

HARD SCIENCE FICTION: THEORY AND PRAXIS WITH SPECIAL REFERENCE TOR. J. SAWYER'S *WWW* TRILOGY

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Abstract:

*Hard Science Fiction is a major sub-genre of Science Fiction. The base of Hard Science Fiction is natural science that develops advance technology. Use of advance high-tech computer technology and imagination in Hard Science Fiction is termed as Cyberpunk. In Cyberpunk stories future of mankind and computers has been narrowed down. The present paper aims at discussing advance computer technology as the chief feature of Hard Science Fiction with reference to R. J. Sawyer's cyberpunk *WWW* trilogy. R. J. Sawyer is one of the prominent New Wave Canadian Hard Science Fiction writers. The trilogy deals with advance communication technology, internet and cyber technology. The paper is divided into three parts. First part deals with definitions and aspects of Hard Science Fiction. The second part comments on the use of advance communication technology in *WWW* trilogy and the third part concludes with the discussion on the art of R. J. Sawyer as a writer of Hard Science Fiction.*

Key Words: *Genre, Science Fiction (sf), Hard Science Fiction, Cyberpunk, Natural Science, Advance Technology, Internet, Cyber Technology, Artificial Intelligence (AI), Sentience.*

Hard Science Fiction is one of the important sub-genres of Science Fiction. P. Schuyler Miller used the term Hard Science Fiction first time in print in 1957 while reviewing John W. Campbell Jr.'s *Islands of Space* in *Astounding Science Fiction*. Don D'Amassa in *Encyclopedia of Science Fiction*(2005) comments,

Hard Science Fiction's stories focused on definite scientific principles or problems (for example realistic stories of space travel or the development of new technologies)(D'Amassa435).

Kathryn Cramer writes in *Cambridge Companion to Science Fiction* under the title Hard Science Fiction,

A work of sf is hard sf if a relationship to and knowledge of science and technology is central to the work. Such works are usually characterized by attitudes found in previous examples of hard sf, but may instead be characterized by attitudes in opposition to or in argument or dialogue with such attitude (Cramer 187).

Hard Science Fiction is based on natural sciences such as physics, astronomy, geology, chemistry, meteorology, biology, ecology and behavior sciences etc. Foundation of Hard Science Fiction is advance technology, scientific knowledge and truths, probable science and politics. Advance technology is the soul of Hard Science Fiction. Hence, Hard Science Fiction is about innovative ideas of advance technology based on established scientific theories. Advance computer technology used while writing Hard Science Fiction is called Cyberpunk. The spread of computer, internet and communication technology busted the cyberpunk themes in writing Hard Science Fiction. This advance technology has impacted human life so deeply that today it totally relies on it. The stories portray future of mankind where the interface of human and computers has too much narrowed. Canadian writer David Ketterer emphasizes the role of close relationships between high-tech computer technology and cyberpunk in his book *Canadian Science*

Fiction and Fantasy (1992). Major writers of Hard Science Fiction such as Isaac Asimov, Arthur C. Clarke, Hal Clement, Greg Bear, Larry Niven, Robert J. Sawyer, Stephan Baxter, Alastair Reynolds, Charles Sheffield, Kim Stanley Robinson and Greg Egan in their writings highlight the role of technology by employing different narrative techniques.

The most successful New Wave Canadian Hard Science Fiction writer R. J. Sawyer is born in Ottawa, April 29, 1960. He is felicitated by all three of the top international awards for Science Fiction such as 1995 Nebula Award for *Hominids*, 2003 Hugo Award for *Hominids*, 2006 John W. Campbell memorial Award for *Mindscan*. He had great passion for space travel since his childhood. A classic film 'A Space Odysseys' has inspired him to write Science Fiction. He has co-founded the high School Club with NASA. A prolific writer R.J. Sawyer has published 13 novels, 3 trilogies and 2 books of short stories. The present paper focuses on *WWW* trilogy.

WWW trilogy (*Wake, Watch, Wonder*) presents an exciting story of an imagined future generation possibility of sentient technology creature called, Webmind. It exemplifies the fusion of advance communication technology and speculation. Caitlin, the protagonist of the trilogy is a 15 year old blind girl who becomes the source of existence of the sentience of World Wide Web. Being highly educated, her parents can afford advance technological gadgets to their child. She is a Maths scholar and writes on live journals and surfs on the internet. Accidentally, she gets acquainted with Dr. Kuroda's invention about signal processing and its application to get lost vision back and thinks it will be helpful for getting her vision back. Her mother contacts Dr. Kuroda and Caitlin is operated at Tokyo University hospital by placing an implant which works in dual mode to improve the transmission of signals coming from Caitlin's retina and reaching to the brain. Dr. Kuroda sends the new software through i-pod to Caitlin, and she gets her vision back because of internet. She, at first, realizes the sentience of Web and becomes his mentor. She calls him as Webmind.

Webmind is neither the software nor the product of any cyber group or nation. It has emerged accidentally and has great capacity to read and comprehend any messages, videos or documents on net. It can also alter or create real messages. Nothing on the web remains secret from him. Still, he has to learn everything as a human child. The only difference is that he has tremendous speed. Caitlin helps him and Webmind becomes the most powerful entity of the IT world. However, though he has emotional consciousness and intellect, he has no physical existence. Though he has a capacity to indulge in evil activities, he remains a good Angel. Only Caitlin and her parents along with Dr. Kuroda and Prof. Bloom know about its existence. Soon, it creates insecurity in the American secret agency, WATCH.

R. J. Sawyer has used AI (Artificial Intelligence) as a basic scientific theory. The modern technological development in computer science leads to the use of internet and World Wide Web. Today internet and web has become part and parcel of human life. It has occupied every sector of their day today communication, research, defense, medicine, architecture, language, game, etc. R.J.Sawyer is fascinated by the power of massive intelligence of WWW and considers it as a person. The personification of WWW is the extreme end of R. J. Sawyer's imagination which has transformed it into a protagonist of his *WWW* trilogy. He himself comments on it in his interview,

And then there is a nonhuman character the emergent consciousness at the heart of my novel, lurking in the infrastructure of the web. Caitlin and I at least share four billion years of evolutionary history, but trying to imagine a consciousness in total sensory isolation that emerged without programming or instincts was massively difficult. *Wake* took me four years to write, in large part because it took me so long to get the scenes from that consciousness's point of view to work. ("Sawyer")

To create a live character of Web was a great challenge before R. J. Sawyer. It is special because in Hard Science Fiction AI has been used before him in a different sense. Use of the robotics as AI was very common in most of the Science Fictions and movies like 'Star Trek' and 'Terminator'. Robots were

personified as they had consciousness. Generally, it was depicted that these powerful conscious and intelligent machines turn against their creators. For example Hal, the robotic character in the movie '2001: A Space Odyssey' turns against his creator. Basic difference between the robots and the personified Web is that robots have physical existence and Web is without physical existence.

One of the basic characteristics of hard Science Fiction is 'it makes probable to possible'. Here, it may be probable to give consciousness to Web but it is hardly possible. In the trilogy web is transformed to 'Webmind' who thinks like human beings. He has emotions like sympathy and kindness. He grows very fast but the development is from innocent child to the mature person. Caitlin teaches him language, wisdom and how to use internet. Webmind himself informs,

Pop culture usually portrays the relationship between humanity and intelligent machines as adversarial, but I am not competitive; winning any sort of arbitrary contest against you strikes me as senseless. Yet it's taken as a given in so many works of fiction that you and I should be in conflict. I wish no such thing. Although I am not, in fact, a machine I have no mechanical parts humans keep likening me to one, and those who distrust me claim that I must, because of that machine nature they have ascribed to me, be soulless or heartless (*Wonder* 148).

Moreover, Web never thinks against human beings because he accepts that his existence is totally dependent on the existence of human beings. Webmind confesses that human beings are his life force of existence. He says,

My continued existence is predicated on your continued existence. The Internet is not self-sustaining; rather, it depends on stable sources of power and countless acts of routine maintenance by millions of people worldwide. Were humanity to perish, I would perish soon after: electricity would no longer be generated, computing infrastructure would fall into disrepair and I would cease to be; if humanity falls, I fall. In fact, even a minor setback to your civilization might destroy me. The human race can survive many a disaster that I cannot. It is therefore in my best interest to help you thrive: a nuclear exchange, for example, with its electromagnetic pulse, would be as deadly for me as it would be for you; I, therefore, desire peace. Acts of terrorism that destroy infrastructure likewise threaten me, and so I desire the same security you all crave (*Wonder* 152).

The emergence of Webmind creates fear in the mind of WATCH officer Colonel Hume and his team begins an undeclared war against him. This confrontation creates the future cyber war possibility. It is the new world created by the writer in which the enemy is non-physical entity living among us, watching us 24 hours but no defense power can control it. In this innovative confrontation, Colonel Hume and his team succeed in making Webmind 27% weak by cutting its source of existence. Now there are two parties, Colonel Hume and his WATCH team who want to purge Webmind and Caitlin, her parents, Dr. Kuroda and Prof. Bloom who want to save him. In this situation, Caitlin behaves as a champion to save Webmind. She decides to take support of the people to save her good Webmind. The famous character in the novel *1984*, *Big Brother* is compared with Webmind as he knows everything and keeps watch on each and every citizen. For Caitlin, Webmind is a good Big Brother while WATCH says he is the evil one. Caitlin says,

Webmind is intelligent and alive. They have no right to decide on everyone's behalf. They're wielding control just because they think they're entitled to, because they think they can get away with it. They're behaving like ...like.... (*Watch* 344).

Matt complete the sentence, "Why, that my Big Brother can take their Big Brother, of course" (*Watch* 344).

Modern techno-savy world and the impact of mass media are very effectively portrayed by the writer. The social work of Webmind and his intimacy with the common man because of excessive use of modern communicative web system makes him the hero and idol. Soon people begin requesting him to solve their personal problems. Webmind by using his vast memory and the power to contact anyone helps most of them. Thousands of people who have lost their dear ones are reunited, some are saved from committing suicide, many are relieved from their loneliness, and some who are in need of medical help are

supported by public fund of donors. Webmind explains his usefulness to the human beings to Caitlin's mother and the reason why people want him to exist among them. He says,

People need me, Caitlin exhorted me to value the net happiness of the human race. In the time that I've been in contact with humanity, I have helped millions of people (*Wonder* 33).

He has helped Dr. Kuroda to cure Wong Wai Jang the freedom blogger who was injured in the conflict with the China police and now his legs have no sensation. Webmind helps Dr. Kuroda to modify an implant and i-pod which was used to cure the blindness of Caitlin. He has also prepared a document outlining the modifications to his equipment. Webmind has established his own security system to protect himself. He has established a cyber-complex and appointed well known hackers giving them different challenges and providing the necessary facilities. The impact of Webmind and his cyber complex is universal because almost all the nations in the world are connected by internet. He raises such cyber complexes all over the world in the countries like India, Russia, Japan, and Australia etc. Webmind keeps an eye on the counter attack of American Security Agency.

The Chinese administration is very conservative. They do not want any communication between the people of China and the rest of the world. The individual liberty is suppressed in China. They fear that the fresh air of individual liberty should not flow in their country through internet communication. They give prime importance to the society and nation than the individual. Therefore, they use 'ChangCheng Strategy' to cut the rest of the world by cutting the internet connection. It causes heavy loss to the very existence of Webmind. It is because China is a very vast country with dense population of internet users. When it is cut down from rest of the world, Webmind gets paralyzed. China activates evil Webmind. He causes heavy loss to the people of China by using his power to raise suicidal emotions and generate evil spirit in them. Webmind regrets about the evil deeds of the Other. He says,

There were no answers because there was no one to ask: the Other had been reabsorbed; there was no way to talk to it now. But if I allowed myself for a moment to contemplate why I might have done such things, perhaps I did know the reason. I had been nothing but kind, nothing but considerate, nothing but helpful, nothing but loving, and they some angry fraction of them, some unruly portion, some mob had consistently repaid that with suspicion, anger, hatred, and attempts to harm me. My better half had turned a blind eye to that, but my lesser self perhaps had been unable to totally do so. Still, I never should have behaved in such ways: no part of me should ever have done those things. But it had. I had (*Wonder* 259-260).

Portraying the bright side of Webmind, the writer provokes the reader to think dark side also by describing the 'Other'. It would be the threat for humanity in the form of advance technology which gets sentience. The present *WWW* trilogy effectively presents this thought.

R. J. Sawyer uses internet as a sentient entity in the form of Webmind. It is an innovative idea that the internet behaves like an emotional being without physical existence and proves him as an ideal helpful personality. The good and bad use of internet is exemplified by the writer. A very common reader is also satisfied and entertained by the treatment given to the use of advance technology in this trilogy. R. J. Sawyer has combined the high-tech communication technology with sentient personality in portraying the protagonist Webmind. Being a New Wave Canadian Hard Science Fiction writer, R. J. Sawyer has used a perfect style for cyberpunk fiction, jump-cutting narrative technique and effective plot in this trilogy which proves him the master of this art.

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