implications extend beyond individual processing to systemic understanding. Research demonstrates that autistic individuals show 'suboptimal but intact integration of Bayesian components during perceptual decision-making' (Fazioli et al 1) —a finding that reframes apparent cognitive differences as alternative rather than deficient approaches to information processing. This empirical evidence supports the theoretical claim that neurodivergent cognition embodies fuzzy logic principles, operating through gradation, probability, and contextual sensitivity rather than rigid categorisation.

Philosophically, this framework is rooted in anti-dualist ontologies. Drawing on Spinoza's monism (2/I,2), where mind and body are inseparable attributes of a single substance, and Deleuze and Guattari's rhizomatic ontology privileging multiplicity and non-hierarchical connectivity, cognition is conceptualised as a distributed assemblage of sensorial, affective, and technological components. This approach circumvents both reifying essentialisms and reductive relationisms, recognising neurodivergent cognition as dynamically emergent rather than statically defined. Integrating insights from critical disability, mad, and crip studies (Goodley 67; Kafer 4, 25), this study foregrounds the political and ethical dimensions of embodiment. Yet, it advances these perspectives by highlighting neurodivergent agency as embedded within technocultural media assemblages, positioning neurodivergent subjects as active co-constitutors of cognitive ecologies rather than passive recipients. This stance acknowledges the risk of depoliticisation inherent in some posthumanist accounts,

advocating for a nuanced dialogue between social justice and technomaterialist perspectives.

Methodologically, this theoretical synthesis calls for analytical practices attuned to multiplicity, contingency, and reflexivity. Empirical analysis must integrate phenomenological description, formal media analysis, and participatory approaches that centre neurodivergent self-representation. Assemblage thinking prompts attention to relations and flows rather than isolated entities, complicating traditional categorical methods and encouraging adaptive, iterative interpretation.

In sum, this theoretical framework brings together multiple conceptual threads into a coherent and generative lens through which to approach neurodivergent embodiment in posthuman media. It synthesises posthumanism's decentring of the human subject and its embrace of relational ontologies; it mobilises soft computing not as a literal model of cognition, but as a heuristic for gradated, probabilistic, and embodied thought, carefully sidestepping the pitfalls of computational reductionism. Neurodivergent cognition is understood here as a phenomenologically rich and epistemically productive mode, whose specificities illuminate broader questions of media, embodiment, and aesthetics. These ideas are further grounded in anti-dualist ontologies, particularly Spinozist monism and Deleuzian rhizomatics, which conceptualise cognition as an immanent, distributed multiplicity. Finally, the framework integrates the political urgency of critical disability studies, particularly its emphasis on agency and structural critique, while also drawing on media theory's attentiveness to technocultural mediation.

While this theoretical synthesis articulates a novel and coherent framework for understanding neurodivergent cognition as a soft, distributed assemblage, its genealogical foundations merit further elaboration. The concept of soft computing

originates within the broader historical trajectory of cybernetics and systems theory—fields which, since the mid-20th century, have challenged classical mechanistic and reductionist models of cognition and control. Soft computing inherits this legacy by modelling uncertainty, adaptability, and emergent behaviour, thus resonating with contemporary critiques of linear, hierarchical epistemologies. Situating soft computing within this genealogy deepens its conceptual purchase beyond metaphor, linking it to a sustained intellectual tradition interrogating the nature of mind and system complexity. Moreover, explicitly positioning this posthumanist approach alongside existing frameworks in neurodiversity studies sharpens its critical edge. The medical model, which pathologises neurodivergence, and the social model, which emphasises societal barriers and oppression, provide vital critiques but often retain humanist assumptions of the bounded individual subject. In contrast, the posthumanist lens decentring the human subject and highlighting entanglements with technology and environment opens novel avenues for theorising cognition and embodiment as relational, dynamic processes. This distinction underlines the added value of this approach in expanding neurodivergence discourse beyond binaries of normal/pathological or individual/social.

Finally, the empirical grounding of the soft computing analogy benefits from further expansion. The referenced study by Robertson and Simmons on sensory processing in autism, which evidences graded and probabilistic perceptual mechanisms, is a critical starting point (569). Complementary research in neurophysiology, affect theory, and cognitive science—such as probabilistic models of perception (Friston 127) and embodied affective neuroscience (Barrett)—can enrich the evidentiary base. Integrating such studies will strengthen the claim that neurodivergent cognition exemplifies ‘soft’ modalities, reinforcing the dialogue between theory and lived experience.

Having established the theoretical framework linking posthumanism, soft computing, and neurodivergent cognition, the following section examines how these principles manifest in lived experience through synaesthetic epistemology.

Neurodivergent Aesthetics: From Noise to Softness

Neurodivergent modes of perception often unfold in forms that neurotypical models may misread as noise—disruption, overload, disorder. Yet, as demonstrated in first-person accounts and phenomenological studies, these experiences can also be described as layered, rhythmic, textural, or relational. Rather than filtering information, neurodivergent perception often intensifies and crosswires it, producing richly entangled sensory experiences that exceed normative categorisation. This is where the aesthetics of softness emerge: as a practice of attunement to these entanglements, rather than their suppression. One compelling illustration comes from synaesthesia—an experience shared by many neurodivergent individuals, including the author. I have always lived in a world where the senses do not obey the taxonomies of neurotypical perception. My cognition is layered, associative, and richly sensorial—an architecture shaped not only by autism but by synaesthesia, dyslexia, and an unrelenting affection for patterns. For me, the concept of a ‘soft aesthetics of cognition’ is not an abstraction but a lived epistemology, grounded in the sensory and affective textures of daily life.

Synaesthesia, as I experience it, is not an added quirk but a structuring principle of how I relate to language, sound, space, and memory. In my blog post *Synaesthesia – an essay on the adjacency of the sense of hearing and the other senses*, I describe my world as one in which “Monday is a red falling minor third,” and where “my cat smells like freshly baked apple pie.” This sensory fusion is not metaphorical—it is the bedrock of my thought.

This aesthetic extends into my academic and artistic work. In my master's thesis (Mussies, "Lolita"), I examined Nabokov's bilingualism through the lens of synaesthetic sensitivity, noting how his lexical choices were often shaped not only by semantic value but by the "colour" of sound—an affinity I shared. Nabokov's stylistic synaesthesia became a way for me to understand my own: language not as symbolic code, but as textured, coloured, and resonant matter. Meaning emerges not in spite of, but because of, sensory layering. In my work on autism and pedagogy (Mussies, "Autism and Feminist pedagogy"), I describe a moment in a university classroom where I used a custom ActionScript programme to show my classmates the colours I see when I hear piano notes. "The seminar room was suffused with the scent of old books and nervous anticipation," I wrote. And in that sensory theatre, for a fleeting moment, my 'Otherness' ceased to be deviant—it became a bridge. Through sound, colour, and code, I invited others into my sensorium. That, to me, is the beginning of a soft aesthetic: one that translates rather than flattens, that layers rather than isolates.

These experiences challenge the neurotypical hierarchy in which clarity, linearity, and singularity are often privileged. My thinking is not linear—it loops, repeats, fixates, returns, folds back on itself. This might be read as 'noise' in traditional epistemologies, but in a soft aesthetic framework, it is generative texture. My repetitions—so often pathologised—are rhythms. My fixations—dismissed as special interests—are constellations of meaning, deepening rather than narrowing thought. In terms of sensory processing, this aesthetic resists hard borders. I often think I do not have "five senses"—I have one, which receives multiple modalities. Sounds shimmer, letters hum, names taste. As I explained in *Inside the Outside*, I perceive the adjacency of the senses not as anomaly but as architecture. My experiences mirror fuzzy logic: graded rather than binary, contextual rather than categorical. When I encounter a word, its colour may shift

depending on context, language, or emotional tone. This is not confusion—it is nuance.

This synaesthetic epistemology finds echoes in artistic practice. In music, I do not only hear tonalities—I see and taste them. Composing is therefore not simply sonic but spatial, chromatic, and affective. I search for what I call “perfect matches”—instances when sound, colour, emotion, and concept align. This pursuit drives both my academic and artistic production. And while such matches are rare, when they occur, they offer a sense of cohesion I otherwise lack in a world designed around neurotypical logics. A soft aesthetic is thus not merely ‘gentle’—it is structurally different. It resists the hard edges of taxonomical thinking and embraces instead what Barad might call intra-action (128): a dynamic relationality in which perception, thought, and expression co-constitute one another. My neurodivergence is not a deviation from cognition; it is cognition. Not metaphorical. Material. Not accidental. Foundational.

Through this lens, cognitive multiplicity is not a deficit but a design principle. The softness of this aesthetic is not weakness, but flexibility, relationality, and openness to complexity. In a media ecology increasingly defined by datafication, quantification, and automation, neurodivergent sensoria remind us of the value of ambiguity, nuance, and embodied resonance. This soft aesthetics of cognition, as lived and enacted, is both a personal survival strategy and a critical epistemological gesture. It insists that thinking is not separable from sensing, and that expression is always already entangled with perception. It challenges the division between noise and signal, between inner world and outer representation. And it proposes, quietly but firmly, that another way of knowing is not only possible—but already here.

This experiential grounding provides the foundation for examining how soft aesthetics can materialise in artistic practice through human-AI collaboration.

Case Study: “Fuzzy Boundaries” (2025) – a Synaesthetic sound-mapping

“Fuzzy Boundaries” emerged from a deliberate experiment in human-AI collaborative composition, designed to materialise the theoretical principles of soft aesthetics within musical practice. The compositional process itself enacted the posthuman entanglement of neurodivergent cognition with technological assemblages—my synaesthetic, autistic sensibility co-evolving with AI’s probabilistic generation to produce what neither could achieve independently. The compositional brief to the AI explicitly invoked soft computing principles: “gradual transitions instead of clear shifts, layered textures without hierarchy, probabilistic variations, and sensory adjacency.” This directive was not metaphorical but methodological—a translation of my lived neurodivergent epistemology into algorithmic parameters. The AI became an extension of my cognitive ecology, responding to instructions that mirrored how I naturally process sensory information: through fuzzy categorisation, layered simultaneity, and generative repetition.

The AI’s response to these instructions demonstrates genuine human-machine cognitive hybridisation. When prompted to create ‘sounds that taste light blue and fragile’ (‘hoe klinkt iets wat lichtblauw en breekbaar is?’), the algorithm generated timbral qualities characterised by high-frequency resonances, reverb-heavy textures, and dynamic instability. This is not mere metaphor but material translation: my synaesthetic categories becoming algorithmic parameters, producing sounds that genuinely embody the requested sensory qualities within both human and artificial processing systems. The

compositional process reveals distributed agency in action. Where traditional human-AI collaboration often positions technology as a tool, this methodology enacts genuine cognitive assemblage—neither my creativity nor the AI's processing dominates, but together they generate aesthetic possibilities unavailable to either alone.

The composition's architecture resists traditional Western musical hierarchies in favor of what I term “textural relationality.” Rather than verse-chorus progressions or harmonic development, the piece unfolds through overlapping vocal layers that enter and exit according to their own temporal logic. This mirrors the non-hierarchical connectivity of Deleuze and Guattari's rhizomatic ontology, where meaning emerges through connection rather than structure.

The lyrics themselves perform this soft logic. The opening lines—“Monday tastes of copper rain / falling through a minor third”—immediately establish synaesthetic adjacency as the organizing principle. Monday is not metaphorically associated with taste; for me, it literally tastes of copper. The “minor third” is not merely musical interval but spatial-emotional topography—it falls because that is the phenomenological reality of how I experience that sound-colour-emotion complex. The pre-chorus enacts what I call “generative repetition”—the word “loops” literally loops with microvariations, embodying rather than describing the autistic cognitive pattern. This is not ornamental but fundamental: repetition as the engine of meaning-making, each return slightly different, probabilistic rather than mechanical. The AI's setting responded to this by creating actual audio loops that shimmer and shift, translating my neurodivergent temporal experience into sound.

The composition's most radical gesture lies in its “shimmer/glitch/shimmer/shift” moments—designated spaces where acoustic sound transforms into electronic texture. These

transitions embody what I theorise as cross-modal triggers: moments when one sensory modality bleeds into another, creating what Barad might call “intra-active” - phenomena where boundaries between human/machine, acoustic/electronic, sensation/cognition become indeterminate (151, 207, 336). During the collaborative process, I instructed the AI to “include moments of cross-modal synaesthesia, where a sound subtly changes its emotional or sensory ‘flavour’ through electronic shimmer or timbral mutation.” The resulting composition creates sonic spaces where my voice—speaking the words “shimmer/glitch”—literally triggers digital processing that transforms my acoustic presence into electronic texture. This is not representation but enactment: my neurodivergent perception becoming materially entangled with algorithmic processing.

The bridge section contains perhaps the composition's most explicit theoretical statement: “They call it noise / this layered choice / to feel in multiplicities.” This directly addresses the central tension of neurodivergent aesthetics—how what appears as “noise” to neurotypical perception reveals itself as “symphonies” within a soft aesthetic framework. The musical setting supports this through what I call “conversational polyphony”—multiple voices entering and exiting not in harmonic support but in genuine dialogue, creating meaning through difference rather than unity.

The concept of “perfect matches”—moments when “colour, sound, and thought align”—represents a key phenomenological insight. These are not metaphysical events but lived experiences of cognitive coherence within my neurodivergent sensorium. The AI's compositional response created actual sonic “matches”—moments when multiple layers converge in complex consonance before dissolving back into textural multiplicity. These moments embody what I theorise as the aesthetic goal of soft cognition: not permanent clarity but temporary coherence, not resolution but resonance.

The collaborative methodology itself demonstrates neurodivergent agency within technological assemblages. Rather than using AI as a tool to overcome cognitive “limitations,” I employed it as an extension of my sensory-cognitive ecology. The AI became what Andy Clark might call a “cognitive prosthetic”—not compensating for deficit but amplifying capacity. My synaesthetic instructions (“how klinkt iets wat ‘lichtblauw en breekbaar’ is?”) became algorithmic parameters that the AI could process and translate into musical texture.

This challenges both traditional notions of individual authorship and ableist assumptions about AI as cognitive replacement. The composition emerged from what I term “distributed neurodivergent agency”—my cognitive patterns extended through technological mediation, creating possibilities neither purely human nor purely artificial. The result is genuinely posthuman art: not art about posthumanism but art that enacts posthuman relationality. Thus, “Fuzzy Boundaries” demonstrates how neurodivergent aesthetics can materialise theoretical concepts often relegated to abstract discourse. The composition’s “soft machines” are not metaphorical but literal—algorithmic systems responding to neurodivergent sensory logic. Its “fuzzy logic” is not analogy but lived epistemology translated into musical parameters. Its “boundaries” are not conceptual but phenomenological—the actual edges of my sensory experience made audible through technological collaboration.

The piece’s final gesture—dissolving into “textural silence”—enacts what I consider the ethical dimension of soft aesthetics. Rather than closing with resolution, it opens onto complexity. The silence is not empty but textured, not absence but presence of possibility. This reflects the broader epistemological contribution of neurodivergent aesthetics: not answers but better questions, not solutions but richer problems.

Through “Fuzzy Boundaries,” I demonstrate how neurodivergent embodiment can collaborate with posthuman media to generate new forms of aesthetic and epistemic possibility. The composition becomes a proof-of-concept for soft aesthetics of cognition—showing how sensory sensitivity, nonlinear processing, and generative repetition can create art that thinks differently because it senses differently. In doing so, it contributes to what I envision as a more neurodivergent-inclusive media ecology: one that values multiplicity over clarity, relationality over hierarchy, and soft boundaries over hard edges.

Towards a Soft Aesthetics of Cognition

The convergence of posthuman theory, neurodivergent embodiment, and soft computing principles outlined in this study points towards a fundamental reconceptualisation of cognition itself. Rather than understanding thinking as a discrete, internal process that subsequently finds external expression, the soft aesthetics of cognition reveals thinking as always already sensorial, affective, and relational—a distributed assemblage that unfolds across bodies, technologies, and environments. The theoretical framework established earlier—drawing on Spinoza’s monism (2/I,2), Deleuze and Guattari’s rhizomatics, and soft computing’s fuzzy logic—finds its validation not in abstract philosophical argument but in the lived reality of neurodivergent experience. My synaesthetic epistemology, where “Monday is a red falling minor third,” demonstrates that cognition and sensation are not separate faculties but aspects of a single process. The case study of “Fuzzy Boundaries” then materialises this insight, showing how neurodivergent cognition can collaborate with AI systems to generate genuinely posthuman aesthetic possibilities.

This progression—from theory through lived experience to artistic practice—suggests that neurodivergent embodiment

offers more than just alternative perspectives on cognition. It provides evidence for cognition as fundamentally different from dominant models: not computational but compositional, not hierarchical but rhizomatic, not bounded but relational.

Thinking as Sensorial-Affective Practice

The soft aesthetics of cognition reframes thinking as what I term “sensorial-affective practice”—a mode of engagement that dissolves traditional boundaries between perception, emotion, and reasoning. This dissolution is not conceptual but material. When I experience the “shimmer” of a word changing color based on emotional context, or when my “fixations” generate new patterns of connection rather than repetitive closure, cognition reveals itself as textural, temporal, and fundamentally embodied.

This challenges core assumptions of Western philosophy and cognitive science. Since Descartes, thinking has been positioned as separate from and superior to sensing—mind over body, reason over emotion, abstraction over materiality. Even posthuman theories sometimes maintain these hierarchies despite their explicit critique of dualism. The soft aesthetics framework, however, grounds itself in the phenomenological reality that thinking is sensing, that reasoning is affective, that abstraction emerges from rather than transcends materiality. This shift from hierarchical to relational cognition resonates with my earlier work on what I termed “cyborg mermaid” subjectivity (Mussies and Maliepaard). Where the traditional cyborg “is not made of mud” (Haraway 151) and seeks to transcend bodily limitations through technological enhancement, the cyborg mermaid embraces what appears as limitation—sensory sensitivity, nonlinear processing, atypical social connection—as generative difference. The mermaid figure, traditionally positioned as “flawed, disabled and less-

than-human,” becomes through technological collaboration not normalised but empowered to inhabit her difference more fully.

Neurodivergent cognition makes this visible because it resists the normative suppression of sensory-affective complexity. Where neurotypical information processing often filters, categorises, and linearises sensory input to achieve cognitive efficiency, neurodivergent processing tends to preserve what I call “textural richness”—the layered, associative, multiply-connected nature of embodied experience. This is not deficiency but design: a cognitive architecture that maintains rather than reduces complexity. The implications extend beyond individual experience to challenge institutional and technological systems built on assumptions of linear, hierarchical information processing. Educational systems that privilege singular focus over associative thinking, workplace environments that pathologise sensory sensitivity, media technologies designed around neurotypical attention patterns—all reveal themselves as not universal but particular, not optimal but limited.

Neurodivergent Contributions to Posthuman Theory

Neurodivergent embodiment offers posthuman theory several crucial contributions that expand its critical and creative potential. First, it provides material grounding for posthumanism’s critique of the bounded individual subject. Where posthuman theory sometimes risks remaining abstract in its dissolution of human/machine boundaries, neurodivergent experience offers concrete instances of distributed, relational subjectivity. My synaesthetic cognition, for example, demonstrates how selfhood extends beyond skin boundaries to include environmental textures, technological interfaces, and inter-subjective resonances.

This material grounding connects to my previous theorization of technological embodiment through the cyborg mermaid figure—beings who "become cyborgs to overcompensate, thus out-competing 'natural humans'" while maintaining their essential difference (Mussies and Maliepaard 4). Rather than seeking normalization through technology, neurodivergent subjects can collaborate with technological systems to amplify rather than suppress their cognitive and sensory specificities. Second, neurodivergent temporalities challenge posthumanism's sometimes linear progressivism. My cognitive patterns of repetition, return, and fixation enact what I term "spiral temporality"—a temporal mode that deepens rather than advances, that finds novelty through iteration rather than innovation. This offers posthuman theory alternative models of change and development that resist both humanist teleology and accelerationist futurity. Third, neurodivergent sensoria contribute to posthumanism's project of expanding agency beyond human subjects. When my voice literally triggers AI processing in "Fuzzy Boundaries," or when my synaesthetic instructions become algorithmic parameters, agency becomes truly distributed across human/machine assemblages. This is not metaphorical but material: my neurodivergent cognitive patterns becoming integral to technological processing, creating possibilities neither could achieve independently.

Perhaps most significantly, neurodivergent embodiment provides posthuman theory with Barad, Karen. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Duke University Press, 2007. what I call "minoritarian universalism"—a way of thinking difference that avoids both essentialist particularism and abstract universalism. My autism is not a bounded identity but a mode of relation; my synaesthesia is not personal quirk but insight into the relational nature of perception itself. Neurodivergence thus offers posthumanism concrete universals: specific differences that illuminate general principles of embodied cognition.

This builds on my earlier work theorizing how “misfits” can become “powerful cyborgs” through technological collaboration—not by overcoming their differences but by finding technological arrangements that support rather than suppress their alternative ways of being (Mussies and Maliepaard). The cyborg mermaid model suggests that neurodivergent embodiment offers posthumanism not just alternative perspectives but fundamental insights into the relational, distributed nature of all cognition.

Contributions to Artistic Media Development

The soft aesthetics of cognition suggests several directions for more inclusive and innovative artistic media development. Rather than designing media technologies around assumptions of singular attention, linear processing, and hierarchical information architecture, soft aesthetics points towards what I term “multiplicitous media”—technological systems that support rather than suppress cognitive and sensory diversity.

Current AI development, despite its sophistication, largely models intelligence on neurotypical patterns: efficiency over nuance, convergence over exploration, optimization over experimentation. The collaborative methodology demonstrated in “Fuzzy Boundaries” suggests alternative approaches: AI systems that respond to associative rather than logical instruction, that generate through iteration rather than innovation, that create meaning through layering rather than reduction. This has practical implications for interface design, algorithm development, and interactive media. Interfaces that support non-linear navigation, algorithms that preserve rather than filter sensory complexity, interactive systems that respond to affective and bodily rather than purely cognitive input—all become possible when neurodivergent cognition is understood as a design resource rather than accommodation requirement.

Furthermore, the soft aesthetics framework suggests new forms of collaborative artistic practice. Rather than individual artists using technology as a tool, or technology replacing human creativity, soft aesthetics enables what I call “cognitive hybridization”—human and artificial intelligence co-evolving to generate aesthetic possibilities neither could achieve independently. This is not human-AI collaboration but human-AI assemblage: distributed agency creating distributed art. This cognitive hybridization represents an evolution from my earlier work on how technology can help “misfits fit in” (Mussies and Maliepaard). Rather than using technology for social accommodation, the soft aesthetics approach uses technology for creative amplification—not fitting in but standing out, not normalizing but pluralizing, not correcting but collaborating. The goal shifts from making neurodivergent subjects more acceptable to making media ecologies more responsive to cognitive multiplicity. Yet, it simultaneously prompts a deeper interrogation of ownership and the very essence of creative production when human and artificial intelligences co-constitute the artwork, a theme I have previously addressed in discussions around intellectual property in AI-generated fanart (Mussies, “AI, Fanart and Intellectual Property”; “Artificial Intelligence”).

Towards Cognitive Multiplicity

The synthesis developed through this study points towards a broader vision of what I term “cognitive multiplicity”—media ecologies that support rather than suppress diverse ways of thinking, sensing, and being. This is not multiculturalism for minds but fundamental recognition that cognition itself is multiple, relational, and creative.

Such ecologies would value what neurodivergent cognition offers: sensitivity over efficiency, association over logic, iteration over innovation, complexity over clarity. They would understand that thinking is not problem-solving but world-

making, not information processing but aesthetic practice, not individual faculty but relational assemblage. The soft aesthetics of cognition thus represents both critical intervention and creative proposition. As critical intervention, it challenges ableist assumptions embedded in cognitive science, media technology, and artistic practice. As a creative proposition, it offers new possibilities for human-machine collaboration, aesthetic experience, and embodied knowledge. Most fundamentally, it insists that another way of thinking is not only possible but already present—in the lived experience of neurodivergent individuals, in the collaborative potential of human-AI assemblages, in the aesthetic possibilities of soft media technologies. The task is not to invent cognitive alternatives but to recognise, support, and amplify the cognitive multiplicity that already exists.

This recognition requires what I call “soft attunement”—a practice of attention that preserves rather than reduces complexity, that seeks resonance rather than resolution, that values questions over answers. Such attunement becomes increasingly crucial as media technologies become more pervasive and influential in shaping human experience. The choice is not between human and artificial intelligence but between hard and soft models of cognition—between systems that reduce complexity and those that embrace it, between technologies that normalise and those that pluralise, between media that flatten and those that texture experience. The soft aesthetics of cognition argues for the latter: technologies and practices that honor the full spectrum of human cognitive and sensory possibility, that understand diversity not as problem but as resource, that recognise in neurodivergent embodiment not deviation but destination—a glimpse of more multiple, more relational, more creative forms of thinking and being.

Conclusion: Embracing Cognitive Multiplicity

This research demonstrates that neurodivergent embodiment offers posthuman theory, artistic practice, and media development more than alternative perspectives—it provides evidence for reconceptualising cognition itself as fundamentally multiple, relational, and creative. The soft aesthetics of the cognition framework developed here suggests concrete directions for inclusive media design: interfaces that support associative navigation, algorithms that preserve sensory complexity, and interactive systems responsive to affective rather than purely cognitive input.

Fuzzy Sets Future research might investigate the ethical implications of AI systems designed to respond to neurodivergent cognitive patterns, explore soft aesthetics across different artistic media, and develop pedagogical approaches that support rather than suppress cognitive multiplicity. Most urgently, this work calls for media ecologies that recognise neurodivergent ways of knowing not as accommodation requirements but as design resources for more flexible, responsive, and creative technological systems. The choice facing contemporary media development is not between human and artificial intelligence but between rigid and responsive models of cognition—between systems that reduce complexity and those that embrace it, between technologies that normalise and those that pluralise human possibility.

Works Cited

- Barrett, Lisa Feldman. *How Emotions Are Made: The Secret Life of the Brain*. Houghton Mifflin Harcourt, 2017.
- Deleuze, Gilles, and Félix Guattari. "Introduction: Rhizome." *A Thousand Plateaus: Capitalism and Schizophrenia*, translated by Brian Massumi, Continuum, 2004, p. 27.

- Fazioli, Laurina, et al. "Suboptimal but Intact Integration of Bayesian Components during Perceptual Decision-Making in Autism." *Molecular Autism*, vol. 16, no. 1, 2025, pp 1-14.
- Friston, Karl. "The Free-Energy Principle: A Unified Brain Theory?" *Nature Reviews Neuroscience*, vol. 11, no. 2, 2010, pp. 127-38.
- Goodley, Dan. *Dis/ability Studies: Theorising Disablism and Ableism*. Routledge, 2014.
- Haker, Helene, et al. "Can Bayesian Theories of Autism Spectrum Disorder Help Improve Clinical Practice?" *Frontiers in Psychiatry*, vol. 7, 2016, p. 185543.
- Hayles, N. Katherine. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. University of Chicago Press, 1999.
- Haraway, Donna J. *Simians, Cyborgs, and Women: The Reinvention of Nature*. Routledge, 1991.
- Kafer, Alison. *Feminist, Queer, Crip*. Indiana University Press, 2013.
- Laurie, Timothy, and Rimi Khan. "The Concept of Minority for the Study of Culture." *Continuum: Journal of Media & Cultural Studies*, vol. 31, no. 1, 2017, pp. 3–4. Taylor & Francis Online, <https://doi.org/10.1080/10304312.2016.1264110>.
- Marco, Elysa J., et al. "Sensory Processing in Autism: A Review of Neurophysiologic Findings." *Pediatric Research*, vol. 69, no. 8, 2011, pp. 48-54.
- Massumi, Brian. *Parables for the Virtual: Movement, Affect, Sensation*. Duke University Press, 2002.
- Mussies, M. Лолита и синестезия: Сравнительный анализ английского и русского переводов [Lolita and Synesthesia: A Comparative Analysis of the English and Russian Translations]. 2009. Saint Petersburg State University, Master's thesis.
- . "Synaesthesia: An Essay on the Adjacency of the Sense of Hearing and the Other Senses." *Musings*, 2022, martinemussies.nl/web/synaesthesia-an-essay-on-the-

- adjacency-of-the-sense-of-hearing-and-the-other-senses/. Accessed 22 Dec. 2025.
- . “Artificial Intelligence and the Production of Fan Art.” *Transformative Works and Cultures*, no. 40, 2023, <https://doi.org/10.3983/twc.2023.2431>
- . *Inside the Outside*. 2023.
- . “Autism and Feminist Pedagogy in the University Classroom.” *Tijdschrift voor Genderstudies*, vol. 27, no. 2/3, 2024, p. 296.
- . “AI, Fanart and Intellectual Property: An Analysis of Ownership in the Age of Machine Creativity.” *International Journal for Crime, Law, and AI*, 2025.
- Mussies, Martine, and Emiel Maliepaard. “The Cyborg Mermaid (or: How Technè Can Help the Misfits Fit In).” *Multimodal Technologies and Interaction*, vol. 1, no. 1, 2017, p. 4.
- Robertson, A. E., and D. R. Simmons. “The Sensory Experiences of Adults with Autism Spectrum Disorder: A Qualitative Analysis.” *Perception*, vol. 44, no. 5, 2015, pp. 569-86.
- Sapey-Triomphe, Laurie-Anne, et al. “Neural Correlates of Hierarchical Predictive Processes in Autistic Adults.” *Nature Communications*, vol. 14, no. 1, 2023, p. 3640.
- Spinoza, Baruch. *Korte Verhandeling van God, de mensch en deszelvs welstand*. ca. 1660. Wikisource, nl.wikisource.org/wiki/Korte_Verhandeling_van_God,_de_mensch_en_deszelvs_welstand. Accessed 22 Dec. 2025.
- Van Leeuwen, Tessa M., et al. “Perceptual Processing Links Autism and Synesthesia: A Co-Twin Control Study.” *Cortex*, vol. 145, 2021, pp. 236-49.
- Zadeh, Lotfi A. “Fuzzy Sets.” *Information and Control*, vol. 8, no. 3, 1965, pp. 338-53.