Investigation Of Chaotic Future Presented In Neal Stephenson's *Snow Crash*

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Abstract: American Literature is a body of literary works penned in English by writers in the United States of America. Many argue that American Literature came into existence after the period of colonisation. Neal Stephenson's *Snow Crash* is a contemporary and trending novel, especially with the involvement of digitalisation in reality. This research article titled "Investigation of Chaotic Future Presented in Neal Stephenson's *Snow Crash,*" assists in the analysis of the plausible future in a technologically advanced world, with the probability of reaching a stage of the posthuman at the pinnacle. The research finds evidence of virtual reality and its latent to create a simulated reality, which is difficult to distinguish from reality. The brilliant mixture of the three I's- interactivity, immersive and imagination- supports the coagulation of both. This article also reveals the metaverse or virtual reality as a place of imminent ruination. The faint line that separates virtuality and reality alludes to this chaos.

Keywords– **Artificial Intelligence, Chaos, Metaverse, Reality, Simulation, Virtual Reality.**

I. INTRODUCTION

Virtual reality, abbreviated as VR, finds its commencement in the early days. Investigating through literature, Stanley G. Weinbaum's *Pygmalion's Spectacle* (1935) is perhaps the first literary work to embed it and embark on the journey of virtual reality in fiction. Grigore C. Burdea and Philippe Coiffet define virtual reality in the work *Virtual Reality Technology* as "a simulation in which computer graphics is used to create a realistic-looking world. Moreover, the synthetic world is not static, but responds to the user's input (gesture, verbal command, etc…)" (Burdea and Coiffet 2-3). One major feature of virtual reality is that it can enable people to experience the application "reciprocity" (the ideology of treating the person the same way as you want to treat them), which is its first and most advantageous feature (Slater). For instance, a man of a specific ethnicity and colour can temporarily stand in the shoes of the other, or perhaps an adult can live a life of a child in virtual reality and vice versa.

Burdea and Coiffet extend the essence of virtuality to form the "three I's" or the "I^3"- Interactivity, Immersive and Imagination. Real-time encompasses the first two features. Imagination, the third and equally important feature, allows virtual reality to build to infinity. Where the sky is the limit, virtual reality expands beyond it as well, with the help of knowledge and scientific theories.

II. VIRTUAL REALITY AND SIMULATION THEORY IN *SNOW CRASH*

Speculative fiction, as a term and genre, gained popularity in recent decades. Hence defining it became a requirement. Fixating a strict definition to encapsulate its essence is still pending work. "Often described as the 'What if…?' genre, speculative fiction (spec-fic) describes any work where the writer explores unproven theories in a fictional scenario. But it's not quite as simple as that… this one [definition] is so loose that it can be stretched to include all fiction" (Playe). By far, the definition by Annie Neugebauer seems to fit: "Speculative fiction is any fiction in which the 'laws' of that world (explicit or implied) are different from ours" (Neugebauer).

A futuristic world is a speculative world that is set in the future and imagines what it might look like, how it might function, and how it might differ from our current world. Science fiction often represents futuristic worlds as places where technology has advanced to the point of enabling new possibilities and social structures. Advanced technology, alternate social structure, change in history and the evidence of extra-terrestrial life paves way for its inclusion in literature. The new games and materials provide a privileged new mind for art and media for theorizing it in a new pitch. Science fiction, or specifically speculative fiction, attempts to curb this exponentially vast topic. The varying proportions of science, reality and fiction set off a new area for the writers and audience.

Neal Stephenson's *Snow Crash* is a direct dystopian world amongst the chaos of gadgets, computers and software. The introduction scenes of the first chapters give the setting. "This is America. People do whatever the fuck they feel like doing, you got a problem with that? Because they have a right to… As a result, this country has one of the worst economies in the world" (*Snow Crash* 2). The decentralized state's government is reduced to a ceremonial role with most of the power held by large corporations and franchised communities.

Hiro Protagonist, initially known as Deliverator, is a pizza delivery guy for the Mafia. As absurd as it seems, his job is to deliver pizzas within the indicated time on the pizza box, in his high-end car given by the Mafia. It has "enough potential energy packed into its batteries" as it "unloads that power through gaping, gleaming, polished sphincters" (*Snow Crash* 2). Stephenson presents Hiro as a "hacker" and the "greatest swordfighter in the world" in the virtual or the alternate world. "This imaginary place is known as the Metaverse" where he spends most of his time (*Snow Crash* 22).

The thought of virtual reality to be a place of complete freedom finds falsification in Neal Stephenson's theories, which he clearly portrays in the novel *Snow Crash*. To begin with, Stephenson only defines Metaverse as a "computer-generated universe" to access which a computer, goggles and HUD are necessary. Everything owned in it is owned by different conglomerates, large to individuals. Avatars, the audio-visual pieces of software alluding to people in reality, can be original or bought from the stores in the Metaverse, which by appearance shows the powerholders. If unaffordable, a copy of the default avatars is available.

"The Black Sun" is a section in the Metaverse that Hiro and his friend Da5id coded at a time before the commencement of the novel. It is more like an exclusive club gathering for all the guests from various sides of the occupation. But the entry is also restricted by the coders.

"The Theory of Simulation," or Simulation Hypothesis is an original theoretical concept offered by Nick Bostrom in 2003. Published under the title "Are You Living in a Computer Simulation?" in the journal *Philosophical Quarterly*, Bostrom says that the probability of the post-human species living in the computer simulation is a fair percentage. He uses a mathematical formula to determine the likelihood that our universe is expanding to support this claim. (Bostrom)

Nick Bostrom argues the plausibility of any of the three suggestions he presents in the paper. Fundamentally, he proposes that any human species is endangered and would disappear prior to the emergence of the evolution of the "posthuman stage." Secondly, it is very unlikely that any posthuman society would find interest to execute a sizable number of simulations of their evolutionary history. And, perhaps the most controversial of the three speculations is that "we," the humans are entities of computer simulation or computer reality. In the above cases, post-human society refers to a community of people who are much more mature in digital development and that they possess a higher amount of "computational power." In any scenario, the person would have a brain capacity high enough to configure the human mind into a simulation, blurring the boundary between simulated and non-simulated experiences. Simply put, if a civilization can create a simulated reality that is indistinguishable from reality, then it is likely that there are many such simulations, and it is more probable that we are living in a simulated reality than in the "real" world. (Bostrom)

Bostrom defines the term "Substrate Independence" as he says the mind is "that of substrate independence." According to him, "mental states can supervene on any of a broad class of physical substrates." The foundation of this theory is the functionality of the mind and not physicality. A system that performs the same functions as a human brain or mind could be considered to be conscious or have mental states, even if it is not made of biological neurons. Simply put, the computational mind can be anywhere, irrespective of the medium, in the human brain or computer. This postulation is a firm base of Bostrom's theory.

Neal Stephenson's *Snow Crash*, written a decade before Bostrom's theory, depicts the advancements and the accompanying changes in futuristic America. The dual reality of the real and virtual in the novel showcases the existence of double consciousness. The probability of the consciousness in the real vanishing is highly out-seen. While adhering to finding the evolution of the chaos, Stephenson indirectly also points to the weakening healthy life in reality. Though not explicitly represented, substrate independence is relevant to *Snow Crash*'s exploration of virtual reality. The fact that the Metaverse is a virtual reality space raises questions about the nature of consciousness and whether it can exist independently of its physical substrate.

In "Snow Crash," the Metaverse is a representation of a computer-generated reality. People enter the Metaverse through a computer network and can take on different avatars and interact with each other in a simulated world. The construction and minute details make it difficult to distinguish the Metaverse from reality.

The title of the novel alludes to the virus "Snow Crash." L. Bob Rife, a wealthy media tycoon who invents it, uses it to attain control over people's minds. The virus takes its name from the sound of a computer crashing. The use of the drug causes the system of the avatar to crash and sensory overload leads to brain damage. The virus transmits through a multimedia file that triggers a "neural-linguistic hack" when a person listens to or watches it. It exploits the way the human brain processes language and sensory input, causing the victim to experience a state of sensory overload. Hackers and coders are more prone to the virus since their brain is consciously or unconsciously accustomed to reading the binary language. Once the virus is released into a person's system, it

hijacks the victim's brainstem, inducing a trance-like state that leaves the victim susceptible to suggestion and control. The virus can be transmitted through a variety of media, including videos, audio recordings, and even text.

In the novel, Stephenson characterizes Ng as a powerful Mafia, who underwent genetic and technological enhancements to replace his burnt physical body. This allows him to interact with various devices with great accuracy. The voice control vehicle is an example. "Ng bursts forth with a long string of twangy noises, pops, and glottal stops. 'Fucking bitch,' he mumbles. 'Excuse me?' 'Nothing,' he says, 'a bimbo box cut me off. None of these people understand that with this vehicle, I could crush them like a potbellied pig under an armored personnel carrier.' 'A bimbo box -- you're driving?' 'Yes…' " (*Snow Crash* 209)

His brain and nervous system are linked through technology, which makes him feel the things his avatar Metaverse feels. In a scene where Y.T. interacts with Ng, he reveals his post-humanistic existence.

Each update in the virtual world makes the illusion of it being similar to the real world stronger. It attains the ability to emulate and reproduce aspects of real-life experiences. Users remember their interaction with gadgets and illusions as if they were and in due course of time, their ability to distinguish it would deteriorate. Hence, prolonged usage of it leads to cognitive, emotional and behavioural imbalance.

The fractal programming in virtuality is one example. A new turn in the Metaverse generates terrain and landscapes that are more realistic than simple geometric shapes and takes the characters into a new portion of society. These bring the deception of a never-ending world, like people's journey in the world will take them to a different place, physically and otherwise. The use of it in creating a virtual environment like that in the real world- mountain ranges, forests, and other natural landscapes- with a high degree of complexity and detail is another deception that leads to the ignorance of post-humans or (here) avatars to forget the origin.

Virtuality and its opposition to reality is also an essential element of research in science fiction novels. The reality, in general, indicates to the physical hardware world that living things can experience through senses. Assuming an objective perception, there is no space for subjectivity in the real world, apart from the fact that people's interpretations of reality may vary depending on some factors. Virtuality, on the contrary, is a computer-generated reality with the assistance of technology. It is highly immersive and can provide experiences that stimulate the aspects unique to reality. It is "a medium composed of interactive computer simulations that sense the participant's position and actions and replace or augment the feedback to one or more senses, giving the feeling of being mentally immersed or present in the simulation (a virtual world)" (Sherman and Craig 38).

III. CHAOS AND FUTURE IN *SNOW CRASH*

The concept of chaos extends to several elements of any spectrum. Traced from the Greek word "Khaos" which means a "gaping void," it refers to a state of disorder and confusion and events are unpredictable, far within the chains of stability. Connecting it to psychology, chaos can also refer to a state of mind, where individuals feel overwhelmed by stress, anxiety, or confusion, and struggle to maintain a sense of order and control in their lives. Though it's difficult to curb, it is "easy to recognize it when you see it" (Biswas, et al.) In most cases, chaos is associated with instability, uncertainty, and risk. It can arise from a wide range of sources, including natural disasters, social unrest, technological failures, or human error.

Chaos is a concept that can apply to virtual reality just as it does in the physical world. In virtual reality, chaos can arise from glitches or bugs in the software, unexpected interactions between users or objects, or deliberate attempts to disrupt the virtual environment. Chaos in virtual reality can have a range of effects on users, including disorientation, frustration, and a sense of loss of control or agency. The usual signs of chaos are glitches and external interference. Non-linearity, sensitivity, unpredictability and the presence of fractals are some characteristics of a chaotic world.

Snow Crash illustrates chaos in both reality and the Metaverse virtual reality. The novel depicts a future where corporations and governments have largely collapsed, leaving a power void that is filled by various criminal organizations and anarchic communities. This chaos reflects in the virtual world, where users can engage in virtual combat, hack into systems, and create their own digital personas. The highly advanced and dangerous computer virus-cum-drug "snow crash" is the materialistic reason for the chaos in the novel. While it causes a system crash, it apparently affects the neuro-link of the person, forcing them to be in a coma-like state. The drug's coding is in such a way that it makes use of the concept of linguistic structure, its effect on the human brain, "glossolalia" and neurological programming.

> a "snow crash" is computer lingo. It means a system crash -- a bug -- at such a fundamental level that it frags the part of the computer that controls the electron beam in the monitor, making it spray wildly across the screen, turning the perfect gridwork of pixels into a gyrating blizzard. Hiro has seen it happen a million times. (*Snow Crash* 39-40)

Da5id is the first character to be affected by the "snow crash." Before being exposed to Snow Crash, Da5id is characterized as a talented and creative hacker, with a strong sense of individuality and a rebellious streak. As a co-creator of Black Sun, he used his knowledge of physics to "make it a little cartoonish" (*Snow Crash* 51). However, after the exposure, he becomes completely

submissive to Rife's will and loses his sense of self. His avatar glitch and behave erratically. It becomes uncontrollable, causing havoc in the Metaverse and Black Sun.

In the scene Da5id releases the snow crash sample, a low-quality Brandy avatar appears.

> The Brandy leans forward, beckoning Da5id toward her… [she] mumbles something that Hiro can't hear. When she leans back away from Da5id, his face has changed. He looks dazed and expressionless. Maybe Da5id really looks that way; maybe Snow Crash has messed up his avatar somehow so that it's no longer tracking Da5id's true facial expressions. But he's staring straight ahead, eyes frozen in their sockets. (*Snow Crash* 68)

She then shows him a scroll of "a few hundred thousand ones and zeroes" or "bytes of information" (*Snow Crash* 68). When Hiro enquires to Da5id what Brandy said to him, he says. "Just a bunch of babble" (*Snow Crash* 68). Within a few minutes, white noise enters his avatar's speech.

In the real world, outside the goggles and computer, Da5id gets a seizure. Paramedics give him medicines but Hiro suspects the condition to not be temporary. Da5id speaks in gibberish when Hiro meets in reality. " 'e ne emmariiagiaginimumamadamenee mamankigaagia gi..' … He is looking at Hiro through half-closed eyes. 'e ne em dam gal nun na a gi agi e ne em u mu unabzukaagiaagi ...' Da5id's voice is deep and placid, with no trace of stress. The syllables roll off his tongue like drool…" (*Snow Crash* 176).

Stephenson's take on the power of language to alter things is also the basis of the chaos in the novel. He connects this to the impact of technology, the internet, and an environment of extreme information overload. Hiro, in an attempt to attain clarity, finds assistance from the Librarian. It gives hyper cards compiled by Lagos before the novel begins to Hiro, who in turn traces the beginning of all worldly chaos way back to the time of the Sumerians and Akkadians and to the tale of Babel. It cites Genesis 11:6-9. The text suggests that the world initially had one single mode of communication and interprets the people's action of building the tower as the beginning of something more destructive.

The tale of Babel and the glossolalia, or "babble," those victims of the snow crash virus experience, according to The Librarian, is of some relation. It provides examples of glossolalia from cultures and eras all over the world.

Thus, *Snow Crash* represent a simulated environment that can be experienced through a computer-generated perception of sight, sound, and sometimes touch. It allows users to immerse themselves in a computer-generated world and interact with it as if it were real. The Metaverse is not just a simple virtual reality, but a complex and interconnected system of data. This is similar to the idea of a computer simulation, where the reality we perceive is created by a vast network of data and algorithms. The Metaverse is also depicted as having its own set of physical laws and limitations, which govern how objects and people behave within it.

Though the experience of being in the Metaverse can be very real, it is still a simulated reality and not the same as physical reality. This is a central concept in the Simulation Theory, which suggests that reality as people know it could be a computer simulation. In Snow Crash, characters such as Hiro and Y.T. are aware that the Metaverse is a simulation and that there are limitations to what can be done in that space.

The intensive reading of the text reveals how Stephenson presented a chaotic future where people live their half-lives in virtuality and the remaining get wasted by drugs. Ever-expanding virtual space is accessed through gadgets such as a computer, head-gear and internet connection. An alternative world to escape reality but with the necessary percentage of similarity. All these factors make Stephenson a complex writer with a knack for presenting a chaotic order simulated over virtual reality.

IV. CONCLUSION

The publication of *Snow Crash* in 1992 marks Neal Stephenson's breakthrough in his writing career. The book covers history, linguistics, anthropology, archaeology, religion, computer science, politics, cryptography, arithmetic and philosophy. The concept of the "metaverse" that he built in the book has taken over the world. Today, tech development even allows people to build a digitalized country, like the South Pacific island of Tuvalu. Hence it is not a controversy when this book is considered a science fiction classic.

As a commentary on the role of technology and the ethics behind its usage, the characters in the novel are seen to transform the way of interacting with people. It embodies a new form of social and economic organization, the Metaverse, where people form communities and engage in commerce without physical limitations. This domination in the virtual world using technology impact the basis of human communication, switching it from the foremost interpersonal communication to mediated communication.

In *Snow Crash*, the Metaverse is a form of virtual reality that allows users to interact with each other and with virtual environments. While the Metaverse can be seen as a kind of simulation, it is not clear whether it is a simulation of historical events or of an entire civilization. Rather, it is more like a parallel universe or a digital space that exists alongside the physical

world.Furthermore, while the Metaverse is an advanced technology, it is not necessarily indicative of a post-human civilization. In the world of *Snow Crash*, the Metaverse is used not only primarily for entertainment and commerce but rather for historical or scientific research. Besides, the novel suggests that the Metaverse has the potential to be used as a tool for control and manipulation. Characters in the novel use the Metaverse to exert influence over others, including brainwashing and mind control. This raises questions about the nature of reality and how one can discern what is real and what is not.

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