

Virtual Reality and Alternate Realities in Neal Stephenson's "Snow Crash"

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Abstract

Cyberpunk literature encapsulates the genre's essence by representing technology integration and human existence in a dark, impending future. It shows a society rife with disparities and introduces unconventional heroes who navigate a world where the boundaries between the virtual and tangible realms. The primary objective of this research is to examine the representations of Virtual Reality and Alternate Reality in cyberpunk literature, mainly focusing on Neal Stephenson's "Snow Crash." The focus lies on how this significant work illustrates the portrayal of virtual and alternate realities in American science fiction, viewed through Postmodernism Literary Theory. An extensive discussion revealed that "Snow Crash" is a platform for addressing societal issues through its sturdy framework, examination of human interactions, and ethical considerations. It allows writers to explore intricate ideas, particularly emphasizing the significance of technology and scientific advancement. This exploration delves into the transformative potential of technology on society, ethics, and human experience, allowing for insightful social commentary. Also, "Snow Crash" mirrors societal shifts in scientific, technological, social, and cultural aspects affected by economic systems like mass consumerism and multinational capitalism. It embodies a paradigm that vividly portrays postmodern ideology, challenging established notions, especially concerning identity, within postmodern societies. Finally, the study's implications and limitations are discussed.

Keywords: alternate realities, Cyberpunk, Postmodernism, Neal Stephenson, Science Fiction, Snow Crash, virtual reality

1. Study Background and Significance

"Snow Crash" is one of the most prominent science fiction novels by Neal Stephenson, published in 1992. Stephenson wrote a cyberpunk novel set in a dystopian future where the internet has evolved into a virtual reality called the metaverse, and a computer virus called Snow Crash is affecting both the virtual and real worlds. The story is about Hiro Protagonist, a hacker and pizza delivery driver, as he explores the virus and its connection to a drug ring. Notably, Neal Stephenson is known for his complex and thought-provoking investigation of technology, linguistics, and culture in his novels. "Snow Crash" is one of his seminal works and has significantly impacted the cyberpunk genre. Scholnick (1992) considers cyberpunk literature as involving characters that play a remarkable role as metaphors for different social characteristics. These characters are not conventional archetypes but symbolic representations of societal traits. For example, Hiro, one of the central protagonists and narrators, is intriguing. Despite his exceptional intelligence, he exists on the peripheries of society, earning a living as a pizza delivery person while discreetly being one of the world's top hackers. Another pivotal character, Y.T., a 15-year-old Kourier, prospers in a world lacking clear order and protection, showcasing stability and self-reliance. The mysterious Uncle Enzo, the mafia's charismatic leader, seemingly represents the traits of a modern politician or entrepreneur – benevolent when circumstances align with his goals but ruthless when essential, even resorting to violence. L. Bob Rife symbolizes the philanthropic facade hiding self-serving motives that control all media. In this regard, "Snow Crash" as cyberpunk literature "Snow Crash" by Neal Stephenson is a definitive example of cyberpunk literature. The novel encapsulates the genre's core elements as a technological landscape that intertwines with human existence set in a dystopian near future. It portrays a fragmented society marked by imbalance and anti-heroes navigating a world where the borders between the virtual and physical domains blur. The novel's narrative delves into themes of information control, linguistic evolution, and corporate power, all covered in a high-octane, noir-inspired narrative. With its definitive description of a fragmented future society and a rigorous exploration of technology's importance on human existence, "Snow Crash" is a seminal work that persists in affecting and defining the cyberpunk genre. "Snow Crash" employs analogies that entangle the natural with the technological, explaining intricate ideas. An instance is when Hiro draws a resemblance between the development of language skills in the human brain and how information is "blown into" PROM (Programmable Read-Only Memory) chips. This narrative method fuses

hardware and software concepts to explain the complexities of the human brain's linguistic evolution. Tom Lombardo (2015) stated that, like another piece of cyberpunk literature, "Snow Crash" is based on neologisms, new words, or phrases that lack direct symbolic counterparts, demanding readers to interpret them based on their imagery and understanding. These neologisms serve as what Baudrillard termed "3rd order simulacra."

1.1 Objectives

The primary objective of current research is to examine, discuss, and highlight the representations of Virtual Reality and Alternate Reality in cyberpunk literature, particularly in the "Snow Crash" by Neal Stephenson. The focus remained on the cyberpunk literature to highlight how a relevant piece of work narrates the representation of virtual reality and alternate realities in American science fiction works under Post Modernism Literary Theory. This research examined how the author envisions and uses these immersive constructs to question our knowledge of reality, pose ethical dilemmas, and comment on the societal effect of technological advancement. Notably, this research is significant for both technology and literature as it contributed to the existing body of research on cyberpunk literature as it is intertwined with the evolution of technology and its influence on society. Also, this research discusses the ethical and societal dimensions of Virtual reality and Alternate Realities prevalent in today's technology-driven world (Aristides Vagelatos, 2022). The focus is on how Neal Stephenson employed immersive constructs to question the boundaries between reality and illusion, encouraging readers to reflect on their perceptions of the world. This research highlights the significance of critically analyzing the societal effects of technological progress. It questions readers to consider the ethical implications of digital interaction, offering an overview of the ethical and existential questions raised by the intersection of Virtual Reality and modern society, making it a valuable contribution to the current discourse on the relevant topic. Notably, the significance of the current study can be determined by the fact that this research highlighted the author's visionary use of VR and AR and shed light on their profound implications. By challenging traditional notions of reality, the narrative provokes profound ethical reflections and imparts commentary on the societal repercussions of technological advancement. This dual focus on technology and literature proved helpful in expanding the existing corpus of knowledge surrounding cyberpunk literature. In traversing the imaginative landscapes framed by Stephenson, the research served as a beacon, facilitating readers to question the boundaries that limit reality from illusion. This research is not merely an exploration of fictional realms but a provocation to reflect on one's perceptions of the world and the subtle shifts in our understanding of technological innovation. This research also emphasized the need to critically examine the societal ramifications of relentless technological advancement. It prompted readers to pause and consider the ethical underpinnings of our increasingly digital interactions, offering a panoramic view of the complex web of ethical and existential difficulties stemming from Virtual Reality's convergence and contemporary society. Thus, based on the objectives and significance of current research, this research addressed the following questions:

RQ1: What is the narrative impact of the "Snow Crash"?

RQ2: Which dimensions are represented in the "Snow Crash" by Neal Stephenson?

2. Review of Literature

2.1 Evolution of Science Fiction Literature

The history of American science fiction is a rich tapestry that has evolved over the centuries. For many scholars, science fiction (S.F.) is distinctively prone to envisioning the future. According to the prominent critic Darko Suvin, the crucial shift that transformed S.F. into a genre mainly concerned with the future occurred around 1800, exiting from the earlier focus on space as the locus of alienation. Suvin's opinion indicates that the dominant emphasis is redirected from spatial dimensions to temporal ones. Although we can trace the roots of futuristic narratives back to works like Mercier's "L'An 2440" in 1771, it was during the romantic era of the early 19th Century that the description of future scenarios gained significant eminence in literature. However, the exact causes behind this transition from space to time as the central theme in S.F. during the late 18th to early 19th Century stay unclear, as Suvin acknowledges that this transformative period has yet to be fully elucidated (Bianchi, 2019). However, until the late 19th Century and early 20th Century, American science fiction began flourishing as a distinct genre. Authors like H.G. Well and Jules Verne influenced American authors like Edgar Rice Burroughs and H.P. Lovecraft, who helped shape the genre with their imaginative tales of otherworldly adventures and cosmic horror (Menadue et al., 2020).

Most science fiction (S.F.) literature produced in the early 19th Century explored ideas and concepts originally shaped by the revolutionary upheaval of the late 18th Century, especially in the realm of future fantasies. However, when evaluating the broader landscape of S.F. during this era, it becomes apparent that two notable English-speaking authors, Mary Shelley and Edgar Allan Poe, played key roles in defining and impacting the genre. Their contributions marked a significant presence in the S.F. literary landscape of the time (Roberts, 2006). However, War of the Worlds, one of the most prominent science fictions, gave the cinematic experience that ushered in the era of science fiction. According to Tom Lombardo (2015), writing a short story about the aliens invading the Earth, designing costumes, recruiting talent, and representing the whole picture was about how we would "live the future" to defend the Earth. The fascination with science fiction evolved, becoming one of modern popular culture's most visible forms of future thinking. According to Miller (2009), American science fiction's "Golden Age" emerged during the mid-20th Century, represented by the prolific creation of writers like Isaac Asimov, Robert A. Heinlein, and Arthur C. Clarke. These authors presented groundbreaking concepts and probed themes of space quest, robotics, and artificial intelligence, reflecting the time's technological progress and societal changes. This era also saw the emergence of science fiction in popular culture, with the start of pulp magazines and the eventual rise of science fiction on television and

cinema. American science fiction has persisted to evolve and diversify over the past few years. It has adopted subgenres, including cyberpunk, post-apocalyptic fiction, and dystopian literature, imaging modern concerns about technology, environmental issues, and the human condition (Yamamura, 2014). Authors like Philip K. Dick, Octavia E. Butler, and William Gibson have played key roles in pushing the boundaries of the genre. American science fiction remains a dynamic and effective literary force, continuously acclimating to reflect the ever-changing world and the endless possibilities of the imagination (Schmidt, 2010).

2.2 *Virtual Realities and Alternate Realities in Science Fiction*

In the current age, we have entered a realm shaped by computers, giving rise to a novel state of reality known as Virtual Reality (V.R.). Although Virtual reality (VR) is not tangible, it is a form of existence (Appel et al., 2016). Being "virtual" does not negate its existence; rather, it symbolizes a different mode of coexistence with reality. According to Franks (2015), "virtual" means something that exists or has an impact without being officially identified. On the other hand, "Reality" pertains to actual events, entities, or states of matter. Incorporating these terms, we define Virtual Reality as something real in its effects but not necessarily in fact. Nevertheless, this idea can sometimes obscure the line between V.R. and other virtual worlds in literature, theater, or film. While some researchers describe V.R. as technology-producing three-dimensional digital environments, engineers outline it based on five key attributes: a tool of communication, physical immersion, synthetic sensory stimulation, mental immersion, and interactivity (Shin, 2008).

Similarly, alternate realities are a fascinating and recurrent theme in American science fiction literature, proposing to author a canvas to dig into intriguing "what if" scenarios and question traditional boundaries. In many literary works, these alternate realities serve as thought-provoking mirrors of our world, enabling authors to explore societal norms, human nature, and the results of our choices (Wynn, 2006). A critical facet of alternate realities in American science fiction is the exploration of parallel universes. Writers like Philip K. Dick, in his classic novel "The Man in the High Castle," and Michael Moorcock, in his "Multiverse" series, have envisioned worlds where history separated, leading to profoundly different outcomes. These narratives invite readers to consider the fragility of our reality and the enormous power of pivotal moments. Another aspect of alternate realities in American science fiction is exploring virtual worlds and simulations. Well-known authors, including Neal Stephenson in "Snow Crash," present futures where people escape into intricately constructed digital domains, blurring the line between the real and virtual. "Snow Crash" delves into the human urge for escapism, identity, and the effects of living in simulated environments. Also, alternate realities usually serve as a backdrop for probing moral and ethical dilemmas. Ursula K. Le Guin's "The Lathe of Heaven" presents a character whose dreams change reality, raising questions about the effects of unchecked power. These portrayals provide fertile ground for analyzing human values and societal ethics (Miller, 2020). Notably, science fiction differentiates itself from myth by its forward-looking emphasis on the future instead of delving into history or mysticism. Within science fiction, themes like technology, climate crises, and biological war serve as canvases where anxieties about the future can be vividly represented and probed. At the heart of the science fiction genre lies the complex process of worldbuilding, which seeks to reimagine and restructure society and the physical world. Whether traversing alternate dimensions, distant galaxies, or representing a dystopian vision of Earth, science fiction writers delve into the complexities of preparing future settings and how different elements within them interconnect. Beyond its exemplary tales of disaster, science fiction often weaves narratives that center on humanity, reflecting the enduring romantic ideas about the human spirit's ability to triumph over adversity, whether it be catastrophe, destruction, or encounters with extraterrestrial beings—a testament to the genre's inclination for showing highly idealistic yet profoundly human-centered narratives (Osawa et al., 2022). Table 1 contains the operationalization of key terms in current research.

Table 1. Operationalizing Key Terms in Current Research

Key Terms	Definitions	Source
Science Fiction	Science fiction is a genre of speculative fiction that probes imaginative and future events, usually involving advanced technology, science, and their effect on individuals and society. Science fiction pushes the boundaries of what is known and reflects the "what if" scenarios that emerge from scientific advancements. Science fiction uses futuristic settings, progressive technologies, and extraterrestrial worlds to comment on and critique current social, political, and cultural problems. It provides a lens through which writers can analyze and satirize aspects of society while exploring the human condition.	(Canavan, 2017; Wells, 2013)
Virtual Reality	Virtual reality in science fiction is a simulated, computer-generated setting that engages users in a three-dimensional digital world. In the relevant narratives, individuals can communicate with and explore this synthetic reality through technical devices called immersive technology. Virtual reality in science fiction works as a primary theme, enabling characters to encounter alternate worlds, simulations, or digital landscapes that may or may not mirror physical reality. Virtual reality in science fiction transports characters and readers into a distinct state of reality or consciousness. It encompasses scenarios where technology or advanced interfaces enable individuals to perceive and engage with realities beyond every day, blurring the lines between the physical and virtual realms. Virtual reality can be a means for escapism, exploration, or even manipulation of the perception of reality, usually raising deep questions about identity, existence, and the nature of consciousness.	(Bailenson et al., 2011; Macedo et al., 2022)
	Alternate realities in science fiction are fictional, coexisting universes or dimensions that split from	

	our known reality due to diverse historical, scientific, or intangible factors. These parallel universes may have altered laws of physics, alternate histories, or different societal structures.	(Dillon, 2011;
Alternate Realities	Alternate realities are narrative constructs that serve as a storytelling source in science fiction literature. They usually probe "what if" scenarios or represent alternative outcomes established on pivotal choices or events. These alternate realities may exist temporarily within the plot or as a constant setting, allowing authors to explore the results of specific actions or historical changes.	Hermann, 2023)

3. Postmodernism Literary Theory

Post Modernism Literary Theory provides theoretical support to the current research study. Postmodernism, akin to different literary and philosophical movements, is a flexible and structured amalgamation of notions, principles, aesthetic sensibilities, and artistic practices. Scholars engage with delineating postmodernism because it inherently resists a specified definition (Sheeba, 2017). Postmodernism's essence lies in its opposition to categorization. Some argue that postmodernism implies the ever-evolving societal and cultural trends represented by distinguishable features that began to take shape during the 1960s, marking the era that achieved modernism.

Regarding science fiction and Post Modernism Literary Theory, Postmodernism is usually associated with a sense of playfulness, a willingness to blend genres, and a denial of tidy aesthetic or moral wrap-up in literature (Friedman, 2009). It also involves self-aware writing, identifying, and presenting itself as a product of deliberate crafting rather than a simple, naive portrayal. This notion of self-awareness in writing is a critical feature akin to "Equipose." According to Habib (2019), postmodern literature functions as a lens through which we can understand postindustrial society and holds a special place within the domain of cyberpunk. The postindustrial era is characterized by its complex relationship with technology, an illustrative element that resonates with cyberpunk fiction. Researchers usually analyze cyberpunk within the context of postmodernism, as it describes a relatively contemporary subgenre of science fiction. This close relationship between science fiction and postmodernism emphasizes their affiliated nature. As Tiziana Terranova argued, postmodernism's distinctiveness is inseparably related to the revolutionary technology that has disrupted the very foundations of Western civilization (Terranova, 1996). Postmodern science fiction, such as cyberpunk, vividly conveys the prominent factors of our lives, especially how they are transformed and redefined by technology's pervasive influence. According to McCaffery, cyberpunk science fiction is keenly interested in embracing the aesthetic of postmodernism, highlighting the convergence of futuristic narratives and the complex web of technology within modern culture (McCaffery, 1991).

A decrease or depletion of temporal imagination does not describe postmodernism. Instead, it is marked by its vigorous and prolific growth. It replaces the narratives of modernity with mini-narratives, freeing storytelling from the limitations of a single dominant temporal structure. This freedom extends beyond just time in science fiction, encompassing both temporal and spatial dimensions, allowing it to mirror postmodern culture's fragmented and disintegrated nature. In discussing postmodern narratives, Currie (1998) emphasized that postmodernism is not about the end of storytelling but the splitting of grand narratives into smaller, more diverse narratives. (McCaffery, 1991) also perceives the imaginative narratives of postmodernism as an alternate to historical praxis, where the creation of fictional stories replaces the construction of real-world narratives.

4. Analysis and Results

4.1 "Snow Crash" Narrative Impact

According to Smethurst et al. (2023), the research on postmodern narratives shows the emergence of new chronotypes or temporal and spatial frameworks. Science fiction is a convincing medium to represent these new and emerging chronotypes. Many critics acknowledge the convergence of postmodernism and science fiction, as illustrated in cyberpunk, including Snow Crash by Neal Stephenson. This standpoint sees cyberpunk science fiction as a genre that draws some facets from postmodern mainstream fiction, which is, in turn, impacted by science fiction to varying degrees. The interplay between these two genres enhances the literary landscape with innovative narratives and perspectives. Talking about science fiction in literature and its impact, Snow Crash has a profound narrative impact as it allows authors to explore intricate themes and ideas, constantly delving into the importance of technology and scientific progress.

This exploration extends to how technology can reshape society, human experience, and ethics, providing a platform for social commentary. In this regard, "Snow Crash" is known for meticulously creating a rich and complex fictional universe that delves into many thought-provoking themes. The novel grapples with the pervasive impact of powerful corporations, the transformative impact of technology on society, the power of language and myth, and the intriguing intersection of virtual and physical realms. Lisca et al. (1973) consider science fiction as science fiction effectively encapsulates the core features of postindustrial society. It acts as a lens through which we can understand the technologically mediated aspects of the postmodern experience. Diversity, profound fragmentation, diversion, and indirectness represent the cultural landscape. American science fiction literature, in particular, has played a transformative role, profoundly shook the foundations of postmodern culture, and reshaped our perceptions of reality. Jean Baudrillard also helps understand this shift by describing how reality is immersed into a technology-mediated environment to strengthen our views about society further. Baudrillard emphasized how the relationship between reality and simulacra has transformed modern society. The idea of an authentic copy has been discarded, and models and simulacra have deemed the status of reality itself. This highlights the intricate interplay between technology, media, and our perception of the world in the postmodern era (Habib, 2019).

According to Chinn (2020), science fiction in American literature has a profound narrative impact. It helps authors to analyze complex themes and ideas, frequently delving into the importance of technology and scientific advancements. This exploration advances how

technology can reshape society, ethics, and the human experience, providing a platform for social commentary. Consistent with the characters' interactions and relationships, (Bianchi, 2019) stated that science fiction often tackles pressing societal issues such as tyranny, inequality, and oppression by projecting them into hypothetical futures or alternate realities. This narrative technique encourages readers to reflect on these issues from new standpoints.

i- Identities

Characters in the novel usually have distinctive identities in both the real world and the virtual realm. This duality permits them to probe various aspects of their personalities and even adopt entirely distinct personas in the virtual space. For instance, the main character, Hiro Protagonist, is a hacker and swordsman in the metaverse, a virtual reality universe. This partition between physical and virtual identities allows characters to evolve and experiment with diverse characteristics of themselves. According to Allbeck and Badler (1998), Stephenson's novel "Snow Crash" shows a literary portrayal of Virtual Environments inhabited by digital entities. Within the story, Stephenson presents the metaverse concept, a virtual realm mainly inhabited by actual individuals who enter this space by adopting avatars as digital representations. These avatars enable users to interact and navigate within this virtual world. Besides, in "Snow Crash," the narrative unfolds within two equally meaningful realms: the physical reality and the virtual world of cyberspace, which run parallel. Yet, the novel's questioning of identity becomes more complex and fluid due to the collapse of traditional identities and the blending of different worlds within society and among its characters. Mortiz (2013) argued that cyberpunk as a genre originally served a speculative function, aiming to envision the future in a post-Cold War society dominated by technology, corruption, and multinational capitalism. Modern ideologies are refracted in "Snow Crash," establishing it as a quintessential postmodern example. It critically explores and contemplates the supposed evolution of humanity, both in the present and shortly, offering sharp critiques and reflections on these societal changes.

Additionally, Terranova (1996) argued that Cyberculture often assumes its political radicalism by highlighting the freedom of individuals to represent themselves. However, there are meaningful challenges with this stance. One such issue pertains to an autonomous individual liberated through electronic communication. These connections guide who can access computer-mediated communication (CMC) and affect how individuals experience and navigate this access. The idea of pure autonomy in the digital age is prominent, as it indicates the profound effect of broader cultural and economic contexts on individual experiences with technology.

ii- Escape

In "Snow Crash," Stephenson presents a vibrant and creative description of the metaverse, a virtual realm where individuals engage, conduct commerce, and immerse in diverse experiences. Within this digital realm, Stephenson delves into the idea of identity, exploring how virtual reality can provide an artery for escapism and the possibility of addiction. Neal Stephenson introduced the term "metaverse" in his 1992 science-fiction book "Snow Crash." He envisioned a futuristic concept where a virtual reality-based extension of the internet, known as the metaverse, takes center stage. Within this metaverse, individuals use digital representations of themselves, referred to as avatars, to navigate and interact in the virtual realm. The metaverse works as an escapist haven in the story, with the novel's central character, Hiro Protagonist, a financially struggling computer hacker and pizza delivery driver, often seeking refuge in this digital realm. Hiro acquires entry into the metaverse by donning goggles and "earphones," adopting a personalized avatar to portray himself in this virtual space. Notably, this virtual existence serves as an escape from their physical world's harsh and dystopian realities. According to Allbeck and Badler (1998), V.R. provides characters with an escape from the rough realities of the dystopian world described in the novel. The metaverse and similar virtual environments offer shelter from the gritty and treacherous physical world. In these alternate realities, characters can find reassurance, adventure, and prospects for personal growth, often lacking in their daily lives.

iii- Development of Coalitions

Further, the characters' interactions and relationships in V.R. profoundly influence their development. Friendships and coalitions are forged in the digital realm, influencing characters' beliefs, motivations, and actions in the real world. The novel explores the complex world of hackers, programmers, and cyber criminals who form coalitions to extend their interests. These coalitions are usually motivated by a desire for power, control, or wealth in the virtual metaverse and the physical world. Hiro Protagonist, the story's main character, is a hacker who steers this complex web of coalitions and rivalries. For example, Hiro's connection with Y.T., a courier and hacker, begins in the metaverse and has meaningful real-world consequences. On the other hand, large corporations like the media conglomerate "The Library" and the mafia-like "Costa Nostra Pizza" also function as powerful coalitions in the "Snow Crash." They exert considerable influence and control over the physical and digital realm—the novel delves into the strategies employed by these entities to maintain their dominance and extend their reach. Also, the novel introduces a coalition of people addicted to the enigmatic drug "Snow Crash." While not a classic alliance, this group shares a common bond through their addiction and is controlled by external forces (Squire & Jan, 2007).

4.2 Ethical and Societal Dimensions

A significant part of science fiction (S.F.) literature contains influential moral elements, consistently reflecting societal concerns within the periods when these works were created. While it is typically risky to categorize an entire genre into a single perspective, there are considerable associations between S.F. and ethical themes, especially in the classic works well-known to the general public. This association becomes evident when the readers consider that ethics primarily revolves around the consequences of actions, and science fiction usually serves as a source of shedding light on these consequences (Dolan, 2020). Consistent with the ethics in science fiction-based literature, following Lyotard's statement of the downfall of meta-narratives, different interpretations of postmodernism have appeared during the past few years. Postmodernists originated new narratives emphasizing gender concerns, ethical dilemmas, diasporic experiences,

and local identities. The impact of scientific thought is also a significant factor in shaping contemporary ethical and social implications. Also, postmodern literature effectively portrays the characteristics of postindustrial society, which is closely linked with the cyberpunk genre (Terranova, 1996).

"Snow Crash" also mirrors the scientific, technological, social, and cultural societal changes stemming from certain economic systems. "Snow Crash" exemplifies this paradigm, clearly describing postmodern ideology. It challenges conventional notions, especially identity, within postmodern societies, focusing on North American culture (Wisecup, 2008). For example, the snow crash highlights the increasing influence of large corporations in society. Privatizing public services and corporate-driven entities raises concerns about the concentration of power in the hands of a few. For instance, the privatization of law enforcement contests traditional notions of justice and accountability. The novel uses parody as its primary rhetorical strategy, openly incorporating conventions and clichés that highlight their metatextual nature, creating a self-reflective narrative that simultaneously critiques and questions itself. Besides, the novel shows a stark contrast between the wealthy elite and the underprivileged masses. The corporate-controlled society amplifies this wealth gap, where access to education, healthcare, and primary services is restricted for many, reflecting real-world concerns about income inequality and social stratification. According to Tickamyer (2004), science fiction literature delves into the influence of technology on labor markets. Automation and metaverse, while promising efficiency, also lead to class differences and economic inequality. The authors explore how these changes increase social classes and challenge conventional economic structures. Postmodern narratives constantly emphasize the significance of individual agency and resistance. Characters from marginalized backgrounds or lower socioeconomic status are usually at the forefront of these stories, challenging oppressive systems and seeking to disrupt established power structures (Donets & Krynytska, 2022). Snow Crash also proposes a violent and anarchic society where law and order have broken down. It explores the effects of a world without effective governance and the ethical dilemmas people face trying to survive in such an environment. According to Swanstrom (2010), snow Crash represents a world where the political landscape resembles a form of systematized chaos. The novel provides a clear view of the governmental situation in the United States, indicating that the federal government has effectively disintegrated. The American currency has experienced hyperinflation akin to the severe inflation witnessed in Germany during the early 1920s, causing trillion-dollar bills to be nearly worthless. The federal government's role has dwindled to a level where it resembles an overly self-assured corporation, considering itself far more significant than it is in the functioning of society (Mofleh, 2013).

Similarly, the impact of technology on science fiction literature is profound and reciprocal. Science fiction serves as a reflection of societal concerns and aspirations regarding technological advancements. It allows authors to explore arising technologies' ethical, social, and philosophical implications. For instance, Snow Crash reflects the idea that virtual reality and the internet can shape and even misstate our understanding of reality and ethical concerns about how technology influences our perceptions and behaviors. The metaverse is represented as real to some characters as the physical world, muddying the line between the two. McCaffery associates cyberpunk literature with postmodernism and the rise of new electronic technologies. Accordingly, science fiction serves as an artistic expression that vividly describes the fundamental facets of our lives, which are undergoing profound transformation and redefinition due to technological advances (McCaffery, 1991). Finally, characters in the story grapple with questions of moral responsibility and agency. They must determine whether to use technology and information for good or ill, mirroring broader discussions about individual and collaborative responsibility in the digital age. According to Dolan (2020), a substantial part of science fiction (S.F.) literature often incorporates significant moral themes, consistently reflecting societal concerns during the periods when these works were authored. While it is generally difficult to categorize a whole genre into a single mold, the relationship between science fiction and ethics is notably strong, especially in the classic works that are well-known to the general public. This relationship becomes quite evident when one ponders that ethics fundamentally deals with the repercussions of actions. At the same time, science fiction frequently serves as a source for shedding light on these consequences (Blackford, 2017; Sanders, 2007).

Therefore, in adopting a post-modern approach, this study adopted a philosophical framework that challenges conventional notions of reality, knowledge, and expression. One key component of postmodernism evident in the study is its deconstructionist perspective. This approach seeks to disassemble established binary oppositions and hierarchies, i.e., reality versus illusion or truth versus fiction, which prevail in traditional modes of thinking. By doing so, the study enables a more nuanced examination of Virtual Reality and Alternate Reality representations in "Snow Crash," highlighting that these constructs are dichotomous, intertwined, and multifaceted. Another prominent feature of postmodernism is its distrust towards grand narratives and metanarratives. Postmodernism asserts that no universal truth or overarching narrative can encapsulate the intricacy of human experience. This perspective is mirrored in the study's exploration of how Neal Stephenson employs VR and AR to question our understanding of reality. Rather than presenting a singular, authoritative perspective, the study recognizes the plurality of interpretations and realities that arise from the interplay between technology and human consciousness.

Similarly, this study engaged with pastiche and intertextuality, both hallmark elements of postmodernism. It acknowledged that cultural products, including literature, are not created in seclusion but are shaped by a web of references and effects. In the case of "Snow Crash," the work is situated within a broader cultural and literary context, drawing on and answering to many ideas, technologies, and social phenomena. This intertextual method allows the study to reveal the complex layers of meaning embedded within the narrative, indicating how it is both a product and a review of its cultural milieu.

5. Study Implications

This research discussed the representations of Virtual Reality and Alternate Reality in cyberpunk literature, particularly in the "Snow

Crash" by Neal Stephenson under Post Modernist Literary Theory. Examining these representations, this research contributes to a more in-depth understanding of how this significant subgenre of science fiction portrays emerging technologies and their societal impact. Understanding how cyberpunk literature addresses Virtual Reality and Alternate Reality can be useful in several areas. First, it can provide an understanding of developing and adopting virtual technologies in the real world. The study on fictional representations may offer guidance on potential challenges and prospects in the evolution of virtual environments and their integration into various facets of society, including entertainment, communication, and education. This research can also inform discussions on the ethical and social consequences of virtual and alternate realities. By studying how cyberpunk literature mirrors the impact of these technologies, this study sheds light on potential pitfalls, i.e., privacy concerns or issues concerning identity and agency in virtual spaces. This understanding can be useful in shaping policies and regulations in the evolving digital technology terrain. Lastly, the research aligns with the Postmodernism Literary Theory, highlighting contemporary society's fragmented and intricate nature. Exploring how cyberpunk literature fits within this literary theory can help scholars and practitioners better understand these works' cultural and philosophical underpinnings, providing practical insights into the broader context of postmodern thought.

6. Conclusion

This study helped observe the complex ways Snow Crash engages with the concept of Virtual reality and Alternate Reality. This exploration has provided practical insights into how these technologies are narratives and reflections of societal apprehensions, urges, and the complex relationship between humanity and technology in a postmodern world. Focusing on the cyberpunk genre examines it as a powerful lens through which we can critically explore the fusion of technology, identity, and culture. Cyberpunk literature suggests a captivating and thought-provoking platform for considering the implications of emerging technologies on our lives, echoing the multifaceted and fragmented nature of contemporary society as illustrated by Postmodernism Literary Theory. Thus, it is concluded that science fiction appears as a postmodern genre that blurs the line between the artificial and the natural. Postmodernism and science fiction have a shared focus on the transformation of human existence stirred by technology and media. This shared focus highlights the significant relevance of engaging in a more comprehensive and subtle discussion and analyzing these themes.

6.1 Limitations

This study has some basic limitations that future researchers can address. First, this research focused on a single piece of American science fiction literature, "Snow Crash," that narrowed its scope. Future researchers can focus on other pieces of literature to highlight and discuss Virtual Reality and Alternate Realities in American literature. The second limitation involves focusing only on the technological and ethical aspects of Snow Crash, while future studies can explore the other aspects and narratives to overcome this limitation. Finally, the third limitation involves only focusing on American literature, while cyberpunk and science fiction are widely addressed in international literature. Future researchers can also discuss science fiction in Scottish, Irish, Caribbean, and other pieces of literature to further acquire in-depth insights.

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Authors contributions

Dr. Bilal, Dr. Nagaletchimee, Dr Enas, Dr Khaled and Dr. Najeh contributed to the study design and revisions, ensuring methodological robustness. Dr. Bilal led meticulous data collection, and the manuscript was initially drafted by Dr. Bilal, undergoing substantial revisions by Dr. Naga, Dr Enas, Dr Khaled and Dr. Najeh. All authors actively reviewed and approved the final manuscript.

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N/A

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Data sharing statement

No additional data is available.

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