

**Beyond Digital Transformation: An Amalgamation of Culture, Technology,
and Society in the Select Novels of Neal Stephenson**

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Submitted by

Kowsalya P.

Under the supervision of

Dr. J. Santhosh Priyaa, M.A., M.Phil., Ph.D., P.G.D.C.A.

Assistant Professor



PSGR
Krishnammal College for Women



Department of English

PSGR Krishnammal College for Women

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Chapter V

Chapter – V

Summation

Neal Stephenson, a chief futurist, presents a new dimension in his writings by portraying the reality of the technologically advanced society. His novels encompass complex, multiple and interweaving of plots, which contain potential future facts and history of ideas. His plots mostly examine the life of human beings with technological implementation. He also explores the social issues that impact the survival of mankind. His technological concepts are an eye-opener to the world. His uniqueness is that he has already visualized the digitalized routine life of human beings through his writings. A close study of his works reveals his involvement in technological devices and concepts and its impact on social life. His novels are mashed up with the past, present and future with imagination. His futuristic concepts and digitalized society reveals the transformation of human beings both physically and mentally.

Stephenson's *Zodiac* (1988), an Eco thriller novel, narrates the quest of Sangamon Taylor, the protagonist, to identify the dangerous toxins in the Boston harbor and his effort to bring out the company's crime to the limelight. Stephenson conveys the technological information and creates an environmental awareness on water pollution through the plot. Due to over population and industrialization nature has lost its purity. As an environmentalist, Taylor takes an effort to bring back the purity of Boston harbor water. Stephenson's information on PCBs, PCP, pH level, DDT, chlorine and Agent Orange create an awareness among the public.

Snow Crash (1992) is Neal Stephenson's Post-cyberpunk novel, which was published in 1992, when the internet slowly started gaining popularity and entered the world. He has prefigured the concept of Metaverse, a virtual reality platform which resembles an online multiplayer game. The detailed explanation is given on Snow Crash, a virus in the Metaverse and in real life. Stephenson has also explored the Sumerian culture and their language and its relevance in technological society. The detailed explanation on Sumerian God Enki, Goddess Asherah and En are informative. The futuristic technologies like Rat Things; Dentata, an anti-rape device; Avatar; augmented reality headsets; virtual reality; wireless internet are revealed.

The Diamond Age (1995) narrates the story which takes place in the technologically advanced world. The central technology used in the novel are Primer, an interactive electronic book and matter compiler (mc), an advanced and user friendly device similar to a 3D printer. Through the matter compiler the unfulfilled basic necessities can be fulfilled. Nanotechnology has occupied a major role in all these technological devices. Stephenson has also explained Nano drones or mites which can do any chore according to the given instruction. Stephenson has brought out the assistance of nanotechnological devices in the education sector for the development of children.

Cryptonomicon, (1999) a novel on cryptology, brings math geniuses and computer wizards of both the people of World War II period and 1990s period together for hunting the golden treasure buried in Philippines at the end of World War II. He interconnects the characters of past and present and writes towards the possible near future. The cryptography, making of codes and the cryptanalysis, breaking of codes are well explained in the novel.

Seveneves (2015) depicts the effort for survival of mankind with the help of advanced technologies due to the disintegration of the moon and rejuvenation of Earth after five thousand years. He has used different survival techniques in the form of spacers, pingers and diggers. Technology, survival and humanity are interweaved together to recreate the human race and to rebuild Earth. A new cast of characters are introduced in the third part of the novel, who are the heirs of seveneves. The characters of their descendants are decided by the seveneves through genetic alteration, which results in seven different races. They are different in physical, intellectual and cultural aspects. Stephenson has brought out human survival in a digitalized environment like space and humanity which paves way to enjoy the new Earth together.

Chapter I entitled “Introduction” traces the history and development of Anthropology and its sub-disciplines; cyborg anthropology and its objectives; aim; American literature; American science fiction and its writers till Neal Stephenson followed by his life and summary of his works and the structure of the thesis.

Chapter II entitled “Cultural Shift: A Culture of Science and Technology” explores the first objective of cyborg anthropology, the role of science and technology as a cultural phenomenon. Technology employs an important place in the cultural shift. Cultural materialism is applied to sketch out the cultural change in Neal Stephenson’s *Zodiac*, *Snow Crash*, *The Diamond Age*, *Cryptonomicon* and *Seveneves*. The similarities and the differences in the culture are identified with the three levels of cultural materialism – Infrastructure, structure and super structure. Infrastructure comprises basic material

realities like technology, economy and demographic factors which affect structure and super structure. Structure analyses the society in economic, social and political aspects which influences the super structure that consists of ideology and symbolism.

In *Zodiac*, technologies introduced in the industrial sector like advanced transformers, machinery items and artificial chemicals in pesticides lead to ecological disruption. The aquatic organisms get affected due to the polluted water. The people who consume the infected aquatic animals are affected by serious health issues. The government has restricted fishing and swimming in the harbor water which affects the livelihood of fisherman family. The economy of Boston, the structure, gets affected. The water becomes unhealthy and useless for the people. Thus the ecological and moral values among the people are lost. Development in science and technology in human life plays a significant role in the cultural shift.

In *Snow Crash*, the digitalization of technology is the infrastructure, which results in making people as individual machines who like to spend their real time in the virtual world like online games and Metaverse. The bonding with the real world gets reduced as they get involved in the virtual world. This influences the structure, the domestic discipline. The domestic life of people in the real world gets affected as they spend most of their time in virtual reality like Metaverse. Lingering in the virtual world for a longer time results in affecting the wellness of physical and mental health. The lethargic and improper way of handling the virtual world will also spoil the health and life of characters like Da5id. Since the physical and mental well-being of common man is

spoiled, the social well-being of the people, the super structure, is also affected. Though people find online games and social media as stress busters and tools for relaxation from their daily routine, it lacks humanitarian touch among the people in real life.

In *The Diamond Age*, the change in infrastructure like intervention of nanotechnological devices in the routine life alters the structure, the domestic life of these people. They are very poor who cannot afford to their daily needs in life. Nanotechnological devices, which are invented by the Victorians, a phyle, are mostly utilized by these community people. Though Victorians are rich, they prefer only the natural products. The development in nanotechnology fulfills the basic requirements of these people in their domestic life. This builds up the confidence level among the these community people. This made them to handle their life in a positive way. Thus the super structure, gets affected when cheap narcotic drugs are produced which would affect the future of the society. In this novel, Neal Stephenson has brought out new transformative technologies which lift the life of poor people. The change in domestic life of people leads to cultural shift. Though technology has been enhanced, the Victorian people are striving hard to withhold their ancient tradition and culture without any change.

In *Cryptonomicon*, the application of cryptography has enhanced the communication system and helps to deliver the messages in a safe way. This intervention of cryptography, the infrastructure was brought into practice during the Second World War. The Allied and Axis powers utilized cryptography for safer communication. The Allied powers have broken the message code of Axis powers and won the war. This change in infrastructure influences the change in the structure. The political economy of the world changed when the Allied powers, headed by America, won the war. This change in structure alters the

super structure. During the 1990s, the cryptographic culture fell into programming and in building a secure communication. The incorporation of cryptography in the communication sector has enhanced the breaking and creating codes. Though cryptography has provided secure communication, the illegal activities like cracking passwords, reading personal information of others, tracking country's secrets and selling for money and so on are done. Thus honesty and humanitarian concern are lost in the super structure.

In *Sevneves*, the moon gets broken into pieces resulting in destroying the Earth. It affects the population of the world and the life on Earth becomes unfit to live in. This change in infrastructure gives rise to the breaking of family structure and collapsing the ecosystem. A temporary artificial space station was built in space which is technologically well enhanced. The spacers can get only the artificial food, air and shelter. They have to follow certain rules in space in order to survive. The lack of socialization among the people in space leads to stress and depression. The change in structure affects the super structure, where the people in space without proper basic needs and socialization leads to lose their moral values. As a corollary, the spaceship "Cloud Ark" is destroyed and spacers lost their shelter and are in search of a safe haven.

Thus in Chapter II, the cultural materialism is applied to explore the cultural shift due to technological implementation in the industrial sector, virtual world, nanotechnological devices, communication sector and space science. The change in basic needs of mankind and intervention of technology brings out the changes in infrastructure which leads to change in the society. This alters the super structure too. In *Zodiac*, due to technological implementation in the industrial sector, the ecological values are lost. In *Snow Crash*, people started to play online games and got addicted to the virtual world. This affected

the physical and mental health of the online addicts. In *The Diamond Age*, the these people started to use the artificial products because of cost efficiency. The New Atlantis people remained determined in using the natural products. In *Cryptonomicon*, hacking culture has been legalized in the frontiers of war by creating and breaking the codes of secret messages. In *Seveneves*, moral values and the shelter of spacers are lost due to lack of socialization and basic needs; and to gain power. Thus the intervention of technology in the life of human beings paves way for cultural shift.

Chapter III entitled “Human Beings and Technology: A Growing Hybridization” explores the role of technological development and cyborgs in the society in the select novels of Neal Stephenson. Human beings are considered to be cyborgs as they are using technological devices for their physical and mental extension. This chapter analyses the technological devices and its implementation in the life of mankind.

In *Zodiac*, the improper technological implementation and technological disposal lead to environmental deterioration. Industrialization replaces the traditional ways of doing work and life style of people. Though it is appreciable for goods production, increase in wealth and good standard of living, it increases urbanization and replaces the natural way of doing agriculture with artificial pesticides. It contaminates nature and results in health defects for human beings and other living creatures. The lack of complete and proper research in the invention of new bugs leads to hazardous effects. Thus human beings become cyborgs when they depend too much on machines and technologies for the betterment of life.

In *Snow Crash*, Neal Stephenson has depicted the possible near future nearly two decades ago. He has prefigured the concept of 3D virtual world and has coined the term Metaverse in this novel. He has narrated the imaginary growth of technology in the virtual world and addiction of mankind over virtual reality and augmented reality. Through the characters Hiro, Rife, Raven and Ng, Stephenson has brought out the technological adoption both mentally and physically. Thus technology has become an indispensable element of life, which transforms human beings as cyborgs.

In *The Diamond Age*, Stephenson narrates the near future world, where nanotechnology is deep rooted and occupies a prominent role in society. Through nanotechnological devices in the novel like Primer, matter compiler, chevaline and smart paper, Stephenson is trying to uplift the society from ignorance and poverty. The orphan girls and three characters Nell, Elizabeth and Fiona rely on Primer, a nanotechnological device to educate themselves. Matter compiler is used by the poor Lessed Territories to fulfill their basic needs artificially. These technological devices are considered to be the extension of physical and mental self. Thus the interaction of the characters with these nanotechnological devices makes them cyborgs.

In *Cryptonomicon*, Stephenson traces the code breaking system of the World War II and the hacking culture of the modern period. He has depicted the working of three wheeled and four wheeled Enigma machine during the World War II. The role of cryptography in the military sector and communication in the modern period is depicted. He has explained the importance of Mathematics and its significant role in cryptography. The characters extend their mental self through cryptography. Thus the utilization of technology like cryptography in communication makes them as cyborgs.

In *Seveneves*, Stephenson labels the survival of the human community in space with technological enhancements. He has highlighted parthenogenesis, an asexual way of reproduction. The Seven women characters in the space have done research to fix up the genetic defects like cystic fibrosis, breast cancer and bipolar disorders. Thus the technological adaptation of the characters and their technological way of living in the space make them as cyborgs.

Thus in Chapter III titled “Human Beings and Technology: A Growing Hybridization”, the role of technology and transformation of human beings into cyborgs are traced out. Technology plays a major role in the plot of the select novels. He has pre-meditated certain technological concepts like Metaverse, nano robotics, social networking and 3D printers. The life of human beings has become much integrated with technology, which becomes very hard to separate. The intimate attachment of human beings with technology transforms them into cyborgs. The technological advancements and its usage in the daily life rearrange the patterns of life and the way of living in the society.

Chapter IV entitled “Societal Change Through Technological Adaption” explores societal change as a result of technological enhancement. The technological development initially brings change in an individual or a group later which is replicated and spread among the people steadily. This changes the culture of the people resulting in societal change which can be analysed through Actor Network theory proposed by the French scholars Bruno Latour, Michel Callon and John Law. This theory treats everything as an equal participant. The actor in the Actor Network Theory can be a subject or object; singular or plural; and human or non-human. An actor is the combination of actants and

every situation is considered to be the Network. The actor and the network toil together to achieve the result or goal. The analysis of the select novels of Neal Stephenson through Actor Network Theory gives a clear view on societal change due to technological adaption.

In *Zodiac*, the actors are the industrialists and Taylor; and the networks are the emerging technology and the media. The industrialists utilized the advanced technologies in order to produce Agent Orange, an artificial herbicide. They replace the old transformers with the advanced one by replacing them in the harbor water. It leaks PCBs inside the water which is toxic to the living creatures. It results in environmental deterioration. The research scientists in the industry invent new microbes which eat toxic substances from the harbor water instantly but later it is identified that it also has the quality of emitting toxins in the water. The Basco industries which produce Agent Orange, is used in the agricultural sector and in the Vietnam War by the American government. It also results in environmental deterioration. Taylor, the actor, made use of the advanced technologies in the research lab and identifies the illegal activity of the Basco industry with the help of GEE members. He reveals the illegal activities of the industry to the public through the media. As a result, the government has banned the company and framed certain rules for sewages and chemical wastes from the industries. The healthy life of people gets affected due to depreciation of the natural environment. The incurable diseases upset people and spoil their routine life. The social life of Vietnamese was disturbed due to severe effects of Agent Orange sprayed during the Vietnam War. Taylor tries to bring back the originality of nature through his research and tries to create an awareness among the people with the help of the media. The development in technology should not interrupt nature's cycle. The interruption in nature paves way for interruption in the social life.

In *Snow Crash*, Stephenson has encompassed many imaginative technological ideas, which lead to societal change. The characters of this novel believe that they are living a realistic life in the virtual world with more freedom. Stephenson explains through the character Da5id that the reality is buried in the imaginary world of cyberspace, which gives pleasure to the addicted people. Hiro, Rife and Raven are considered as actors and the network is the technologies in the field of virtual reality like Metaverse and Snow Scan. The actors Rife and Raven utilize the technologies in virtual reality to gain control over the people. Snow Crash, a virus, is written by them to hack people's brain and their personal laptops or computers. The physical form of snow crash virus is also created and injected through blood to gain control over the people. The characters in the novel started to use the digitalized technologies to reduce their working time and energy but later it makes them to rely on it completely which results in addiction. Hiro, the actor, makes use of the same technology to write an anti-virus programming code 'Snow Scan' against 'Snow Crash'. After the arrival of digitalized technologies and the internet in the virtual world, people started to linger in it for a longer time period, which gives rise to lack of friendliness among people and to increase jealousy, vengeance, loneliness, depression and other health issues.

In *The Diamond Age*, Stephenson explains the relationship between technology and society through a lot of interconnected stories. Through the characters like Hackworth, Lord Mc Graw, Dr. X and Constable Moore, Stephenson highlights the technological advancements and impacts of technology on mankind and society. The actors of the novel are Nell and orphan girls from Han culture who act with the network Primer, a cyber book to achieve their individuality. The digitalization of the education system provides

education for all the girl children in Han culture. Through Primer, the girl children have started to educate themselves and showed their individuality during a fight to eradicate the software called 'seed', which was responsible for producing cheap narcotic drugs. If this was utilized by youngsters, their future would be spoiled. Nell becomes an empowered leader. The practice of female infanticide is also eradicated. Better families are constructed through good education, which has the power to build a prosperous society.

In *Cryptonomicon*, Stephenson depicts the ideology of looking into others message and sending their own message with security. Randy Waterhouse, a talented cryptographer, is considered to be the actor who acts with the network cryptography to identify the code of the treasure which is dumped in the sea water near Philippines. He decrypts the code and opens the golden treasure. He has utilized his share for providing free holocaust education. His passion towards Mathematics enriched his knowledge on cryptography and decoded the code of the treasure. His nature of being kind made him to act with humanitarian concern by providing free education for children affected by holocaust.

In *Seveneves*, Stephenson portrays science and technology as a lifesaving tool of the society. The actors of this novel are considered to be the Seveneves, the seven women living in space station after the destruction of Earth. The network is parthenogenesis, an asexual way of reproduction. Seveneves have recreated the human race through automatic parthenogenesis. They have made use of the technologies of the genetic lab in the space station to regenerate the human race. Human population has increased tremendously after

five thousand years. The spacers who live after five thousand years started to rejuvenate the Earth through terraforming. Thus Stephenson portrays the survival of human beings with the help of technology and rejuvenation of the Earth with technological assistance.

Thus in Chapter IV, the actors, Taylor, Hiro, Nell, Randy and Seveneves work with the network media, virtual reality, Primer, cryptography and parthenogenesis respectively to attain the societal change: revived ecosystem of Boston Harbour; saved people from virus through an antivirus; empowered orphan girls through online education and eradicated the production of cheap narcotic drugs; restoration of honesty and humanitarian concern by helping the children affected by holocaust and spending the rest of his life accepting imprisonment; and restoration of Earth and establishing peace and harmony instead of fighting for power. Thus science and technology act as a shaping tool of the society.

The statement of the thesis is to examine the interaction of human beings with technology through the objectives of cyborg anthropology in the select novels of Neal Stephenson. Science and technology occupies a major role in transforming human beings into cyborgs. Stephenson has framed the plot by taking futuristic technologies into account. His detailed explanations on science and technology and its function and application reveal the shift in culture and society. He also highlights the transformation of the characters into cyborgs as they get deeply involved in the digital world and fail to live the life of a human being.

Cultural materialism is applied in the select novels of Neal Stephenson to explore the cultural shift due to the interference of science and technology in human life. In *Zodiac*, the culture of Boston gets changed after industrialization. The careless behavior of the

industrialists and lethargic way of handling technology leads to environmental disruption. Initially Boston was full of trees and hills. Later when industries were built, trees were chopped down and hills were cut down to create lifestyle and buildings. The rural landscape is completely transformed into an urban area. This cultural change is due to the implementation of advancement in technologies in the industrial sector. In *Snow Crash*, due to over use of digitalized technology and lingering in the virtual world creates a vacuum in the real world. The bonding among people in the real world is lost, which causes stress and loneliness in them. They start to live in the world of loneliness and information. In *The Diamond Age*, the implementation of nanotechnological devices fulfills the basic needs of these community and also it paves way to eradicate female infanticide in Han culture. Though artificial products are invented cheaply, the people of New Atlantis were trying hard to withhold nature and natural products. In *Cryptonomicon*, the upgradation in cryptographic technology in the modern period leads to the wireless secure way of communication unlike in the olden days. In *Seveneves*, the life is completely different in space without nature. Science and technology plays a key role in the survival of human community. Thus science and technology plays a vital role in cultural change.

Technology has become a necessity in every aspect of human life. People started to depend on technological devices, tools and concepts in everyday life. They began to extend their physical and mental abilities through technological devices. This results in transforming human beings into cyborgs. In the select novels of Neal Stephenson the advanced technologies in the industrial sector, communication sector, education sector,

nanotechnology, information security, space science and genetic engineering make the characters to depend on it. Since the plot and character's life in Stephenson's select novels are technologically enriched, they are said to be cyborgs.

Actor Network theory is applied in the select novels of Neal Stephenson to trace out the technological adaption to attain their goal in life. By adapting technological devices and tools in the routine life, the lifestyle of people gets changed. In the select novels of Neal Stephenson, the utilization of technology in society like using artificial basic needs due to poverty, fastest and safest way of communication, the nanotechnological devices which eradicates female infanticide and empowers women, encoding and decoding in communication and genetic research labs which rebuilds human community. One aspect of technology has made a good impact on society but on the other hand people find it difficult to access technology in a better way because of selfishness, vengeance, greed, dishonesty and egocentric. A sound knowledge on technological devices and a proper way of handling, reusing and disposing it should be known for the betterment of human society.

The intervention of science and technology has transformed the lifestyle of people. The digital technologies and digital data assist to perform the routine activities or business in a better way. It enhances easy access for trading, faster communication, financial inclusion, economic development and improvised public services. Through digitalization a work can be done or a message can be conveyed at lightning speed. Digitalization changes books into e-books, maps into GPS, post to email and so on which are simple to use and easier to access. Digital innovation should reshape society in a healthy way. Neal Stephenson creates an awareness on ecological disruption through his

Zodiac. The implementation of technology should benefit society on a safer side. Humanitarian concern of Taylor encourages him to bring out the environmental deterioration to limelight. In *Snow Crash*, the characters like Rife and Raven adapted to the disruptive technology because of their greed to gain control over the people. Through the protagonist Hiro, Stephenson explores the protective way of using virtual reality. His eagerness in learning new things and unselfishness saves many lives from cyber and physical form of virus. In *The Diamond Age*, Stephenson portrays the self-determination and self-confidence of young girls due to technological assistance. In *Cryptonomicon*, Stephenson explores digitalized communication and money transfer through cryptography. Though the society is fully digitalized, the generosity and kindness of Randy provides free holocaust education for children. In *Seveneves*, though the human race is almost destroyed except eight women in space, the perseverance and self-confidence of the seveneves regenerates the human community. Digitalization can be done in technologies and data but not in the bonding among people. Man should have some basic qualities of humanity, kindness, selflessness, loyalty and integrity. When a technology is introduced it has its own impact on culture and society but before introducing it, a proper research should be done on it and proper guidelines have to be given for its usage and disposal. Thus the changes in culture and society are appreciated when it does not harm the people and the environment.

In the five select novels of Neal Stephenson, *Zodiac* is narrated in the first person form of narration whereas the other novels are told in third person narration. The plot is narrated by the author who is not involved in the story. The emotions, thoughts and

feelings of the characters are accessed by the author. Stephenson uses a simple style of narration. The use of punctuation is clear and the use of vocabulary is apt. His writing style is descriptive. He has used mind-bending ideas of strange imagination.

In *Zodiac*, the chemical components and chemical terms are well explained. The water pollution and the toxic substances involved in the ecological disruption are labeled clearly. The story is narrated by Taylor, the protagonist, who explores the environmental catastrophe at Boston. Social realism is identified through the narration as he writes on the real incident of water pollution at Boston harbor.

The main themes of this novel are industrialization, humanity, realism and betrayal. These themes are well explained in the novel. The development of technology reduces man power and shifts to machine power in the industrial sector. People depend on artificial products more than natural products. The story of *Zodiac* explains the impacts of industrialization in Boston. The improper usage and disposal of technology leads to hazardous effects in the society. The humanitarian concern of the protagonist Taylor makes him to struggle for the justice. As Neal Stephenson has depicted the real incident that happened in Boston, the novel has the real incidents of Boston harbor pollution. Betrayal occupies a major part in pollution. Industrialists betrayed the government and dumped old transformers in the harbor water which leaked PCBs. They also tried to betray government by focusing Taylor as a terrorist. This novel focuses on the real incident with the fictional characters.

In *Snow Crash*, an elaborate explanation is given on virtual reality. Stephenson has prefigured the concept of Metaverse and explained its usage in a detailed way. The comparison is done on Sumerian mythology and modern virtual reality. He has

brought in a few pictures of ancient Sumerian mythology for a better understanding of the plot. The paragraphs are small and lucid. The names of the characters are different and interesting. The story line bounces between ancient Sumerian mythology and modern virtual reality. He has depicted the historical events and myths. Detailed explanations are given on the computer virus 'Snow Crash'. Virus in the novel symbolizes the loss of control or taking control over others. The narration centers on the efforts of Rife in order to spread virus.

The main themes of this novel are identity, information, language and communication, technology and modernization, religion, friendship, humanity, strength and skill. The characters in the novel seek their own identity in the virtual world rather than in the real world. Rife likes to prove his identity among the society by taking control over people. He gains information about hacking brain from Sumerian mythology. Though the information is not in a digitalized technology, he utilizes the information in a virtual platform. The novel creates a deep impact on language and communication by exploring linguistic infrastructure and neurolinguistic programming. The main characters of this novel are programmers who believe in technology which becomes an indispensable part of their life. Rife utilizes technology to work out his plan to take over the world. Stephenson also depicts the mythological concepts and religious beliefs like Tower of Babel and Sumerian culture, Gods and Goddess. Friendship and humanity occupy a major role in eradicating both forms of virus. In the novel, the relationship between Hiro and Juanita paradoxical since they both are in love but refuse to accept it. Stephenson gives clear details on character's interaction and observation.

In *The Diamond Age*, Stephenson has brought out many nanotechnological devices and has explained it in a detailed way. The plot is set in an unspecified future. A separate title is given for every chapter in the novel and each chapter focuses on a character. He has narrated two parallel stories of young girl Nell and Princess Nell together. He has used flashback technique in the middle of the plot to interject the old events. In the novel, when Hackworth was imprisoned for his illegal manufacturing of second primer, he used to think of his olden days with his daughter Fiona. Stephenson has also given detailed explanations on various technologies like chevalline, smart paper, matter compilers and Primer.

The major themes of the novel are ethnicity, social class, education, friendship, motherhood, humanity and identity. *The Diamond Age* brings out the different ethnic groups like Han, Neo-Victorian and Anglo-Saxon. He also speaks about these community, in which the people do not belong to any other ethnic group. The social class of these is considered to be low whereas Neo-Victorians are considered to be the upper class. This novel portrays Nell's life from an abused and a poor girl to an empowered and a self-reflective leader. Education through Primer occupies an important role in self-development of Nell and other orphan girls. It educates them to speak proper language, self-defense and decision making. Friendship of three girls - Nell, Fiona and Elizabeth are explained well. Miranda's motherly care over Nell made her to continue as Nell's protector till the end. Her love towards Nell results in adapting Nell as her daughter. The humanity of the Nell and orphan girls made them to protest against 'Seed'. They like to protect the future society without narcotic drugs and illegal activities. This paves way to reveal their identity.

In *Cryptonomicon*, Stephenson has explained complex mathematical and scientific concepts in a descriptive way. He has melded these concepts in a way that fits into the narration. The third person point of narration makes the reader come across various characters and analyses their opinion. The plot is highly descriptive whereas he provides proper information on places and events. Though it was written in 1999, it is still relevant to read in the present day due to the development in cryptography.

The major themes of this novel are fascination with numbers, cryptography, secrecy and war. Numbers occupy a predominant role throughout the novel. A cryptographer has to be good at Mathematics to develop and break the codes. Lawrence Waterhouse was very much interested in Mathematics and he helped his Maths teacher to fix the church organ with the help of Mathematics. During the World War II, Alan, Lawrence and Rudy used to discuss Mathematics and its role in building Alan's Turning machine. In the modern period, Stephenson also explains the importance of Mathematics in cryptography and computers. Randy Waterhouse, the grandson of Lawrence, has used Mathematics to hack the computers and to break the Arethusa code to identify the location of the buried treasure during the Second World War. This novel is called the 'Bible of Cryptographers' because of its content which is enriched with cryptography. The novel has the detailed descriptions of ciphers and codes of Allied Code Breakers during the Second World War. Stephenson has focused on technical aspects of cryptography to win the war by breaking the secret ciphers of German. Stephenson also brings out the modern cryptography and data security in the second part of the novel. This shows the art of progression in cryptography. Code breaking during the Second World War was unaware to the public. The ciphers were decoded in secret.

This was known only to a few technical operatives. This information was kept secret for a while though the Allied powers had won the war. Throughout the narration, he has used various elements of magical realism and science fiction to draw an intrinsic narration on codes and code-breaking.

In *Seveneves*, the plot is set in the near future whereas the title is a palindrome. It is a hard science fiction, set in the post-apocalyptic world. The main themes of this novel are survival, perseverance, humanity, greed, genetic engineering, civil disorder, decentralization, isolation and apocalypse. Stephenson explains the apocalyptic event of the disintegration of the moon, which paves way for civil disorder. A space based civilization is built which gives a shelter for human survival. Greed and inequality among people in space resulted in reduction of the human population. Isolation of the space dwellers are well depicted as they do nothing in space. Genetic engineering plays an important role in the process of parthenogenesis. Life in space symbolizes the ideological and political differences in the world. It symbolizes the actual depiction of many countries where different groups are formed by the leaders to oppose the opponent leader or authority for their selfish gains. The plot has various technological concepts and ideas which run for many generations. He has depicted the difficulty of life without nature and creates an awareness of Earth's destruction due to man's selfishness and environmental deterioration.

For further research of Neal Stephenson's novels, the researcher can apply cyber feminism, Post humanism, transhumanism and psychological study. Many similar themes are depicted in his novels like isolation, humanity and friendship. Eco-criticism can be

applied to *Zodiac*, *The Diamond Age* and *Seveneves*. Post-apocalyptic study can be applied to *Seveneves* and *Termination Shock*.

Thus this study glues together the three aspects of cyborg anthropology. It proves technology and human beings are inseparable. The separate entities of man and machine get merged. The research sharpens on the cultural change and the technology as a shaping tool of the society. On the whole, the research endeavours to assure mankind that technology has become a part of human life. Digitalization can be done in technologies and data without affecting the bond among people. People should have some basic qualities of humanity, kindness, compassion, selflessness and patience. When a technology is introduced it has its own impact on culture and society but before introducing it, a proper research should be done on it and proper guidelines have to be given for its safe usage and disposal. Thus the changes in culture and society are appreciated when it does not harm people and the environment. Hence a judicious use of science and technology in this digital world results in a harmonious existence of man in the society.