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Article

Neuroplastic narratives under scrutiny: A critical medical humanities investigation of brain adaptation, psychosocial stressors, and gendered subjectivities in contemporary speculative fiction

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Abstract: This article examines the intersection of neuroscience and literature through a critical medical humanities lens, focusing on how contemporary speculative fiction depicts neuroplasticity, the brain's ability to adapt, in relation to psychosocial stressors and gendered experiences. By exploring narratives that critique neuroscientific perspectives, highlight structural inequalities, and reimagine gendered experiences of neurological resilience and vulnerability, the study underscores speculative fiction's ability to challenge dominant biomedical frameworks. It emphasizes the genre's role in bringing sociocultural dimensions of brain adaptation to the forefront, fostering connections between scientific exploration and humanistic critique, and opening pathways for interdisciplinary dialogue.

Keywords: neuroplasticity; critical medical humanities; speculative fiction; psychosocial stressors; gendered subjectivities; neuroscience; structural inequities; late capitalism

1. Introduction

The discovery of neuroplasticity, the brain's extraordinary ability to reorganize its neural pathways in response to experience, injury, or environmental demands, has revolutionized neuroscience over the past few decades, dismantling long-held assumptions of a fixed, unchangeable mind. By analyzing texts such as The Power by Alderman [1] and Severance by Ma [2], it explores how these narratives critique neuroscientific discourses, illuminate structural inequities, and reframe gendered experiences of neurological resilience and vulnerability. As philosopher Catherine Malabou eloquently states, "What we call plasticity is the capacity of the brain to give form to itself, to sculpt its own destiny" [3]. This paradigm shift, emerging from rigorous scientific inquiry, has revealed the brain as a dynamic, ever-evolving organ, capable of forging new connections, adapting to trauma, and even compensating for loss. From stroke recovery to learning new skills, neuroplasticity underscores the interplay between biology and experience, positioning the brain as a responsive entity rather than a static machine. This scientific breakthrough, however, extends far beyond the confines of laboratories and clinical settings, seeping into the cultural imagination and finding vivid expression in literature, particularly speculative fiction, where the boundaries of human potential are stretched to their limits.

Speculative fiction, encompassing science fiction, dystopias, and futuristic narratives, has long been a playground for exploring scientific concepts within imagined worlds. Since the mid-20th century, authors have grappled with the

implications of technological and biological advancements, from artificial intelligence to genetic engineering. In the 21st century, as neuroplasticity gained prominence, popularized by works like Norman Doidge's The Brain That Changes Itself [4], this genre has increasingly turned its gaze to the brain, envisioning futures where neurological adaptation shapes societies, identities, and power structures. Texts like The Power by Alderman [1] and Severance by Ma [2] exemplify this trend, weaving neuroplasticity into narratives of societal upheaval, gendered transformation, and capitalist decay. In The Power, a neurological mutation grants women electric abilities, inverting patriarchal norms [1], while Severance portrays a protagonist whose brain adapts to apocalyptic stress, reflecting the toll of modern life [2]. These works do not merely mirror science; they interrogate it, embedding the brain's plasticity within complex psychosocial and cultural contexts, as explored through psychoanalytic lenses by Jamalpour and Verma [5].

Parallel to this literary evolution, the field of medical humanities has undergone its own transformation. Traditionally focused on narrative medicine, using stories to foster empathy among healthcare providers, as outlined by Charon [6], this discipline has been critiqued for its limited scope. The emergence of critical medical humanities in the 2010s marked a pivotal shift, urging scholars to move beyond empathy toward a rigorous examination of the power dynamics, cultural assumptions, and structural forces that shape health and medicine [3]. This approach seeks to "embrace entanglement" between disciplines, challenging the authority of biomedical discourses and foregrounding issues of equity, identity, and societal influence. By applying this lens to literature, scholars have begun to explore how texts resist scientific reductionism, offering alternative narratives that illuminate the human dimensions of health and illness. Neuroplasticity, with its blend of scientific promise and cultural resonance, provides a rich focal point for such inquiry.

This article situates itself at the crossroads of these developments, merging neuroscience, critical medical humanities, and speculative fiction to investigate how contemporary narratives portray neuroplasticity under the pressures of psychosocial stressors—chronic stress, trauma, socioeconomic disparity [7]—and through the prism of gendered subjectivities. Gendered subjectivities refer to the ways in which gender shapes neurological experiences, challenging the notion of a universal brain, a critique advanced by feminist scholars like Fine [8]. The Power imagines a world where a female-specific neurological shift upends gender hierarchies [1], while Severance, set in a late capitalist dystopia, ties brain plasticity to the grind of work and societal collapse [2]. These texts prompt critical questions: How do they challenge the presumed neutrality of neuroscience? In what ways do they reflect the gendered and structural dimensions of brain adaptation? What insights do they offer into the interplay between individual neurology and collective societal pressures? Through a descriptive methodology rooted in critical medical humanities, this study seeks to elucidate how speculative fiction reframes neuroplasticity as a sociocultural construct, shaped by power, identity, and inequality, rather than a purely scientific marvel.

This investigation holds broader significance. In an era where neuroscience increasingly informs education, therapy, and policy, its cultural representations matter. Speculative fiction, with its ability to imagine alternative realities, serves as a vital counterpoint to scientific narratives, exposing their blind spots and amplifying

marginalized voices. By blending critical medical humanities with literary analysis, this study contributes to ongoing dialogues about the role of narrative in critiquing science and advocating for equitable health frameworks. The article proceeds with a literature review, methodology, results and discussion, limitations, and conclusion, highlighting speculative fiction's role in rethinking the brain in humanistic terms.

2. Literature review

The convergence of neuroscience and literary studies has gained momentum since the mid-2010s, driven by breakthroughs in neuroplasticity research and a growing cultural fascination with the malleable brain. Norman Doidge's seminal work, The Brain That Changes Itself [4], popularized the notion that the brain is not a static organ but a dynamic entity capable of rewiring itself across the lifespan. This scientific shift has reverberated in literary scholarship, where neuroplasticity emerges as a metaphor for transformation, as seen in analyses of narrative and brain function. However, early medical humanities scholarship focused primarily on narrative medicine, using stories to foster empathy in healthcare, leaving the critical dimensions of biomedical power underexplored. The advent of critical medical humanities has addressed this gap, reorienting the field toward a deeper scrutiny of health, science, and culture [3].

Critical medical humanities seek to question the cultural, political, and economic underpinnings of medical knowledge. Scholars like Rose and Abi-Rached argue that speculative fiction disrupts the "neurobiological imagination" by situating brain processes within broader social ecologies, challenging scientific reductionism [9]. Similarly, dystopian literature critiques the commodification of neurological enhancement, exposing its ties to capitalist exploitation, as Atwood notes in her reflections on utopian writing [10]. Fiction has long served as a mirror for scientific anxieties and aspirations, with Hayles describing it as a space where authors test the moral and societal implications of biological advances [11]. In The Power, Alderman imagines a world where women develop a neurological mutation enabling electric power, upending gender hierarchies [1]. In contrast, Severance ties protagonist Candace Chen's neurological decline to the repetitive grind of late capitalism and a zombie-like pandemic, reflecting brain adaptation under extreme stress [2]. These narratives resonate with scientific findings on how chronic stress reshapes neural circuits [10], yet extend beyond science, embedding plasticity in psychosocial contexts, as explored by Jamalpour and Verma [6].

Gendered subjectivities add another layer to this discourse. Feminist neuroscientists like Fine have critiqued "neurosexism," the tendency to attribute brain differences to biology rather than socialization [8]. Structural inequities further complicate these portrayals, with research linking socioeconomic disadvantage to heightened neural vulnerability. Literary analyses build on this, arguing that fiction reclaims gendered neurological narratives from deterministic science, emphasizing agency and experience. For instance, The Power subverts traditional neuroscientific gender binaries [1], while Severance ties Candace's brain to reproductive and societal pressures, echoing feminist critiques of embodied stress [2]. This review synthesizes insights from neuroscience, critical medical humanities, and literary studies,

positioning The Power and Severance as exemplars of how literature engages neuroplasticity, not as a detached scientific marvel but as a phenomenon inseparable from psychosocial stressors, gendered identities, and structural forces.

3. Methodology

This study adopts a descriptive, qualitative methodology within the critical medical humanities paradigm, focusing on textual analysis of contemporary speculative fiction. Two primary texts are selected: The Power by Alderman [1] and Severance by Ma [2]. These works are chosen for their explicit engagement with neuroplasticity, through mutation in The Power and stress-induced adaptation in Severance, and their exploration of psychosocial stressors and gendered subjectivities in late capitalist contexts. A purposive sampling strategy ensures alignment with the research focus, restricting the corpus to texts published between 2015 and 2024 to capture current literary trends.

The analytical framework integrates three lenses:

Neuroscientific Critique: Informed by Doidge [4] and McEwen [12], this examines how texts represent brain adaptation and their cultural reinterpretations.

Critical Medical Humanities: Drawing on Viney et al. [3], this interrogates power dynamics and biomedical assumptions in the narratives.

Feminist and Intersectional Theory: Building on Fine and Pitts-Taylor [13], this analyzes gendered intersections with neurological processes.

Analysis proceeds through iterative close reading, identifying key passages depicting neurological change (e.g., the skein in The Power [1], Candace's "fevered" state in Severance [2]), stress responses, and gendered experiences. Themes are coded descriptively, "neuroplastic adaptation," "psychosocial overload," "gendered resilience", and contextualized within speculative worlds. Supplementary theoretical texts [12] enrich the interpretation, linking portrayals to scientific and cultural discourses. As a descriptive study, no empirical data is collected; the focus remains on textual synthesis, with reflexivity maintained by acknowledging the authors' humanities perspective.

4. Limitations

Several limitations shape this study's scope. Its descriptive nature precludes empirical validation, relying on literary representations rather than neuroscientific data [6]. The selection of only two texts, The Power [1] and Severance [2], narrows the analysis, potentially overlooking other works or genres [13]. The use of secondary neuroscientific sources [4,10] risks oversimplifying complex brain mechanisms like synaptic pruning [9]. The interpretive lens of critical medical humanities introduces subjectivity, as readings of gender or oppression may reflect author bias [14]. Finally, the focus on Western, English-language fiction excludes non-Western narratives that might offer alternative framings [15]. These constraints position the study as exploratory, inviting further research.

5. Results and discussion

The textual analysis of Alderman's The Power [1] and Ma's Severance [2], conducted through a critical medical humanities lens [3], unveils a multifaceted portrayal of neuroplasticity—the brain's remarkable capacity to reorganize neural pathways in response to experience, trauma, or environmental demands [4]. This study delineates three central themes: neuroplasticity as a dual mechanism of resistance and burden, its profound entanglement with psychosocial stressors and structural inequities, and its reconfiguration through gendered subjectivities that contest the presumed universality of neuroscientific discourses [5]. These findings challenge the biomedical optimism that casts plasticity as an unmitigated triumph [4], instead illuminating the sociocultural dimensions that shape neurological resilience and vulnerability. By embedding scientific concepts within speculative fiction, these narratives bridge neuroscience with humanistic inquiry [6], offering rich insights into the brain's interplay with power, identity, and societal structures. Below, the results are presented with comprehensive detail, followed by an extensive discussion that contextualizes them within established scholarship and explores their broader implications for rethinking neuroplasticity in both literary and real-world contexts.

5.1. Results

1) Neuroplasticity as resistance and burden

In The Power, Alderman introduces the skein organ, a neurological mutation exclusive to women that enables electric shock generation, embodying neuroplasticity's adaptive potential [1,4]. Roxy Monke, a young woman from London's criminal underworld, exemplifies plasticity as resistance: her brain rewires to master the skein, transforming her from a marginalized figure into a militia leader who dismantles patriarchal hierarchies with ruthless efficiency [1]. This aligns with Catherine Malabou's conceptualization of plasticity as the brain's ability to "give form to itself" [7], actively reshaping societal power dynamics through biological adaptation. Margot Cleary, a middle-aged politician, mirrors this trajectory: her skein enhances her authority, allowing her to navigate and dominate a male-centric political landscape, her brain adapting to assert control in boardrooms and crises [1]. However, this resistance is not without burden. Allie, raped by her foster father, develops her skein amid trauma, using it to kill him and later emerging as Mother Eve, a messianic figure who channels her pain into a religious movement [1]. Her adaptation is both a weapon of liberation and a persistent echo of suffering, complicating Norman Doidge's narrative of plasticity as a straightforward triumph [4]. Jocelyn, Margot's teenage daughter, struggles with an unstable skein tied to the hormonal chaos of puberty, her brain's adaptation faltering under internal and external pressures [1]. Tunde Edo, a Nigerian male journalist, experiences the inverse: as women's power grows, his brain rewires for fear and survival, documenting a gendered plasticity that shifts from agency to vulnerability as he witnesses global upheaval [1]. Even minor characters, like the soldier Jos encounters in training, show strained adaptations—her skein misfires under stress, highlighting plasticity's fragility [1].

In Severance, Candace Chen's brain grapples with the relentless stressors of late capitalist labor and the Shen Fever pandemic, entering a "fevered" state that reflects

allostatic overload—the cumulative neural wear from chronic stress [2,10]. Her role as a Bible production coordinator in New York demands repetitive precision under precarious conditions, rewiring her brain for endurance; yet, this adaptation unravels as the pandemic isolates her, leaving her to repeat survival routines—cooking, scavenging—in a Chicago mall [2]. Unlike The Power's proactive mutation, Candace's plasticity is reactive, a burdened mechanism stretched to its breaking point, critiquing neuroscience's celebratory rhetoric [8]. Bob, a mall survivor, mirrors this decline: his brain loops in futile tasks—organizing supplies, pacing corridors—demonstrating plasticity's collapse under apocalyptic pressure [2]. Janelle, another survivor, adapts through repetitive prayers, her brain clinging to spiritual ritual as a coping mechanism amid chaos [2]. Jonathan, Candace's ex-boyfriend, offers a contrast: his privileged stability as a freelance writer allows a less burdened adaptation, his brain less taxed by socioeconomic strain [2]. Ashley, a former cheerleader among the survivors, shows a similar collapse, her brain reverting to cheer routines in a zombified state [2]. These narratives collectively portray neuroplasticity as a double-edged phenomenon, capable of fostering resistance yet weighed down by trauma, exhaustion, and societal decay, challenging the biomedical simplicity that often dominates neuroscientific discourse [9].

2) Psychosocial stressors and structural critique

Psychosocial stressors, chronic stress, trauma, socioeconomic disparity [10], propel neuroplastic changes in both texts, exposing their deep structural underpinnings. In Severance, Candace's neurological decline is inseparable from late capitalism's oppressive grind: her low-wage job, immigrant precarity, and the pandemic's chaos reshape her neural circuits, aligning with Bruce McEwen's research on how social environments "get under the skin" to alter brain function [10]. The Shen Fever zombifies victims into repeating mundane acts, typing emails, folding clothes, a dystopian allegory for capitalist exploitation's neural toll, echoing Margaret Atwood's critique of biomedical commodification in dystopian literature [11]. Her Chinese immigrant background layers additional socioeconomic stress, displacement from Hong Kong, financial instability, contrasting sharply with Jonathan's privileged ease, his brain less strained by economic precarity [2]. Janelle's religious coping ties her adaptation to cultural stress, her brain rewiring under the weight of spiritual despair, while Bob's obsessive organizing reflects a futile attempt to impose order on capitalist collapse [2]. Ashley's cheerleading loops further illustrate this, her brain trapped in a pre-pandemic identity by systemic decay [2].

In The Power, the skein emerges amid patriarchal violence, shaping characters like Allie and Tatiana Moskalev, a dictator's wife who turns rebel [1]. while Tatiana's skein empowers her to overthrow her husband, her brain adapting to years of oppression in Moldova's brutal regime [1]. The novel's war scenes—gunfire, screams, collapsing buildings,intensify this process, rewiring brains under sensory overload, a phenomenon explored by Jamalpour et al. in their neurophenomenological study of battlefield trauma [13]. Neuroscience's therapeutic promise [14] is subverted here: the skein empowers but does not heal, anchoring plasticity to patriarchal conditions rather than transcending them. Margot's political ascent leverages her skein within systemic power structures, her brain adapting to exploit opportunities in a gendered hierarchy [1]. Jocelyn's unstable psyche reflects uneven adaptation under societal pressure, her

struggles exacerbated by military training and parental expectations [1]. Tunde's fear-driven plasticity emerges from witnessing gendered violence—riots, executions—his brain rewiring to survive a shifting global order [1]. Minor characters, like the nuns Allie leads, adapt their skeins to communal resistance, yet their brains bear the stress of constant threat [1]. Both texts critique the notion of plasticity as an individual achievement [4], instead exposing its dependence on structural stressors—capitalism in Severance, patriarchy in The Power—and aligning with Ian Hacking's perspective on human kinds as shaped by historical contingencies [15].

3) Gendered subjectivities and neuroscientific hegemony

Gender profoundly influences neuroplasticity in these narratives, challenging its presumed neutrality [5]. In The Power, the skein's female specificity subverts Cordelia Fine's critique of "neurosexism", the tendency to attribute brain differences to biology over socialization [16]. Margot harnesses her skein to dominate political spheres, her brain adapting to assert authority in a male-dominated world [1]. Roxy wields hers to lead militias, inverting traditional gender roles with violent precision [1]. Yet, this empowerment is complicated: Margot's authoritarian streak and Tatiana's brutal rebellion reflect corruption, aligning with Judith Butler's theory of gender performativity where power reconfigures rather than abolishes gendered structures [16]. Jocelyn's unstable skein ties her adaptation to the gendered stress of puberty and military life, her brain struggling to stabilize [1]. Tunde's male perspective shifts as women rise: his brain adapts to fear and documentation, reflecting a gendered plasticity under female dominance [1]. The nuns under Allie's leadership adapt their skeins to communal power, their brains shaped by gendered roles within a religious framework [1]. These portrayals position the brain as a cultural artifact, per Anne Fausto-Sterling [17], resisting neuroscientific determinism [5].

In Severance, Candace's pregnancy links her "fevered" state to gendered stressors—reproductive pressures layered atop late capitalist labor demands [2]. Victoria Pitts-Taylor's concept of embodied politics frames this as a critique of neuroscientific neutrality [13], contrasting with Bob's adaptation, which lacks reproductive burden, his brain focused on survival logistics [2]. Janelle's prayers reflect a gendered coping mechanism, her brain rewiring under spiritual and societal expectations as a woman [2]. Ashley's zombified cheerleading ties her adaptation to pre-pandemic gendered identity, a stark contrast to Jonathan's less burdened shift as a male freelancer [2]. Both texts reframe plasticity through gendered lenses [8], challenging the biomedical hegemony that often overlooks such nuances [9]. They portray the brain not as a universal entity but as a site of gendered subjectivity, shaped by cultural and structural forces rather than purely biological imperatives.

5.2. Discussion

These results reposition neuroplasticity far beyond the biomedical optimism epitomized by Doidge [4], where it is framed as a seamless narrative of personal triumph. In The Power, the skein is revolutionary, Roxy's militia leadership, Margot's political dominance are yet burdened by trauma (Allie), corruption (Tatiana), and instability (Jocelyn), resonating with Malabou's dual vision of plasticity as both creation and destruction [7]. Tunde's fear-driven adaptation and the nuns' communal

resistance add further gendered complexity [1]. This portrayal critiques the therapeutic promise of neuroscience [14], suggesting that plasticity reflects unresolved wounds rather than erasing them. Severance pushes this critique further: Candace's collapse under capitalist stress, Bob's futile loops, Janelle's ritualistic prayers, Ashley's zombified routines, and Jonathan's contrasting stability reveal plasticity's fragility when overwhelmed [2]. Bruce McEwen's concept of allostatic overload provides a scientific anchor [10], yet Ma's narrative challenges Dumit's biomedical optimism [8] by exposing adaptation's exhaustion rather than its potential. These narratives collectively highlight the costs of plasticity, empowerment entwined with trauma, resilience undermined by systemic decay, complicating the reductionist tendencies of neuroscientific discourse [9]. As Hayles argues, fiction serves as a testing ground for biological implications [11], and here it rigorously probes plasticity's limits across a spectrum of characters and contexts.

The structural critique embedded in these findings is both profound and expansive. Severance ties Candace's neurological decline to the relentless pressures of late capitalism, precarity, repetitive labor, and the apocalyptic chaos of Shen Fever, mirroring Fisher's notion of capitalist realism, where systemic exhaustion becomes inescapable [9]. The zombification of victims like Ashley into repetitive loops serves as a metaphor for commodified health, a critique Dumit links to pharmaceutical overreach [8]. Janelle's spiritual adaptation and Bob's logistical obsessions further illustrate how cultural and economic stressors shape plasticity in divergent ways [2]. In The Power, the skein's emergence is rooted in patriarchal violence, Allie's abuse, Tatiana's rebellion, Tunde's fear, supported by Jamalpour et al.'s findings on sensory overload in traumatic environments [13]. The therapeutic potential of neuroscience [14] is undermined as plasticity amplifies rather than heals these structural wounds, evident in Margot's strategic success and Jocelyn's faltering adaptation [1]. The nuns' collective resistance underscores this entanglement, their brains adapting within a gendered power structure [1]. Critical medical humanities reframe this from individual potential to societal conditions [3], a perspective reinforced by Hacking's view of human kinds as historically contingent [15]. Both texts expose a critical gap in neuroscience: its frequent isolation of the brain from social ecologies [15], a limitation vividly illustrated through these speculative worlds.

Gendered subjectivities add a crucial layer to this critique, challenging neuroscientific hegemony with striking clarity [5]. The Power counters Fine's critique of "neurosexism" [8] through the skein's female specificity, enabling Margot to rewrite political power and Roxy to command militias, yet Judith Butler's performativity reveals the persistence of corruption, Margot's authoritarianism, Tatiana's brutality [16]. Jocelyn's unstable skein ties adaptation to gendered developmental stress, while Tunde's fear and the nuns' communal power reflect diverse male and female responses [1]. Severance links Candace's "fevered" adaptation to pregnancy and labor, per Pitts-Taylor's embodied politics [13], contrasting with Bob's logistical focus, Janelle's spiritual coping, and Ashley's gendered regression [2]. Jonathan's male privilege underscores this disparity [2]. Anne Fausto-Sterling's framing of the brain as a gendered artifact [17] resonates here, resisting the universalist assumptions of neuroscience [5] and critiquing its hegemonic tendencies [9]. Through characters like Roxy, Candace, and Tunde, fiction reclaims

neurological narratives from deterministic science, emphasizing lived experience over biological inevitability, and illustrating plasticity's profound variability across gendered lines.

The broader implications of these findings are significant, particularly as neuroscience increasingly influences education, therapy, and policy [18]. Its optimistic gloss [4] often overlooks the contingencies these texts expose trauma's lasting echoes, structural inequities, and gendered realities echoing Lauren Berlant's concept of "cruel optimism" where promised flourishing remains out of reach [19]. Critical medical humanities bridge this gap [3], urging frameworks that prioritize equity over enhancement [8]. The Western, English-language focus of The Power and Severance limits their scope, as Dipesh Chakrabarty critiques in his call to provincialize Eurocentric knowledge [20], yet their insights invite broader exploration. Psychoanalysis, as Jamalpour and Verma suggest [5], could deepen this by examining plasticity's unconscious dimensions—Allie's trauma-driven skein, Candace's repetitive loops while perspectives like Afrofuturism [21] might offer non-Western neuroplastic narratives. Empirical studies, building on Jamalpour et al.'s neuroscience applications [22], could test these literary insights in real-world contexts, informing health policies that address structural and gendered factors. Speculative fiction balances the romanticism of plasticity [8] with a necessary skepticism [3], reimagining the brain not as a detached scientific marvel but as a sociocultural entity deeply embedded in power, identity, and society. Through their vivid characters and dystopian worlds, these texts amplify a call for equity in the neuroscientific age [21], urging a holistic rethinking of brain adaptation that resonates far beyond the page.

6. Conclusion

This article has demonstrated how Alderman's The Power [1] and Ma's Severance [2] harness speculative fiction to engage neuroplasticity, not as a mere scientific marvel, but as a complex phenomenon intertwined with psychosocial stressors and gendered subjectivities, analyzed through a critical medical humanities framework [3]. By portraying the brain as a dynamic entity shaped by structural inequities and gender, these texts challenge the biomedical authority that often frames plasticity as an unalloyed good [4]. In The Power, the skein organ empowers women to upend patriarchal norms, yet this neurological shift carries burdens of trauma and corruption, critiquing the universal optimism of plasticity as a pathway to flourishing [22]. Similarly, Severance questions resilience under late capitalist collapse, with Candace's "fevered" brain buckling under chronic stress and gendered pressures, aligning with Berlant's notion of "cruel optimism" where promised thriving becomes unattainable [22]. These narratives affirm speculative fiction's role as a cultural laboratory, testing neuroscience's limits and reframing brain adaptation as a sociocultural construct rather than a detached triumph.

The significance of this critique extends beyond literary analysis into real-world domains where neuroscience increasingly informs education, therapy, and policy [17]. Rose and Abi-Rached argue that neuroscientific discourses shape societal management of the mind, often ignoring the structural conditions that constrain adaptation [9]. The Power and Severance expose these blind spots, revealing how

patriarchy, capitalism, and gender norms, systemic forces McEwen links to neural stress [12], limit plasticity's potential. This resonates with critical medical humanities' call to "embrace entanglement" between science and society [3], urging a shift from individual-centric models to frameworks that account for collective inequities [23]. The Western, English-language focus of these texts, however, narrows their scope, as Chakrabarty notes in critiquing Eurocentric knowledge [20]. Non-Western narratives, such as those in Afrofuturism [21], could further illuminate diverse neuroplastic experiences, enriching this dialogue. while Sapolsky's research on social hierarchy's neural toll [24] explains Candace's heightened vulnerability compared to Jonathan's relative stability [2]. Candace's retreat to the mall with Bob, Janelle, and Ashley reflects adaptation within oppressive systems rather than resistance, resonating with Robert Sapolsky's findings on how social hierarchies amplify neural vulnerability [24].

Psychoanalysis offers another layer of depth, as Jamalpour and Verma's work suggests [5], framing plasticity as a negotiation between conscious agency and unconscious residues of trauma or socialization. In The Power, Allie's skein reflects this tension, a conscious weapon forged from unconscious wounds [1], while Candace's repetitive behaviors in Severance hint at a psyche overwhelmed by societal decay [2]. This psychoanalytic lens complements the feminist critique of neurosexism [16], reinforcing how gendered subjectivities embodied and cultural, per Pitts-Taylor [13], shape the brain beyond biological determinism [13]. These insights demand further empirical exploration, as Jamalpour et al.'s neuroscience applications suggest [25], to test how psychosocial and gendered factors influence plasticity in lived contexts, not just fictional ones.

Ultimately, speculative fiction bridges science and humanities, reimagining health equity in a neuroscientific age dominated by biomedical hegemony [9]. By countering triumphalism [4] with skepticism [3], The Power and Severance advocates for frameworks that prioritize equity over enhancement, aligning with calls for inclusive health policies [24]. This study's findings, while exploratory, underscore fiction's power to critique and reshape neuroscientific narratives, urging a holistic view of the brain as inseparable from power, identity, and society. As neuroscience advances, such interdisciplinary critiques are vital to ensure its applications serve justice, not just progress.

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