Abstract:

Science Fiction has deep social relevance and seriousness about the present and future situation of the human society. It attempts to provide idealistic and practical alternatives to the present human world. R. J. Sawyer is one of the prolific Canadian Science Fiction writers who created new world in the light of human world. The Neanderthal Parallax trilogy is the story of parallel world where writer has compared and contrasted the human world with hunter gatherer world of Neanderthals and discussed some of burning social issues like homosexuality, eco-friendly lifestyle, family violence etc. The paper is divided into three parts. The first part deals with relationship between Science Fiction and society, social structure and issues. The second part analyses the social issues of human world with special reference to Neanderthal world and the third part concludes the importance of innovative solutions to the social issues which can improve quality of human life.

Key Words: Science Fiction, Society, Social issues, Neanderthal, Parallel world, Utopia, Dystopia.

Science Fiction writers create a new world using their creative genius. In creating such a new world, there is a vision of the writer other than mere entertainment of the reader. They provide an alternative world in which some of the social issues which they observe in the present world can be solved, diluted or highlighted.

Human society is built on social distinctions such as race, class and gender. The treatment given to the individual is based on his placement in particular strata of society. Vertical stratification is involved in the hierarchical structure in which higher levels valued more than the lower once. In the network type structure, people are connected but not in pyramids. The term 'organic' solidarity is introduced to describe the network made by Emile Durkheim. Robert Alun Jones explains in his book *Emile Durkheim: An Introduction to Four Major Works* (1986) the social structure with relation to mechanical solidarity and organic solidarity. The mechanical solidarity is mostly observed in the traditional society where all the members share the same experience, does the same work and hold common values. Individuality is not distinguished acutely but all of them form the sublime society in which every member is the unavoidable element of the society. On the other hand, the modern society show organic solidarity and form social cohesion by interdependent relationship between the members of the society. There are several schools of thought to understand the structure. Main schools of thought are structuralism, functionalism and Marxism.

Claude Levi-Strauss originally introduced structuralism in sociology from the linguistic theories of Ferdinand de Saussure in his book *Structural Anthropology* (1958). He believes that as the language functions on the deep structure in the mind of native speakers, the society also functions on the ingredient deep structure. This social structure includes pattern kinship, myths, religion and various cultural customs related to everyday life. It is claimed by Levi-Strauss that social structures originate from the deep structure of the human mind and thus reflect universal in human thinking.
Radcliffe B. Brown and Talcott Parsons developed the idea of functionalism in relation to social structure which is based on Emile Durkheim's work. Radcliffe B. Brown states that society is formed by organized systems which are interdependent and integrated into the whole. These parts are not only ideal but functional which are carried out by individual in social life, occupying certain status within the system. The individual is controlled by some norms or patterns which are suggested in primitive societies by the folklore while in modern societies this role is played by education, religious rituals or other traditional customs. The structural functionalism explains cultural phenomenon through the functions of society. It is explained that social relations logically relates to all types of groups.

Karl Marx's explanation of social structure is based on the production and economic system of the society. He believes that the economy of society determines different classes in the society and their interrelationships. The progress of European society through several stages from primitive society to feudalism and capitalism is marked by Marx. It is his prediction that the society gradually moves to socialism. Marx's ideology portrays a distinct society where collective working is used to achieve the life means using properly the ability of human being, multifaceted division of labour, decreasing the labour and pains through the development of science and technology. The power structure which exists in the society is responsible for the development of society.

Society is the combination of many systems which differ in functions, meanings and purpose such as cultural system, legal system, political system, economic system, and form the social structure. On the micro-level, it includes family, religion, education and health services. The universal and basic unit of the social structure is family in which man and woman lives together in peace and amiable relationships. It provides stability in emotional, intellectual, sexual and social ways to make it an important element of society by extending its purview in child begetting. Cultural norms affect marriage, child bearing and child nourishing. The political system affects the legal system, regulation of violence (police force), property laws, trade rules, health care and division of labour all these elements are closely interrelated. The surplus production and use of technology give birth to a particular economy and further this economy is responsible for class formation. The life of the individual is highly influenced by the political, religion and cultural systems of the society.

Robert James Sawyer is one of the Canada's most successful prolific Science Fiction writers who born in Ottawa, Canada on April 29, 1960. He won all three of the top international awards for Science Fiction, Nebula Award for *Terminal Experiment* (1995), Hugo Award for *Hominids* (2003) and John Campbell Memorial Award for *Mindscan* (2006). He wrote 23 novels, 3 trilogies and 3 short stories. He delivered many lectures on science fiction writing.

The present paper deals with the trilogy *The Neanderthal Parallax* which is published in 2003. This trilogy discuses the two parallel worlds; one of which is the Human (Homo Sapiens Sapiens) and the other is of the Neanderthals (Homo Neanderthalensis); first of the Gliksin and the other of the Barast. While experimenting with quantum computing by the Neanderthal physicists, accidentally, the two worlds are open to each other and Neanderthal is introduced to Human world. As both the species developed separately on the two worlds; they differ in culture, technology, political systems and religion. It is amazing that the similarities and differences between these two races evolved from the same ancestor. The trilogy includes three novels such as *Hominids* (2002), *Humans* (2003) and *Hybrids* (2003) R. J. Sawyer's imagined worlds are not utopias or dystopias but near to practical worlds which highlight some social problems or issues. In this trilogy, a complex alternative world is created which not only discloses the social issues like homosexuality, effective judiciary in democracy, evils of agriculture, eco-friendly life style, rape, idealism of science, abortion, and family violence but compares with problems from the real world.

Population explosion is the burning social issue in the modern times. This problem becomes very
serious when the total number of human is beyond the carrying capacity of the particular territory or nation because the natural sources cannot supply the demand of the population for the long future. In these circumstances, there arise the crises, quarrels and serious fights, wars, starvation, malnutrition of the children, reduction in longevity of life, increase in infant mortality ratio, unhygienic society, decline of health services etc.

R. J. Sawyer wants to highlight this social issue of population explosion in *The Neanderthal Parallax* trilogy providing some solutions. As hunter gatherers, Neanderthals understand that it is very essential to keep their population strictly within limit to cope with the limited natural sources of food for their society. Ponter Boddit, the protagonist and representative of Neanderthal world discusses with Mary, the representative of human world about Neanderthal lifestyle and their innovative measures of controlling population. Ponter informs, “Women live in the Centers of our territories; males at the Rims. But once a month, we males come into the Center and spend four days with the females; we say that ‘Two become One’ during this time.” (*Hominids* 305-306) He further informs about the social adjustment for child begetting governed by High Gray Council,

> In part. The High Gray Council the governing body of elders sets the dates on which we come together, and Two normally become One when the women are incapable of conceiving. But if it is time to produce a new generation, then the dates are changed, and we come together when the women are most fertile (*Hominids* 306)

They use an artificial but socially valid and technologically possible method of controlling the population.

The second social issue homosexuality is discussed very effectively in this trilogy. The term sex is basically related to biology for the purpose of reproduction. Nature has created two sexes as male and female and the attraction between these two sexes within the same class is very natural. Homosexuality, at the surface level looks unnatural and hateful but it is the fact. They attract the attention of the society, administration, religion and law. As they are the part of the society, they cannot be neglected. Some people think it as a curse to the humanity and others accept it as the creation of nature. According to scientific research, homosexuality is natural and normal variation in human sexuality which may cause by a complex genetic structure, hormonal changes and influences of environment. It is found that psychological intervention to change sexual orientation is not useful.

In *The Neanderthal Parallax*, R. J. Sawyer justifies the social issue of homosexuality. The family structure of the Neanderthal is four-fold and very complex in which a man is bonded with woman and also with other man; so also a woman is bonded with a man and also other woman. It is made possible because men live at the periphery of the village or city for 25 days of a month with their man-mate and enjoy the company of their woman-mate only at the last four days. Women live at the center of the village or city for 25 days of a month with their woman-mate and enjoy the company of man-mate at the last four days. It provides the chance to both the man and woman to enjoy homosexual relationship for 25 days and heterosexual for four days because of that Neanderthals are called as bisexual. This model satisfies the issues of homosexuality fairly with social respect. It is the healthy social solution which accepts the reality of homosexuality as natural and also gives respect to bisexuality but rather difficult to practice in the human world. Still, R. J. Sawyer is successful in providing the solution to this special issue in his imaginary new world.

The third social issue is effective judiciary in the democracy. The judiciary is one of the most important elements of democracy to control crime and punishment. Criminal mentality is not totally washed out from the human behaviour by the stern and strict measures applied by administrative system in the history of mankind. There may be hardly any society which is free from prison. However, in modern times the physiological study shows that criminal mentality is in the human psyche. Mere severe punishments cannot control the rate of crime, but re-habitation, teaching moral and different skills may
reduce the rate. In the modern times, new techniques are used to detect the crime and more strict laws, with the help of trained police and advocates, tries to punish the criminals.

The Neanderthals have invented an effective evidence system by fixing an implant into the hands of each citizen which records all the events surrounding the individuals. It is planted under the skin as no one can alter, disturb or modify it. Automatically, the implant sends video message to the central alibi archive of an each and every activity of an individual which is recorded at the central system that is monitored by the strict judiciary system in which the trial court is called as 'doosiarm basallarm' decides whether the suit should be transferred to the higher court that is 'tribunal.' This provides the 99.9% perfect evidence against the criminal which helps to search whereabouts of every citizen. No one can remain hidden from the central vigilance system. There may be problem of privacy but the personal record cannot be opened without the order of the court and no individual is victimized or blackmailed.

The only punishment for crime is castration of the criminal along with the close relatives who share at least 50% of genes in order to stop contamination of gene pool. It looks cruel but they believe that criminality percolates from the genes and if they stop the contaminated gene, they will reduce the crime rate. It is shown to be successful in the Neanderthal world. Ponter, the Neanderthal argues, You as geneticist surely know that the only immorality that really exists is genetic. Life is driven by genes wanting to ensure their own reproduction, or to protect existing copies of them. Our society is mostly free of crime now because our justice system directly targeted which really drives all life; not individuals not circumstances, but genes. We made it so that the best survival strategy for genes to obey the law (Hominids 283).

The writer has provided a solution to reduce the crime rate which is based on the assumption of genetic spread of crime but it is very difficult to implement in human society.

The fourth social issue is evils of agriculture. Human beings are gradually shifted from hunter gatherer to the pastoral lifestyle in which they used the domesticated herd animals to get the food in the form of flesh, milk and cultivating the land. People started growing crops by using technology, animal labour and fertilizers over large area. Human society becomes more stable, progressive, well settled and developing a particular lifestyle which leads to agriculture. Along with that agriculture has spread evils like population explosion, pollution, destruction of nature, unhealthy lifestyle, drug addictions, diseases, epidemics because of of pets animals such as Bird Flu, Mad Caw, Fever, Ebola, Cholera, Plague etc.

R. J. Sawyer has compared the lifestyle of human beings with the Neanderthals. When Ponter, the Neanderthal accidentally comes in the human world, he is infected by the virus. Henry, the human being describes the evils of agriculture,

You're probably better off without farming, anyway. A lot of bad stuff goes along with agriculture. Well, I already alluded to overpopulation. And the effect of the land is oblivious: forests are chopped down to make farmland. Plus, of course, there are the diseases that come from domesticated animals. And there's more to it than just physical disease; there are cultural disease. Slavery for instance: that's a direct product of agriculture's need for labor. That's right, most slaves were plantation workers. And even when you don't have literal slavery, agriculture gives rise to what amounts to the same thing: share-cropping, peonage and so on. Not to mention the class-based society, feudalism, landowners, and all that; there're all directly the products of agriculture (Humans 177-78).

The writer has suggested that we can reduce the evils by moderating our lifestyle by limited use of fossil oil and adapting the eco-friendly lifestyle. It also signals the excessive agriculture may cause the great loss to the future human generations.

The fifth important social issue is eco-friendly lifestyle. Eco-friendly is the term basically refers to
the marketing of goods and services, legal guidelines and politics that cause minimum or no harm upon ecosystems or the environment. Environment friendly life means having a lifestyle that is helpful to sustain the nature in its original form. It is expected to make society eco-friendly that we should support and encourage the options such as community playgrounds, public transportation, green construction, inventions to use less fossil fuel, use of clean energy (solar energy), better food consuming habits, avoiding junk food, rejecting drugs and alcohol addiction etc.

The environmentalists are working hard to make people aware of the disaster of increase of green gas, widening the methane hole, increasing global warming, extinction of many species like bald eagles, tigers, chimpanzees, bonobos etc. R. J. Sawyer has also responded to this campaign of saving the nature in *The Neanderthal Parallax*. It is described that the Neanderthal world is in the virgin state as it was before 27000 years ago. The environment is cold, pleasant, pollution free, no destruction of forests and no species of animals are extinct. Neanderthals preserved it by their lifestyle which is portrayed in the trilogy that they are hunter gatherers and eat only cooked flesh and fresh fruits available in the forest. As there is no concept of agriculture, they are free from evils of agriculture. Being a hunter gatherer, they don't store the surplus products or kill the animals in the forest unnecessarily. As Neanderthals have six times better power of smelling, they avoid burning the fossil oil, coal or wood. It is mentioned in the novel,

> They had provided the beneficial side effect of an excellent sense of smell. If it had not been for that, may be Ponter's kind would have used the same petrochemical, resulting in the same level of atmospheric pollution. The irony did not escape Ponter: the kind of humans he'd hitherto only known as fossils were poisoning their skies with what they themselves called fossil fuels (*Humans* 22).

They use hover bus run by clean energy for locomotion as public transport. The chemical luciferase is used for light to avoid production of heat. Instead of cutting the trees, they build their houses using them as the base and prepare the eco-friendly houses. As there are no roads, there is no chopping of forest and no disturbance to the wild life. Neanderthals are utility orientated and there is no concept of fashion. The cloths are made up of recyclable artificial fiber identical for men and women. They have developed the eco-friendly technology because they use laser cooker, vacuum storage and implant which functions on the bio-energy. It suggests an ideal way to follow eco-friendly life to save our mother earth.

The sixth most burning social issue is rape. The sexual attraction between man and woman is natural and in the primitive society, human might have enjoyed free sex. But as human society gradually becomes civilized, the ethical and social norms are imposed upon the individual. Sex is allowed by religion and the society only after marriage between the husband and wife. All other acts of sex, other than this relationship, are declared to be illegal, unethical and immoral. It is the offence against the divine will and social norms. However, a forceful intercourse with woman by man irrespective of relationship is considered as the rape. The worst effect of rape is physical, psychological and emotional. Such victims can be traumatized and suffer by post traumatic stress disorder. The World Health Organization defines rape as a form of sexual assault.

Mary Vaughan, a protagonist of *The Neanderthal Parallax* trilogy and representative of human world, works as an assistant professor of Genetics in the York University becomes the victim of rape. After her rape there is the great confusion in her mind about how to convey anyone about the incident of rape. Though she is very close to her mother, she cannot open this secret to her. She becomes helpless that she cannot express her agony to anyone. Hence, she goes to the Rape Crisis Center of the University and expresses her emotions to the attendant. She opens her mind saying, “I hate him! I hate myself for letting it happen” (*Hominids* 147).

After the act of rape, she fears the humiliation, ugly discussion, problematic investigation by police and trials of the court. She also avoids confession in the church. Her emotional dilemma expresses the
psychology of the victim woman who is the prey of such perverted person. But when the same thing happens again at the same place in the case of her friend Quiser Remtulla, head of Genetics department, it shocks Mary. She blames herself for not reporting the crime at the very moment which would have saved her friend from the victimization. She reports the police because of her guilty conscious and confesses before the priest in the Church.

Cornelius Ruskin, a rapist is not punished by the police but Ponter, the Neanderthal and the lover of Mary castrates him. It is the right punishment according to the Neanderthal justice. Though Mary is the victim of rape, she does not like that Ruskin is castrated. It is because she thinks reproduction is the divine power bestowed upon the man by the God.

R. J. Sawyer has given the poetic justice to the victim of rape which is quite difficult in the human world. Many politicians and social thinkers have suggested this punishment but no criminal punishment code has accepted it. Despite such circumstances, the writer has highlighted the issue very effectively.

The seventh social issue is idealism of science. Scientific research and advance technological development in the modern times covered the human life from birth to death. It is true that scientific research and technology has made human life hygienically, economically and leisurely better than the life in ancient times. Along with the blessings of science, some curses also fall on the human society. For example, destruction by atomic bomb, missiles, chemicals, bio weapons, addiction of medicines, possibility of creation of human by using cloning technology etc. The scientific research is an effort of intellect in the pursuit of knowledge which has nothing to do with spirituality, morality and ethics. But when this research is used for the destruction of human being the ethics of researcher can be challenged.

Vissan, the woman Neanderthal scientist, has invented 'Codon Writer' a device which can be used for artificial programming of expected genetic sequences. It is mentioned, “It could be programmed to output any sequence deoxyribonucleic acid or ribonucleic acid imaginable along with associated proteins; if you could think it up, Vissan's Codon Writer could produce it” (Hybrids 121). It is banned by the Neanderthal administration, High Gray Council because it may abolish the effect of punishment of castration given to the criminals. It shows that their society is very much conscious about the safety of their social norms, laws and its implementation. Therefore, they ban such research. But the scientist, Vissan, does not accept the order of the High Gray Council and leaves the territory with her Codon Writer in the remote forest. Lurt, a Neanderthal geneticist informs, “The High Gray Council ordered the research halted and Vissan was furious. She said she could not be part of a society that suppressed knowledge and so she left” (Hybrids 121). Vissan represents the spirit of knowledge. Scientists are curious to invent the truth of nature and not its use. But administration of Neanderthal supports moral and ethical base of the research which is useful for the society.

The second example in the same trilogy is the misuse of Codon Writer by the human bureaucrat, Jock Krieger, who is the Chief administrator and think tank of Synergy Group. He is jealous because of the clean world of Neanderthal in its original form which he does not like and plans to create a dangerous Ebola virus to destroy the Neanderthal population by exploding the aerosol bomb. He uses the Codon Writer to prepare such virus but Mary, a human geneticist changes it in time and the Neanderthal population is saved which is the example of misuse of scientific research by the human beings.

R. J. Sawyer wants to expose the truth about the essence of ethics behind the scientific research. If any blunder happens because of scientific research, the user is responsible for that but the scientist who has invented the truth would not be freed from the moral responsibility.

The eighth social issue, abortion is an artificial and forceful delivery which is made easy and safety by modern medical facility. This becomes the social issue, when women think that it is their right to give birth to the child or drop it by abortion which is the conflict between emotion and intellect. It is the ethical conflict between the concept of either pro-choice or pro-life. In the critical condition of medical treatment,
it should be allowed only by the consent of doctor. In some typical situations like the pregnancy after rape, forceful sexual assault also the woman must have privilege to take the decision of abortion. But otherwise, it is against the will of nature and theology.

Mary, the professor of Genetics is a modern woman who is pious Christian and at the same time, believes that abortion should be her right. She aborts her first child from her husband Colm in order to do her career. Taking pills to prevent pregnancy is also the sin according to the religion. Mary accepts that abortion is a moral issue. She says, “It is said that every instance of sex has to be open to the creation of children. Honestly, most Catholics accepted a Loosening, not a tightening, of restriction” (Hybrids 49). The issue of abortion is the conflict between religion and intellect. Though Mary is firm follower of religion she does not accept the control of religious customs and traditions on her consciousness. She says, “I love the Catholic Church, and I love being a Catholic. But I refuse to religious control of my conscience to anyone” (Hybrids 50).

R. J. Sawyer discusses the delicate issue of abortion which has religious background and intellectual practice. He tries to show in modern times people are becoming more practical when it is the choice between ethics and intellects.

The ninth social issue is family violence. Family is the basic institution of the society that provides safety, love and support to the individual. Biologically human beings have emotions, moods, misunderstandings and quarrels. Sometimes the husband not only scolds the wife and children but beats them which is a family violence in its general sense. In the civilized society, no one is allowed to assault the other family member by law and if it happens, there is the provision of punishment. But again it is the delicate matter because to report against the husband or father and then live together becomes problematic. Most of the time, the other family members bear such bizarre behaviour of the head of the family member or one who is strongest physically. Family violence can be defined as, the physical or emotional assault by someone to control or harm a member of their family or someone who is in intimate relationship with her or him. There are different types of physical, sexual, financial and emotional types of violence and abuses in the family.

In The Neanderthal Parallax, R. J. Sawyer depicts this issue through relationship of Bandra, the Neanderthal woman-mate of Harb, a male Neanderthal. Mary, the representative of human world shares Bandra's room at center of the village and both are living like the best friends. One day when the time of Two become One, Bandra and her man-mate Harb are in her bedroom. The next day morning Mary returns to the bedroom of Bandra and sees,

The left side of Bandra's face was bruised horribly, a yellow rim around a black and blue area perhaps tensentiments across running from just above her brow ridge, down her wide, angled cheek to the corner of her mouth. There had been a central scab, half the diameter of the bruise, but Bandra had picked much of it away; that's where the fresh blood was coming from” (Hybrids 227).

Mary is shocked seeing the wounds of Bandra and inquires about it but Bandra refuse to tell her. At last, Bandra accepts that Harb has hurt her and it is the common incident that has continued for long time. Being a modern woman, Mary argues to complain against Harb. She says, “I know it will be difficult, but we will go to the authorities together. I'll be with you every step of the way. We will put an end to this. There has to be a rocking of what he did at the alibi archives right? He can't possibly get away with it” (Hybrids 229). Mary tries to convince her to report to Council, the higher authority or at least to the adjudicator. But still, Bandra does not accept Mary's argument. She explains the reason that the law and punishment in the Neanderthal world is strict and no criminal is saved from castration along with his close relatives having 50% of genes. Hence, Bandra says, “They won't just sterilize Harb. Violence can't be tolerated in the gene pool. They will also sterilize everyone who shares fifty percent of his genetic material” (Hybrids 231). Her
two daughters will be sterilized if she reports against Harb. Hence, she calmly tolerates the violence of her man-mate. She is helpless before the law and the behaviour of her man-mate.

Science Fiction is a sub genre of popular fiction. It fulfills the criteria like entertainment, excitement, thrill and are successful in the market. Moreover, it is also didactic, visionary, has deep social relevance and seriousness about the present and future situation of the human society. It attempts to provide idealistic and practical alternatives to the present human world. The talent of R. J. Sawyer as a promising Science Fiction writer is revealed by the present study. His depiction of the new world provides practical solutions to the social issues in the present world which is a remarkable contribution to the tradition of Canadian Science Fiction.

Bibliography
The Neanderthal Parallax is a trilogy of novels written by Robert J. Sawyer and published by Tor. It depicts the effects of the opening of a connection between two versions of Earth in different parallel universes: the world familiar to the reader, and another where Neanderthals became the dominant intelligent hominid. The societal, spiritual and technological differences between the two worlds form the focus of the story. Canadian writer Sawyer brings his Neanderthal Parallax trilogy to a close, leaving some loose ends that beg for a follow-up further exploring the interaction of two parallel worlds: the overcrowded and polluted one we're used to and another inhabited by highly intelligent and civilized Neanderthals. In the earlier books (Hominids and Humans), physicist Ponter Boddit got translated from the Neanderthal world to ours, where he fell in love with geneticist Mary Vaughn. "Sawyer has carried the banner of Asimovian science-fiction into the twenty-first century. Hominids is based in cutting-edge contemporary science--paleoanthropology, quantum computing, neutrino astronomy, among others--and furnished at the same time with touching human (and parahuman) stories. Robert J. Sawyer is the author of the Neanderthal Parallax series, including the Hugo Award-winning Hominids, and Humans. He won the Nebula Award for The Terminal Experiment and the Aurora Award for FlashForward, basis for the ABC TV series. He is also the author of the WWW series--Wake, Watch and Wonder--and many other books.