

**TECHNOFEMINIST SCIENCE FICTION:
JUSTINA ROBSON'S *NATURAL HISTORY*
AND SUE THOMAS'S *CORRESPONDENCE***

Sümeýra BURAN

**Ph. D. Dissertation
English Language and Literature Department
Prof. Dr. Mukadder ERKAN**

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**ATATÜRK UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
ENGLISH LANGUAGE AND LITERATURE DEPARTMENT**

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**SUPERVISOR
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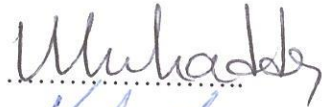


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ÖZET

DOKTORA TEZİ

TEKNOFEMİNİST BİLİM KURGU: JUSTINA ROBSON'UN *NATURAL HISTORY'Sİ* VE SUE THOMAS'IN *CORRESPONDENCE'Sİ*

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Bu çalışma Sadie Plant ve Donna Haraway'ın felsefelerinden yola çıkarak siberfeminizm ve siborg feminizm gibi iki farklı ama bağıntılı disiplinleri birleştiren Judy Wajcman'ın TeknoFeminist yaklaşımının kavramları üzerine temellendirdiğimiz TeknoFeminist Bilim Kurgu terimini türetmiştir. TeknoFeminizm çalışmasının özü teknolojik gerekciliği reddeden, yapılandırmacı ve sosyoteknik bir ağ olan teknoloji ile kadın arasındaki karşılıklı ilişkiye ses vermektir. Aynı şekilde, kadın veya feminist bilimkurgu da yeni bir eğilim olan TeknoFeminist Bilim Kurgu da kadın veya feminist bilimkurgu yazarlarının kendi teknobilimsel kurgularında kadın siber ve siborg imgelerinin yaratılmasında daha aktif olmalarını talep eden bir teknobilimsel politika ve TeknoFeminist politikayı sağlar. Bu yüzden, TeknoFeminist Bilim Kurgu insan ve makina, hayvan/organizma ve makina, fiziksel ve fiziksel-olmayan organizma arasındaki sınırları bozan özgürlükçü siberbenlik ve siborg cisimleştirmeleri ile cinsel ikiciliği silerek yeni kadın bakış açılarını ve perspektiflerini yaratmayı amaçlar. Bu çalışmanın amacı TeknoFeminizm ve teknobilim, yapay zekâ, genetik teknolojileri, internet, yenileyici teknolojiler, iletişim teknolojileri, nanoteknoloji, biyoteknoloji, moleküler biyoloji gibi konuları işleyerek Haraway'ın siborg metaforlarından herhangi biriyle uyumlu olan bir siborg imgesi ve Plant'ın siberfeminizmiyle uyumlu olan kablolu (telli), ıslak (nemli), akıcı, esnek, uyumlu, değişken, sonsuzca akışkan, sabit olmayan, otokontrollü, sanal siber benliklerin olduğu bir siberuzam yaratan Britanyalı kadın yazarların, Justina Robson ve Sue Thomas, cinsiyet ve teknoloji arasında karşılıklı ve eşitlikçi bir ilişki için nasıl farklı bir tekno-dijital uzam açtıklarını göstermektir.

Anahtar Kelimeler: TeknoFeminizm, Feminist Bilim Kurgu, Siberfeminizm, Siborg Feminizm

ABSTRACT**Ph. D. DISSERTATION****TECHNOFEMINIST SCIENCE FICTION: JUSTINA ROBSON'S *NATURAL HISTORY* AND SUE THOMAS'S *CORRESPONDENCE*****Sümeýra BURAN****Supervisor: Prof. Dr. Mukadder ERKAN****2014, Page: 310****Jury: Prof. Dr. Mukadder ERKAN****Prof. Dr. Kamil AYDIN****Prof. Dr. Hasan BOYNUKARA****Assoc. Prof. Dr. Ahmet SARI****Assist. Prof. Dr. M. Başak UYSAL**

This study has coined the term TechnoFeminist Science Fiction by grounding it on the insights of Judy Wajcman's TechnoFeminist approach that combines cyberfeminism and cyborg feminism following the philosophies of Sadie Plant and Donna Haraway. The core study of TechnoFeminism gives voice to the mutual relationship between women and technology that is a constructivist and a sociotechnical network by rejecting technological determinism. Likewise, TechnoFeminist Science Fiction, a new trend in women or feminist science fiction, provides both technoscientific politics and TechnoFeminist politics in desire for women or feminist science fiction writers to be more active in creating female cyber and cyborg images in their technoscience fictions. Thus, it aims to create new women perspectives and point of views by erasing the gender duality problem with characterization of emancipatory cyberself and cyborg embodiment through breaking down the boundaries between human and machine, animal/organism and machine, and physical and non-physical organisms. The aim of this study is to demonstrate how British novelists, Justina Robson and Sue Thomas, have opened a different techno-digital space for equal and mutual relationship between gender and technology by weaving the issues of TechnoFeminism and the concepts of technoscience, AIs, genetic technologies, the internet, regenerative technologies, communication technologies, nanotechnology, biotechnology, molecular biology and they have also developed an image of the cyborg consistent with any of Haraway's cyborg metaphors and cyberspace consistent with Plant's cyberfeminism with wired, wet, fluid, flexible, adaptable, mutable, multiple, ever-flowing, unstable, self-controlled, virtual cyberselves.

Key Words: TechnoFeminism, Feminist Science Fiction, Cyberfeminism, Cyborg Feminism

ABBREVIATIONS

AI	: Artificial Intelligence
ANT	: Actor Network Theory
BWN	: Body Without Name
BWO	: Body Without Organs
CSI	: Centre de Sociologie de l'Innovation
Cyborg	: Cybernetic Organism
DNA	: Deoxyribonucleic Acid
ENIAC	: Electronic Numerical Integrator and Computer
ERA	: Equal Rights Amendment
FAPA	: Fantasy Amateur Press Association
FINRRAGE	: Feminist International Network of Resistance to Reproductive and Genetic Engineering
FORTH	: A computer programming language, the artificial intelligence programming language
FTL	: Faster Than Light
HetNet	: Heterogeneous Network
IRC	: Internet Relay Chat
IVF	: Vitro Fertilization
RNA	: Ribonucleic Acid
SCOT	: Social Construction of Technology
SF	: Science Fiction
SST	: Social Shaping Technology
STN	: Sociotechnical Network
STS	: The study of Science, Technology and Society

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INTRODUCTION

Science fiction has been one of the great leading literary successes since the second half of the twentieth century. Nowadays, the genre is associated with America, but “the origins and inspirations for science fiction lie outside the United States, though within the period of the Industrial Revolution.”¹ The term science fiction did not emerge until the 1930s and “could only have come to prominence in the twentieth century, with its sweeping social changes and its unveiling of the promises and threats of modern technology.”² It was Hugo Gernsback who invented the term “scientifiction” in order to characterize the contents of stories published in *Amazing Stories* (one of the magazines he edited) in 1926. Then, the term “came to be recognized as a distinct literary genre, largely because it had so insistently ‘arrived’ as a social phenomenon. Sociologists, psychologists, historians of ideas, and political scientists began to turn to it on the assumptions that it was an important aspect of the ‘signs of the times’.”³ Our endeavor here will find this assumption to be correct and will explore the relationship between science fiction and contemporary feminism.

According to science fiction historian Brian M. Stableford, the first definition was made in *A Little Earnest Book Upon a Great Old Subject* (1851) by British Poet William Wilson. The only example for the new genre Wilson could find was Richard Henry Horne’s fable *The Poor Artist* (1850), which deals with the discovery of creatures’ eyesight.⁴ Wilson cites the saying of Scottish poet Thomas Campbell that “Fiction in poetry is not the reverse of truth, but her soft and enchanting resemblance” and then, Wilson comments that “Now this applies especially to Science-Fiction, in which the revealed truths of Science may be given interwoven with a pleasing story which may itself be poetical and *true*—thus circulating a knowledge of the Poetry of

¹ Brian Aldiss with David Wingrove, *Trillion Year Spree: The History of Science Fiction*, Paladin Grafton Books, A Division of the Collins Publishing Group, London 1988, p. 14. (First Published in London by Victor Gollancz Ltd in 1986).

² Patrick Parrinder, *Science Fiction: Its Criticism and Teaching*, Methuen, New York 1980, p. xiii.

³ Parrinder, p. xiv.

⁴ Brian M. Stableford, “Science fiction before the genre, The origins of science fiction”, in *The Cambridge Companion to Science Fiction*, (Ed.), by Edward James and Farah Mendlesohn, Cambridge University Press, Cambridge 2003, p. 16.

Science clothed in a garb of the Poetry of Life.”⁵ Stableford claims that “Wilson actually uses the term ‘Science-Fiction,’ and he characterizes it as fiction.”⁶

Some critics define the term ‘Science Fiction’ as a prose narrative, a mode, a discussion, a genre or a tool. For example, Kingsley Amis defines the term as a “prose narrative treating of a situation that could not arise in the world we know, but which is hypothesized on the basis of some innovation in science or technology, or pseudo-science or pseudo-technology, whether human or extra-terrestrial in origin.”⁷ On the other side, Joanna Russ, as a science fiction writer and critic, states that science fiction is “a mode rather than a form (a form would be something like the sonnet, the short story, etc.). It is, basically, anything that is about conditions of life or existence different from either what typically is, or what typically was, or whatever was or is . . . Science fiction is about the possible-but-not-real.”⁸ However, Brian W. Aldiss with David Wingrove assert that science fiction is “both formulaic and something more than a genre. It is a mode which easily falls back into genre. The model is flexible, changing with the times. New designs are forever produced.”⁹ Farah Mendlesohn also regards the term as “a discussion or a mode, and not a genre” by differentiating the term from other forms: “If sf [science fiction] were a genre, we would know the rough outline of every book that we picked up. If it were a mystery, we would know that there was ‘something to be found out’; if a romance, that two people would meet, make conflict and fall in love; if horror, that there would be an intrusion of the unnatural into the world that would eventually be tamed or destroyed.”¹⁰ That is, science fiction is regarded as “less a genre – a body of writing from which one can expect certain plot elements and specific tropes – than an ongoing discussion,”¹¹ but she later asserts that “SF is a built genre.”¹² Unlike those who regard the term as a mode, Adam Roberts defines the term as a genre;

⁵ William Wilson, *A Little Earnest Book Upon A Great Old Subject*, Darton and Co., Holborn Hill, London 1851, pp. 138-139, See also, Jeff Prucher, *Brave New Worlds: The Oxford Dictionary of Science Fiction*, Oxford University Press, New York 2007, p. 171.

⁶ Stableford, *The Sociology of Science Fiction*, p. 80.

⁷ Kingsley Amis, “Starting Points”, in *Science Fiction A Collection of Critical Essays*, (Ed.), by Mark Rose, Prentice-Hall, Inc., New Jersey 1976, p. 11.

⁸ Joanna Russ, “Reflections on Science Fiction- An Interview with Joanna Russ”, in *Building Feminist Theory: Essays from QUEST*, Longman, New York and London 1981, p. 243.

⁹ Aldiss with Wingrove, p. 15.

¹⁰ Farah Mendlesohn, “Introduction: reading science fiction”, in *The Cambridge Companion to Science Fiction*, (Ed.), by Edward James and Farah Mendlesohn, Cambridge University Press, Cambridge 2003, p. 2.

¹¹ Mendlesohn, p. 1.

¹² Mendlesohn, p. 11.

“science fiction, a genre or division of literature, distinguishes its fictional worlds to one degree or another from the world in which we actually live: a fiction of the imagination rather than observed reality, a fantastic literature.”¹³ Like him, Samuel R. Delany regards science fiction as “a tool to help you think” but “like anything that helps you think, by definition it doesn’t do the thinking for you.”¹⁴

Taking all of these different definitions into consideration, there are three influential critics who are foundational in shaping the definition of the term. Roberts, in his *Science Fiction* book, stresses these three major definitions of science fiction by Darko Suvin, Robert Scholes and Damien Broderick.¹⁵ Science fiction is defined by Suvin as “a literary genre whose necessary and sufficient conditions are the presence and interaction of estrangement and cognition, and whose main formal device is an imaginative framework alternative to the author’s empirical environment.”¹⁶ With its rational and logical implications, thanks to this cognition, we can understand and comprehend the alien landscape. We recognize the estrangement element of science fiction as different from the familiar and every day. To Suvin, however, a science fiction text should include both features and be in-between estrangement and the cognition, because if it is entirely concerned with estrangement, it would be difficult to understand. If it is entirely concerned with cognition, it would be scientific or documentary. That is why, thanks to this co-presence, science fiction becomes relevant to our world by challenging the ordinary at the same time, so that the alternative world of science fiction is determined by estrangement and cognition. By this definition, Suvin distinguishes science fiction from other genres such as Gothic, Fantasy and the fairy tale. Each of these genres present worlds that are estranged, but not cognitive, whereas in science fiction which, with its possible alternative worlds, reflects the constraints of science. Meanwhile, although detective fiction uses cognitive logic, it is not in an estranged fictional realm.

For Suvin, cognitive and science are almost synonymous, that is, defining the science fiction term in another way is using the phrase “cognitive estrangement.”

¹³ Adam Roberts, *Science Fiction*, Routledge, London 2000, p. 1.

¹⁴ Samuel R. Delany, *Starboard Wine: More Notes on the Language of Science Fiction*, Dragon, New York 1984, p. 34.

¹⁵ Roberts, p. 8.

¹⁶ Darko Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre*, Yale University Press, New Haven, Conn. 1979, pp. 8-9.

Roberts asserts that “one of the strengths of Suvin’s definition is that it seems to embody a certain common-sense tautology, that science fiction is scientific fictionalizing.”¹⁷ Suvin argues that the science in science fiction plays the role of a discourse built on certain logical principles; that is, rational rather than emotional, as if fiction deals with emotions and science with truths. However, science is based on falsifiability because hypotheses are tested by experiment, so a scientific premise may not be proven false or true. Thus, in science fiction we cannot say that the science used in it makes it true or false. In the same way, Gwyneth Jones regards science fiction as a form of the thought experiment and “what if” game. For her, truth of science in science fiction is not important because the scientific method is much more important, that is the logical working through of a particular premise.¹⁸ Like Jones, Russ sees science fiction as “What If literature” which shows scientific things as they might be with serious, rational and consistent explanations.¹⁹

Unlike Suvin, Scholes stressed more on the literary features of science fiction texts and the metaphorical strain of science fiction. For him, science fiction is concerned with things different from the world we live in, but this does not show that science fiction is escapist or irrelevant. He argues that science fiction is both different and the same; it is both discontinuous from the world we actually inhabit simultaneously and confronts that world in some cognitive ways. He uses the term “fabulation” for any “fiction that offers us a world clearly and radically discontinuous from the one we know, yet returns to confront that known world in some cognitive way.”²⁰ This fabulation world is created in all fantastic and imaginative literature. He adds structural notion to his fabulation definition when he calls fabulation synonymous with fiction and uses structural synonymous with science. To him, science fiction is a kind of “awareness of the universe as a system of systems, a structure of structures” and he asserts that “Structural fabulation is neither scientific in its method, nor a substitute for actual science. It is a fictional exploration of human situations made perceptible by the

¹⁷ Roberts, p. 8.

¹⁸ Gwyneth Jones, *Deconstructing the Starships: Science, Fiction and Reality*, Liverpool University Press, Liverpool 1999, p. 4.

¹⁹ Russ, “The Image of Women in Science Fiction”, p. 32.

²⁰ Robert Scholes, *Structural Fabulation: An Essay on Fiction of the Future*, Indiana University Press, Bloomington 1975, p. 2.

implications of recent science.”²¹ He gives more importance to the fictionalization of the premise by seeing science as only the starting point and an observational method for science fiction.

The last critic Roberts mentions is Broderick, who continues both Suvin’s sense of cognitive estrangement and Scholes’s structural fabulation. Broderick claims that science fiction text will be a kind of representation of the world metaphorically and he cannot consider the actual elements in the novel to be metaphorical, but metonymic. While in metaphor, one element stands for another, in metonymy one element represents the whole. The whole science fiction text is metaphorical, but science fiction as part of an imagined world stands in for the process of the whole environment.²² Following the definitions of Suvin, Scholes and Broderick, Roberts argues that the degree of proximity of the difference of the world in science fiction should neither too removed nor too close to the world we live in because if it is too removed, then the text becomes merely escapist, and if it is too close, then the text becomes a conventional novel. He adds that “balancing ‘cognition’ and ‘estrangement,’ or the continuities and discontinuities of the SF text, becomes the index of success of the SF text.”²³

Roberts asserts that the sense of science fiction within these three definitions becomes a symbolist genre. For example, Delany sees science fiction as “a symbolist genre, because it seeks to represent the world instead of reproducing it.”²⁴ In the same way, Suvin sees science fiction as a symbolic system as well.²⁵ According to Roberts, why science fiction is symbolic rather than allegoric is that symbolism “opens itself up to a richness of possible interpretation, where allegory maps significance from one thing onto one other thing” and symbolism is a correspondence between the spiritual and the natural world, but science fiction is to be “less spiritual and more material.”²⁶ It is the same case for realism, a non-symbolist mode of writing. For Roberts, although science fiction is symbolic, it also adapts a realist mode of accumulation of detail. Science fiction texts may be read like realist novels, but “the crucial point is that science fiction

²¹ Scholes, p. 8.

²² Damien Broderick, *Reading by Starlight: Postmodern Science Fiction*, Routledge, London and New York 1995, p. 155.

²³ Roberts, p. 16.

²⁴ Delany, *Silent Interviews, On Language, Race, Sex, Science Fiction and Some Comics*, p. 123.

²⁵ Suvin, *Defined by a Hollow: Essays on Utopia, Science Fiction and Political Epistemology*, pp. 85-86.

²⁶ Roberts, p. 17.

reconfigures symbolism for our materialist age.”²⁷ In other words, the symbolic function of the science fiction texts is “precisely the representation of the encounter with difference, Otherness, alterity”²⁸ such as human of color, females, cyborgs, androids, aliens, gynoids, cybernetic organisms, etc. In most celebrated science fiction texts, we see the problematic of this encounter with difference, “the difficulty of representing the Other without losing touch with the familiar.”²⁹ The root of science fiction is based on an alien kind of encounter and exploring alterity, so “the meeting of self with other is perhaps the most fearful, most exciting and most erotic encounter of all.”³⁰ Thereby, Roberts defines the term as in the following:

Reading SF [...] is about reading the marginal experience coded through the discourses of material symbolism; which is to say, it allows the symbolic expression of what it is to be female, or black, or otherwise marginalized. SF, by focusing its representations of the world not through reproduction of that world but instead by figuratively symbolizing it, is able to foreground precisely the ideological construction of Otherness. In other words, in societies such as ours where Otherness is often demonized, SF can pierce the constraints of this ideology by circumventing the conventions of traditional fiction.

Moreover, another point in defining the term is “the literature of change” that Frederick Pohl mentions. He claims that “writing it consists in looking at the world around us, dissecting it into its component parts, throwing some of those parts away and replacing them with invented new ones — and then reassembling that new world and describing what might happen in it.”³¹ Likewise, James E. Gunn’s broader definition is about change: “Science fiction is the branch of literature that deals with the effects of change on people in the real world as it can be projected into the past, the future, or to the distant places.”³² The last point concerns reader expectations. As Brooks Landon asserts “the stories of SF are not just ‘about’ new ways of seeing, new perspectives, but

²⁷ Roberts, p. 18

²⁸ Roberts, p. 25.

²⁹ Roberts, p. 26.

³⁰ Scott McCracken, *Pulp: Reading Popular Fiction* Manchester University Press, Manchester 1998, p. 102.

³¹ Frederik Pohl, “Two-Way Look at the Literature of Change”, *New Scientist*, 138(22), May, 1993, p. 48.

³² James E. Gunn, “Towards a Definition of Science Fiction”, *Speculations on Speculation: Theories of Science Fiction*, (Ed.), by James E. Gunn and Matthew Candelaria, Scarecrow, Oxford 2005, p. 6.

actually demand new ways of seeing from its readers.”³³ That is, expectations of readers shape the function of science fiction. In other words, science fiction depends on the reader expectations that change for different types of fiction. Delany suggests that the level of subjunctivity is different in science fiction.³⁴ This level of subjunctivity forms the relationship between science fiction and the referential, or real, world although there is a lack of bond between the fictional and the real world in other kinds of writing. For example, Landon claims, “the reader of reportage assumes that its words refer to *what has happened*, the reader of naturalistic fiction to *what could have happened*, the reader of fantasy to *what could not have happened*, and the reader of SF to *what has not happened*” and he adds that “what has not happened, in turn, subsumes stories about events that will not happen and events that might happen.”³⁵

Despite such definitions, science fiction is much more than a definition and the very “non-definability”³⁶ of term is one of the important qualities of the genre. Science fiction stories might be born as a result of dissatisfaction with science or in order to be free from the limitations of the known science, hence science fiction “must also move forward as advances in science reshape our sense of what is not yet possible (and not yet impossible),” therefore; “the science fiction story should be thought of as part of a genre-in-the-making that must continue to escape the fixing stasis of definition.”³⁷

I. The First Wave Science Fiction

A. Proto-Science Fiction

We call the period before the Pulp/Magazine era the First Wave science fiction that covers the Proto-Science fiction and the Scientific Romance periods. The term science fiction “emerged from a mass of competing labels only in the late 1920s” and descriptions “like ‘different’, ‘off-trail’, ‘pseudo-scientific’ or ‘weird-scientific’ were

³³ Brooks Landon, *Science Fiction After 1900: From the Steam Man to the Stars*, Routledge, London 2002, p. 7.

³⁴ Delany, *The Jewel-Hinged Jaw: Notes on the Language of Science Fiction*, pp. 21-37.

³⁵ Landon, p. 8.

³⁶ Ursula K. Le Guin, *Introduction to The Norton Book of Science Fiction: North American Science Fiction, 1960-1990*, (Eds.), by Ursula K. Le Guin and Brian Attebery, W. W. Norton & Co., New York 1993, p. 21.

³⁷ Landon, p. 32.

used.”³⁸ While science fiction began to be used as a term after the 1920s, the critical history of it is very new. The origin of the term started with Hugo Gernsback who first used the term ‘scientific fiction’ in 1923. The contraction ‘scientifiction’ was proposed in 1924 and continued to appear in his editorials of *Amazing Stories* from 1926 and then he coined the term ‘science fiction’ in his magazine *Science Wonder Stories* in 1929.³⁹ The term became more famous when the name *Astounding Stories* was changed into *Astounding Science-Fiction* in 1938, but the term came into common use in the 1950s.⁴⁰ Therefore, before the term became known, the scientific texts or science fictional texts were regarded as proto-science fiction.

Some critics take the origin of science fiction with H. G. Wells and Jules Verne, two fathers of science fiction, while some consider the origin of it as ancient as literature by searching fantastic and science-fictional elements in artworks. However, some consider earlier texts as proto-science fiction texts such as Sumerian *Epic of Gilgamesh* (2000 BC) or Lucian’s *True History*.⁴¹ Though some take the beginning of science fiction further back to Bible, some consider Thomas More’s *Utopia* (1516) as a starting point, or some others claim that it begins with John Milton’s *Paradise Lost* (1674), while some like Paul K. Alkon claim that “Science fiction starts with Mary Shelley’s *Frankenstein*”⁴² (1818) as the grandmother of the genre. Therefore, it is difficult to say a concrete date for the beginning of science fiction genre.

According to Stableford, the historical origin of science fiction dates at 17th century. Before the science fiction genre, in the 17th century we could come across speculative fictions dealing with new discoveries and technologies and the earliest examples of science fiction texts were seen in the existing genres such as utopian fantasy and travelers’ tales. Luckhurst asserts that we see the trace sources of science fiction back to travelers’ tales because in science fiction we encounter with the other and the portrait of exotic difference.⁴³ Some examples are Francis Bacon’s *New Atlantis*

³⁸ Roger Luckhurst, *Science Fiction*, Polity, Cambridge 2005, p. 15.

³⁹ Luckhurst, p. 15.

⁴⁰ Quoted by Luckhurst, p. 15. See also Sam Moskowitz, “How Science Fiction Got its Name”, in *Explorers of the Infinite: The Shapers of Science Fiction*, World Publishing, Cleveland, OH 1963, pp. 313-33.

⁴¹ Roberts, pp. 47-50.

⁴² Paul K. Alkon, *Science Fiction Before 1900: Imagination Discovers Technology*, Twayne, New York 1994, p. 1.

⁴³ Alkon, p. 15.

(written in 1617; published in 1627), Jonathan Valentin Andreae's *Christianapolis* (1619) and Tommaso Campanella's *La Città del Sole* (*The City of the Sun*, written 1602; published 1623).⁴⁴ In addition, most utopian fantasies were based on scientific discoveries as well as on technological advancement and on some imaginary voyage, which was the usual narrative form of utopian fantasy as well as of scathing satirical fantasies.⁴⁵ For example, Margaret Cavendish's *The Blazing World* (1666) weaves scientists as satirical targets and the third book of Jonathan Swift's *Gulliver's Travels* (1726) parodies Bacon's *New Atlantis*. Imaginary voyage was important for the history of science fiction in which we see the journey of a traveler to unknown parts of the world seeing marvels and reporting them back.⁴⁶ Stableford asserts that imaginary voyages in 17th and 18th century to the interplanetary remained like a dream, but gradually became plausible after the mid-19th century.⁴⁷ That is, imaginary voyages had very crucial role in the 19th century science fiction. Related to imaginary voyage in proto-science fiction, lunar voyage was very important. Lunar voyage type of fiction goes back to *A True Story* of Lucian of Samosata (in the second century A. D.) Some examples to lunar voyage are Johannes Kepler's *Somnium* (*A Dream*, 1634), Francis Godwin's farcical account *The Man in the Moon* (1638) and John Wilkin's essay "Discovery of a World in the Moon" (1638).⁴⁸

Besides this lunar voyage, there appeared other cosmic voyages as well such seen in German scholar Athanasius Kircher's *Itinerarium Exstaticum* (*Ecstatic Journey*, 1656), Gabriel Daniel's *Voyage au monde de Descartes* (*Voyage to the Descartes*, 1692) and Christian Huygen's *Cosmotheoros* (1698). Roberts argues that William Blake's *Marriage of Heaven and Hell* (1793), or Percy Shelley's *Queen Mab* (1813) in which the protagonist travels around the solar system in a magic car, or Mary Shelley's *Frankenstein* (1818) helps the development of science fiction genre.⁴⁹ In the same way, the 18th century cosmic voyages were seen in *Arcana Coelestia* (1749-56) by Emmanuel Swedenborg, a Swedish theologian. This cosmic voyage tradition took a new direction

⁴⁴ Stableford, "Science fiction before the genre, The origins of science fiction", p. 15.

⁴⁵ Stableford, "Science fiction before the genre, The origins of science fiction", p. 15.

⁴⁶ Everett Franklin Bleiler, *Science-Fiction, the Early Years: A Full Description of More Than 3,000 Science-Fiction Stories from Earliest Times to the Appearance of the Genre Mag*, Kent State University Press, Kent, Ohio 1990, p. xix.

⁴⁷ Stableford, "Science fiction before the genre, The origins of science fiction", p. 16.

⁴⁸ Stableford, "Science fiction before the genre, The origins of science fiction", p. 16.

⁴⁹ Roberts, p. 55.

in France by adding magical devices thanks to the translation of *One Thousand and One Nights* (1704-17) or known as *The Arabian Nights* by Antoine Galland.⁵⁰ Meanwhile, by the end of the 18th century two other types, the story of the future and the invention of story emerged such as Louis Sébastien Mercier's *L'Andeux mille quatre cent quarante* (*The Year 2440*, 1771). In the same way, Shelley and Webb wrote future life novels in the early 18th century, as well. After the story of future, in the late 18th and early 19th century, the modern invention story emerged with the great works; William Godwin's *St Leon* (1799) and his daughter Shelley's *Frankenstein* (1818). They both showed the harmful sides of science and technology to humankind.⁵¹

B. Scientific Romance

Patrick Parrinder claims that Shelley, Edgar Allan Poe, Verne, and Wells were four important figures in terms of their methods and objectives among the 19th century authors of scientific romances.⁵² *Frankenstein: OR, The Modern Prometheus* is written in the form of scientific romance and like Milton's monstrous alien Satan, Shelley's gothic monster is also first created and then abandoned by his creator as he falls into an amnesiac state. The strangeness and otherness of the monster and his story of creation in the laboratory by a scientist and supernatural, extraordinary elements make the novel a kind of science fiction, but there is not a detailed scientific explanation of the origin of the creature of the monster. Roberts argues that Shelley's alienated monster "articulates the way 'science' cuts itself off from the more organic process of nature, and in turn functions as a symbol for a modern sense of alienated existence."⁵³ Suvin claims that the novel has a current theme of science fiction and the fiction that "progress becomes indissoluble from catastrophe."⁵⁴ However, Jane Webb Loudon's work *The Mummy! A Tale of the Twenty-Second Century* (1827) depicts little explorations of speculative future inventions. Nevertheless, after Shelley, as Parrinder asserts, we see a prolonged

⁵⁰ For the other examples to cosmic voyages, See Stableford, "Science fiction before the genre, The origins of science fiction", p. 17.

⁵¹ Bleiler, p. xx.

⁵² Parrinder, p. xvi.

⁵³ Roberts, p. 59.

⁵⁴ Darko Suvin, *Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre*, p. 10.

gap because of the undeveloped systematic process of scientific romance until the works of Verne and Wells.⁵⁵

In the 19th century, we see many science fiction stories that might be called as scientific romance in American literature, as well.⁵⁶ H. Bruce Franklin asserts that “There was no major nineteenth-century American writer of fiction, and indeed few in the second rank, who did not write some science fiction or at least one utopian romance.”⁵⁷ Therefore, 19th century American literature was associated with science fiction or scientific romance. Poe was the first writer to grapple with this problem. He contributed to the birth of science fiction with his newspaper article “The Balloon-Hoax” (1844) and his earliest poem “Sonnet to Science” (1820s) by inventing some emerging technologies such as hot air balloons.⁵⁸ In the same way, British writers had problems in finding the appropriate narrative frames. Sir Humphry Davy formulated his *Consolations in Travel* (1830) in a series of dialogues and wrote his thoughts on speculations of alien life. Then, Robert Hunt published *The Poetry of Science* (1849), which later became the source of inspiration to William Wilson’s *A Little Earnest Book Upon a Great Old Subject* (1851). In other words, the 19th century science fiction genre was associated with scientific romance which “at its simplest consists in the use of scientific (or, more often, quasi-scientific) elements in highly coloured romantic fiction.”⁵⁹

During the middle and late 19th century similar concepts to lunar voyages that came to an end during the late 18th century reappeared as a result of archeological discoveries in Central and South America and new geographical explorations in Central Africa and Asia. Thanks to these geographical events, two new story types developed; the voyage extraordinaire of Verne and his imitators and the lost-race novel. Hence, influenced by Poe, French author Verne (1828-1905) pioneered the science fiction genre with his method of “extrapolation of contemporary technology, and he became famous for the application of hypothetical locomotive technologies to laborious exploration and

⁵⁵ Parrinder, p. 7.

⁵⁶ Landon, p. 40.

⁵⁷ H. Bruce Franklin, *Future Perfect: American Science Fiction of the Nineteenth Century*, Oxford University Press, New York 1978, p. ix.

⁵⁸ Stableford, “Science fiction before the genre, The origins of science fiction”, pp. 18-19.

⁵⁹ Parrinder, p. 4.

leisurely tourism.”⁶⁰ Verne wrote about the stories of fantastic voyages, underwater travel with practical submarines, space travel, air travel (air travel and submarines were not invented at that time as well as practical means of space travel) in his series of *Voyages Extraordinaires* (Extraordinary Voyages, 1863-72).

Like Verne and Gernsback, Wells (1866-1946) was also considered as the “Father of Science Fiction” genre. Nicholas Ruddick regards H. G. Wells as the originator of British science fiction in the 19th century.⁶¹ Likewise, Parrinder asserts that Wells as a pivotal figure played an important role in the evolution of bringing scientific romance into modern science fiction.⁶² Parrinder relates the success of Wells to “his mastery of representative themes (time-travel, the alien invasion, biological mutation, the future city, anti-utopia)” because “his stories embody a new generic combination, which proved attractive both to ‘literary’ and to scientifically-minded readers.”⁶³ In other words, we see a scientific philosophy in his romances whose “narrative framework is underpinned by a direct intellectual appeal to the reader, rather than by psychological allegory and symbolism.”⁶⁴

Wells’s first scientific romance was *The Time Machine* (1895) and by this novel he coined the term ‘time machine’ that has become a universally famous term referring to a vehicle that allows time travel as the fourth dimension. Besides, Wells, like Verne, wrote about lunar exploration in *The First Man in the Moon* (1901).⁶⁵ In his other scientific romance *The Island of Doctor Moreau* (1896), we see the reworking of Shelley’s *Frankenstein* and through it Milton’s *Paradise Lost*. Stableford calls three works of Wells as painstaking moral fables; *The Island of Doctor Moreau* (1896), *The Invisible Man* (1897), and *The War of the Worlds* (1898) all of which are “albeit of an unprecedentedly zestful and unusually realistic kind, cleverly assisted by the narrative labour that made their central devices plausible.”⁶⁶ Shortly, Wells’s combination of fantasy and realism made a significant contribution to the definition of the genre, but he was the last to use this old style because after then the magazines “did not share Wells’s

⁶⁰ Stableford, “Science fiction before the genre, The origins of science fiction”, p. 20.

⁶¹ Nicholas Ruddick, *Twentieth-Century British and Irish Fiction: The Encyclopedia of Twentieth-Century Fiction*, (Ed.), by Brian W. Shaffer, Wiley- Blackwell, West Sussex 2011, p. 332.

⁶² Parrinder, p.10.

⁶³ Parrinder, pp. 10-11.

⁶⁴ Parrinder, p.10.

⁶⁵ Stableford, “Science fiction before the genre, The origins of science fiction”, p. 24.

⁶⁶ Stableford, “Science fiction before the genre, The origins of science fiction”, p. 25.

gloom about the immediate future” by rejecting the stories “outside the realm of scientific possibilities.”⁶⁷

Scientific romance tradition attracted many writers such as Joseph Conrad, Ford Madox Ford (in *The Inheritors*, 1901), Rudyard Kipling (“With the Night Mail,” 1905 and “As Easy as A. B. C.,” 1912), E. M. Forster (in “The Time Machine Stops,” 1909),⁶⁸ Arthur Conan Doyle (*The Lost World*, 1912 and *The Poison Belt*, 1913), and his contemporary George Griffith (*A Honeymoon in Space*, 1901), who at the same time “became a prolific writer of ‘karmic romances’.”⁶⁹ Moreover, a frequent subject of the 20th century British science fiction was a kind of reflection of pessimism as a result of disasters, either man-made or natural as seen in M. P. Shiel’s *The Purple Cloud* (1901), S. Fowler Wright’s *Deluge* (1927), Robert Cromie’s *The Crack of Doom* (1895), and William Hope Hodgson’s *The Night Land* (1912).⁷⁰ As Ruddick asserts, we see reflections of Wellsian visions of “superhumanity or subhumanity” on many other scientific romances such as J. D. Beresford’s *The Hampdenshire Wonder* (1911), G. B. Shaw’s *Back to Methuselah* (1921), E. V. Odle’s *The Clockwork Man* (1923), Aldous Huxley’s *Brave New World* (1932), John Gloag’s *Tomorrow’s Yesterday* (1932), and W. Olaf Stapledon’s *Odd John* (1935).⁷¹ After the Great War, some writers wrote about the destruction of civilization and future anticipation about that destruction caused by the war such as what Edward Shanks (in *The People of the Ruins*, 1920) and Cicely Hamilton (in *Theodore Savage*, 1922).

The 1880s and 1890s witnessed two crucial developments: the scientific trappings the American social utopias and the science fiction dime novel.⁷² The most notable American social utopia was Edward Bellamy’s *Looking Backward* (1888).⁷³ While these social utopias struggle for some change, science fiction dime novels appeared to entertain people.⁷⁴ The dime novels dominated American literature between the Civil War and World War I and focused on speculative technology about transportation such

⁶⁷ Parrinder, *H.G. Wells: The Critical Heritage*, p. 13.

⁶⁸ Ruddick, p. 333.

⁶⁹ Stableford, “Science fiction before the genre, The origins of science fiction”, p. 26.

⁷⁰ Ruddick, p. 333.

⁷¹ Ruddick, p. 333.

⁷² Bleiler, p. xxi.

⁷³ Bleiler, p. xxi. For more information, See also Stableford, “Science fiction before the genre, The origins of science fiction”, pp. 27-28.

⁷⁴ Stableford, “Science fiction before the genre, The origins of science fiction”, p. 28.

as advanced submarines and flying machines, or on lost-race stories, but “the dime novel was politically very conservative and jingoistic.”⁷⁵ The most known writers of this dime novel were Francis W. Doughty, Philip Reade and Cornelius Shea. Edward Sylvester Ellis’s Edisonade invention story *The Steam Man of the Prairies* (1868) is a notable example.

Consequently, the arrival of the pulp magazine format forced the dime novels out of existence.⁷⁶ Scientific romance, as the British tradition represented by Shelley and Wells, gave its place to that popular so-called pulp-fiction market in U.S. Until very late in the 19th century, we cannot see such a popular market evolving in Britain. Therefore, after the decline of the scientific romance in Britain and the science fiction dime novel in U.S., a new trend began; that was the rise of pulp magazines.

II. The Second Wave Science Fiction

A. The Pulp/Magazine Era

We call the Second Wave science fiction the Pulp/Magazine era. Cheap magazine format known as ‘pulp’ became famous and, thanks to cheap publishing, a wide range of magazines popped up as well as specific markets such as westerns, detective fiction and romantic love stories. In pulp magazines, many types of science fiction stories were published such as “lost-race stories, foolish invention stories, interplanetary adventure fiction, early aeronautics fiction, and scientist stories, and many other.”⁷⁷ Hence, Attebery calls the history of science fiction period from 1926 to 1960 the magazine era.⁷⁸ *Thrill Book* was considered as the first pulp started publishing in 1919 and *Amazing Stories* as the first magazine started in April 1926 (this issue appeared on the newsstands in early March).⁷⁹ That is, it was Hugo Gernsback who both invented the first science fiction magazine and coined the term science fiction by using ‘scientifiction’ term.

⁷⁵ Bleiler, p. xxii.

⁷⁶ Landon, p. 51.

⁷⁷ Bleiler, p. xxii.

⁷⁸ Brian Attebery, “The Magazine era: 1926-1960”, in *The Cambridge Companion to Science Fiction*, (Ed.), by Edward James and Farah Mendlesohn, Cambridge University Press, Cambridge 2003, p. 32.

⁷⁹ Roberts, p. 67. See also Bleiler, p. xxii.

Gernsback started publishing several magazines such as *Modern Electrics* in April 1908 (in which he published *Ralph 124C 41+*) and *Science and Invention* in 1921 before publishing *Amazing Stories* in 1926. In one of his editorial magazines, *Science Wonder Stories* (June 1929), Gernsback refused to publish the stories outside the realm of scientific possibility and correctness. Hence, in his early science fiction novel *Ralph 124C 41+* written in serial, Gernsback foretold some technological predictions about future technology such as spaceflight, channel surfing, power transmission, remote-control, the video phone, artificial cloth, voice printing, tape recording, etc. That is, “Gernsback and his successors showed that stories embodying social change, providing that they offered a Verne-like combination of boyish adventure with nuts, bolts and blueprints, could more than hold their own against other descendants of the nineteenth-century romance such as the mass-produced tales of horror and supernatural fantasy.”⁸⁰ In his early magazines *Modern Electrics*, *The Electrical Experimenter* (1908), *Radio News* (1919), and *Science and Invention*, he printed occasional stories, some issued technology and a few of them were primitive science fiction.

Thus, after seeing the popularity of such stories, which he first called “scientifiction” and then later “science fiction,” he began to publish science fiction stories. Gernsback, in his first editorial, talked about the scientifiction of Wells, Verne and Poe by suggesting that “the ideal proportion of a scientifiction story should be 75 percent literature interwoven with 25 percent science.”⁸¹ Then later, he changed his expression scientifiction by inventing the term “science fiction” in an editorial, in the June 1929 *Science Wonder Stories*. Before Gernsback, of course, there were science fiction stories, but it was Gernsback after whom science fiction became a genre.⁸² Thus, it can be said that Gernsback was a pioneering figure who makes the term a notable and formal genre.

Meanwhile, two terms emerged in the magazine era; hard science fiction and space opera. Hard science fiction, which was mostly written by scientists, was concerned with hard facts and hard sciences; thus the hard science fiction writer was interested in finding “new and unfamiliar scientific theories and discoveries which

⁸⁰ Parrinder, *H.G. Wells: The Critical Heritage*, p. 13.

⁸¹ Quoted by Landon, p. 51.

⁸² Landon, p. 53.

could provide the occasion a framework for introducing the scientific concept to the reader.”⁸³ In other words, knowledge of science and technology were central themes and hard science fiction was based on scientific knowledge external to the story. On the other side, the space opera concerned about “a melodramatic adventure-fantasy involving stock themes and setting is evolved on the flimsiest scientific basis” such as science fiction “films, TV serials and comic strips.”⁸⁴ That is, space opera weaved romantic and melodramatic adventure stories set in outer space and it was not related to soap opera or music. Edward Elmer Smith (1890-1965), also known as E. E. “Doc” Smith or “Skylark Smith” was the father of space opera and famous for his Lensman series and the Skylark series.⁸⁵

Most of the pulps had a reputation of alien invasion tradition. Roberts claims that pulps “have a reputation for a very different sort of fiction: for kinetic, fast-paced and exciting tales are also clumsily written, hurried in conception, and morally crude.”⁸⁶ For example, we see the repeated use of alien invasion of Wellsian type in which human being triumphs over alien menace as seen in Edgar Rice Burroughs’s *The Moon Maid* (1926), and *Buck Rogers in the 25th Century* (which first appeared in Philip Nowlan’s *Armageddon 2419* in 1929 and then in *Amazing Stories* during 1928-29) and in Robert A. Heinlein’s *Sixth Column* (1941), also known as *The Day After Tomorrow* by (published in a serial in *Astounding*), which deals with the Asian invasion of America. We can see the same characters, the alien type creatures as a reputation of the same scenario, so we could find the same ingredients in different stories of the pulp tradition.

After *Amazing Stories* reached a great number of readers thanks to its formula, other pulp publishers began to create their own science fiction magazines such as *Astounding Stories* (1930), *Astonishing Stories* (1931), *Marvel Science Stories* (1938), and *Startling Stories* (1939). The most important of these new publishers was John W. Campbell who published *Astounding Science-Fiction* in 1937 as a science fiction magazine editor. Before Campbell, the magazine’s editor was F. Orlin Tremaine who gave the name of *Astounding Stories* to the magazine, but later Campbell renamed it as

⁸³ Parrinder, *Science Fiction: its Criticism and Teaching*, pp. 13-15.

⁸⁴ Parrinder, *Science Fiction: its Criticism and Teaching*, p. 15.

⁸⁵ Joseph Sanders, *E. E. “Doc” Smith*, Wildside Press, LLC, Washington 2006.

⁸⁶ Roberts, p. 68.

Astounding Science-Fiction. The Golden Age of science fiction genre is often referred to the period that begins with the editorship of Campbell.

B. The Golden Age

The Golden Age of science fiction consists of a period from the late 1930s to the 1950s, but the period roughly began in 1937 when Campbell started the editorship of *Astounding Stories*.⁸⁷ Campbell argued that science fiction could educate people as well as entertaining them. He agreed to the idea that science should be intermingled with the story, but more than this, he believed that there should be more than machines and ideas in science fiction, such as the response and reaction of people to those ideas. Campbell edited such well-known science fiction writers like Isaac Asimov, Lester del Rey, Arthur C. Clarke, Heinlein, Theodore Sturgeon, A. E. Van Vogt, L. Sprague de Camp, L. Ron Hubbard, Clifford D. Simak, Jack Williamson, Henry Kuttner, and C. L. Moore.

David Hartwell claimed that “the real golden age of science fiction is twelve,”⁸⁸ alluding to the fact that the genre was discovered at the age of 12 and as Mike Ashley claims “by 1938, magazine science fiction was 12 years old and was about to enter its teens.”⁸⁹ Ashley argues that the year 1939 was a boom year of science fiction and “in 1938 the first signs of this boom came the appearance of *Marvel Science Stories* amongst the pulps and *Action Comics*, featuring Superman, amongst the comic books.”⁹⁰ Roberts argues that in America, there appeared a great deal of bad science fiction before the World War II,⁹¹ but as James claims, “American SF developed in maturity and complexity, and above all in sheer quantity”⁹² during the 1940s and 1950s.

Asimov regarded the genre of Campbell as social science fiction, which was interested in the impacts of scientific advance on human beings, thus he called

⁸⁷ Keith Booker and Anne-Marie Thomas, *The Science Fiction Handbook*, Wiley-Blackwell, West Sussex 2009, p. 326.

⁸⁸ James E. Gunn and Matthew Candelaria, *Speculations on Speculation: Theories of Science Fiction*, Scarecrow, Maryland 2005, p. 269.

⁸⁹ Mike Ashley, *The Time Machines: The Story of the Science-Fiction Pulp Magazines from the beginning to 1950*, Liverpool University, Liverpool 2000, p. 135.

⁹⁰ Ashley, p. 135.

⁹¹ Roberts, p. 75.

⁹² Edward James, *Science Fiction in the 20th Century*, Oxford University Press, Oxford 1994, p. 54.

Campbell the father of social science fiction.⁹³ Asimov was famous for both his social science fictions and hard science fictions and he was notable for his much imitated books, the Foundation series, set in a Galactic Empire. Asimov preferred to explain scientific concepts by using history as seen in his Foundation series. Asimov also coined the term “robotics” in his story “Liar” (1941). In addition to his Foundation series, Asimov published his robot stories many of which were collected in *I, Robot* (1950) telling the rules of ethics for robots. One of these robot stories “The Bicentennial Man” (1976) was made into a film starring Robin Williams in 1999 as well as *I, Robot* was made into a film starring Will Smith in 2004.

Heinlein was one of these writers who tried to show the realistic picture of the social developments of the age. Heinlein saw science fiction as “Realistic Future-Scene Fiction” and in his essay “Science Fiction: Its Nature, Faults and Virtues” (1959), he defined science fiction as a “realistic speculation about possible future events, based solidly on adequate knowledge of the real world, past and present, and on a thorough understanding of the nature and significance of the scientific method.”⁹⁴ With his editor Campbell, Heinlein improved his art of writing by stepping science fiction to a higher status.⁹⁵ In other words, Campbell supported the idea of avoidance from mysticism and the writers under his editorial could express his “vision of the orderly, knowable universe and the place of the scientifically minded man within it.”⁹⁶ Heinlein was one of these writers who created heroes for the *Astounding* using reason to solve the difficult problems as in his “The Roads Must Roll” (1940).

By investigating the social trends, writers published many stories “about telepathy and other forms of extrasensory perception, so-called ‘psi powers’” in the magazines of the 1940s and 1950s.⁹⁷ One of psionic writers that Campbell favored was Canadian A. E. Van Vogt (best known novel *Slan, Astounding Science Fiction*, 1940).⁹⁸ Besides Asimov’s Foundation series, Frank Herbert’s Dune series are also considered as to write Asimov’s concept of randomness of the historical process. Herbert’s most notable novel

⁹³ Isaac Asimov, “Social Science Fiction”, in *Turning Points: Essays on the Art of Science Fiction*, (Ed.), by Damon Knight, Harper & Row, New York 1977, p. 42.

⁹⁴ Robert Anson Heinlein, “Science Fiction: Its Nature, Faults and Virtues”, in *The Science Fiction Novel: Imagination and Social Criticism*, (Ed.), by Davenport Basil, Advent, Chicago 1959, p. 22.

⁹⁵ London, p. 39.

⁹⁶ Attebery, p. 38.

⁹⁷ Attebery, p. 40.

⁹⁸ Attebery, p. 40.

Dune (1995) was a landmark soft science fiction in which he addressed the future of humanity rather than the future of humanity's technology, so he suppressed technology deliberately. *Dune* was also the first major ecological science fiction in which we see the interaction of men with the climate, geography, and ecology.⁹⁹

After *Astounding*, the trend of publishing more personal voices and visions started and then a lot of magazines appeared around 1950s. *The Magazine of Fantasy and Science Fiction* (1949), *If* (1953) and *Amazing*, which appeared with a different editor Cele Goldsmith in 1956, were three challenging examples to *Astounding* by introducing new and untouched writers. On the British magazine side, the London-based *New Worlds* in which we see the tradition of speculative fiction beginning with Wells, first appeared as *Nova Terra*, but later transformed into the American mode in 1949. For instance, Arthur C. Clarke tried to "combine the efficient story-telling of American sf with Wells's social awareness and Olaf Stapledon's visionary grandeur" in his alien invasion story *Childhood's End* (1953), which first appeared as "Guardian Angel" (1950) in *New Worlds*. One name who gained much fame was John Wyndham. He became more famous with his paperback publication *The Day of the Triffids* (1951) among the British writers of 1950s and contributed to the magazine *New Worlds* with other writers as Brian Aldiss, John Brunner and J. G. Ballard. Thus, paperback publishing began to be important among science fiction writers. *Galaxy Science Fiction* magazine was founded by Horace L. Gold in 1950. It was "the most representative – and perhaps most important – sf magazine of the 1950s" in which a typical galaxy stories were published with certain central characters such as "the chain-smoking, rumpled-suit-wearing, martini-drinking" man or weak women characters some of whom "are aliens in disguise, and nearly all are inexplicable in their motivations and perceptions."¹⁰⁰

While the 1960s was nearly the end for the magazine science fiction, it was the beginning for the book format. However, without the earlier efforts of magazines, "the genre would not be what it has become."¹⁰¹ Thus, the science fiction genre shifted from the cheap publications of magazine era to the New Wave period. When science fiction

⁹⁹ Timothy O'Reilly, *Frank Herbert*, Ungar, New York 1981, p. 87.

¹⁰⁰ Attebery, p. 42.

¹⁰¹ Attebery, pp. 46-7.

novels reached the bestseller lists, science fiction scholarship grew up; thus, the number of science fiction movie fans increased and science fiction criticism flourished.

III. The New Wave Science Fiction

The term New Wave is derived from Françoise Giroud's term *nouvelle vague* that describes a group of young French film directors.¹⁰² However, in terms of science fiction Christopher Priest "appropriated the term for a sf almost equally disruptive, existentially fraught and formally daring that evolved around the British sf magazine *New Worlds* in the mid to late 1960s."¹⁰³ Likewise, Luckhurst asserts that in England the magazine *New Worlds* edited by Michael Moorcock was associated with the New Wave.¹⁰⁴ Moorcock aimed to redefine the term "speculative fantasy" and to promise nothing less than "an important revitalization of the literary mainstream."¹⁰⁵ Within American science fiction, Harlan Ellison joined to the New Wave science fiction with his *Dangerous Visions* collection in 1967. Both Ellison's and Moorcock's group considered Golden Age science fiction as "an exhausted mode of low culture, trapped in a ghetto of its own construction."¹⁰⁶ Thus, the course of the genre's history was changed by the New Wave. Writers of this New Wave were postwar generation and this New Wave saw important experimental science fiction novelists such as British ones; Moorcock, Ballard, Aldiss, Brunner, and Pamela Zoline, and American ones; Harlan Ellison, Philip K. Dick, Delany, Heinlein, Ursula Le Guin and Octavia Butler.

The New Wave science fiction of 1960s was regarded as "an era of generational dissent, crisis and rebellion"¹⁰⁷ and as "the emergent movement, a reaction against genre exhaustion but never quite formalized and often repudiated by its major exemplars."¹⁰⁸ As Nader Elhefnawy asserts, it "rebelled against the style and sensibility Campbell and

¹⁰² Damien Broderick, "New Wave and Backwash: 1960-1980", in *The Cambridge Companion to Science Fiction*, (Ed.), by Edward James and Farah Mendlesohn, Cambridge University Press, Cambridge 2003, pp. 49-50.

¹⁰³ Ibid, p. 50.

¹⁰⁴ Luckhurst, p. 141.

¹⁰⁵ Michael Moorcock, "A New Literature for the Space Age", *New Worlds*, 142(2-3), May/June, 1964, p. 3.

¹⁰⁶ Luckhurst, p. 142.

¹⁰⁷ Luckhurst, p. 141.

¹⁰⁸ Damien Broderick, *Unleashing the Strange: Twenty-First Century Science Fiction Literature*, p. 34.

his writers cultivated.”¹⁰⁹ Moorcock’s fellow revolutionary Ballard announced a manifesto statement in *New Worlds* in 1962 that the English New Wave turned from muscular adventures of outer space to psychological examinations of inner space.¹¹⁰ By the New Wave, there appeared a greater reliance on more fantastical approaches, and the central focus of hard science and technology was less on “inner” space than “outer” space. Some examples to these writers are Aldiss’s *Non-Stop* (1958), Robert Zelazny’s *Lord of Light* (1967), John Bruner’s *Stand on Zanzibar* (1969) and Moorcock’s *Dancers at the End of Time* sequence, and short stories like Harlan Ellison’s “‘Repent, Harlequin!’ Said the Ticktockman” (1965).¹¹¹ That is to say, from the late 1930s to the early 1960s, during the Golden Age period, science fiction was incoherent with the scientific realities, because then, the term science fiction suggested imaginative and futuristic fiction.¹¹² That is, there appeared skeptical technological solutions to the problems of social and environmental in the science fiction of the New Wave.¹¹³

In other words, the Golden Age of science fiction was a “quest for transcendence,” which was not effective in the sixties.¹¹⁴ Unlike Campbellian science fiction that included the physics and mechanistic psychology, Ballard supported new fiction that depended on “abstract” and “cool” sciences, “more meta-biological and meta-chemical concepts, private time-systems, synthetic psychologies and space-times, more of the remote, somber half-worlds one glimpses in the paintings of schizophrenics.”¹¹⁵ The New Wave science fiction was associated with modernist and postmodernist style of experimentalism in style, point of view, and narrative technique and gave more importance to prose style and characterization as seen in Ballard’s stories like “Terminal Beach” (1964) or “The Assassination Weapon” (1966); in Moorcock’s Jerry Cornelius novels and stories that use cut-up technique (Moorcock’s Cornelius mythos placed the myth making character, first appeared in *New Worlds* in 1965, at the heart of the British New Wave), in Pynchon’s *Gravity Rainbow* (1973) and

¹⁰⁹ Nader Elhefnawy, *After the New Wave: Science Fiction Since 1980*, CreateSpace Independent Publishing Platform, USA 2011, p. 10.

¹¹⁰ J. G. Ballard, “Which Way to Inner Space?”, *New Worlds*, 118, 1962, pp. 2-3.

¹¹¹ Elhefnawy, p. 11.

¹¹² Roberts, p. 82.

¹¹³ John Huntington, *Rationalizing Genius: Ideological Strategies in the Classic American Science Fiction Short Story*, Rutgers University, New Brunswick, NJ and London 1989, p. 2.

¹¹⁴ Damien Broderick, “New Wave and Backwash: 1960-1980”, p. 50.

¹¹⁵ Ballard, pp. 117-18.

in Doris Lessing's inner-space fiction *Briefing for a Descent into Hell* (1971). That is, the New Wave science fiction was formed in opposition to "the plain prose, straightforward narration, and idea-driven stories characteristic of the Golden Age."¹¹⁶

American New Wave science fiction witnessed pioneering figures such as Heinlein (the 'drop-out' hippy countercultural novel *Stranger in a Strange Land*, 1961),¹¹⁷ Tolkien (alien-populated science fiction landscape *The Lord of the Rings*, 1954-55),¹¹⁸ Herbert (ecological science fiction novel *Dune* (1965),¹¹⁹ black and gay Delany (confronted prejudice and illuminated Otherness novel *Triton*, 1976),¹²⁰ Dick (the philosophic depth and schizophrenic novels *Do Androids Dream of Electric Sheep?*, 1968 and *Ubik*, 1969),¹²¹ and Ellison. Ellison's science fiction short story anthology *Dangerous Visions* (1967) was conceived as a platform for speculative fiction and remained a turning point for the New Wave. Ellison's own short stories entered a rich stream in the late 1960s as well as teen gang fiction and Gothic horror.

When we come to the 1970s, we see that it has been a fruitful decade for science fiction. It is "a moment of breakthrough: the success of Moorcock's transformation of *New Worlds* and Ellison's *Dangerous Visions* project gave a new legitimacy to SF."¹²² The Scientific Research Association was founded in America in 1970, and the Science Fiction Foundation formed in England in 1972. *Science Fiction Studies* began in 1973 co-founded by Suvin, the International Association for the Fantastic in the Arts emerged in 1980 accelerated the academic legitimacy and institutional consolidation of by science fiction stressing on the cognitive estrangements of contemporary writers. Then, after *Star Trek* (1966-8), Hollywood turned to science fiction in the late 1970s such as George Lucas's *Star Wars* (1977), Stephen Spielberg's *Close Encounters*, as well as *ET*, *Jurassic Park*, the *Terminator* films, the *Alien* sequence and *Independence Day*.¹²³

Finally, unlike the white-male-oriented Golden Age science fiction, the New Wave science fiction gave way to the growth of writers of color as well as the rise of

¹¹⁶ Elhefnawy, p. 10.

¹¹⁷ Roberts, p. 63.

¹¹⁸ Luckhurst, p. 160.

¹¹⁹ Roberts, p. 34.

¹²⁰ Damien Broderick, "New Wave and Backwash: 1960-1980", p. 49.

¹²¹ Luckhurst, p. 162.

¹²² Luckhurst, p. 167.

¹²³ Roberts, p. 84.

women writers, such as the giants of today Ursula Le Guin and Octavia Butler or Zoline who appeared in *New Worlds*. It was the New Wave which caused huge changes “in the relationship of SF to mainstream writing, its engagement with cultural issues, its attitude toward science and technology, its treatment of sex, and its growing concern with the ‘soft’ sciences of psychology, sociology, and anthropology.”¹²⁴ To sum up, by the New Wave, science fiction has welcomed many diverse voices and colours as well as to other disciplines.

IV. The Fourth Wave Science Fiction

In the Fourth Wave, which is the period we are in now, science fiction writing has flourished and varied as it has never been before. The science fiction readership broadened and diffused, so science fiction was no longer a genre to amuse the adolescents. A number of science fiction magazines decreased and a number of books and novels written on science fiction increased accordingly. Moreover, people started to consume science fiction through films, computer games, and TV. This tendency towards media paved the way for industrialized science fiction. The movies and TV series such as *Star Trek* or *Star Wars* increased exponentially. Hence, we can say that Cyberpunk began to be famous at that time the nature of our real world began to be shaped by the Internet.

The term Cyberpunk was coined by science fiction writer Bruce Bethke in 1983 in order to “describe novels and stories about the information explosion of the 1980s (hence ‘Cyber,’ from cybernetics), most of them picturing a dense, urban, confusing new world in which most of us will find that we have been disenfranchised from any real power (hence ‘punk’).”¹²⁵ The term “cyber” pertains to information systems and the term “punk” refers to fractious youth, so these two terms together suggest “an artificial human with torn clothes and spiky hair, and something very close to that image can be seen”¹²⁶ in the characters of Cyberpunk novels. Cyberpunk begins with Gibson’s *Neuromancer* (1984) which explores the impact of technology on subjectivity and

¹²⁴ Landon, p. 150.

¹²⁵ John Clute, “Science fiction from 1980 to the present”, in *The Cambridge Companion to Science Fiction*, (Ed.), by Edward James and Farah Mendlesohn, Cambridge University Press, Cambridge 2003, p. 67.

¹²⁶ Attebery, *Teacher’s Guide to Accompany The Norton Book of Science Fiction*, p. 11.

Gibson sets “the stylistic markers of Cyberpunk’s narrative conventions, which are dominated by the interface of computers and humans.”¹²⁷ Some notable examples of Cyberpunk narratives are Gene Wolfe’s *The Book of the New Sun* (far future tales), *The Book of the Long Sun* and *The Book of the Short Sun*,¹²⁸ and Vengor Vinge’s “True Names” (1981).¹²⁹ Thereby, the Cyberpunks, especially the most famous ones written by Gibson, present “tales of seedy loners and losers navigating bleak landscapes, rendered in razor-sharp prose, just might be expected of New Wave,” but 1980s presented social trends such as “the stories reflecting the influences of the neoliberalism, post-industrialism and globalization remarking our social and economic life.”¹³⁰ Thus, “rather than fading away as the New Wave did, cyberpunk evolved into ‘post-cyberpunk,’ a subgenre rather than a movement.”¹³¹

According to Elhefnawy, science fiction writers from the 1980s to the present “followed three paths in particular. The first is a synthesis of the ideas and approaches of New Wave and hard science fiction; the second, a sophisticated use of self-reference; and the third, the creative use of the historical past.”¹³² Firstly, some examples of the starting point of synthesis of the older and newer traditions in the New Wave were John Varley’s *The Ophihuchi Hotline* (1977) and Gregory Benford’s *Timescape* (1980). On the other side, in the 1980s, we saw increasingly self-conscious and explicit synthesis such as combining radical and hard science fiction with contemporary science and technology.¹³³ In the same way, Bruce Sterling in his editorial newsletter, *Cheap Truth*, agreed about the influence of the previous ideas and approaches of the New Wave and hard science fiction on Cyberpunk.¹³⁴ Sterling identified a core group of Cyberpunks in his preface to *Mirrorshades: The Cyberpunk Anthology* (1988): Gibson, Rudy Rucker, Lewis Shiner, John Shirley and Pat Cadigan (the only woman in the anthology). Sterling asserts that the group as “the definite product” of the “Eighties milieu” grew up “not only within the literary tradition of science fiction but in a truly classical science

¹²⁷ Patricia Melzer, *Alien Constructions: Science Fiction and Feminist Thought*, University of Texas, Austin, TX 2006, pp. 6-7.

¹²⁸ Melzer, p. 69.

¹²⁹ Melzer, p. 71.

¹³⁰ Elhefnawy, p. 14.

¹³¹ Elhefnawy, p. 14.

¹³² Elhefnawy, p. 13.

¹³³ Elhefnawy, p. 13.

¹³⁴ Bruce Sterling, “Preface”, in *Mirrorshades: The Cyberpunk Anthology*, (Ed.), by Bruce Sterlin, Arbor House, New York 1986, p. viii.

fictional world.”¹³⁵ We see hybridity in the group: they use hard science fiction traditions as well as literary experiments (derived from the New Wave), both of which are interested in subjective mental states; that is, they combine “the technical revolution reshaping our society,” that is, cyber and “the underground world of pop culture...and street-level anarchy,” that is, punk.¹³⁶ Cyberpunk plots often deal with the agents such as hackers, AIs and virtual selves in a setting of near future Earth instead of far future galactic spaces and the online setting in cyberspace breaks down the boundary between actual and virtual reality.

Besides the synthesis of New Wave and hard science fiction as Cyberpunk, the New Space Opera or the New Weird was the other most evident and productive synthesis of New Wave and hard science fiction. Between 1980 and 2000, science fiction became New Space Opera. The stories of this New Space Opera can resemble the classic space opera with its epic scope, but it evokes pessimism about humanity’s future. In other words, the New Space Opera embraces “extreme variety in forms of intelligent life – humans, aliens, machines or combinations thereof – crafted by evolution, technology or bioengineering,” rather than just featuring only humans and humanoid aliens. In this New Space Opera universe, humans are not dominant, and we see other means of transportation rather than starships or spaceships.¹³⁷ In the late 1980s, we see the major revival of the form, but this American sub-genre reappeared in Britain with writers who tried to wake up the New Wave’s avant-garde ambitions.¹³⁸ In America, we cannot talk about some kind of return to space opera because the form never fully disappeared; so this New Space Opera was associated with British science fiction after the New Wave. At the end of 1980s and in the 1990s, we see a cluster of British New Space Opera works by Ian Banks, Paul McAuley, Colin Greenland, Stephen Baxter, Peter Hamilton, Harrison, Alastair Reynolds, Ken Macleod, Justina Robson and John Clute. On the other side, American writers made very important contributions to this sub-genre as well with such notable writers like Dan Simmons, Sterling, Orson Scott Card, Greg Bear and Kim Stanley Robinson.

¹³⁵ Sterling, p. vii.

¹³⁶ Sterling, p. x.

¹³⁷ Gary Westfahl, “Space Opera”, in *The Cambridge Companion to Science Fiction*, (Ed.), by Edward James and Farah Mendlesohn, Cambridge University Press, Cambridge 2003, p. 206.

¹³⁸ Luckhurst, p. 222.

Finally, the New Space Opera or the New Weird were the famous trends within 1990s American and British science fiction, which responded “to the intensification and global extension of technological modernity not with new forms, but rather with ones lifted from the genre’s venerable past.”¹³⁹ That is, 1990s science fiction revived modes from the 1920s and 1930s or the science fiction genre’s apocalyptic scenes from the 1890s on. For example, pastiche alien invasion fantasies are borrowed from the 1950s B-movie idioms as seen in movies *Independence Day* (1996), *Mars Attacks!* (1996), *Godzilla* (1998). Another example in novel form is Robinson’s *Mars* trilogy (1992-6) which shows the Martian planetary romance. Shortly, 1990s science fiction is pastiche, repetition, “a consolidation and rejuvenation.”¹⁴⁰

The second issue Elhefnawy asserts is that there was a sophisticated use of self-reference by the writers of 1980s. He claims that new writers consciously step in a tradition by playing with that tradition through in-jokes and self-reference.¹⁴¹ For example, Rucker in his *Software* (1982) and *Wetware* (1988) stressed on Asimov’s robotic laws. Such kind of self-reference examples continued and among 2008’s releases, we see Elizabeth Bear’s “Shoggoths in Bloom,” John Kessel’s novelette “Pride and Prometheus” in which Frankenstein meets Jane Austen’s Bennett family, Cory Doctorow’s *Little Brother*, and Charles Stross’s *Saturn’s Children*, which is a late period homage to Heinlein’s *Friday* (1982).

Thirdly, retro-futurism or alternate history boomed in the 1980s and 1990s. That is, “Besides synthesizing new futures out of principally older elements, and making an art form out of self-reference, the preoccupation with the past increasingly drove writers to invent new pasts— and also, the futures that might have followed from them.”¹⁴² Steampunk and retro-futurism are often set in the 19th century or post-apocalyptic environment and they are blended from the alternate history and retro-futurism. Retro-futurism is often seen as associated with historical counterfactuals or with the futurology of an earlier period. However, much of retro-futurism is based on self-reference because the ultimate self-reference refers to the earlier science fiction which

¹³⁹ Luckhurst, p. 221.

¹⁴⁰ Luckhurst, p. 222.

¹⁴¹ Elhefnawy, p. 15.

¹⁴² Elhefnawy, p. 15.

founded many of the worlds in these stories.¹⁴³ Thus, the post-Cyberpunk writers often wrote in steampunk way; Rucker in *The Hollow Earth* (1990), Gibson and Sterling in *The Difference Engine* (1991), Paul Di Filippo in *Steampunk Trilogy* (he was the first to use the word steampunk, 1995), Neil Stephenson in the 1995 Cyberpunk steampunk combination novel *The Diamond Age* (after his post-Cyberpunk novel *Snow Crash* in 1992), Charles Stross in *Singularity Sky* (2003) and *Missile Gap* (issued 1960s atompunk, 2007).

Thereby, from 1990s to the present, British science fiction has felt a boom with such notable writers who have combined science fiction with other genres: Gwyneth Jones in her *Bold as Love* (2001) combined science fiction, fantasy and horror fiction with a feminist view, China Mieville in her weird fiction *Perdido Street Station* (2000) used Marxism and contemporary literary theory and won both science fiction and fantasy awards in 2000, and Stephen Baxter in Darwinian epic *Evolution* (2002) used the tradition of Wells, Stapledon, and Clarke. In other words, in the new millennium we see the mixture of genres and “recombinant genre fiction”; stories not only borrow materials and techniques from previous literary traditions and even use domestic realism traditions, but also decompose and reconstitute these genre materials and techniques effectively.¹⁴⁴ Hence, today it is difficult to name a work of art solely science fiction, fantasy, or gothic. On the other side, hybridity has always hidden in science fiction even in its earliest emergence in the late 19th century when in the 1880s and 1890s contemporary genres emerged such as spy fiction, horror, detective fiction, and science fiction. That is, science fiction “has turned full circle” and “the genre has always been a mixed, hybrid, bastard form, in a process of constant change.”¹⁴⁵ For this reason, some genres or approaches like TechnoFeminism bring different but correlative movements, genres or discourses together. TechnoFeminism, the combination of cyberfeminism and cyborg feminism, will be examined as a new approach to contemporary feminist science fiction in the following chapter.

Consequently, after giving some definitions of the term science fiction and presenting information about the history of science fiction in this introduction chapter,

¹⁴³ Elhefnawy, p. 17.

¹⁴⁴ Gary K. Wolfe, “Malebolge, or the Ordnance of Genre”, *Conjunctions 39: The New Wave Fabulists*, 2002, p. 415.

¹⁴⁵ Luckhurst, p. 243.

we will explain the herstory of science fiction —women/feminist science fiction from the proto-women science fiction up to the present techno-digital age— in the first chapter. In the second chapter, we will examine Judith Wajcman’s TechnoFeminist approach that we have brought it together with contemporary feminist science fiction, and so used the term TechnoFeminist Science Fiction. Finally, the last chapter will explore the analysis of TechnoFeminist Science Fiction novels *Natural History* by Justina Robson and *Correspondence* by Sue Thomas, which demonstrate the impact of technology and science on the lives of women through the internet, regenerative technologies, communication technologies, nanotechnology, biotechnology, genetic engineering, etc. Both Robson and Sue use the landscape of cyberspace and virtual realities as well as the characterization of cyber self and cyborg embodiment through breaking down the boundary oppositions between human and machine, human and animal/organism, and physical and non-physical organisms. Thus, the aim of this study is to examine the contributions of TechnoFeminism to contemporary British feminist science fiction writing.

CHAPTER ONE

HISTORY OF WOMEN/FEMINIST SCIENCE FICTION

Feminist science fiction is one of the most notable features of contemporary science fiction genre. This chapter evaluates science fiction's emphasis on gender from the First Wave feminist theory to the present time. It also reviews the history of proto-feminist or women's science fiction, the First Wave feminist science fiction (pulp/magazine era women science fiction), the Second Wave feminist science fiction (the New Wave women science fiction, and the birth of the Feminist Science Fiction in 1970s), the Third Wave feminist science fiction (Cyberpunk era), and the Forth Wave feminist science fiction (the New Millennium feminist science fiction, technoscience, TechnoFeminist Science Fiction, from 1990 to the present).

In order to explore social relations, feminists increasingly employ science fiction narratives, so they recognize political implications of science fiction.¹⁴⁶ Patricia Melzer claims, "both science fiction texts and feminist theories conceptualize issues of difference, globalization, and technoscience that increasingly affect women's lives and both are concerned with contested boundaries and definitions of bodies and cultural/social territories" so, because of this reason, "feminist writings (and readings) of science fiction can be understood as part of a feminist criticism of existing power relations."¹⁴⁷ For example, cyber theorists Donna Haraway and Sadie Plant are interested in the effects of science and technology on women's lives and queer feminists Teresa de Lauretis and Judith Butler are concerned with the subject and gender construction. That is, Melzer argues that science fiction, because of its particular narrative mode, remained valuable for feminists:

Two textual aspects that define science fiction are the *structures and/or narrative devices* that constitute its mode, on one hand, and *themes and approaches* on the other. Several structures and narrative devices of science fiction have been identified in classical science fiction criticism, such as the element of estrangement, or the confrontation of normative systems/perspectives, and the implication of new sets of norms that result in the factual reporting of fiction. Spatial and temporal displacement as well as

¹⁴⁶ Melzer, p.4.

¹⁴⁷ Melzer, p.4.

absent paradigms that structure the reading process is typical for science fiction. Also characteristic for science fiction are “worlds,” or systems of representation that create the freedom to voice assumptions otherwise restricted by a realist narrative frame, and the geographic displacement of identity formations.¹⁴⁸

Science fiction is regarded as a male dominated genre, but Melzer stresses on women writers’ constant inclusion to the genre often by claiming that the narrative style of science fiction is open to feminist appropriation.¹⁴⁹ In the same way, Eric Leif Davin argues that, until the mid/late 1960s or early 1970s, during the Second Wave women’s science fiction, we do not see the existence of women science fiction writers.¹⁵⁰ However, he says that the door of the genre “had always been open and women had always been active participants ever since the dim and obscure origins of the literature which eventually came to be called science fiction.”¹⁵¹ He claims that there were women such as Lady Margaret Cavendish (1666), Mary Wollstonecraft Shelly (1818), Jane Webb Loudon (1827), and Mary Griffith (1836) writing fantasy and science fiction long before the term was invented.¹⁵²

Davin also underlines Roger C. Schlobin’s list of additional 375 female authors from 1962 to 1982 over a course of almost 300 years, as well as their collections, anthologies and science fiction novels in 830 book-length English language.¹⁵³ As a term, science fiction did not exist before its invention in 1929; the works of women writers can be regarded as proto-science fiction as the works of Verne and Wells. Cavendish, the Duchess of Newcastle, is regarded as the first female science fiction writer by some and her prose romance *The Description of a New World, Called The Blazing World* (1666) is the first female utopian novel, which is among the earlier examples of science fiction.

Many critics cite the root of science fiction as Shelley’s *Frankenstein* (1818) which was also one of the proto examples of science fiction along with *The Last Man* (1826). Loudon was one of the followers of Shelley and *The Mummy! A Tale of the*

¹⁴⁸ Melzer, p. 2.

¹⁴⁹ Melzer, p. 7.

¹⁵⁰ Eric Leif Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, Lexington Books, Lanham, MD 2006, p. 57.

¹⁵¹ Davin, p. 57.

¹⁵² Davin, “Science Fiction, 1900-1959: Novels and Short Fiction”, p. 45.

¹⁵³ Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, p. 58.

Twenty-Second Century (1827) is about speculative future inventions such as moving houses, barrels of air, stage balloon, mail-post letter-ball, moving houses. Loudon foresees changes in fashion as well; for instance, her court ladies wear trousers. Mary Griffith's *Three Hundred Years Hence* (1836), in which a hero awakens from a deep sleep into a future utopian state, is regarded as the first utopian novel which was written by an American woman. In America, this utopian speculation was engaged with the first feminist movement that took place at a convention in Seneca Falls in 1848. For example, Jane Sophia Appleton talked about women's rights in her 22 page utopia, "Sequel to the Vision of Bangor in the Twentieth Century" (1848) in *Voices from the Kenduskeag*. In the same way, Charlotte Perkins Gilman wrote for women's rights in her utopian trilogy *Moving the Mountain* (1911), *Herland* (1915) and *With Her in Ourland* (1916).

In the Victorian era, female writers such as Mrs. J. H. Riddell, Amelia B. Edwards, Elizabeth Gaskell, Mary Wilkins Freeman, Sarah Orne Jewett, Harriet Prescott Spofford and Edith Wharton existed as the authors of ghost stories weaving science fictional features. For example, Spofford creates an object that helps people to pass through solid matter in her "The Ray of Displacement" (published in *Metropolitan Magazine* in October 1903). In the story, a nameless narrator discovers the Y-ray that opens up interatomic spaces and when he is sent into prison for theft, he leaves the prison by walking through the walls periodically in order to work in his laboratory. Later, in the spiritualist movement of the twentieth century, female writers appeared as spiritualist writers like Sara Weiss. Weiss's spiritualism in her *Decimon Huydas, a Romance of Mars: A Story of Actual Experiences into Ento, Mars, Many Centuries Ago Given to the Psychic* (1906) could be now called science fiction. In Virginia Woolf's *Orlando* (1928), we encounter sex changes several times. Shortly, female writers, long before the term science fiction started to be used, featured some science fiction elements to express things that could not be expressed in any other medium.

1.1. THE FIRST WAVE WOMEN'S SCIENCE FICTION (THE MAGAZINE/PULP ERA, 1920s-1950s)

The First Wave women's science fiction appeared in the birth of magazine form, grew throughout 1930s and 1940s, and matured in 1950s "when it evolved into a

recognizable ‘female counter-culture’ to the dominant male culture.”¹⁵⁴ During the magazine era, some proto-science fiction by female writers appeared in pulp-fiction form. Women writers were interested in the adventure pulps such as detective fiction. In 1866, Metta Victoria Fuller Victor, under the name of “Seeley Regester”, published the first detective novel, *The Dead Letter*. Another detective fiction was *The Leavenworth Case* (1878) by Anna Katharine Green. Between the years of two World Wars, women writers such as Agatha Christie, Dorothy L. Sayers, Josephine Tey, Ngaio Marsh and Margery Allingham dominated in detective fiction genre. Women writers also appeared in pulp crime fiction. As Davin asserts, “although presumed to be entirely a ‘man’s world,’ detective pulps regularly featured female authors writing under their own name, including such well-known authors as Sayer, Carolyn Wells, and Christie.”¹⁵⁵ For example, some American detective pulps such as *Detective Fiction Weekly*, *Mystery Magazine*, *Flynn’s Weekly*, and *Street & Smith’s Detective Story*¹⁵⁶ published some of Christie’s novels and twenty of her short stories and she published in other magazines like *Ghost Stories* and *Blue Mask*, as well.

Black Mask, one of the famous detective pulps, regularly published the works of female authors under their own names such as Florence M. Pettee, Elizabeth Dudley, Sally Dixon Wright, Eliza Mae Harvey, Helen Holley, Wyona Dashwood, and Marjorie Stoneman Douglas, Marian O’Hearn, Kay Krausse, Leigh Brackett, Frances Beck, Tiah Devitt, Dorothy Dunn. Some of them later made their names in science fiction, for example, Brackett wrote hard-boiled detective fiction between 1943 and 1945 and “Hollywood hired her in 1946 to co-author, with William Faulkner, the screenplay of Chandler’s classic novel, *The Big Sleep*, which became the film of the same name starring Humphrey Bogard and Lauren Bacall.”¹⁵⁷ Nevertheless, women authors in pulp-fiction could be classified as proto-science fiction writers as they held science fiction elements in their works. For example, Katherine Kip published her short story “My Invisible Friend” in the *Black Cat* (February 1897) which tells the story of a scientist’s invention of liquid that causes the invisibility as Wells’s *The Invisible Man*, but printed before it. In the same way, Octavia Zollicoffer Bond’s “A Rule That Worked

¹⁵⁴ Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, p. 57.

¹⁵⁵ Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, p. 60.

¹⁵⁶ Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, p. 60.

¹⁵⁷ Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, p. 61.

Both Ways” (1904), published in *The Black Cat*, was about a machine that leads a person to disappear.

In December 1898, another proto-science fiction story, “Where the Air Quivered”, was published in *The Strand Magazine* by Irish British writer Elizabeth Thomasina Meade Smith (L. T. Meade) and Robert Eustace which told about a new scientific invention, a scroll, which predicted the purpose of committing crime. Along with Eustace, Meade was also a mystery writer and considered as “the first writer to feature a female villain in a series of stories”¹⁵⁸ such as *The Brotherhood of the Seven Kings* (1899) and her collection *The Sorceress of the Strand* (1903). Another name that could be given in science fiction was Margaret P. Montague; her science fiction story “The Great Sleep Tanks” is concerned with the scientific speculation of tangibility of sleep in huge tanks, in *The-All Story Magazine*, January 1905. Other early pulp magazine writer Gertrude Barrows Bennett (under the name of Francis Stevens) was regarded as the most important science fiction American writer since Shelley in England. Her “Friend Island” (*All-Story Weekly*, September 7, 1918) creates a parallel universe by which abolishes gender roles and in her “The Heads of Cerberus” (*The Thrill Book*, August 15-October 15, 1919), she creates another parallel universe as later does William F. Jenkins (Murray Leinster), an award winning American science fiction writer, in his “Sidewise in Time” (*Astounding Stories*, June, 1934). Today, for this type of story the “Sidewise Award” is given, the name of the male writer’s work not the name of the woman inventor’s as “Cerberus Award.” This unfortunately shows that the early women science fiction writers’ contributions have been forgotten or have not been taken seriously enough attention.

A number of historians have often regarded the importance of women in pulp science fiction as weak. For example, Lisa Tuttle claims that the contributions of women “were not substantial until the late 1960s,”¹⁵⁹ Curtis Smith regards pulp women writers “as voluptuous and helpless objects on the lurid pulp covers”¹⁶⁰ and Melzer says that in the early science fiction, “in general the number of women writers was

¹⁵⁸ Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, p. 61.

¹⁵⁹ Lisa Tuttle, “Women SF Writers”, in *Encyclopedia of Science Fiction*, (Ed.), by John Clute and Peter Nicholls, St. Martin’s Press, New York 1993, p. 1344.

¹⁶⁰ Curtis C. Smith (Ed.), *Twentieth-Century Science-Fiction Writers*, 2nd ed., St. James, Chicago 1986, p. viii.

considerably lower than that of their male counterparts.”¹⁶¹ However, several critics and scholars in the last decades have accepted the presence of women in the early science fiction pulps such as Pamela Sargent who demonstrated Bennett’s (with the pseudonym of Francis Stevens) and of C. L. Moore’s contributions to the early pulp magazines,¹⁶² and Susan Gubar¹⁶³ and Sarah Gamble¹⁶⁴ stressed on Moore’s contributions in their articles.

According to Jane Donawerth, Clare Winger Harris’s “The Fate of the Poseidonia” (*Amazing Stories*, June, 1927) was the first woman’s short story in science fiction pulp era only a year after the term science fiction was invented. It was selected by Gernsback as the short scientifiction story among the more than three hundred stories in a story contest by winning the third prize.¹⁶⁵ Donawerth claims that the story “looks anxiously to the future, fearing illicit reproduction in the guise both of alien-human romance and of interplanetary televisual communication.”¹⁶⁶ She used futuristic science in the story that we see personal aircraft, interplanetary travel and televisual communication, and magnetic tractor beams. She wrote in the time of domination of male writers in the genre and she brought feminine strength to the pulps by offering visions of science that did not only belong to white men.¹⁶⁷

Some critics claimed that women authors of the magazine era hid their gender behind male names or deliberately concealed their sexual identity by using initials such as C. L. Moore instead of Catherine Lucille (Moore wrote pulp science fiction in the 1940s), K. Raymond (Kaye), A. R. Long (Amelia Reynolds), M. F. Rupert (Margaret), I. M. Stephens, E. Mayne Hull. However, some famous male writers were also used to use initials such as H. G. Wells, E. E. Smith, J. G. Ballard, J. R. R. Tolkien, etc., so using initials is not related to isolation. Melzer asserts that the early science fiction

¹⁶¹ Melzer, p. 7.

¹⁶² Pamela Sargent, (Ed.), *Women of Wonder: Science Fiction Stories by Women about Women*, Random House, New York 1974, pp. xvi-xx.

¹⁶³ Susan Gubar, “C. L. Moore and the Conventions of Women’s Science Fiction”, *Science Fiction Studies*, 7(1), 1980, pp. 16-27.

¹⁶⁴ Sarah Gamble, “‘Shamblau...and others’: The Role of the Female in the Fiction of C. L. Moore”, in *Where No Man Has Gone Before*, (Ed.), Lucie Armitt, Routledge, New York 1991, pp. 29-49.

¹⁶⁵ Jane Donawerth, “Illicit Reproduction: Clare Winger Harris’s ‘The Fate of the Poseidonia’”, in *Daughters of Earth: Feminist Science Fiction in the Twentieth Century*, (Ed.), by Justine Larbalestier, Wesleyan University Press, Middletown, CT 2006, p. 20.

¹⁶⁶ Donawerth, p. 20.

¹⁶⁷ Donawerth, p. 23.

witnessed women writers who wrote under gender-neutral pseudonyms and the number of women writers was less than that of male ones.¹⁶⁸ In other words, we cannot strictly claim that early women science fiction writers wrote under a male pseudonym, under gender-neutral pseudonyms or deliberately tried to conceal their gender identities. Davin claims, “*there is not a single instance, anytime, anywhere, of a solo woman publishing an original story under a male pseudonym in the early science fiction magazines. This universally accepted claim is a total fabrication*” and he asserts that there were only four women who published, “under what might be considered androgynous names.”¹⁶⁹ Lee Hawkins Garby, “Leslie Perri” (Doris Marie Claire “Doë” Baumgardt), Leslie P. Stone and Brackett, but all of them were recognized as women.

Firstly, Garby was the collaborator with E. E. Smith on “Skylark of Space” but even the feminist historians have not noticed her. Smith mentioned about her as Mrs. Garby in the “Author’s Note” of the “Skylark Three” (*Astounding Stories*, August 1930) and when “The Skylark of Space” was published as a book, Smith identified her in the title page as “Mrs. Lee Hawkins Garby”. That is, “no one feared that knowledge of either the co-author’s sex or marital status would alienate readers— and no one tried to conceal it in connection with the sole story she published.”¹⁷⁰ Secondly, Baumgardt as the member of the Futurian science fiction club during the 1930s used her fan name Leslie Perri and under this name, she wrote for the Futurian fanzines. She was one of the five Futurians (with Isaac Asimov, Richard Wilson, David Kyle and Jack Robinson) who were allowed to the First World Science Fiction Convention held in 1939. The founding member of the Fantasy Amateur Press Association (FAPA) was Perri, and she was well-known by the fans of science fiction. She published her single story “Space Episode” in the magazine *Future combined with Science Fiction* (issue of December, 1941). Hence, she used a nickname but everyone knew her gender and real name.

Thirdly, Stone was never known by her surname Stone which might be thought of a male name, but her first name, Leslie, was considered to be a masculine name too. In any case, her gender was known from the beginning of her career. For example, for her story “Women with Wings” (*Air Wonder Stories*, May 1930), she was referred to “Miss

¹⁶⁸ Melzer, p. 7.

¹⁶⁹ Melzer, pp. 100-1.

¹⁷⁰ Melzer, p. 101.

Stone” and she used her picture in her stories, such as “The Conquest of Gola” (*Wonder Stories*, April, 1931), “The Hell Planet” (*Wonder Stories*, June 1932) and “Gulliver, 300 A. D.” (*Wonder Stories*, May 1933). In most of her works, gender roles are very important to Stone. For example, in the gender-reversal story “The Conquest of Gola,” the female telepathic, alien in form of Golans, defeats out the male aggressive, profit-minded humans. Brian Attebery says that Stone “was not the first woman to write for the science fiction pulp magazines but she was one of the genre’s first female stars.”¹⁷¹ At last, as Brackett was known physically among the fans and readers, it cannot be said that she isolated herself because of her gender; that is, she was known as a female writer in the community. Her science fiction can be characterized as space opera or planetary romance as seen in an adventure story “Black Amazon of Mars” (*Planet Stories*, March 1951).

Meanwhile, women took place as editors, cover designers and fans, as well. The science fiction and fantasy pulp magazine *Weird Tales* (1923-54) gave its editorship, after Edwin Baird and Farnsworth Wright, to a woman editor named Dorothy McIlwraith in 1940 (who started her editorial assistant career in 1938). Even before the editorship of McIlwraith, Baird hired the fashion designer Margaret Brundage to produce the magazine’s cover illustrations in 1933, so Brundage became the first female cover artist of the pulp area with her striking images of nude or semi-nude women in provocative poses. The magazine’s readership was also mostly females in accordance to the judgment of Davin who counted the gender of letter writers to the magazine and the club members.¹⁷² Furthermore, the magazine with mostly male editorship published several stories of women writers even from the first issue in March 1923 with Meredith Davis’s “The Accusing Voice.” Davin asserts that we can even see female authors among the most male-dominated science fiction magazines such as *Planet Stories* (1939-55) in which the most “juvenile space opera adventure stories” of the age were published and five percent of all authors were female. In another magazine, *Galaxy*, women writers published as well and “more than 10 percent of authors published in *Galaxy* between 1950 and 1960 were female, while 16 percent of the authors published in *The Magazine of Fantasy and Science Fiction* between 1949 and 1960 were women,

¹⁷¹ Attebery, “The Conquest of Gernsback: Leslie F. Stone and the Subversion of Science Fiction Tropes”, p. 50.

¹⁷² Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, pp. 65-6.

a figure comparable with the 17 percent in *Weird Tales*.”¹⁷³ In any case, unlike the women readership of science fiction magazines, women writers were a minority until the Third Wave science fiction. Davin asserts that, before 1950, the science fiction genre saw the minority status of women writers who did not make the period all that different from the ones who made themselves felt in the field during the more enlightened times, the 1970s, when women’s movement started their actions.¹⁷⁴ According to his calculation:

Six female authors appeared in the science fiction magazines in the three years of the 1920s during which these magazines existed. In the 1930s, the number of female authors quadrupled to twenty-five. In the 1940s, the number again climbed visually doubling to forty-seven. And in the 1950s, the number of known female authors more than tripled, to 155 for that decade. In all, excluding the authors who appeared in *Weird Tales* and other fantasy magazines, 204 female-identifiable authors appeared in the explicitly science fiction magazines between 1927 (Harris’ debut) and 1960, inclusive. Were the authors from the fantasy magazines to be included, the number would be, of course, much higher. The same steady and regular increase over the decades in the number of stories women published were seen. In total, 923 known female-authored stories appeared in the science fiction magazines between 1927 and 1960.¹⁷⁵

That is, we see doubling, tripling or quadrupling of female participation into the field raised over the decades from 1926, the time of *Amazing Stories* appeared as the first science fiction magazine, to 1960. These stories were, of course, different from the male science fiction in terms of themes and concerns. For example, one of the differences is that early women’s science fiction featured the “tradition of socialist and feminist utopias, which appeared in the pulps— and nowhere else— between 1920 and 1950.”¹⁷⁶ As America was in great economic and social chaos between the Civil War and World War I, its literature demonstrated these reflections. Hence, we see both dystopian novels on death, depression, destruction and specifically utopian with a theme of creating a better world such as Edward Bellamy’s *Looking Backward from the Year 2000* (1888), Mary E. Bradley Lane’s *Mizora: A Prophecy* (1889), W. H. Bishop’s *The Garden of Eden, USA* (1894), and Gilman’s *Herland* (1915).

¹⁷³ Davin “Science Fiction, 1900-1959: Novels and Short Fiction”, p. 48.

¹⁷⁴ Davin, *Partners in Wonder: Women and the Birth of Science Fiction, 1926-1965*, p. 69.

¹⁷⁵ Davin “Science Fiction, 1900-1959: Novels and Short Fiction”, pp. 48-9.

¹⁷⁶ Davin “Science Fiction, 1900-1959: Novels and Short Fiction”, pp. 48-9.

Besides, the social speculations of women magazine authors were different from the earlier utopian authors' speculations in terms of explicitly exploring feminist social arrangements for the first time. Those authors who weaved strong female characters became active agents in their own rights for the sake of social transformation by breaking the conventional stereotype of True Womanhood envisioned in egalitarian gender relations.¹⁷⁷ That is, they were different from the late 19th century utopian prophecies in terms of their themes and treatment of gender relations, but they echoed the Second Wave feminism which emerged in the late 1960s and early 1970s. In other words, they were early examples of writing to raise the consciousness of women as was the mission of the Second Wave Feminism as such a militant suffragist Inez Haynez Gillmore depicted a feminist fantasy in her "Abgel Island" (*Famous Fantastic Mysteries*, February 1949). In the same way, as stated before, in her "Friend Island" (*All-Story Weekly*, September, 1918) she portrayed a gender egalitarian society. Another feminist story that came with the emergence of science fiction magazines in 1926 was M. F. Rupert's "Via the Hewitt Ray" (*Wonder Stories Quarterly*, Spring, 1930) which depicted a world ruled by women. Rupert uses the word feminism (which was coined in 1910 in Greenwich Village and then was spread in the 1920s by the "New Women") that shows her awareness of the feminist movement. The other examples of new gender roles are Harris's "The Ape Cycle" (*Science Wonder Quarterly*, Spring 1930) in which we see a woman airplane mechanic and pilot and Stone's "Out of the Void" (*Amazing Stories*, August-September, 1929), whose protagonist is a woman astronaut for the first Mars rocket.

The other theme or concern is that, unlike male authors, women authors depicted their feminine approach in creating aliens as normal, sympathetic or empathetic terms. For example, in Wilmar H. Shiras's novella "In Hiding" (*Astounding*, November, 1948), the extraordinary gifted mutant children are living as normal humans secretly and Shiras depicted these children as normal. This story and its other two sequels "Opening Doors" and "New Foundations" (*Astounding*, March, 1949) were later published in her novel *Children of the Atom* (1953). Harris in her "The Miracle of the Lily" shows empathy and acceptance to the nonhumans by questioning what human is at the end of the story. That is, unlike male authors' stereotypical creation of aliens as

¹⁷⁷ Davin "Science Fiction, 1900-1959: Novels and Short Fiction", p. 49.

the bug-eyed monsters, women authors like Harris showed empathy to these nonhuman creatures. Moore in her “Shambleau” (*Weird Tales*, November, 1933) shows the Medusa-like female alien gorgon Shambleau as sympathetic and in her “The Bright Illusion” (*Astounding*, October, 1934) depicts the female alien as empathetic.

Davin argues that the reason of portraying aliens so empathetically by early women writers might be that the theme of cooperation and community in general was more emphasized in their stories than male-authored stories.¹⁷⁸ The stories of Zenna Henderson and Madeleine L’Engle can be given as other examples. The 1950s most famous American science fiction writer Henderson in her community and communication stories as “The People” wrote from a female perspective by portraying aliens as empathetically. We see the theme of friendship between the alien-type creatures and humans in L’Engle’s stories as “Poor Little Saturday” (*Fantastic Universe*, October, 1956) and in her juvenile science fiction novels as *Wrinkle in Time* (1962). The theme of friendship between aliens and humans is also seen in the stories of Mildred Clingerman as “Minister without Portfolio” (*Magazine of Fantasy and Science Fiction*, February 1952). Davin claims that “Clingerman’s story of peaceful coexistence with aliens courageously departed from the dominant Cold War paranoia of the time.”¹⁷⁹ Next, in Anne McCaffrey’s “Lady in the Tower” (*Magazine of Fantasy and Science Fiction*, April 1959) and in Judith Merrill’s “Stormy Weather” (*Startling Stories*, Summer 1954), the same theme of community and communication is seen. We see both the creation and the preservation of the community in Merrill’s another story, *Shadow on the Hearth* (1950). This post nuclear holocaust society novel “is not like the typical male cliché of isolated bands of ragged survivors scrabbling for existence in the ruined rubble of civilization,” but rather “focuses on a middle-class suburban mother and her two young daughters as they learn self-reliance and mutual support after a nuclear exchange has obliterated Washington and New York City.”¹⁸⁰ Then, in Miriam Allen deFord’s “Operation Cassandra” (*Fantastic Universe*, November 1958), we encounter cooperation and community as well. It can be said that between 1927 and 1960, these 204 women writers represented a tradition of women’s science fiction by publishing almost a thousand stories in the science fiction magazines and that tradition existed long

¹⁷⁸ Davin “Science Fiction, 1900-1959: Novels and Short Fiction”, p. 51.

¹⁷⁹ Davin “Science Fiction, 1900-1959: Novels and Short Fiction”, p. 51.

¹⁸⁰ Davin “Science Fiction, 1900-1959: Novels and Short Fiction”, p. 52.

before women's or feminist science fiction which was commonly accepted in the 1970s.¹⁸¹ Shortly, there were important women science fiction writers who depicted female perspectives of science fiction in their works before the Second Wave feminism emerged.

The final point is that, in the history of feminism, the 1950s were regarded as weak times when encouraging women for education or to be paid for housekeeping and childrearing was effective. Women's fiction in this era glorified motherhood and domesticity and there appeared simple tales about galactic suburbia where men are solving interstellar circles, but women run their high-tech homes. Thus, this decade welcomed housewife heroine science fiction stories. Alice Eleanor Jones by producing this new kind of science fiction, explored taboo sex and gender issues including marriage, motherhood and domestic life in the future issues. Her "Created He Them" (1955) referred to this new trend of women's science fiction with its story of a distressed housewife who caught in a terrible dilemma either to kill her selfish and abusive husband or to continue to her domestic duty obeying to the rules of his patriotic husband. The story tells the nuclear war from a housewife's point of view, as well. Lisa Yaszek argues that:

Much like other SF, this particular form of midcentury women's SF provided readers with visions of brave new worlds extrapolated from current trends in science and technology. Rather than exploring the impact of new sciences and technologies on entire societies or civilizations, it invited readers to think more specifically about how science and technology might impact women and their families in the private space of the home. Because of this fiction seemed to focus exclusively on traditionally feminine concern including emotional reactions and interpersonal relations (rather than objective reasoning and outward-bound exploration), it was quickly-and somewhat unkindly-labeled "diaper" or "housewife heroine" SF.¹⁸²

Finally, although it is claimed that science fiction editors like Campbell were well-known for rejecting the fictions of female writers, Campbell published many female fictions, but not as much as male ones; A. R. Long's "The Mind Master"

¹⁸¹ Davin "Science Fiction, 1900-1959: Novels and Short Fiction", p. 53.

¹⁸² Lisa Yaszek, "From Ladies' Home Journal to The Magazine of Fantasy and Science Fiction: 1950s SF, the Offbeat Romance Story, and the Case of Alice Eleanor Jones", *Daughters of Earth: Feminist Science Fiction in the Twentieth Century*, (Ed.), by Justine Larbalestier, Wesleyan University Press, Middletown, CT 2006, p. 76.

(*Astounding*, December, 1937), Merril's "Death Is the Penalty" (*Astounding*, January, 1949) and future Nebula Award winner Katherine MacLean's "Defense Mechanism" (*Astounding*, October, 1949). *Astounding* also gave place to other authors like Mona Farnsworth (pseudonym of Muriel Newhall), Brackett, Marian O'Hearn (Anita Allen), Jane Rice, Margaret Ronan, Hull, Babette Rosmond, and Shiras. That is to say, although there are many early women science fiction writers (not as many as male writers) during the magazine era, there was not enough attention given to women writers whose contributions seem to have been largely forgotten.

1.2. THE SECOND WAVE FEMINIST SCIENCE FICTION (THE NEW WAVE WOMEN SCIENCE FICTION, 1960s-70s)

At the beginning era of the New Wave, both Britain and America witnessed lots of changes; on one side, new technological developments and progress such as Neil Armstrong's first step into the moon and on the other side, more negative social events such as assassinations of three great figures which included Martin Luther King Jr., Malcolm X, and John F. Kennedy and Britain's losing power on its colonial empire states (but America's winning imperial expansion in Vietnam). These events caused fear as the fear of technology that led to the destruction because of the atomic weapons and the radioactive results, the Cuban missile crisis. That is, the themes of the New Wave science fiction reflected all these changes.

Apart from these changes, there began a rapid shift from the science fiction magazines to the novels. As David M. Higgins claims this new generation of young writers rebelled against the conservative, limited formulas of pulp science fiction and so they wanted to combine the sense of wonder of science fiction with avant-garde literary experimentations. Unlike traditional science fiction championed hard physical sciences like physics, biology and mathematics, the new sense of science fiction emphasized the soft sciences like psychology and sociology.¹⁸³ Higgins argues that women contributed to early pulp science fiction, but since the 1960s they have been much more active and

¹⁸³ David M. Higgins, "Science Fiction, 1960-2005: Novels and Short Fiction, in *Women Writers in Science Fiction and Fantasy*, Volume 1: Overviews, (Ed.), by Robin Anne Reid, Greenwood, Westport CT 2009, p. 74.

in public presence.¹⁸⁴ Although the number of women writers was fewer than the male writers in early science fiction, feminist science fiction has been increased since the incursion of women writers into the male dominated genre of science fiction in the early 1970s. Higgins also says that:

One reason why women have been drawn to science fiction in this period is because SF offers rich possibilities for exploring alternative modes of social experience. Rather than reinforcing women's standard social roles, science fiction can imagine new and liberating alternatives for women's experiences. The thematic and stylistic experimentations of the New Wave in the 1960s created space for strong female protagonists in SF while challenging the sexist assumptions of earlier pulp genre formulas.¹⁸⁵

In addition, Higgins thinks that the New Wave emerged from the publications of the British science fiction magazine *New Worlds* and the anthologies *Dangerous Visions* (1967-1972) by Harlan Ellison, *Orbit* (1966) by Damon Knight and *England Swings SF* (1986) by Judith Merrill with her anthologies *Annual of the Year's Best SF* (1965). Higgins asserts that the following writers who wrote for these publications "used SF to challenge unspoken cultural assumptions about sex, race, gender, and other social norms."¹⁸⁶ For *New Worlds*, we see writers like Hilary Bailey, Daphne Castell, Gwyneth Cravens, Sandra Dorman (Sandra Dorman-Hess), Carol Emshwiller, Gretchen Haapanen, Katherine MacLean, Merrill, Kit Reed (Lillian Craig Reed), and Pamela Zoline, for *Dangerous Visions* writers like Miriam Allen deFord, Ursula K. Le Guin, Judith Ann Lawrence, Evelyn Lief, Joanna Russ, Josephine Saxton, James Tiptree Jr. (Alice Sheldon), and Kate Wilhelm, for *Orbit* writers like Eleanor Arnason, Doris Pitkin Buck, Carol Carr, Grania Davis, Liz Hufford, Virginia Kidd, Vonda McIntyre, Raylyn Moore, Doris Piserchia, Allison Rice, Kathleen M. Sidney, and Joan Vinge, and for Merrill's anthologies such writers like Karen Anderson, Holley Cantine, Sheri Eberhart, Elizabeth Emmett, Alice Glaser, Henderson, Maxine W. Kumin, Felicia Lamport, McCaffrey, and Muriel Spark.¹⁸⁷ For example, in her encyclopedic style narration with 54 numbered paragraphs "The Heat Death of the Universe" (1967), Zoline demonstrated the domestic sphere of a housewife by moving the narrative back and forth while

¹⁸⁴ Higgins, p. 73.

¹⁸⁵ Higgins, p. 73.

¹⁸⁶ Higgins, p. 75.

¹⁸⁷ Higgins, p. 75.

making scientific explanations, and describing the household events as well as philosophical speculation. Zoline's stories were influenced by feminist activism over the years. Her short story "The Heat Death of the Universe" (1967) "slip[s] rapidly between registers of poetry, sociology, advertising, journalism, romance writing and cybernetics. This is where the science fictional element lies: [the main character] Sarah Boyle [...] is processed through a discursive machinery that wants to translate her experience into transparent professional 'information,' re-containing the 'noise' of her madness."¹⁸⁸ The themes of race, immigration and alienation are explored by using alien creatures in the works of Dorman-Hess and Henderson. Emshwiller stressed women's self-estrangement while Saxton by using inner space focused on mental states and breakdowns and the suppression of society and institutions on women's internal worlds of experience.

The New Wave writers were not only authors, but also editors such as Merril who edited the anthologies *England Swings SF: Stories of Speculative Fiction* (1968) and *Year's Best SF* (1965). Merril in her "That Only a Mother" (*The Science Fiction Hall of Fame Volume One*, 1948), sets the story five years in the future during the World War III that uses atomic bomb causing radiation poisoning, so leads to many mutated babies. The main character Margaret, after giving birth to her mutant child, begins to see her child as normal although it has no definite gender, legs, arms, so her husband, after he turned home from war, seeks to kill the child. The other one is Moorcock's wife Baileu (from 1962 to 1978) who worked as a coeditor and sometimes a sole editor for the six series of anthology *New Worlds Quarterly*. In 1970s, Wilhelm who won a Nebula award for her "The Planners" was also the editor of the Clarion anthology, which was the product of the Milford SF Writer's Conference and Clarion SF Writer's Workshop founded by her and her husband Damon Knight. Higgins argues that "While the New Wave was attacking technological progressivism, the conquest of space, and the male-dominated capitalist state, women outside the New Wave made different contributions to SF."¹⁸⁹ For example, from 1958 to 1965 *Amazing Stories* and *Fantastic* were edited

¹⁸⁸ Luckhurst, p. 159. Zoline's collection of stories are in Pamela Zoline, *Busy About the Tree of Life and Other Stories*, Women's Press, London 1988.

¹⁸⁹ Higgins, p. 76.

by Cele Goldsmith Lalli who “is credited as one of the editors who opened the door for Joanna Russ to enter the field.”¹⁹⁰

The Science Fiction and Fantasy Writers of America honored Andre Norton with its Grand Master Award in 1983 and later in 2005 announced the creation of the Andre Norton Award to be given to outstanding works of fantasy or science fiction for the young adult literature market. Norton also became one of the earliest women portraying liberated and strong female protagonists. She was nominated for the Hugo Award in 1964 twice for the novel *Witch World* and for her novelette “Wizards’s World” in 1967. American-Irish author McCaffrey was the first woman to win the awards both a Hugo for “Weyr Search” and a Nebula for “Dragonrider” in 1968 (both of were collected in *Dragonflight* later). Marion Zimmer Bradley, on the other side, contributed science fiction in terms of colonial issues, in her Darkover novels in which she explores questions about gender stereotypes and sexual politics. One of the students graduated from the Clarion Workshop in 1970 was the geneticist McIntyre weaved feminist themes with female protagonists in her fictions and won a Nebula for her story “Of Mist, Grass, and Sand” (1973) which later took place in her Nebula and Hugo award-winning novel *Dreamsnake* (1975). The use of female characters and even female protagonists were rare in science fiction before the 1960s and the New Wave writers, both females and males, began to choose their protagonists female as seen in *Memoirs of a Spacewoman* (1962) by Naomi Mitchison, *Podkayne of Mars* (1963) by Robert A. Heinlein, *Babel 17* (1966), *Alexi Panshin’s Rite of Passage* (1968) and *Russ’s Picnic on Paradise* (1968) by Samuel R. Delany, *The Ship Who Sang* (1969) by McCaffrey. In other words, as Higgins claims there appeared more realistic female characters who “were rare in SF until this period; pulp SF often portrayed women as objects to be desired, feared, rescued, or destroyed or to otherwise validate the masculinity and heterosexuality of male protagonists and readers.”¹⁹¹ Shortly, thanks to feminist movement of this period, female writers and editors and the changing themes led the emergence of feminist science fiction in the 1970s. The era, before the feminist science fiction term used, is generally called women science fiction. Since 1970s, science

¹⁹⁰ Higgins, p. 76.

¹⁹¹ Higgins, p. 76.

fiction written by women has been called with the label ‘feminist’ science fiction and it can be said that science fiction became a major vehicle for the spread of feminism.

1.2.1. Feminist Science Fiction—1970s

Feminist science fiction is one of the most exciting and a current aspect of the genre science fiction and it is a more recent development than a separate genre.¹⁹² Feminist science fiction was affected by the improvements and the success of women’s movements in the 1970s. There were lots of changes and opportunities for women at the time of Second Wave feminism and women’s movement: Equal Rights Amendment (ERA) that was passed in 1972’s Congress, The United States Supreme Court established the right to use contraceptives by unmarried women as well as married ones in 1972, Title IX that was the portion of the Education Amendments of 1972 made a legislation banning sex discrimination in schools and legal rights of abortion, etc.

Feminist science fiction writing holds many aspects of New Wave such as the experimental and avant-garde as well as the recent developments in the mode. New Wave feminists “went beyond simply questioning the sexist limitations of pulp SF formulas into more active challenges of social inequality, and further still into exploring new conceptions of power relations between men and women.”¹⁹³ During this era, we see feminist interventions in science fiction such as struggling against the weight of the male bias in the form and of a cultural and political male hegemony.¹⁹⁴ Feminist science fiction began in science fiction magazines, fanzines and feminist journals in the early 1970s.

Sarah Lefanu considers the investigation of socially construction of gender and sexuality as one of the Second Wave feminism’s major projects that challenged the stereotyped natural law of limiting and regulating the behaviours of womanhood. Therefore, feminists tried to raise female and womanhood consciousness. Lefanu claims that in order to explore the construction of ‘woman’, some powerful ways were used in science fiction metaphorically and metonymically such as “time travel, alternate worlds,

¹⁹² Roberts, p. 91.

¹⁹³ Roberts, p. 76.

¹⁹⁴ Sarah Lefanu, *In the Chinks of the World Machine Feminism and Science Fiction*, The Women’s Press, London 1988, p. 4.

entropy, relativism, the search for a unified theory.”¹⁹⁵ At the time of Second Wave feminism, Melzer argues that:

Feminist science fiction, especially in the early 1970s, undermined the ideological separation of “soft” and “hard” sciences within traditional science fiction, which portrayed technology as good and the sciences as progressive, rational, and predictable (i.e., masculine), pitched against alien “sciences” such as telepathy and telekinesis that were considered witchcraft, evil, manipulative, obscure, and subjective (i.e., feminine). Feminist science fiction has instead emphasized cultural and social (“soft”) sciences, such as anthropology, linguistics, and social theories. At the same time authors have explored the ambiguous relationship between women and technology.¹⁹⁶

In other words, within some feminist science fiction we can see the development of alternative sciences on one side as well as witches and healers, and hard science on the other side such as reproductive technologies that might save women from their traditional gender role of maternity. Hence, these writers began to think “about women in different circumstances and situations rather than creating literary settings and situations that ‘realistically’ reproduced existing oppressive conditions.”¹⁹⁷ The 1970s feminist science fiction writers who imagined alternate forms of relationship between men and women question normative assumptions about gender and sexuality.¹⁹⁸

There emerged several important women voices in 1970s science fiction. Ursula K. Le Guin as one of the important voices of women wrote *The Left Hand of Darkness* (1969) in which sexual difference plays no role on a planet named Winter, and won the Hugo Award in 1970. Her other novel *The Dispossessed: An Ambiguous Utopia* (1974) is a utopian science fiction novel and won the Nebula Award for the Best Novel in 1975 depicting the questions between self and society. In Russ’s “Alyx” stories (*Orbit* in 1960s, and *The Adventures of Alyx* as a collection in 1983), the female protagonist was for the first time adopting a male role. Higgins argues that she “is often characterized as a more forceful feminist than Le Guin, and she is one of the first SF writers to openly address lesbianism.”¹⁹⁹ We see a female society in her Nebula-winning story “When It Changed” (1972) and in her feminist classic *The Female Man* (1975) we see story of

¹⁹⁵ Lefanu, pp. 4-5.

¹⁹⁶ Melzer, p. 8.

¹⁹⁷ Higgins, p. 77.

¹⁹⁸ Higgins, p. 73.

¹⁹⁹ Higgins, p. 77.

four women living in parallel worlds that differ in time and place. The issue of difference, “where ‘alien’ becomes an encoding of ‘woman’, featured prominently in the work of the 1970s new wave radical female SF writers.”²⁰⁰ This was popular in the works of Russ, Octavia E. Butler and Marge Piercy. Butler became famous in science fiction as being the first Afro-American woman and in the 1970s with her Patternist series weaved the themes of sex, gender, and race. She used the issues of alien as other in her *Xenogenesis* trilogy (1987-2000); the collection which was published in 2000, *Lilith Brood*, depicts extraordinary vision of what it means to be ‘other’ with the alien abduction narrative. After a humanicide, Lilith with other surviving humans introduces aliens known as Oankali who comes in three sexes; male, female and ooloi (mixture of two). The goal of Oankali is to colonize earth with Oankali-human hybrids. Piercy’s feminist utopian speculative science fiction *Woman on the Edge of Time* (1976) weaves the issues of social justice, feminism and the treatment of the mentally ill. In this time travel story, she tells the story of a Hispanic woman who has been recovering in a mental institution for a long time and beings to communicate with a woman figure from a future non-sexist utopian world and so, struggles to find a way to go to the future for herself and others.

Another important name is Alice Sheldon (James Tiptree). Before she was accepted as a woman science fiction writer, she won “praise for combining strong characterizations of women alongside ‘manly’ Hemingway-style prose” and after she died (in 1987), Pat Murphy started James Tiptree Jr. Award “to recognize work that reimagines stereotypical gender roles and explores SF’s potential to challenge social and sexual norms.”²⁰¹ In Sheldon’s short story “The Woman Men Don’t See” (1973), we see constructions of gender, which is one of the most celebrated fictional expressions. In the story, because of feeling alienated and other as she is a woman, Ruth with her daughter leaves Earth and goes with the aliens and the male protagonist Fenton bewilders and questions why two women would rather leave with aliens than stay on earth. As Tiptree and Le Guin, Butler and Russ focused on gender concerns and used the science fiction to encounter with difference.²⁰²

²⁰⁰ Roberts, p. 96.

²⁰¹ Higgins, p. 78.

²⁰² Roberts, p. 99.

Besides the women writers, in the 1970s there were also important editors and anthologists. For example, the anthologies *Women of Wonder* (1975) and *More Women of Wonder* (1976) by Sargent “were the first SF anthologies of SF by women about women.” In 1976, another feminist science fiction anthology *Aurora: Beyond Equality* was edited by Vonda N. McIntyre and Susan Janice Anderson. Other anthologies collecting women’s science fiction were *Millennial Women* (1978) by Virginia Kidd and *Cassandra Rising* (1978) by Alice Laurance. Besides the women writers of the 1960s who became famous in the 1970s, Higgins makes a list of women writers of the 1970s as well: Suzy McKee Charnas, C. J. Cherryh, Octavia E. Butler, Phyllis Eisenstein, Suzette Haden Elgin, Sally Miller Gearhearth, Virginia Hamilton, Cecelia Holland, Anna Kavan, Lee Killough, Tanith Lee, Doris Lessing, Elizabeth A. Lynn, Judith Moffett, Piercy, Marta Randall, Lisa Tuttle, Monique Wittig, and Chelsea Quinn Yarbro. For example, we see a dystopian future for women blamed for the decline of humanity in *Walk to the End of the World* (1974) by Charnas and Cherry’s Union-Alliance series became a prominent figure in the new space opera movement of the 1980s, but before then, in the 1976 she won the most promising writer award of the John W. Campbell.²⁰³

Finally, thanks to these women, 1970s science fiction “as a whole became more open to women’s issues,” so some male writers were affected by this influence such as “Samuel R. Delany, Joe Haldeman, Kim Stanley Robinson, James H. Schmitz, and John Varley” all of whom integrated feminist perspectives into their work by weaving more strong female protagonists.²⁰⁴ On the other side, gay and lesbian studies began to occur and some writers such as Arnason, Delany, Disch, Lynn, Russ, and Bradley weaved these issues by turning from traditional science fantasy to a more modern one exploring seriously women’s issues and questioning sexuality.²⁰⁵ Lastly, in 1977, the first feminist fanzine *The Witch and the Chameleon* was published and it was edited by Katherine MacLean and Amanda Bankier who also became guests of honor in the first WisCon feminist science fiction convention, which was held in 1977 for feminist science fiction writers and fans at the University of Wisconsin in Madison.

²⁰³ Higgins, p. 78.

²⁰⁴ Higgins, p. 78.

²⁰⁵ Higgins, p. 78.

1.3. THE THIRD WAVE FEMINIST SCIENCE FICTION (CYBERPUNK, 1980s-90s)

Since the 1970s, in the production of texts we see an equally significant convergence between feminism and science fiction so gender and identity become central to feminist science fiction texts in which social and sexual relations are new and different.²⁰⁶ Helen Merrick states that in the 1980s, we see more established and accepted feminist science fiction criticism. In the early 1980s, she published special issues on women and science fiction such as edited collections, and the first monographs on women and/or feminism.²⁰⁷ She also asserts that we see a real arrival of feminist criticism in the science fiction field toward the late 1980s.²⁰⁸ Melzer argues the difference from the 1960s and 1970s to the 1980s in this way:

Feminist science fiction irreversibly shaped the genre, first in the 1970s with its criticism of gender roles, racism, and class exploitation, and later in the 1980s with a growing use of postmodern elements such as the exploration of linguistics and disrupted narrative structures. The presence and influence of women writers were made visible in the 1970s with publications like Pamela Sargent's edited *Women of Wonder* series, which were collections of stories by women science fiction writers. While feminist science fiction in the 1960s and 1970s explored feminist resistance to women's oppression mainly through separatist societies (e.g., lesbian utopias) and/or reversal of gender roles (e.g., matriarchal societies), later feminist science fiction understands a disruption of gendered power less a question of a simple role reversal (even though some narratives explore the ramifications of this) than of undermining and subverting that power (e.g., through use of technology) and linking it to material relations.²⁰⁹

In terms of culture, the emergence of postmodernism and this transformation have some parallels. The definition of postmodernism by Fredric Jameson foregrounded science fiction in some ways. For him, postmodernism is "fascinated precisely by this whole 'degraded' landscape of schlock and kitsch [...] of so-called paraliterature with its airport paperback categories of the gothic, and the romance, the popular biography,

²⁰⁶ Jenny Wolmark, *Aliens and Others: Science Fiction, Feminism and Postmodernism*, University of Iowa, Great Britain, Iowa City 1994, p. 1.

²⁰⁷ Helen Merrick, *The Secret Feminist Cabal: A Cultural History of Science Fiction Feminisms*, Aqueduct Press, Seattle 2009, p. 104.

²⁰⁸ Merrick, p. 104.

²⁰⁹ Melzer, pp. 7-8.

the murder mystery and science-fiction or fantasy novel.”²¹⁰ Jameson argues that science fiction does not intend to show the images of a real future because it works “to defamiliarize and restructure our experience of our own *present* and to do so in ways distinct from all other forms of defamiliarization.”²¹¹ That is, as readers, we can see the imaginary future, but we cannot effectively imagine real futures. Postmodern subjects live in a world of the immediate future because only a near future intensifies the cycles of late capitalism’s eternal present. Thus, technology was a key point for Jameson’s conception of postmodernism; for example, media technologies distracted schizophrenia of the postmodern subject. Thus, James regarded William Gibson’s *Neuromancer* as the invention of cyberspace, which can demonstrate these hidden networks of global capital. Shortly, Cyberpunk texts began to be merged with Jameson’s postmodern theory.

In other words, the discussions of postmodernism between the years of late 1980s and early 1990s were associated with science fiction to some extent. For example, Brian McHale twinned postmodernism with Cyberpunk in his essay “POSTcyberMODERNpunkISM.”²¹² The other one is Jean Baudrillard who in the “Simulacra and Science Fiction” chapter of his *Simulacra and Simulations* claims that “science fiction, in this sense, is no longer anywhere, and it is everywhere, in the circulation of models, here and now, in the very principle of the surrounding simulation. It can emerge in its crude state, from the inertia itself of the operational world.”²¹³ We are living “a real without origin or reality: a hyperreal,”²¹⁴ so we are floating in post-historical space. Science fiction opened “simulation in the cybernetic sense, [...] but then *nothing distinguishes this operation from the operation itself and the gestation of the real: there is no more fiction.*”²¹⁵ So it is considered that the Cyberpunk literature came along with postmodernism in the 1980s.

As we see fragmented cultural experiences, subversive point of views and ontological realities in postmodern science fiction, the same trend continued in feminist

²¹⁰ Fredric Jameson, *Postmodernism, or the Cultural Logic of Late Capitalism*, Verso, London 1991, pp. 54-55.

²¹¹ Jameson, “Progress Versus Utopia; or, Can We Imagine the Future?”, p. 151.

²¹² Brian McHale, *Constructing Postmodernism*, London: Routledge, 1992, pp. 225-42.

²¹³ Jean Baudrillard, *Simulacra and Simulations*, trans. by Sheila Faria Glaser, The University of Michigan Press, Ann Arbor 1994, p.126.

²¹⁴ Baudrillard, p. 1.

²¹⁵ Baudrillard, p. 122.

science fiction. In postmodern feminist science fiction, we see the interface of technology and human, the relationship of women and internet or machine. By this reason, postmodern feminist science fiction is closely related to cyber and cyborg feminist fictions in which we can see alien constructions such as female cyborgs (human/machine/animal organisms), virtual beings, various species, hybrids, human/alien hybrids, alien fantastic figures, AIs, clones, posthuman, genetically-altered organisms, etc. Melzer argues that feminist science fiction “resonates in feminist appropriations of cyberpunk, in which texts explore implications of new media and biotechnologies” and she adds that the “metaphor of the cyborg, a concept that becomes central to both feminist fiction and feminist criticism, emerges from explorations of the interface of technology and humans and the boundary dissolutions that accompany biotechnologies and global capitalism’s consumerism.”²¹⁶

In other words, we see more progressive and subversive feminist characters as well as settings in feminist science fiction literature.²¹⁷ Feminist science fiction challenges to the traditional understanding of female bodies as different and “in science fiction narratives *technologies* are central to this process of ‘othering’ women’s bodies.”²¹⁸ The traditional self was associated with the notion of otherness and the dualism between women and men established a relationship between the other (woman) and the self (man) based on sexual difference. We see this “other” expression in French feminist Simone de Beauvoir’s classic text *The Second Sex* (1949): “She is defined and differentiated with reference to man and not he with reference to her; she is the incidental, the inessential as opposed to the essential. He is the Subject, he is the Absolute—she is the Other.”²¹⁹ This Western binary opposition is rejected in postmodern feminist science fictions that give place to transgender identities such as lesbians who are not women (but are the third sex) liberated from heterosexual gender oppression. In the same way, traditional Western philosophy of woman was associated with white, so black women were considered as possessing two identities; shaped by gender and race. Thus, as Melzer claims, woman “cannot be a generic identity” and race and gender are

²¹⁶ Melzer, p. 8.

²¹⁷ Melzer, p. 12.

²¹⁸ Melzer, p. 103.

²¹⁹ Simone de Beauvoir, *The Second Sex*, Vintage Books, New York (1949) 1989, p. xxii.

“inseparable categories of identity formation.”²²⁰ This postmodern feminist discourse does not see the subject as an autonomous entity, but as the discourse and their institution product. That is, this postmodern feminist discourse re-conceptualizes power and agents as decentered, so instead of fragmentation, we encounter the multiplicity of selves and instead of scattered and incoherent selves, and we encounter flexible and fluid selves.²²¹

Until the mid-1980s, a “preconceived, pregiven ‘women’s identity,’ ... an identity common to all women, women’s ‘identity’ as ‘the other’”²²² was accepted, but twenty years later the notion of “difference” that women consist of is dominated. Difference means being not-I and a nonidentity, so difference is a shifting constituent because identity is not stable. For example, Rosi Braidotti argues that the feminist subjectivity is opposed to binary oppositions. That is, her “feminist nomadism” has three interwoven levels: “‘differences between men and women,’ ‘differences among women,’ and ‘differences within each woman’.”²²³ There are many various shifting identities within the categories of gender, sexuality and race:

[Science Fiction] further troubles notions of identity (that which needs to be “uncovered,” that is “real,” that is “I”) and difference (that which “separates,” which is the “other,” “non-I”). Much of *feminist* science fiction critically explores the dimensions and implications of the two concepts of difference and contributes to the deconstruction of difference as “other” to a stable identity by challenging boundaries between categories on which the separation of “self” and “other” rely. Here difference is not the opposite component of identity but becomes a part of the self. Science fiction also fleshes out ideas of boundary dissolutions and border identities in terms of nationality, race, and ethnicity, as well as gender and sexuality. [...] Feminist theories of subjectivity are challenged and enhanced by queer theory’s emphasis on transgressive sexualities and by the emerging discourse on *transgender* and *genderqueer* identities.²²⁴

The creation of alternative sciences, utopian technologies (that enrich and empower rather than dominate or exploit) have been the most powerful narrative

²²⁰ Melzer, p. 15.

²²¹ Melzer, p. 16.

²²² Christina Crosby, “Dealing with Differences”, *Feminists Theorize the Political*, (Eds.). Judith Butler and Joan W. Scott, Routledge, New York 1992, pp. 130-131.

²²³ Rosi Braidotti, *Nomadic Subjects: Embodiment and Sexual Difference in Contemporary Feminist Theory*, Columbia UP, New York 1994, p. 158.

²²⁴ Melzer, p. 18.

strategy of feminist science fiction.²²⁵ Donawerth argues that feminist writers use the utopian paradigm in creating alternative sciences: women participate “in science as subjects not objects,” treat science “as an origin story that has been feminized,” regard “human’s relation to nature as partnership not domination,” and promote “an ideal of science as subjective, relational, holistic, and complex.”²²⁶ The defining theme of science fiction becomes technology as it transforms the identity and the body, the binary oppositions which is the basis for the Western world. That is, its construction has been the main concern of feminist theories and science fiction because the conception of a gendered human subject has been challenged by both technology and the discourse of biology.²²⁷ Thus, within feminist theories, two related but different discourses have been developed in relation to the effects of science and technologies on the lives of women. These are cyberfeminism (mostly related to the philosophy of Plant) and cyborg feminism (usually related to the philosophy of Haraway). Judy Wajcman by bringing these two discourses together coined the approach of TechnoFeminism that will be explained in the following part. Melzer argues that:

While feminist science fiction has always explored the construction of gender roles and identities through androgynous and gender-neutral figures, in more recent science fiction texts, transgender identities have often been conceptualized as similar to online, Internet communities that create a “genderless” (i.e. bodiless) space. This optimistic vision of transcending gender in cyberspace often is in conflict with the material-based discourses around nonnormatively gendered *bodies* (transsexual and intersexed), where embodiment is not separate from a trans identity... The celebration of bodiless existence within cyberspace is also problematic in terms of racial passing... Science fiction’s nonnormatively gendered and sexed bodies explore not only how transgendered identities are technologically produced but how they rely on existing notions of how sex, gender, and sexuality are correlated, at the same time as they subvert the gender binary.²²⁸

Sandra M. Gilbert and Susan Gubar argue that in the 1980s, “images of women were biologized and sexualized as never before” and “the traditional polarities of angel and monster, virgin and whore, lady and madwoman were consistently eroticized in this

²²⁵ Melzer, p. 20.

²²⁶ Donawerth, *Frankenstein’s Daughters: Women Writing Science Fiction*, p. 2.

²²⁷ Melzer, p. 20.

²²⁸ Melzer, pp. 29-30.

period.”²²⁹ In “science fiction narratives, the correlation between sex, gender, and sexuality (i.e. body, identity, and desire)—which in our world is ideologically equivalent to a straight, normatively gendered and sexed body—is reconfigured in the female cyborg and other ‘unnatural’ bodies.”²³⁰

Many women began to write science fiction in the 1980s and even the writers outside the genre used speculative fiction or methods of science fiction. Higgins lists such writers of this kind as Margaret Atwood, Jean M. Auel, Christine Brooke-Rose, Angela Carter, Zoë Fairbairns, Cecelia Holland, Anna Kavan, Rhoda Lerman, Doris Lessing, Ayn Rand, Emma Tennant, Fay Weldon, Monique Wittig, and Christa Wolf.²³¹ Meanwhile, though this decade gave lots of places to women writers, they, tended to themselves, stay away from the label of ‘feminist’. However, unlike males’ using hard and masculine or physical science in their works, women had to use soft sciences because women “had been actively excluded from the study of hard sciences until the late twentieth century,”²³² so the works of women were labeled as soft and regarded as less objective, more feminine and not real science fiction. For example, some critics regard the works of Connie Willis outside the genre of science fiction because she used metaphorical extrapolations rather than scientific ones. Another writer Karen Joy Fowler in her *Artificial Things* (1986), blended science fiction and magical realism while Lisa Goldstein combined science fiction and fantasy. Therefore, as Higgins claims, there was a division between “literary writers, sometimes referred to as ‘humanist’ SF authors, and the cyberpunks.”²³³ Higgins asserts that:

Although the “hard-boiled” cyberpunk movement of the 1980s has been characterized as a backlash against feminism, critics like Donna Haraway argue that cybernetic fictions also challenge basic binary categories can be useful for feminist concerns. Alongside the cyberpunks, humanist SF writers in the 1980s and 1990s explored literary craftsmanship, complex characterizations, and experiments in “soft” sciences in order to

²²⁹ Sandra M. Gilbert and Susan Gubar, *The Norton Anthology of Literature By Women: The Traditions in English*, 2nd ed., Norton, New York 1996, p. 1605.

²³⁰ Melzer, p. 28.

²³¹ Higgins, p. 79.

²³² Higgins, p. 79.

²³³ Higgins, p. 80.

escape a restrictive emphasis on “hard”-science extrapolations prevalent in earlier stories.²³⁴

In other words, while the focus of humanists is on human choices and philosophical problems adopting a mainstream literary style, the focus of cyberpunks is on cybernetics and information technologies adopting “a literary style inspired by film noir and hard-boiled detective fiction, a distrust of Big Business, and an embrace of left-wing and/or libertarian sensibilities.”²³⁵ In the same way, Melzer states that cyberpunk fiction influenced science fiction in the late 1980s focusing on communication technology and consumer culture.²³⁶

William Gibson with his *Neuromancer* (1984) is often considered as one of the important figures in cyberpunk movement with the other male writers as Bruce Sterling, Greg Bear, Lewis Shiner, Paul J. McAuley, John Shirley and Neil Stephenson.²³⁷ However, in most male cyberpunk fictions, female characters are in secondary or standard roles as “a leather-clad dominatrix, a sex object, a whore, or a victim, as opposed to being a housewife.”²³⁸ We see less active female characters in several cyberpunk stories although there are few exceptions like Bruce Sterling’s *Islands in the Net* (1988). However, women writers were very famous in this movement with such notable milestones as Pat Cadigan with her postfeminist cyberfiction features in her *Mindplayer* (1987), *Fools* (1992) and *Synners* (1991), Melissa Scott with creation of two lesbian protagonists in her cyberpunk novel *Trouble and Her Friends* (1994), Sue Thomas with her three-dimensional cyberspace novel *Correspondence* (1992), Justina Robson with her cyberspace AI novel *Silver Screen* (1999). However, Sargent argues that Cadigan “was the only female writer to be grouped with the cyberpunks”²³⁹ in anthologies during the 1980s. Tiptree also wrote cybernetic story “The Girl Who Was Plugged In” (1972) in which we see a suicidal girl who tries to abandon her body to load robot mannequin. Piercy with her *He, She, and It* (1991) became famous in cyberpunk literary arena with artificial beings between a woman and a cyborg created to

²³⁴ Higgins, p. 73.

²³⁵ Higgins, p. 80.

²³⁶ Melzer, p. 6.

²³⁷ Melzer, p. 71.

²³⁸ Sargent, *Women of Wonder: The Contemporary Years Science Fiction by Women from the 1970s to the 1990s*, p. 11.

²³⁹ Sargent, *Women of Wonder: The Contemporary Years Science Fiction by Women from the 1970s to the 1990s*, p. 11.

protect her community from multinational embodied entities. In “A Coney Island of the Mind” (1993) by Maureen McHugh, we encounter with virtual reality exploring the borders of sexual identity. Raphael Carter, who is the first non-female (transsexual) to win the Tiptree Award with her/his short story “Congenital Agenesis of Gender Ideation” (1998), weaves the similar cyberpunk features in her/his *The Fortunate Fall* (1996).

Along with cyberpunk fictions, feminist writers using hybrid identities adopted cyborg fictions. Cyborg fiction was widely famous among American women writers and it was so difficult to find British women writers who produced cyborg feminist fictions, but with the Boom period after 1990s, there appeared British cyborg women writers, as well. Several American female writers used the hybridity of species as a result of cloning or genetic engineering as seen in Le Guin’s *Nine Lives* (1992), Sargent’s *Cloned Lives* (1976), Ira Levin’s *The Boys from Brazil* (1978), Wilhelm’s *Where Late the Sweet Birds Sang* (1980), Lois McMaster Bujold’s *Falling Free* (1988), Kress’s *Beggard in Spain* (1994) and Cherryh’s *Cyteen* (1988). Likewise, British writers used the hybridity of species, companion species, cybernetic organisms, animal-human species, cybernetic internet selves, etc as seen in Sue Thomas’ *Correspondence* and Justina Robson’s *Natural History* and *Quantum Gravity* series.

Moreover, writers such as Le Guin in her utopian future based Native American tribal histories *Always Coming Home* (1985), Joan Slonczewski in her utopian female society novel *The Door into Ocean* (1986), Atwood in her dystopian society novel in which women have no legal rights, *The Handmaid’s Tale* (1985), Elgin in her utopian speculative future *Tongue* (1984) and *Native Tongue II: Judas Rose* (1987) where women create their own language, and Sheri S. Tepper in her utopian future where men and women live in a divided and separate lives *The Gate to Women’s Country* (1988), continued to merge utopian features into science fiction.

Finally, the number of other women science fiction writers in the 1980s mentioned in *Women in Science Fiction and Fantasy* by Robin Anne Reid and *Women of Wonder* by Sargent are nearly 50 such as Gill Alderman, Jayge Carr, Jo Clayton, Storm Constantine, Candas Jane Dorsey, Carol Nelson Douglas, Mary Gentle, Gwyneth Jones, Janet Kagan, Ann Maxwell, Pat Murphy, Jane Palmer, Nancy Springer, Sharon

Webb, and Jane Yolen.²⁴⁰ During this decade, there appeared two worthwhile anthologies by women writers: *Isaac Asimov's Space of Her Own* (1984) edited by Schawna McCarthy and *Despatches from the Frontiers of the Female Mind* (1985) edited by Jen Green and Lefanu.

1.4. THE FOURTH WAVE FEMINIST SCIENCE FICTION (TECHNOSCIENCE, THE NEW MILLENNIUM, 1990s- &)

From the 1990s to the present; that is, during the New Millennium, it becomes more difficult to break down science fiction into movements because every movement or genre has intermingled with one another. Throughout the 1990s, the publication of feminist works was still a problem. However, as L. Timmel Duchamp claims, the “feminist public sphere, regardless of the mainstream’s insistence that sf is ‘post-feminist,’ is stronger than it has ever been.”²⁴¹ The feminist academic journals such as *Femspec*, the online forums Wiscon and the Tiptree Award continued. Even the publishing problem was solved when a number of independent specialist presses came into existence such as Tachyon Publications in 1995 whose motto claims to save the world, Aqueduct Press in 2004 who has specialized in feminist science fiction, and initiatives such as Broad Universe who have promoted women science fiction or fantasy writers.²⁴² Merrick argues that “the late 1990s sf feminism, like much of the feminist movement in general, was in rather uncertain position, troubled by intimations of a ‘postfeminist’ period” and she adds that “the feminist ‘third wave’ signaled both an energetic, younger generation of riot grrls, as well as a widespread feeling that the work of the second wave was done.”²⁴³ Hence, the science fiction field welcomed the entry of new generations of female fans, critics and writers.

Because of the old boys who were prominent in science fiction circles and under whose conditions the field was determined, women often felt pressured to enter the field. However, by the 1990s, we witness women who have gained acceptance as

²⁴⁰ Higgins, pp. 81-82; Sargent, *Women of Wonder: The Contemporary Years Science Fiction by Women from the 1970s to the 1990s*.

²⁴¹ L. Timmel Duchamp, “The Cliché from Outerspace: Reflections on Reports of a Death Greatly Exaggerated”, in *The Grand Conversations: Essays*, 21-38, Aqueduct Press, Seattle, WA 2004, p. 36.

²⁴² Merrick, p. 259.

²⁴³ Merrick, p. 258.

readers, writers and editors in the science fiction community.²⁴⁴ For example, today, there are even more science fiction novels published, but science fiction magazines have continued to decline because Internet magazines have replaced them such as Ellen Datlow's *SCI FICTION* and Eileen Gunn's *The Infinite Matrix*. In the 1990s and beyond, there have been more than 50 women editors of novels, magazines and anthologies such as Nalo Hopkinson, Sheree R. Thomas, Deborah Layne, Kristine Kathryn, Datlow, Gunn, Elizabeth L. Humphrey, Susan Allison, Laura Ann Gilman, Jennifer Hershey, Liz Holliday, Willis, Elizabeth R. Wollheim, and Jane Yolen.²⁴⁵

From a twenty-first century perspective, Merrick argues that there are two important influences on or challenges to science fiction: women of color and queer theory. The growth of critical attention to race has increased the profile of women of color. The other critical attention is the sexuality in science fiction, and it is read through queer theory.²⁴⁶ Therefore, Merrick claims, "both these developments suggest a shift in priorities whereby gender is diminishing as a central focus for a more diverse understanding of sf feminisms."²⁴⁷

Until the contemporary period (since 1990s), women of color were absent in the science fiction circle. Octavia E. Butler was the only famous African American woman science fiction writer who began writing in the 1970s, but was not recognized until the early 1990s. After her, Hopkinson started writing in 1993. Recent years have witnessed increased number of writers and fans of color, and so "making race central to critical accounts of sf is slowly becoming more common."²⁴⁸ For example, Elisabeth Anne Leonard published the first anthology dealing with race and science fiction/fantasy in 1997: *Into Darkness Peering: Race and Color in the Fantastic*. Walter Mosley's *New York Times* article in 1998 started a new era of black science fiction and it was reprinted in Sheree Thomas's black science fiction collection *Dark Matter: A Century of Speculative Fiction from the African Diaspora* in 2000.²⁴⁹ Then, Thomas published *Dark Matter: Reading the Bones* (2004) and edited *So Long Been Dreaming:*

²⁴⁴ Higgins, p. 82.

²⁴⁵ Higgins, p. 83.

²⁴⁶ Merrick, p. 259.

²⁴⁷ Merrick, p. 259.

²⁴⁸ Merrick, p. 262.

²⁴⁹ Sheree R. Thomas, *Dark Matter: A Century of Speculative Fiction from the African Diaspora*, Warner Books, New York 2000, p. 407.

Postcolonial Science Fiction and Fantasy (2004). That is, women of color gained recognition in the science fiction community with their ethnic and cultural backgrounds. The other group of women of color in the genre is Tananarive Due, Jewelle Gomez, Nisi Shawl, Nnedi Okorafor-Mbachu, Andrea Hairson, and Hiromi Goto. Some examples to black feminist science fiction texts are Hairson's *Mindscape* (2006), Shawl's *Filter House* (2008), Vandana Singh's *Of Love and Other Monsters* (2007) and *Distances* (2008), Hopkinson's *The Salt Roads* (2003) and *The New Moon's Arms* (2007).

On the other side, the field of queer theory began to impact feminist science fiction from the late 1990s. *Queer Universes* (2008) edited by Wendy Gay Pearson, Veronica Hollinger and Joan Gordon points out how feminist theory influences queer genealogies. Both queer theory and feminist science fiction are concerned with sexuality, gender, identity and bodies. In regards to science fiction, these editors argue that:

Queer theoretical approaches, alongside feminist, postcolonial, postmodern, and critical race theories, allow critics to make visible the naturalized epistemologies of sexuality, gender, and race that underwrite the most conservative sf, as well as to explain some of science fiction's most striking attempts to defamiliarize and denaturalize taken-for-granted constructions of what it means to be, and to live, as a human.²⁵⁰

That is, human nature or familiarization is deconstructed. At the turn of the 21st century and beyond, science fiction stories written by women are about themselves rather than gender or sexuality and the characters are "simply whatever they are-women or men or any of the genders in between."²⁵¹ Most of the works are not pure science fiction but the combination of fantasy, folklore, and magical realism. Some of these writers are Linda Addison, Opal Palmer Adisa, Zainab Amadahy, Velma Bowen, Shirley Gibson Coleman, Due, Gomez, Hairston, Akua Lezli Hope, Honorée Fanonne Jeffers, Lillian Jones, Cynthia Kadohata, Tamai Kobayashi, Karin Lowachee, devorah major, Carole McDonnell, Okorafor-Mbachu, Ama Patterson, Saira Ramasastry, Eden

²⁵⁰ Wendy Gay Pearson, Veronica Hollinger and Joan Gordon (Eds), *Queer Universes: Sexualities in Science Fiction*, Liverpool University Press, Liverpool 2008, p. 6.

²⁵¹ Janrae Frank, Jean Stine and Forrest J Ackerman, *New Eves: Science Fiction about the Extraordinary Women of Today and Tomorrow*, Longmeadow Press, Stamford, CT 1994, p. xv.

Robinson, Michelle Sagara (Michelle West), Nisi Shawl, Evie Shockley, and Singh.²⁵² According to Higgins:

At the beginning of the twenty-first century, women are still outnumbered by men as SF writers, but they are an indisputable presence in the field. Women have been visibly present in SF since the 1960s, although women of color remained rare voices until the beginning of the new millennium. In the 2000s, encouraged by an atmosphere of “slipstream” and “interstitial” fictions where hard-science stories can stand alongside magical realism and postcolonial narratives, women of color are emerging as vital writers and editors throughout SF communities.²⁵³

After the 1990s, a new tendency towards cyborg or posthuman science fiction continued with post-Cyberpunk fiction. In these imagined futures, we see dramatic physical and intellectual changes in the human species itself through technological changes, and through the rise of superior artificial intelligence (AI) technologies, species have become irrelevant.²⁵⁴ By the development in posthumanist and postcyberpunk science fiction, from the mid-1990s to the present, there appeared a group of writers who constituted a Boom in British science fiction. British Boom science fiction writers “draw on virtuality every previous science fiction subgenre, in addition to related genres such as fantasy and horror, particularly re-energizing such genres as the space opera and cyberpunk, previously thought to have seen their best days.”²⁵⁵ Along with the most important male British Boom science fiction of China Mieville (combining horror, and fantasy), Ken MacLeod, Charles Stross, Iain M. Banks, Richard K. Morgan (combining space opera and cyberpunk), the genre-bending fictions of Justina Robson (combining fantasy, space opera, cyberpunk, cyborg feminism, technoscience) may be the single most important TechnoFeminist British Boom science fiction. In short, the complex multi-generic nature of British Boom science fiction helps readers to pay attention to variety of subgenres as it combines all those subgenres in which we see the formulation of the historical development of science fiction.²⁵⁶

Consequently, women or feminist science fiction, at last, gained acceptance in all over the world, and a number of women writers who won The Hugo, Nebula, Tiptree,

²⁵² Higgins, p. 82.

²⁵³ Higgins, p. 74.

²⁵⁴ M. Keith Booker and Anne-Marie Thomas, p. 11.

²⁵⁵ Booker and Thomas, p. 11.

²⁵⁶ Booker and Thomas, p. 12.

BSFA awards. Women writers of today, as well as male writers, write fiction that blurs genre boundaries influenced by science fiction, fantasy, magic realism, technoscience, TechnoFeminism, etc. However, there is a new tendency within technoscience fiction to weave together the issues of modification, reproduction and regeneration of the human body such as the transhuman, posthuman, cyberself, cyborg body, genderless body, transgender body, clones, etc. TechnoFeminist Science Fiction writers use the female body either cyber or cyborg to create new women perspectives and point of views by erasing gender duality problem. Hence, in the following chapter, we will handle this new tendency of TechnoFeminist Science Fiction, which is the core of our dissertation.

CHAPTER TWO

TECHNOFEMINISM

Technology and science affect women globally and feminist science fiction weaves this affect by criticizing such kind of classification as technology and science are inherently under the authority of patriarchy and thus disempower women, instead, if technology and science are used strategically as a tool, they can liberate women.²⁵⁷ Thus, over the past ten years or so, “there has been a great deal of general interest within feminist and cultural theory in two related but distinct metaphors, that of cyberspace, and the cyborg.”²⁵⁸ In the age of digitalization, TechnoFeminism is the notion that gender and technology run together during the production process, women use the product for various means, that is, technological chance, and the lives of women are interrelated to each other. TechnoFeminism is a product of combination of these two distinct but related discourses within feminist theories: the virtual gender in Cyberfeminism of Wajcman following the philosophy of Sadie Plant and the cyborg solution of Wajcman following the philosophy of Donna Haraway. Hence, the aim of this chapter is to evaluate Wajcman’s new approach, TechnoFeminism, which will be applied to feminist science fiction in the next chapter. Therefore, influenced by Wajcman’s TechnoFeminist approach, this study aims to contribute to contemporary feminist science fiction through bringing a new approach up to feminist science fiction; TechnoFeminist Science Fiction.

2.1. FEMINIST TECHNOLOGY STUDIES

In the study of science, technology and society (STS) which is also called science and technology studies, the terms science and technology were replaced by technoscience. As a transdisciplinary field, feminist technoscience became an amalgamation of feminism and STS. It addresses other gender issues, which regard science and technology. First of all, French scholar Bruno Latour conceived the term technoscience to describe the relationship between science and society and later the term was elaborated by Donna Haraway who brought the term to a more cultural and

²⁵⁷ Melzer, p. 19.

²⁵⁸ Wolmark, *Cybersexualities: A Reader on Feminist Theory, Cyborgs and Cyberspace*, p. 1.

historical dimension. For Latour, technoscience contains all elements linked to scientific issues both human and non-human entities. Haraway considers technoscience as a cultural practice²⁵⁹ and she tries to analyze the impact of technology on both society and subject. It can be said that there is a correlation between society, culture and science and technology. Haraway explains the goal of feminist technoscience studies like this:

Feminist questions shape vision generating technologies for science studies. Freedom and justice questions are intrinsic to the inquiry about the joining of humans and non-humans. Feminist technoscience inquiry is a speculum, a surgical instrument, a tool for widening the openings into all kinds of orifices to improve observation and intervention in the interest of projects that are simultaneously about freedom, justice and knowledge. In these terms, feminist inquiry is no more innocent, no more free of the inevitable wounding that all questioning brings, than any other knowledge project.²⁶⁰

Feminist technoscience studies emerged in the early 1990s as an interdisciplinary field. Christina Björkman, Pirjo Elovaara and Lena Trojer consider feminist technoscience as “implying attention to issues related to boundaries and boundary crossings between science, technology, politics and society. The feminist technoscience approach has revolved around exploring the epistemological foundations of knowledge understandings and practices—focusing on deconstructions, opening up concepts and definitions.”²⁶¹ That is, culture can be seen as the image of technoscience. Many diverse agents can produce different meanings in technoscience in which cultural boundaries can be configured, so technoscience is regarded as a complex, heterogeneous, social and suited process.²⁶² Thereby, Jutta Weber argues that:

Feminist technoscience studies shifted their focus from questions of gender structures to those of gender symbols and identities, from macro to micro, from the concept of technology as (huge and top-down organized) technological systems to individual technologies of everyday life. With this

²⁵⁹ Donna J. Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, Routledge, New York and London 1997, p. 149.

²⁶⁰ Haraway, “The Virtual Speculum in the New World Order, p. 235.

²⁶¹ Christina Björkman, Pirjo Elovaara and Lena Trojer, “Feminist Technoscience Rearranging in the Black Box of Information Technology, in *Gender Design IT: Construction and Deconstruction of Information Society Technology*, Springer, Netherlands 2007, p. 79.

²⁶² Jutta Weber, “‘Security,’ Architectures, New Ontologies and the Category of Gender. Contemporary Challenges in Feminist Technoscience Studies” in *Gender Change in Academia: Re-Mapping the Fields of Work, Knowledge, and Politics from a Gender Perspective*, (Ed.), by Birgit Riegraf at all, Springer, Germany 2010, p. 219.

shift, the perspective of (individual) participation, inclusion and empowerment (and ‘other Others’) became increasingly important—especially in the field of information technologies.²⁶³

Likewise, in an interview, (Thyrza Nichols Goodeve collected the interviews in *How Like a Leaf*) Haraway is asked what her model of feminist technoscience might look like and she gives advice to science studies scholars what feminist technoscience studies should include:

So it involves technoscientific liberty, technoscientific democracy, understanding that democracy is about the empowering of people who are involved in putting worlds together and taking them apart, that technoscience processes are dealing with some worlds rather than others, that democracy requires people to be substantively involved and know themselves to be involved and are empowered to be accountable and collectively responsible to each other. And feminist technoscience studies keeps looping through the permanent and painful contradictions of gender.²⁶⁴

That is, in her hopeful vision of feminist technoscience, we see her wish of possible worlds. Actor network theory and material-semiotic practice are related to technoscience studies but will be explained in the following pages. By following the doctrines and suggestions of Haraway, the leading feminist technoscience studies figure, Judy Wajcman, explained her views about feminist technoscience studies in her new approach to feminist criticism. She issued her feminist views of technoscience by grounding her *TechnoFeminism* combining the philosophies of two important key feminist analysts of technoscience—Sadie Plant and Donna Haraway.

Women’s exclusion from technoscience, their restricted access to scientific and technical institutions and careers or the structural barriers to their participation in scientific and technological jobs became the major concern of feminism. The 1970s and 1980s feminism, supporting equal access to education and employment, helped more women to enter science and technology. Wajcman argues, “if girls were given the right opportunities and encouragement, they could easily become scientists and engineers.”²⁶⁵ However, this equal opportunity in employment might lead women to replace their

²⁶³ Weber, p. 228.

²⁶⁴ Thyrza Nichols Goodeve, *How Like a Leaf: An Interview with Donna Haraway*, Routledge, Oxford and New York 2000, p. 157.

²⁶⁵ Judy Wajcman, *TechnoFeminism*, Polity, Cambridge 2004, p. 14.

major gender identity aspects with the masculine ones without wanting the same replacement for men. The burden of working women gets higher as they have double jobs and responsibilities both at home and job. Men elude themselves from such domestic jobs, so women, in order to be successful, have to choose one of these two jobs. Likewise, Wajcman exemplifies that there are some jobs requiring “long unbroken periods of intensive study” and there is not enough time for childcare or domestic housework, thus women in order to be successful, find another way such as modelling “themselves on men who have traditionally avoided such commitments.”²⁶⁶ Because of this reason, sex stereotyping of some jobs comes up. Wajcman claims that:

Women’s reluctance ‘to enter’ is to do with the sex-stereotyping of technology as an activity appropriate for men. As with science, the very language of technology, its symbolism, is masculine. It is not simply a question of acquiring skills, because these skills are embedded in a culture of masculinity that is largely coterminous with the culture of technology. Both at school and in the workplace this culture is incompatible with femininity. Therefore, to enter this world, to learn its language, women have first to forsake their femininity.²⁶⁷

That is, women and technology are bounded to each other historically. She claims that the contribution of women to the domestic economy makes them first technologists but their invisibility in history results from the cultural strategy run by patriarchy considering technoscientific jobs as masculine profession. In other words, there is a cultural stereotype that technology is appropriate for men. Wajcman argues that this cultural stereotype of technology was seen only appropriate to men because of their orientation of most technological research and obscuring the importance of women’s inventions. However, she claims that women have been “among the first technologists.” Wajcman argues that women since the earliest human times, have played the role of “main gatherers, processors and storers of plant food,” so she stresses on the logical possibility of the invention of such tools related to this plant job as “the digging stick, the carrying sling, the reaping knife and sickle, pestles and pounders.” Thus, Wajcman considers science and technology in a social context and recognizes gender as an important component of this context. For instance, by the help of biographical studies of important women scientists such as Rosalind Franklin and Barbara McClintock,

²⁶⁶ Wajcman, pp. 14-15.

²⁶⁷ Wajcman, p. 15.

Wajcman stresses on women's invention of or contribution to the some crucial machines during the industrial era such as "the cotton gin, the sewing machine, the small electric motor, the McCormick reaper and the Jacquard loom", or on their major role in the early development of computers.²⁶⁸

In the field of technology and computer science, gendered roles reflect the difference between female and male roles, but at first there was not any awareness of this gendered role because, as Wajcman asserts, technology was considered as gender blind and gender neutral. Most women were excluded from technology and computer science although there were "many women literally 'computing' by hand and with slide rules and mechanical adding machines such essential war-related figures as the trajectory of rockets for World War II field commanders."²⁶⁹ Then, electronic computing machines replaced this hand computing and this time women continued their job as programmers and operators of these machines. Women were employed to those jobs due to reasons beyond men's control as they were in battlefields.

As soon as computer science became a formal discipline, women cut a figure as students in computer science departments until the late 1980s when their absence began to be noticed in the field. However, although there were many other women involved in the early years of this field, the only women known in the history of computer science are Ada Lovelace and Grace Murray Hopper. Although there had been enough number of women before the field was institutionalized as departments in universities, the number of women declined after the late 1980s. The reason for this, Rebecca Scheckler claims, is that men began to take power in the field as in other fields such as medicine, education, and law, so they "created a male-centered environment, and made it uncomfortable or impossible for women to participate" in that field.²⁷⁰ Another point that Wajcman stresses is on channeling girls away from studying mathematics and science because they receive sex discrimination in employment, socialization and education:

²⁶⁸ Wajcman, pp. 13-15, the last one is referenced by Autumn Stanley, *Mothers and Daughters of Invention*, Rutgers University Press, New Brunswick, NJ 1995.

²⁶⁹ Rebecca Scheckler, "Computer Science", in *Women, Science, and Myth: Gender Beliefs from Antiquity to the Present*, ABC-CLIO, Inc., California 2008, p. 117.

²⁷⁰ Scheckler, p. 119.

Schooling, youth cultures, the family and the mass media all transmit meanings and values that identify masculinity with machines and technological competence. Sex stereotyping in schools was exposed, particularly the processes by which girls and boys are channeled into different subjects in secondary and tertiary education, and the link between education and the segregated labour market. Explaining the underrepresentation of women in science education, laboratories and scientific publications, research highlighted the construction and character of femininity encouraged by our culture.²⁷¹

Like Wajcman, Pamela E. Mack marks another field that the contributions of women in engineering were seen in the late 19th and early 20th centuries. Thanks to the goal of Second Wave feminism on equal rights, women found new job opportunities in engineering field.²⁷² There has been a general view that engineering is associated with masculine values and abilities. Sally Hacker asserts that in the culture of engineering, dualism of mind/body plays a crucial role, so there is a contradiction between the technical skills and the skills of nurturance and responsiveness and by the injection of women's values, engineering can be improved.²⁷³ However, unlike Hacker, Wajcman supports the idea that it is the strategy of male engineers in order to stay women away from the field. This masculine characteristic of engineering possesses the ideology that physical power and intellectual rationality, which are considered as absent in women, enable men as suitable for engineering. That is physical masculinity is assumed to be connected with engineering. Wajcman says, "No matter how masculinity is defined according to this ever-adaptable ideology, it always constructs women as ill-suited to technological pursuits."²⁷⁴ Thus, it can be concluded that engineering might have a different perspective if women were accepted into the field.

In addition, Wajcman asserts that there are diversities among early feminist groups, as radical, liberal and socialist feminists, about the relationship between technology and gender. Although liberal feminists considered power as a relation among people and so regarded gender-technology relationship as a problem of equality

²⁷¹ Wajcman, p. 14.

²⁷² Pamela E. Mack, "What Difference Has Feminism Made to Engineering in the Twentieth Century?", in *Feminism in Twentieth-Century Science, Technology, and Medicine*, (Ed.), by Angela N. H. Creager at all, University of Chicago Press 2001, p. 149.

²⁷³ Sally L. Hacker, "Doing It the Hard Way", in *Investigations of Gender and Technology*, Unwin Hyman, Boston 1990, pp. 121-22.

²⁷⁴ Wajcman, *Feminism Confronts Technology*, p. 146.

of access and opportunity, radical feminists considered power as deeply embedded within social structures and, like socialist feminists, took gendered nature of technology into consideration. Radical feminists were anti-modern by rejecting science and technology as enslaving²⁷⁵ and opposed reproductive technologies as unnatural.²⁷⁶ Liberal feminists did not question to find ways to reshape technoscience through accommodating women in it. Despite these differences, these early feminist groups had fatalistic pessimism about technology by regarding the monopoly and power of men in reproducing patriarchal technology and women's dependence on men in terms of technological skills that were considered as lack in women. In other words, liberal feminism tried to erase the barrier line that restricts the participation of women in science and technology, but radical feminism rejected this line and technology because of being patriarchal; socialist feminism claimed that technology has an impact upon the gendered division of labour.²⁷⁷

Early second wave feminism had a liberal formulation demanding women to participate in technoscience as well as in other existing power structures, so the concept of gender stereotypes became the focus of feminist writers who rejected the sex differences between women and men. There was an empiricist view that science and technology are "fundamentally (gender) neutral." The goal of second wave feminism was consciousness rising of women about equal education and employment, and scientific knowledge, but gender-conscious accounts about scientific knowledge were not enough yet. Then, Wajcman claims that women's consciousness about scientific knowledge was tried to be raised by the women's health movement, which was developed in America and Britain in the 1970s.²⁷⁸

In other words, early second wave feminism was interested in birth control and abortion rights and women tried to get the knowledge and control over their own bodies back as well as their sexuality and fertility as a liberation act. Therefore, science was seen as alien by such women's movements as health, peace and environmental. In fact, they reacted to biology and medical science by which they felt as different and inferior,

²⁷⁵ Elizabeth A. Flynn, *Feminism Beyond Modernism*, Southern Illinois University Press, Illinois 2002, p. 32.

²⁷⁶ Janice Raymond, "Connecting Reproductive and Sexual Liberalism", in *Radically Speaking: Feminism Reclaimed*, (Ed.), by Diane Bell and Renate Klein, Spinifex Press, Australia 1996, p. 234.

²⁷⁷ Wajcman, *TechnoFeminism*, pp. 12-22.

²⁷⁸ Wajcman, *TechnoFeminism*, pp. 15-17.

that is it was a reaction to biologically determined sex roles. However, by the 1980s, feminist criticism of science moved from asking “Women Question in science to more radical Science Question in feminism.” That is, Sandra Harding claims that rather than asking, “how women can be more equitably treated within and by science”, it is asked “how a science apparently so deeply involved in distinctively masculine projects could possibly be used for emancipatory ends”²⁷⁹ and she adds that:

Where the Woman Question critiques still conceptualize the scientific enterprise we have as redeemable, as reformable, the Science Question critiques appear skeptical that we can locate anything morally and politically worth redeeming or reforming in the scientific world view, its underlying epistemology, or the practices these legitimate.²⁸⁰

Thereby, women began to reject scientific knowledge as patriarchal and call for a new science based on the values of women. Hence, day-by-day feminists began to explore the relation between women and technology and more beyond explored the gendered character of technology itself. That is, this approach was influenced by radical feminism and was identified with socialist feminism.²⁸¹

The early contemporary women’s movement saw reproductive technology as progressive and liberating women from their dictated nature of oppression as the female body (sex). That is, it is a kind of liberation from reproduction. For example, as a radical feminist Shulamith Firestone, in her *The Dialectic of Sex*, claims that technology can liberate women: “The Freeing of women from the tyranny of their reproductive biology by every means available, and the diffusion of the childbearing and childrearing role to the society as a whole, men as well as women.”²⁸² In other words, birth technologies would liberate women from the oppression and patriarchy that tries to control women’s bodies, fertility and sexuality. The artificial womb would liberate women from their tyranny of biology, so thanks to neutral technology, sexual equality could be possible as soon as biological motherhood ends. We can say that childrearing

²⁷⁹ Sandra G. Harding, *The Science Question in Feminism*, Cornell University Press, New York 1986, p. 29.

²⁸⁰ Harding, p. 29.

²⁸¹ Wajcman, *TechnoFeminism*, p. 18.

²⁸² Shulamith Firestone, *The Dialectic of Sex: The Case For Feminist Revolution*, William Morrow & Co., New York 1972, p. 206. (Italics in original).

is not just the responsibility and duty of a woman but of a society: both women and men; so women should be free from constraints of childbirth.

However, Wajcman claims that other feminisms such as radical feminism, cultural feminism, and Ecofeminism were concerned with the view that the project of the patriarchal Western technology was to dominate and control women and nature. Although Firestone's view was influential for some groups like radical lesbians, gays and infertile people, it was not accepted by some radical feminists such as FINRRAGE (Feminist International Network of Resistance to Reproductive and Genetic Engineering) who claimed that these technologies are patriarchal in exploiting women's bodies. Nancy Lublin argues that Ecofeminists are against to the idea that technology can be intervened in the womb, but radical feminists, moving more beyond, reject both the development and management of reproductive technologies. However, she adds that many radical FINRRAGE feminists do not reject the intervention of technology in the womb (instead, many support surgical abortion) despite the similarities between the thoughts of Ecofeminists and FINRRAGE feminists, (most of whom are Ecofeminists).²⁸³ The problem in radical feminism is "its tendency in essentialism, repressing women as inherently nurturing and pacifist" and portraying women as "uniformly victims of patriarchal technoscience."²⁸⁴ Like radical feminists, Ecofeminists and cultural feminists also claimed that technoscience is patriarchal. For instance, for Ecofeminists military technology as well as other modern technologies is seen as the product of patriarchal culture, and a male domination of nature, culture and women.

Wajcman stresses on radical feminists' rejection of the development of a new reproductive technologies and their regarding this new technologies as "a form of patriarchal exploitation of women's bodies," that is, a patriarchal attempt to control pregnancy and childbirth and so they will render women unnecessary.²⁸⁵ Likewise, Lublin asserts that FINRRAGE feminists regard the use and development of technology as male-dominated and reproductive technology as anti-women.²⁸⁶ Wajcman also argues

²⁸³ Nancy Lublin, *Pandora's Box: Feminism Confronts Reproductive Technology*, Rowman & Littlefield Publishers, Inc., Maryland 1998, pp. 61-67.

²⁸⁴ Wajcman, *TechnoFeminism*, p. 23.

²⁸⁵ Wajcman, *TechnoFeminism*, p. 19.

²⁸⁶ Lublin, p. 66.

that FINRRAGE feminists see production as a natural process and only inherent in women. While Firestone regarded the reproductive role of women as oppressive and considered reproduction as completely separate from sexuality, FINRRAGE writers saw this situation as “an attack on women.”²⁸⁷ One of the FINRRAGE feminist writers, Corea, regards these technologies as “a war against wombs”²⁸⁸ by considering technology as a male reality production: “The values expressed in the technology—objectification, domination—are typical of male culture. The technology is male-generated and buttresses male power over women.”²⁸⁹ These feminists claimed that these technologies are a kind of control over women and they have harmful effects on the health of women. For example, vitro fertilization (IVF) was promoted as being pro-fertility, egg donation, sex predetermination and embryo evaluation are a kind of social and cultural control over women and because of these technologies; women are subjected to use harmful drugs and invasive surgery. They also claimed that women are used as incubators, and surrogate mothering with its risk on health is a kind of modern slavery. That is, radical feminists saw the concept of technoscience, reproductive and genetic engineering as intrinsically patriarchal and as not neutral but exploitative of and dominative over women and nature. The concept of the cyborg and the reproductive technologies are related to each other so this will be explained in detail in the Cyborg Feminism part.

On the other side, the relationship between technology and women’s work was the prominent subject of socialist feminism while the interest of radical feminism was on the bodies/sexuality of women. Because of the shift from factory work to office work in the West, women found new economic independence as the clerical and secretarial workers. Socialist feminist research was interested in computer-based technologies in the offices and women’s work as clerical, secretarial workers increased rapidly. Thanks to the technological development, women’s employment opportunities increased, but this time there appeared exploitation of the Third World women. These Third World women were used as cheap labour for some works such as the manufacture of

²⁸⁷ Wajcman, *TechnoFeminism*, p. 20.

²⁸⁸ Gena Corea, *The Mother Machine: Reproductive Technologies from Artificial Insemination to Artificial Wombs*, Harper & Row, New York 1985, p. 303.

²⁸⁹ Corea, pp. 3-4.

computers.²⁹⁰ However, socialist feminists had “a pessimistic view of the impact of microelectronic technology on women’s work, often expressed in an anti-technology stance” such as “the implications for women’s health and safety of widespread use of video display terminals, from eye strain and headaches to the risks of radiation for pregnant women.”²⁹¹ Because of the computers, there were also fears that there would be fewer office jobs, difficulty for the typists’ to apply their skills to computers, and less need to secretarial work. Socialist feminists focused on the gender division of labour by which we see sexual hierarchy characterizing paid occupations whose gendered nature was predictable.

There were men’s monopoly on technology and men excluded women from technology first during the Industrial Revolution because of the fear of women’s entrance into skilled technical jobs and trade, so women were chosen for lower paid and less skilled jobs. That is, there was a relationship between technology and masculinity, which was identified with skilled work. In other words, skilled work was associated with men’s work as a result of their traditional monopoly of technology. Thus, this skilled work (masculinity) and technology relationship caused the gender division of labour. Because of this reason, women were associated with the least technical jobs while men required more machine-related and physical strength jobs.²⁹² It can be concluded that there were diversities in the positions available to women and men; women were excluded from most professional and highly skilled technical jobs, which were under the hegemony of men, so they were clustered into less professional and low skilled jobs in factories and clerical positions.

Besides, women’s unpaid labour at home was forgotten; servicing either to men and children or to other dependents such as elder family members or relatives, so this servicing and unpaid labour were seen as a key to women’s subordination by feminists. Hence, they regarded technology as a solution to these unpaid duties and housework. Then, feminists were interested in domestic technology and by the 1970s, housework was considered as a job but, of course, the amount of time spent by women on these household tasks did not decrease thanks to this domestic technology. For example, Ann

²⁹⁰ Wajcman, *TechnoFeminism*, pp. 23-24.

²⁹¹ Wajcman, *TechnoFeminism*, p. 24.

²⁹² Wajcman, *TechnoFeminism*, p. 27.

Oakley regarded housework as a work “analogous with other kind of jobs” and as “‘real and ‘hard work’.”²⁹³ Like Marxist feminists, Wajcman herself asserted that “paid work could not be understood without reference to women’s unpaid work in the home, and that the sexual division of labour separated women from control over the technologies they utilized both in the workplace and at home.”²⁹⁴ Likewise, socialist feminists supported the strong independencies, rather than restrictions, between the sexual divisions of labour at home and work because they believed that all social relations produce and reproduce masculine and feminine identities.

To sum up, social forces shape the lives of women and those mentioned different types of feminisms regard the gendered structures of power as monolithic, under the monopoly of men’s technopower. In other words, for all such feminisms technology was seen under the authority of men, as patriarchal, so they did not consider the technoscience by claiming that it is inherently patriarchal. This common tendency of technological determinism that considers women as the passive victims of technology was defended by these feminisms. Nevertheless, this determinism mostly referred to radical feminism but not so much to socialist feminism. Both radical and Ecofeminists regarded the nature of technology and technoscience as inherently patriarchal by providing negative possibilities for gender equality in redesigning technologies.²⁹⁵ The reason of this is related to socially shaped notion of technology, which is, in fact, shaped by men excluding women from the arena. That is, for Wajcman, pessimism of past feminist groups demonstrated technoscience as inherently patriarchal and socially shaped technology by men, so that exclusion of women showed the lack of enough attention to women’s agency.

²⁹³ Ann Oakley, *The Ann Oakley Reader: Gender, Women and Social Science*, The Polity Press, Bristol 2005, p. 74.

²⁹⁴ Wajcman, *TechnoFeminism*, p. 28.

²⁹⁵ Francesca Bray, “Gender and Technology”, in *Women, Science, and Technology: A Reader in Feminist Science Studies*, (Ed.), by Mary Wyr, Hatice Örün Öztürk, at all, Routledge, London 2013, p. 372.

2.2. TECHNOFEMINIST APPROACH

The term TechnoFeminism was coined by Mark Dery (1992)²⁹⁶ and invented by the writer Pat Cadigan who, in an interview in 1992²⁹⁷, claimed that her writings differentiate from cyberpunk writings. Then, the term has been introduced and used in 2004 by Judy Wajcman whose approach is the first to refer to both Cyberfeminism and Cyborg feminism. K. Lahiri-Dutt considers her TechnoFeminism referring to a complex fusion, which considers both women and technology not as a unitary category.²⁹⁸ Taking different feminist groups' views of technology and science into consideration, Wajcman argues that the impact of technology on women might create future visions either utopian (for technophiles) or dystopian (for technophobes) and both consider the future with automata, androids and robots. In terms of Cyberfeminism, women issues are developed by their use of various technologies in order to gain access and participate in cyberspace by which they can achieve liberation from conventional and traditional gender roles, freedom, especially gender-free future, in the global cyberspace. Hence, as the internet is beyond the control of patriarchy, virtual reality is the proper place of freedom for women where there is also the liberation from conventional definition of women as biologically determined belonging to the private sphere and jobs. People have the opportunity to express themselves, their ideas and desires in a more free way than in real life. However, on the technophobes' side, this freedom leads some groups to create pornographic sites as well in which women are used as virtual sex objects. That is, "sexual harassment, the internet sex trade, paedophile networks, and anxiety about children's vulnerability are the focus of this perspective."²⁹⁹ Hence, it can be said that virtual world is the simulation of the real world.

Wajcman argues that the feminist scholarship falls into two groups in terms of technology and gender; while the optimistic ones see technology as freedom, the others

²⁹⁶ Mark Dery, "The Brave New World of TechnoFeminist Fiction", *Elle*, 7(9-12), May, 1992, p. 96. See also Mark Dery, *England My England: Anglophilia Explained*, p. 31.

²⁹⁷ Laura Chernik, *Social and Virtual Space: Science Fiction, Transnationalism, and the American New Right*, Rosemont Publishing & Printing Corp., Massachusetts 2005, p. 65. See also Laura Chernik, "Pat Cadigan's Synners: Refiguring Nature, Science and Technology", p. 63.

²⁹⁸ K. Lahiri-Dutt, "The Megaproject of Mining: A Feminist Critique", in *Engineering Earth: The Impacts of Mega engineering Projects*, Vol. 1, (Ed.), by Stanley D. Brunn, Springer, London and New York 2011, p. 339.

²⁹⁹ Wajcman, *TechnoFeminism*, p. 4.

think that men still dominate scientific and technological fields. For those who see technology as male domain, Wajcman says that:

Feminists have identified men's monopoly of technology as an important source of their power; women's lack of technological skills as an important element in their dependence on men. Whilst there is broad agreement on this issue, the question whether the problem lies in men's monopoly of technology or whether technology itself is inherently patriarchal remains more contentious.³⁰⁰

Wajcman thinks that the biomedical technologies create both hopes and fears for women. They can give freedom for women and “fantastic opportunities for self-realization– we can literally redesign our bodies and commission designer babies.”³⁰¹ Women can make some choices by defying biology such as choosing the sex of the child, choosing the colour (of hair, eyes, body) of the child, having a child after menopause or not having a child altogether. These new body technologies sever the link between femininity and maternity and so the categories of the body, gender, sex and sexuality are disrupted. Hence, Wajcman claims that this liberates women from the tyranny of biology or having been captive to biology. Thus, by the help of this new technology, women have right to choose to use their body as an incubator or not to use their maternity power. However, on the other side, this technology creates fear in women, as well. For example, besides biomedical technologies, women feel fear to be deprived of any control over reproduction because of the rapid growth in genetic engineering and cloning. From this point of view, it is implicated that technoscience is under the masculine authority of the domination and power of controlling woman and her nature. That is to say, as seen in genetically modified foods, cloned animals or perfectly bred human beings, there are fears about the power of genome if it intervenes in and redesigns nature. Thus, Wajcman stresses on the risk of life itself either human, plant or animal becoming “biomedicalized and commodified.” Because of this reason, another way of taking over self-determination of women's bodies is considered as genetic and reproductive engineering.³⁰²

³⁰⁰ Wajcman, *TechnoFeminism*, p. 12.

³⁰¹ Wajcman, *TechnoFeminism*, p. 4.

³⁰² Wajcman, *TechnoFeminism*, pp. 4-5.

In addition, for Wajcman, there are also fears and hopes in the digital economy in which images of women's prospects are divergent. From one perspective, the future of work is in the hands of females. Lifelong learning and knowledge economy become the basis of a society, which is produced by the enlargement of the information-intensive service sector. Expertise, judgment, and discretion are the dominant descriptions of work, which necessitate employers with high degrees of acquirement and cognition. Feminine aptitudes for communicating and social acquirements to which service work increasingly applies will be advantageous for women. Likewise, post-industrial corporations necessitating the "more empathetic 'soft' co-operative styles of management" will be suitable for women managers. Thus, Wajcman considers the future of work as female.³⁰³

However, the other perspective is that women are chosen for the jobs that need less capacity and capability. In the new economy, women can have temporary, contingent and flexible jobs requiring simple, routine, predictable tasks as well as little skills such as call centers and fast food establishment. In order to watch and monitor their employees electronically, contemporary computerized workplaces require enhanced tools. Women's domestic burden and work intensification are worsened by telework. Moreover, firms change over a growing ambit of projects offshore and benefit from low-cost female labour thanks to the information and communication technologies that afforded spatial flexibility. Thus, Wajcman claims that old patterns in the labour market such as exploitation and sex segregation continue in the knowledge economy as new forms of work.³⁰⁴

Because of the false idea that technology and science are under the hegemony of men and that women are under-represented in scientific and technological fields, there appeared pessimistic views mentioned above. Men do not shape technology and women cannot be excluded from the field; on the contrary, technology and science are free from gender and we cannot talk about any sex shaping them. Wajcman argues that contemporary feminist debates are more optimistic about the impact of radically new technologies on women and its possibilities opened up for women. Therefore, the aim of Wajcman is "to offer a way between utopian optimism and pessimistic fatalism for

³⁰³ Wajcman, *TechnoFeminism*, p. 5.

³⁰⁴ Wajcman, *TechnoFeminism*, pp. 5-6.

TechnoFeminism.” She says that “we have begun to conceive of a mutually shaping relationship between gender and technology, in which technology is both a source and a consequence of gender relations” and because of this reason she coined the term TechnoFeminism. Wajcman points out the mutual constitutive relationship between technology and women and the notion of technology is considered as not monolithic and neutral by her TechnoFeminist framework with an “emphasis on the contingency and heterogeneity of technological change.” Therefore, her TechnoFeminist framework gives women opportunity to transform technologies.³⁰⁵

Thereby, while previous generation of feminists like radical, cultural, socialist identified technological pessimism, these new generation feminists like TechnoFeminists, Cyberfeminists and Cyborg Feminists identify technological optimist feminism. Wajcman argues that, unlike pessimisms of the past, there appears optimism with recent developments of cyberspace and digital technologies. That is, she asserts that “we do need to address current technoscience with a sensibility different from that which has informed feminist attitudes to science and technology in the past.”³⁰⁶ The productive possibilities of technology for women was neglected by early feminists, but current approaches as postmodern and post-structural have given importance to the relationship between power and gender, identity by considering the idea that there is an incompatible link between technology and women. Therefore, since the 1990s, feminist approaches “adopt an optimistic perspective on the nature of digital technologies and their implications for women.”³⁰⁷ This image of new technology is positive for women moving beyond negative technological determinism that the earlier feminism supported to a more positive and optimistic perspective.

Feminist constructivist technology studies regard gender as socially and culturally produced. It is developed in social studies of technology and it adopts social constructivist perspective on technology that rejects technological determinism. Wendy Faulkner questions gendered notion of technology and this feminist constructivist technology studies are referenced by “the sense that technology and society are

³⁰⁵ Wajcman, *TechnoFeminism*, pp. 5-7.

³⁰⁶ Wajcman, *TechnoFeminism*, p. 29.

³⁰⁷ Wajcman, *TechnoFeminism*, p. 32.

mutually constituting—hence, the coproduction of gender and technology.”³⁰⁸ Likewise, Wajcman suggests a social shaping or constructivist view of technology and offers a useful and effective interchange with feminism. Technological determinism has become a famous theme in social theory and this theme has been central to the network society debates and feminist theory, as well. She claims that technological determinism intertwined society and technology:

We were concerned that this view of technology, as an external, autonomous force exerting an influence on society, narrows the possibilities for democratic engagement with technology, by presenting a limited set of options: uncritical embracing of technological change, defensive adaptation to it, or simple rejection of it. Against this, the social studies of science and technology had its origin in a belief that the content and direction of technological innovation are amenable to sociological analysis and explanation, and to intervention.³⁰⁹

That is, Wajcman, instead of technological determinism, supports a mutual relationship between technology and society, and especially between gender and technology. She puts stresses on the view that social circumstances can shape technological change, as well. Wajcman asserts that in terms of their usage, design and content, technological artefacts are socially shaped and so, she regards technology as “a sociotechnical product” both in its creation and in use.³¹⁰ Wajcman with MacKenzie develops SST (Social Shaping Technology) by which technology and society relationship emerged in the 1980s alongside with the theory of Wiebe Bijker and Trevor Pinch’s social construction of technology (SCOT) that supports technological constructivism; the shape of technology by human action, and Michel Callon and Bruno Latour’s Actor-Network Theory. All these have a common approach of criticizing technological determinism and instead supporting mutual shaping. With MacKenzie, Wajcman focuses on the impacts of society on technology that social contexts can shape the rise of technologies rather than the impacts of technology on society. They reject

³⁰⁸ Wendy Faulkner, “The Technology Question in Feminism: A View from Feminist Technology Studies”, *Women’s Studies International Forum*, 24 (1), 2001, p. 90.

³⁰⁹ Wajcman, *TechnoFeminism*, p. 33.

³¹⁰ Wajcman, *TechnoFeminism*, p. 34.

technological determinism in which social change is under the control of technologies that develop in predetermined directions.³¹¹

In other words, like all these critics, Wajcman draws the relationship between social change and technology. To her, there is a mutual relationship between technology and society both of which influence each other, “technological change is itself shaped by the social circumstances within which it takes place.”³¹² Neither society nor technology is determined by one another because they both influence one another mutually, so as she claims, technology has a sociotechnical notion. This sociotechnical notion was adapted from Thomas Hughes in 1986 who regarded technology as just technical or just social, but considered the technology and society relationship as interactive and as a seamless web.³¹³ That is, we can say that there is a mutual constitutive interaction between technology and society, and so between women and technology and technology is both social and technical, sociotechnical. Likewise, for Wajcman gender roles and sexual divisions are considered as “part of the sociotechnical system or network.”³¹⁴

The mutual influencing notion of technology and society is related to actor network theory (ANT); both technology and society are made of the networks by which human being and non-human entities are connected. Since the emergence of ANT in the early 1980s at the Centre de Sociologie de l’Innovation (CSI) of the École nationale supérieure des mines de Paris by Michel Callon and Bruno Latour, it has contributed to many range of important fields and studies beyond STS such as sociology, technology, feminism, health, geography, economics, etc. There are three major authors in the development of actor network theory: Callon, Latour, and John Law.

ANT as a material-semiotic method is related to other works of philosophers like Gilles Deleuze, Felix Guattari, Michel Foucault and Donna Haraway. Laura Chernaik argues that “the material-semiotic practices of race, gender and sexuality act through

³¹¹ Donald A. MacKenzie and Judy Wajcman, *The Social Shaping of Technology: How Refrigerator Got Its Hum*, Open University Press, Milton Keynes, England 1985, Chapter 1.

³¹² Wajcman, “The Feminization of Work in the Information Age”, p. 82.

³¹³ Thomas P. Hughes, “Seamless Web: Technology, Science, Etcetera, Etcetera”, *Social Studies of Science*, 6(2), May, 1986, pp. 281-292.

³¹⁴ Wajcman, *TechnoFeminism*, p. 35.

and on techno-science.”³¹⁵ ANT aims to explain the act of material-semiotic networks coming together as a whole. Latour’s anthropological approach and Haraway’s social-historical approach have an influence on technoscience studies and both address questions of difference, which is derived from Deleuze and Guattari whose philosophy developed “non-particularistic” difference, which universalizes. Their theory is focused on performativeness that Judith Butler supports as well; language should be “understood in terms of ‘expression,’ and ‘expression’ understood as a speech act, a performative”, that is, “expression is a performative.”³¹⁶ Haraway also follows their argument about performance and performativity and she grounds them on the basis of technoscience. That is, Haraway and Latour follow the difference notion of Deleuze and Guattari by claiming that the difference and particular are not the same.

Deleuze’s and Guattari’s developed notion of “abstract machines” is associated with the organism and for them this organism theorizes a body as a totality, so they use a body without organs (BWO) as a function of the abstract machine.³¹⁷ This abstract machine entails a double articulation, which involves a first articulation, deterritorialized flows BWO and a second articulation, a plane of consistency. They assert that “the identity of effects, the continuity of genera, the totality of all BWOs can be obtained on the plane of consistency only by means of an abstract machine capable of covering and even creating it, by assemblages capable of plugging into desire, of effectively taking charge of desires, of assuring their continuous connections and transversal tie-ins.”³¹⁸ That is, they define the abstract machine like that:

An abstract machine in itself is not physical or corporeal, any more than it is semiotic; it is diagrammatic (it knows nothing of the distinction between artificial and the natural either). It operates matter, not by substance; by function, not by form. Substances and forms are of expression “or” of content. But functions are not yet “semiotically” formed, and matters are not yet “physically” formed. The abstract machine is pure Matter-

³¹⁵ Chernaik, *Social and Virtual Space: Science Fiction, Transnationalism, and the American New Right*, p. 47.

³¹⁶ Chernaik, *Social and Virtual Space: Science Fiction, Transnationalism, and the American New Right*, p. 52.

³¹⁷ Gilles Deleuze and Felix Guattari, *EPZ Thousand Plateaus*, Continuum, London 2004 (first published in 1988 by The Athlone Press. Ltd), p. 183.

³¹⁸ Deleuze and Guattari, p. 184.

Function—a diagram independent of the forms and substances, expressions and contents it will distribute.³¹⁹

For them, a machine is not just an inorganic entity, but also an assemblage of heterogeneous entities that Haraway calls cyborgs. However, there are many differences between abstract machines and cyborgs. While their machine is a collective of many entities, Haraway's cyborg is non-unitary having multiple identities.

We can say that, unlike technological determinism, ANT suggests that neither society nor technology is determinate in shaping one another. Social relations can shape technology as well as technology can shape social relations, but they are not determinate on each other. Social relations are dependent of technology, so technical and social are bound together. Bijker and Law also see technology as sociotechnical product:

Purely social relations are to be found only in the imaginations of sociologists, among baboons, or possibly on nudist beaches; and purely technical relations are to be found only in the sophisticated reaches of science fiction. The technical is socially constructed, and social is technically constructed—all stable ensembles are bound together as much by the technical as by the social. Where there was purity, there is now heterogeneity. Social classes, occupational groups, firms, organizations, professions, machines—all are held in place by intimately linked social, technical means....Society is not determined by technology, nor is technology determined by society. Both emerge as two sides of the sociotechnical coin.³²⁰

That is, ANT regards both technology and society as a combined sociotechnical system. Like them, Wajcman argues that actor network theory is associated with science and technology studies (STS) or in constructivist studies, which is opposing to technological determinism. As a constructivist approach, ANT avoids essentialist explanations of the technology and society relationship. She argues that: "The conception of the non-human as actant serves as a corrective to a rigid conception of social structure. It involves a view of society as a *doing* rather than a *being*. Therefore, the connection must be seen as kinetic rather than static. The construction of

³¹⁹ Deleuze and Guattari, p. 156.

³²⁰ Wiebe E. Bijker and John Law, *Shaping Technology/building Society: Studies in Sociotechnical Change*, MIT Press, Cambridge, MA 1992, p. 290.

technologies is also a moving, relational process achieved in daily social interactions: entities achieve their form as a consequence of their relations with other entities.”³²¹

Callon defines an actor-network as “simultaneously an actor whose activity is networking heterogeneous elements and a network that is able to redefine and transform what it is made of.”³²² ANT is different from other sociotechnical approaches as it considers actors both as human and non-human entities existing equally within a network. We see heterogeneous nature of actors; both human actors and non-human participants/entities with the same language, artefacts like computers. That is, both technical and non-technical elements are linked in a network of heterogeneous elements in ANT. Then, the network is called a heterogeneous network (HetNet) or sociotechnical network (STN). The aim of ANT is to explore the translation, process of making connections, so the focus is on power, which is conceptualized as a relational effect because actions of others characterize this effect and by which stories about the processes of translation is told.³²³ Latour says that any actor-network is the effect of the connections: “When you simply have power—in potentia—nothing happens and you are powerless; when you exert power—in actu—others are performing the action and not you” and he considers power “as an effect, but never as a cause.”³²⁴ Latour uses the concept of delegation as an interpretation of the translation. His delegation concept describes the mutual relationship between the social and the technical: “I will define this transformation of a major effort into minor one by the words displacement or translation or delegation of shifting.”³²⁵ He regards the delegation as a particular instance of translation and so by this way, there occurs a co-constitution between the social and the technical, a mutual relationship between each other. That is, everything (people, technology, social order) is the effect of heterogeneous networks. ANT rejects the idea that technology has an impact on humans as an external force, but it emerged from social interests, so it can shape social interactions; that is why there is a mutual

³²¹ Wajcman, *TechnoFeminism*, p. 39.

³²² Michel Callon, “Society in the Making: The Study of Technology as a Tool for Sociological Analysis”, in *The Social Constructions of Technological Systems*, ed. by Wiebe E. Bijker et al., MIT Press, Cambridge 1987, p. 93.

³²³ Allison Cavanagh, *Sociology in the Age of the Internet*, Open University Press, England 2007, pp. 32-33.

³²⁴ Bruno Latour, “The Powers of Association”, in *Power, Action and Belief: A New Sociology of Knowledge*, ed. by John Law, Routledge, London 1986, p. 265.

³²⁵ Latour, “Where are the Missing Masses? The Sociology of a Few Mundane Artifacts”, p. 229.

relationship between society and technology. Taking the goal of ANT, Wajcman grounds her TechnoFeminist approach on this idea that there is a mutual relationship between women and technology.

In addition, Rebecca Scheckler asserts that, with the other feminist scholars, Cynthia Cockburn and Susan Ormrod, Wajcman brings “an awareness of gender into the social construction of technology.”³²⁶ We can say that in this techno-digital age, without any technological reference, it is difficult to understand the notion of gender as well. Cockburn claims that “technology itself cannot be fully understood without reference to gender”³²⁷ and Wajcman refers to Cockburn and Ormrod’s study of microwave invention as mutual shaping of society and technology.³²⁸ Wajcman gives the example of technological achievement of microwave, which was first unsuccessfully marketed, to men, US navy submarines to reheat prepared food but later because of the dragging sales, the machine then marketed to busy women who have a double job both at home and at work. There is a gendering factor in the technological process even in marketing. Male designers and engineers of the microwave could not foresee women users would be the appropriate users of it, so the machine redefined the user’s gendered character. This shows that “technological change is a contingent and heterogeneous process. Different groups of people involved with technology can have very different understandings of its technical characteristics. Thus, users can radically alter the meanings and deployment of technologies.”³²⁹ Wajcman then explains the mutual relationship of society and technology like this:

Technology and society, then, are bound together inextricably, and the traffic between the two is reciprocal. [...] Rather, the metaphor of a ‘heterogeneous network’ conveys the view that technology and society are mutually constitutive: both are made of the same stuff-network linking human beings and non-human entities. The technological, rather than being a sphere separate from society, is part of what makes large-scale society

³²⁶ Scheckler, p. 116.

³²⁷ Cynthia Cockburn, “The Circuit of Technology: Gender, Identity, and Power”, in *Electronic Media and Technoculture*, (Ed.), by John Thornton Caldwell, Rutgers University Press, New Brunswick, N. J. 2000, p. 197.

³²⁸ Cynthia Cockburn and Susan Ormrod, *Gender and technology in the Making*, Sage, London 1993, pp. 16-75. See also Susan Ormrod, “‘Let’s nuke the dinner’: Discursive practice of gender in the creation of a new cooking process”, in *Bringing technology home: gender and technology in a changing Europe*, (Ed.), by Cynthia Cockburn and Ruth Fürst Dilic, Open University Press, Buckingham & Philadelphia 1994, pp. 42-58.

³²⁹ Wajcman, *TechnoFeminism*, p. 37.

possible. Their most controversial idea, that we cannot deny a priori that non-human actors or ‘actants’ can have agency, has helped us to understand the role of technology in producing social life.³³⁰

That is, it can be implicated that social values of the users of these technologies shape technology, as well. Moreover, the idea that gender interests or identities shape or may be shaped by technological objects has not been the main focus, so social relations including gender relations has been the responsibility of feminists studying technoscience. Feminist scholars question whether the technology is monopolized by male power or gender power relations shape it. Wajcman cites the writings of feminist scholars Donna Haraway and Sadie Plant who embrace technology and she regards the social shaping of technology as means of women’s empowerment.

Callon argues that “the proper object of study is neither society nor so called social relations but the very actor-networks that simultaneously give rise to society and technology.”³³¹ Law claims that this actor network process is achieved in daily social interactions, that is, each entity as a result of its relationship with other entity achieves its own form.³³² This action-orientation chimes with performativity that is a current influence in sociology. Another theorist Butler, for example, in her *Gender Trouble*, states that “gender proves to be performative—that is, constituting the identity it is purported to be. In this sense, gender is always a doing, though not a doing by a subject who might be said to preexist the deed.”³³³ She conceives of a gender as a performance because individuals act or perform gender, that is, gender is not fixed but is constructed in social interaction. Likewise, Wajcman asserts that:

Gender is a social achievement that requires a constant process of reiteration. This notion of performativity, or ‘gender as doing’, chimes with the actor-network theory view of society as a doing rather than a being (although, [...], the latter does not see that the ‘doing’ is always gendered and that when women aren’t there, men are still doing gender). The construction of gender identities, like that of technology, is a moving relational process achieved in daily social interactions. [...] This model of

³³⁰ Wajcman, *TechnoFeminism*, pp. 38-39.

³³¹ Michel Callon, “Society in the Making: The Study of Technology as Tool for Sociological Analysis” in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, ed. by Wiebe E. Bijker et al., MIT Press, Cambridge 2012, p. 93.

³³² John Law, “After ANT Complexity, Naming and Topology”, in *Actor Network Theory and After*, (Ed.), by John Law and John Hassard, Blackwell, Oxford 1999, p. 4.

³³³ Judith Butler, *Gender Trouble*, Routledge, New York 1990, p. 25.

technological development enables us to understand technologies and interests as products of mutual alliances and dependencies among groups involved in the specific technology. It follows from this that gendered conceptions of users are fluid, and subject to a variety of interpretations. The relationship between particular gender power interests and their inscription in technological innovation must be treated with subtlety and its complexity recognized.³³⁴

In other words, we see heterogeneous and contingent process of technological change and located in wider social networks, so in transforming technologies there appears a space for women's agency but new technologies have not opened up this space because it is the characteristics of existing sociotechnical networks. That is, new technologies are both malleable and have continuities with older technologies revealing "continuities of power and exclusion, albeit in new forms."³³⁵ That is, sociotechnical systems are enacted materially as well as performing symbolically.

Likewise, Wajcman argues that society becomes possible by material resources, artefacts, and technology because it is society that is built along by these objects and artefacts.³³⁶ Thus, Wajcman asks why it is so hard and difficult for gender issues to be recognized and she explains the problems she argues as many. First one was the methodologies used by ANT and their focus on observable conflicts that easily overlooks wide scale exclusions of women from spheres (science, technology, network, engineering, management etc.), so this led to "a common assumption that gender interests are not being mobilized."³³⁷ That is, in technological design we see few women actors because of the sexual division of labour and exclusion from the network. Wajcman, then, criticizes such kind of overlooking on the presence of women in those spheres. We can say that this problem was resulted from relevant social groups who had more power and announced their presence in the process of technological development, so this male hegemony excluded women from the spheres or considered those active actants as marginalized.

The second one is the Foucauldian power conception that ANT is strongly influenced, which is the conception of power that refers to capacity as well as

³³⁴ Wajcman, *TechnoFeminism*, p. 53.

³³⁵ Wajcman, *TechnoFeminism*, p. 54.

³³⁶ Wajcman, *TechnoFeminism*, p. 39.

³³⁷ Wajcman, *TechnoFeminism*, p. 41.

effectiveness. For example, Latour regarded power as a result rather than a possession or a cause of action.³³⁸ Thus, for Latour such authorities as kings, classes and countries are the results of a set of effects rather than a cause of consequent events. That is, following Wajcman who criticizes such kind of power conception, it can be referred that it is so normal for some groups to be more powerful on some spheres but that power does not give them a unique capacity, knowledge and hegemonies on those fields. To Wajcman, this power was associated with the link between men and technology:

In my view, an overemphasis on the enabling aspects of power can make it equally awkward to address the obduracy of the link between men and technology. Feminists' traditional concerns with women's access to technology, the differential impact of technology on women, and the patriarchal design of technologies have sat uneasily with this analysis of technology. The networks that actor-network theory is interested in are networks of observable interactions. While this theory perceives that artefacts embody the relations that went into their making, and that these relations prefigure relations implied in the use and non-use of artefacts, it is less alert to the inevitable gendering of this process. Such approaches do not always recognize that the stabilization and standardization of technological systems necessarily involve negating the experience of those who are not standard. Networks create not merely insiders, but also outsiders, the partially enrolled, and those who refuse to be enrolled. Attendance to practices of exclusion or avoidance and their effects are integral, not peripheral, to adequate descriptions of the process of network building.³³⁹

That is, the observable interactions are the primary focus of the networks in ANT, so Wajcman argues that there should be interest not only on makers or inventors of artefacts but also on users, partial users and attenders, that is, on other actors or actants because she criticizes male hegemonic standardization in technological spheres as well as male agent heroes in social studies of technology who take the role of big boss of actor networks and important organizations.³⁴⁰ Susan Leigh Star also describes those male dominant models of actor networks as a “managerial or entrepreneurial.”³⁴¹ Hence,

³³⁸ Bruno Latour, “The Powers of Association”, in *Power, Action and Belief: A New Sociology of Knowledge?*, p. 264.

³³⁹ Judy Wajcman, *TechnoFeminism*, pp. 42-43.

³⁴⁰ Judy Wajcman, *TechnoFeminism*, 2004, p. 43.

³⁴¹ Susan Leigh Star, “Power, Technology and the Phenomenology of Conventions: on Being Allergic to Onions”, in *A Sociology of Monsters: Essays on Power, Technology and Domination*, (Ed.), by John Law, Routledge, London 1991, pp. 25-26.

multiple diverse groups can shape the development of technological projects, even non-human resources.

The third problem is the narrow analytic lens of ANT that makes women invisible. That is, women immediately would be visible if ANT widened its lens to “routine technoscience, manufacturing operatives, marketing and sales personnel, and the consumers and end-users of technologies.” For example, men are considered as fond of cars, which take a central place in hegemonic male culture and their love of cars symbolizes “individual freedom, self-realization, sexual prowess and control for them.”³⁴² However, it is forgotten, neglected or overlooked that cars symbolize more freedom for women because they shorten their journey by creating time for unpaid housework and baby caring and they help them to carry grocery bags, baby carriages and babies at the same time, and they prevent them from sexual harassment and male violence in public transport. Hence, women’s value of cars would not be neglected if the lens of ANT were widened. Besides women’s interest in technological projects, we see gender blindness in job opportunities, as well. Wajcman supports her thought as in the following:

More women are literally present, the further downstream you go from the design process. Women are the hidden cheap labour force that produces routine science and technology; as the secretaries, cleaners and cooks, they are part of the sales force and the main users of domestic and reproductive technologies. The undervaluing of women’s ‘unskilled’ and delegated work serves to make them invisible in mainstream technology studies. Actor-network theory is more interested in delegation to ‘actants’ than in the inequalities that arise in delegations among ‘actors’.³⁴³

That is, hegemonic masculinity played a huge role in technology and the role of women actor or actants was largely ignored. Following all these steps, it can be said that the mainstream social studies of science and technology has been increasingly interchanged with feminism for more than ten years. As a constructivist emphasis, we understand technology as a sociotechnical product. Wajcman’s *TechnoFeminist* research reconfigures feminist and mainstream technology studies and this research “has been at the front of moves to deconstruct the designer/user divide and, more generally,

³⁴² Wajcman, *TechnoFeminism*, p. 44.

³⁴³ Wajcman, *TechnoFeminism*, p. 45.

that between the production and consumption of artefacts. It is these divides that conventionally place men on one side and women on the other.”³⁴⁴ That is, like the microwave example of Wajcman, we can infer that the life of technology is affected by women and men’s different treatment of and relationship with machines. In daily practice, we come across the modified meanings and values of technologies by both consumers and users. Hence, in consumption of those modified technologies, culture plays an important role as cultural meanings of the technology play role in the production of goods, as well. Therefore, Wajcman’s TechnoFeminist approach brings together “the interpretative flexibility or malleability in how artefacts are read symbolically, with an understanding of how they are physically shaped and remade. It is therefore a study of a sociotechnical product that encompasses both material and immaterial networks” such as both cyber (immaterial) and cyborg, cybernetic organism (body, material).³⁴⁵ That is, her approach brings actor-network theory along with feminism and symbolic interaction. Sociotechnical networks have both shaped and been shaped by gender relations, that is a mutual relationship.

Wajcman’s TechnoFeminist approach rejects the essentialist position that sees technology as inherently patriarchal. Early feminist studies of gender and technology were pessimistic and the success of technology was claimed to be shaped by economic and political interests of powerful groups, patriarchy. However, Wajcman focuses on the TechnoFeminist studies that:

They have not taken interests as static and pre-given, but they have also maintained the centrality of gender relations in the social shaping of technology. They have drawn upon developments in the social studies of science and technology, and have extended them within a feminist framework. In the process, they have given a more subtle and relational view of sociotechnical networks, and transformed our view of technologies, old and new.³⁴⁶

Wajcman’s TechnoFeminist approach has parallels with more developed gender theories as Cyber- and Cyborg feminists. Plant and Haraway have been influenced by this new technoscience development as well by claiming that new information and communication technologies provide female empowerment agency and pleasure. Within

³⁴⁴ Wajcman, *TechnoFeminism*, p. 46.

³⁴⁵ Wajcman, *TechnoFeminism*, p. 48.

³⁴⁶ Wajcman, *TechnoFeminism*, p. 53.

TechnoFeminist framework, Wajcman combines Cyberfeminism and Cyborg feminism. Cyberfeminists reject the patriarchal power of men on the field of technology and science because women use various technologies and participate in cyber space. That is, thanks to the opportunities of the Internet by which female ways of being can be expressed, the relationship between women and machines has been changed, as well. As cyber space is beyond the control of any sex, technology liberates women from the tyranny of traditional and conventional gender roles by creating gender-free future. Wajcman argues that it is the cyborg figure that gives way to the feminist imagination most and it has reacted both to the treatment of women as passive victims of technological change and to unlimited freedom offered by new technical forms.³⁴⁷ Therefore, theories of Haraway become a bridge between these polarized views within feminist theory and Wajcman's TechnoFeminist approach brings together the insights of Cyborg feminism with Cyberfeminist theories by adding feminist politics.

2.2.1. Cyberfeminism

We are closely related to cyber culture and are influenced by it. We can pay all our bills through cyber banking, we can go shopping and do online shopping by cybershops, we can read books online, we can even have cybersex (women are portrayed as cybersex objects) or become a cyborg and enjoy our day with our avatar in the cybernetic. Therefore, cyberspace allows freedom and a new space to women feeling at home; they can connect to this new space while lying on their bed.

The original version of 'Cyber' is κυβερ (from Greek) meaning "governor" or "gubernational," so who is governing becomes an important question.³⁴⁸ Susan Hawthorne and Renate Klein claim that the connections of 'Cyber' to technology are "in the area of navigation, mapping, steering one's way through the World Wide Web" as the original meaning of it is to steer, "as a ship's helmsman steers a boat."³⁴⁹ It is thought that technology and science are governed by patriarchy, but Cyberfeminism argues that technology and science cannot be gendered by supporting the general myth

³⁴⁷ Wajcman, *TechnoFeminism*, p. 7.

³⁴⁸ Susan Hawthorne and Renate Klein, "Cyberfeminism", in *Cyberfeminism: Connectivity, Critique, and Creativity*, (Ed.), by Susan Hawthorne and Renate Klein, Spinifex, North Melbourne, Vic. 1999, p. 1.

³⁴⁹ Hawthorne and Klein, p. 1.

about the Internet, which is a “self-governing entity.”³⁵⁰ In terms of digital discourse, Cyberfeminists challenge to the idea that there are power differences between women and men.

From 1991 to 1997, an Australian media artists group of four female artists—Josephine Starrs, Francesca di Rimini, Julianne Pierce, and Virginia Barratt—known together as the *VNS Matrix*, coined the term Cyberfeminism. With their motto, “The clitoris is a direct line to the matrix,” they aimed to find out how social space, identity, and sexuality are constructed in cyberspace by echoing feminist positions of French philosophers Julia Kristeva, Luce Irigaray and Helene Cixous. Sadie Plant used this *VNS Matrix*’s line as the epigraph for her 1996 essay “Feminizations: Reflections on Women and Virtual Reality.”³⁵¹ The group linked the discourse of sexual difference with cyberpunk and released their “Cyberfeminist Manifesto for the 21st Century” (after they became aware of Haraway’s “A Cyborg Manifesto”) to the world with the lines that later turned into slogans:

We are the modern cunt
 positive anti reason
 unbounded unleashed unforgiving
 we see art with our cunt we make art with our cunt
 we believe in jouissance madness holiness and poetry
 we are the virus of the new world disorder
 rupturing the symbolic from within
 saboteurs of bid daddy mainframe
 the clitoris is a direct line to the matrix
 VNS MATRIX
 terminators of the moral codes
 mercenaries of slime
 go down on the altar of abjection
 probing the visceral temple we speak in tongues
 infiltrating disrupting disseminating
 corrupting the discourse
 we are the future cunt³⁵²

This work aimed to celebrate women’s creativity and productivity by rejecting binary oppositions such as “male/female, mind/body, rationality/emotionality, and pleasure/discipline,” and they supported “a feminine matrix based on the powers of cunt

³⁵⁰ Hawthorne and Klein, p. 2.

³⁵¹ Sadie Plant, “Feminizations: Reflections on Women and Virtual Reality”, in Lynn Hershman Leeson (Ed.), *Clicking In: Hot Links to a Digital Culture*, Bay Press, San Francisco 1996, pp. 37-38.

³⁵² VNS Matrix, “VNS Matrix Cyberfeminist Manifesto for the 21st Century”, 1991. Available at web <http://www.sterneck.net/cyber/vns-matrix/index.php> Accessed March 2014.

and the clitoris” by rejoicing “the potential of the body” as well as embracing “the visceral and abject.”³⁵³ At the same time, cyberpunk and Cyberfeminism have spread rapidly as a developing philosophy among women who are engaged with technology, internet and science. Cyberfeminism has been exploring and creating new worlds with digital technologies.

The prefix ‘Cyber’ started with cybernetics in the 1960s³⁵⁴ and the term cyberspace was invented by William Gibson in the 1980s.³⁵⁵ Coined by Gibson in his cyberpunk novel *Neuromancer*, the term cyberspace refers to a computer generated, three-dimensional virtual space that a user interacts. It is also named as “the matrix or ‘the Net’” in its shortest way.³⁵⁶ Cyberfeminism emerged as a “promising new wave of thinking and practice” with the growing presence of women on the Net as early as 1997.³⁵⁷ Cyberfeminists consider the Net as a site incubating subversion of existing gender relations.³⁵⁸ Cyberfeminism “necessitates an awareness of how power plays not only in different locations online but also in institutions that shape the layout and experience of cyberspace.”³⁵⁹ Cyberspace means an electronic matrix or virtual environment in commercial sense.³⁶⁰ A computer musician Jaron Lanier founded a company named VPL in 1985 aiming to serve in virtual reality and visual programming. Shortly after, he became a leading figure in the area with his famous saying, “whatever the physical world has, virtual reality has as well.”³⁶¹ We can say that the virtual reality is not only associated with an escape from the real world and its limitations, but also a new area of investment and marketing for capitalist modes of production. It promotes “creative genius, hyper-individualism and transcendent subjectivity.”³⁶²

In virtual reality applications, technology no longer imitates the reality; instead, it recreates it. However, the difference between the realities in a virtual world and in our

³⁵³ Kerstin Mey, *Art and Obscenity*, I. B. Tauris, London and New York 2007, pp. 156-157.

³⁵⁴ Norbert Wiener, *Cybernetics: Control and communication in-the animal and the machine*, 2nd Edition, MIT, Cambridge, MA 1968.

³⁵⁵ William Gibson, *Neuromancer*, Ace Books, New York 1984.

³⁵⁶ S. Thakur, *Techno Feminism*, MD publications, New Delhi 2011, p. 114.

³⁵⁷ Faith Wilding, “Notes on the political condition of cyberfeminism”, *Art Journal*, 57(2), 1998, p. 47.

³⁵⁸ Radhika Gajjala and YeonJu Oh, “Cyberfeminism 2.0: Where Have All the Cyberfeminists Gone?”, *Cyberfeminism 2.0*, (Ed.), by Radhika Gajjala and YeonJu Oh, Peter Lang Publishing Inc., New York 2012, p.1.

³⁵⁹ Gajjala and Oh, p. 1.

³⁶⁰ Thakur, p. 114.

³⁶¹ Quoted by Thakur, p. 115.

³⁶² Thakur, p. 120.

real world is not ontological but epistemological. They are both technological and cultural constructions. In virtual reality, we no longer ask whose reality or perspective is created. Instead, we ask, “what reality is created therein, and how this reality articulates relationships between technologies, bodies and cultural narratives.”³⁶³ It means that the reality becomes a subjective issue, and there are various realities rather than a single reality. In addition, these realities “embody the desires of those who program them.”³⁶⁴ That is, Cyberfeminism mainly focused on digital culture, which is mainly associated with postmodern technoscience.

According to Fred Pfeil, most of the science fiction written by men has obvious masculinize structure.³⁶⁵ Male writers create female characters technologically modified with weaponry and sexist, but male characters plug into female bodies to control over them. For example, in Gibson’s *Neuromancer*, Case plugs into Molly’s body but gives up to control. While watching outside from her eyes, Case feels very irritated and finds it strange to be passive but this passivity results from his lack of control over her body. In addition, the female body is commonly sexualized in male cyberpunk fictions. Molly represents a prototype of a TechnoFeminist figure and emancipation with her cyborg body, but of course, she is created as sexy, dangerous and desirable as well. According to Andrew Ross, “cyberpunk fiction offers the urban fantasies of white male folklore.”³⁶⁶ The reflections of this idea may be seen in various virtual reality applications. When you enter virtual reality as an ideal male character, beautiful female bodies flirt with you. In cyberspace, you meet mostly beautiful, sexualized and violently powerful women playmates.³⁶⁷ In this sense, cyberspace offers white male a relief from his daily burdens and cultural identity. Therefore, though the cyberspace frees itself from the boundaries of reality, history and cultural identity, it still serves the gendered, race-marked body. Besides female writers, there are also some male science fiction cyberpunk writers or editors such as Rudy Rucker or Peter Lamborn Wilson who seems to support the masculinize fashion of the genre. They use penis figures on every page of

³⁶³ Thakur, p. 123.

³⁶⁴ Thakur, p. 123.

³⁶⁵ Fred Pfeil, *Another Tale to Tell: Politics and Narrative in Postmodern Culture*, Verso, London and New York 1990, p. 88.

³⁶⁶ Andrew Ross, *Strange, Weather: Culture, Science, and Technology in the Age of Limits* Verso, New York & London 1991, p. 145.

³⁶⁷ Thakur, p. 129.

their work.³⁶⁸ Women by both underlining the contributions of themselves to the development of various technologies and looking at technology from a feminist perspective have challenged to this male domination over technology. Jenny Wolmark argues that:

It is no surprise that cyberpunk is strongly inscribed with the masculine, since the heroes of cyberpunk are drawn from the high-tech environment of hackers and rock music, and the rhetoric echoes that which is found in the narratives of detective adventure fiction. However, this does not mean that cyberpunk has nothing to offer feminists or that it has not had an influence of its own on contemporary feminist science fiction.[...] Cyberpunk explores the interface between human and machine in order to focus on the general question of what it means to be human; feminist science fiction has also explored that interface, but in order to challenge those universal and essentialist metaphors about ‘humanity’ which avoid confronting existing and unequal power relations.³⁶⁹

For this reason, cyberpunks and cyborgs are some kind of related responses to technology. Women cyberpunk writers rejected the human-machine interface that dominates male cyberpunk in order to explore the human and social consequences of the interface. For example, Pat Cadigan as one of the few women cyberpunk writers tries to avoid the kind of technological essentialism that we witness in the narratives of male writers like Gibson. That is, we see a difference between male writers who create a male dominated world of cyberspace and women writers who do not create female dominated world of cyberspace. Rather than passive female characters seen in most male cyberpunks, we see active female characters in women cyberpunks. Melanie Steward Millar regards Cyberfeminism as a woman-centered perspective in which women use technologies for the empowerment. Some Cyberfeminists regard women uniquely suited to digital life and these technologies as inherently suitable for women.³⁷⁰ Susan Hawthorne and Renate Klein consider Cyberfeminism as political, “it is not an excuse for inaction in the real world, and it is inclusive and respectful of the

³⁶⁸ Thakur, p. 129.

³⁶⁹ Jenny Wolmark, *Aliens and Others: Science Fiction, Feminism and Postmodernism*, pp. 109-110.

³⁷⁰ Melanie Steward Millar, *Cracking the Gender Code: Who Rules the Wired World, Second Story*, Toronto 1998, p. 200.

many cultures which women inhabit.”³⁷¹ Then, for Mary Flanagan and Austin Booth Cyberfeminism is referred as in the following:

Cyberfeminism is concerned with the ways in which cybertechnologies affect women’s lives in particular. Women software developers, hackers, online chat enthusiasts, performance artists, cyberpunk writers, technosex participants, game designers, and digital artists create narratives that explore both the pleasures and pitfalls of digital culture for women, creating complex positions for themselves in a digital world that potentially allows for new types of relations among women, men and machines.”³⁷²

In addition, there is a close relation between the aim of feminism and Cyberfeminism that the latter one covers the first one. Feminists criticize the social, political and economic norms of society constructed by patriarchy and they want to change the system of injustices towards women such as oppression, suppression, and rape. Feminists want to blur the barriers and lines between men and women as well as other minor groups who are discriminated.³⁷³ Cyberfeminists need to know all the problems and struggles of all kinds of feminists and the process of feminism in order to answer to the needs of contemporary women who are the daughters of feminists.

Hawthorne and Klein claim that Cyberfeminism is closely associated with connectivity, critique and creativity. First, they regard connectivity as the heart of feminism.³⁷⁴ From the first wave feminism to the postmodern era, women have related to each other with the ideology of sisterhood, consciousness raising and understanding our similarities as well as differences. That is, women connected under the same politic goal in the first wave feminism and the goal of second wave feminism in the 1970s was consciousness raising and connectivity was important to connect women under the same umbrella of sisterhood. With the third wave feminism, women around the world are diverted, fragmented and divided with the rise of different feminist groups and voices. The third wave feminism focused on the problems of diverse groups, minor ethnic groups, third world women etc. but “focusing on difference alone, fragments us [women], separates us [because of this reason there are lots of different feminist groups]

³⁷¹ Hawthorne and Klein, p. 2.

³⁷² Mary Flanagan and Austin Booth, (Eds.), *Reload: Rethinking Women and Cyberculture*, MIT, Cambridge, MA 2002, p. 11.

³⁷³ Hawthorne and Klein, p. 5.

³⁷⁴ Hawthorne and Klein, p. 5.

and disenfranchises us [women] politically.”³⁷⁵ However, it has a new meaning in the era of Cyberfeminism, women surfers have found a new opportunity to connect to each other via the Internet. Hawthorne and Klein argue that:

In the era of CyberFeminism, connectivity has a new meaning. For activists and networkers it [connectivity] is a boon. Emails can be sent to dozens of recipients at once. Internet Relay Chat (IRC) can be used to discuss important issues without having to meet physically, while LISTSERVs can be used to spread information quickly to thousands of subscribers. On the downside, organizations can become the victims of electronic carpet bombing [or misusing of information knowledge].³⁷⁶

Connectivity in the cyberspace era is much easier and in mega speed than ever before. Via internet (e-mail, social networks such as Facebook and Twitter, web sites, forums etc.), you can create the connection to millions by just one click. However, they claim that because of overload connection on the Internet, online connectivity might sometimes lead to disconnection. The loaded information on to the Internet might be misused or without politics, there might not be any solution to that connectivity online. We can say that, despite such downsides, keeping the benefits in our mind, cyber connectivity becomes the speed of our communication and connectivity, of large scale of information sharing and gathering transparent work, that is, cyberspace is a new way of working together and being organized.³⁷⁷ Internet is a new space for connectivity: “from political action on campaigns to sharing information and resources through Web sites, to simply keeping in touch.”³⁷⁸ That is, digital technology shortens the distance and connects women to each other.

Second, they point out that we see crucial critiques of the medium offered by Cyberfeminists. In other words, we can see the same feminist issues in cyberspace as in real life, so cyberspace raises both the new issues and the old ones.³⁷⁹ Despite Cyberfeminists’ love of their computers, “they are not content simply to play with the new toys, but to make use of them for political purposes and to develop critiques of

³⁷⁵ Hawthorne and Klein, p. 6.

³⁷⁶ Hawthorne and Klein, p. 6.

³⁷⁷ Hawthorne and Klein, p. 33.

³⁷⁸ Hawthorne and Klein, p. 131.

³⁷⁹ Hawthorne and Klein, p. 8.

their abuse and problems.”³⁸⁰ For example, they develop a critique on many sites, which are using female body for sexual desires.

Developing critiques involves understanding the forces shaping the new technologies, knowing the ways in which cyberspace is being colonized, knowing the ways in which these systems, like any other in global patriarchy, can be used to trace movements of new political forces, of subversion among the citizenry, and of any individual who has ever logged into the system. Big Brother (or Sister) no longer needs to watch you with cameras, instead you type in all your personal information and they come and browse whenever they like.³⁸¹

That is, as in real life, critiques are developed within cyberspace, as well. Multiple and fragmented identities, virtual bodies, cyborg figures, organic bodies have led to the development of critiques on women body. Cyberfeminism develops critiques on cybernetic organisms, cyborgs, and those critiques will be explained in Cyborg Feminism part.

Third, creativity comes as another important component of Cyberfeminism. We create an electronic culture (it is the case for each culture we develop whether electronic or not) in which we see our interactions. That is, creative responses from the readers and users are allowed by the Internet. New forms of writing such as hypertext and hypertext poetry have become possible thanks to the electronic medium. We can see the structure for creativity in some programs like Storyspace, Storyvision and Inspiration, but “Internet hyperlinks are still the most flexible and open-ended form. Or the writer can move to creating multimedia-based stories using programs such as Macromedia Director, Cosmoworld, Shockwave, Real Media, Quicktime 3.”³⁸² We can find the text, visuals as well as sound and virtual elements in a hypertext, which already lives in the imaginations of writers by allowing her or him how to create a multilayered and nonlinear narrative. Hypertext can be read on the computer, but the writer creates it imaginatively, so she/he does not need a computer to create the hypertext. Writers can create virtual worlds through their imaginations and creativity such as inventing avatars, games as well as playing various roles and immersing themselves in other personae.

³⁸⁰ Hawthorne and Klein, p. 9.

³⁸¹ Hawthorne and Klein, p. 9.

³⁸² Hawthorne and Klein, pp. 12-13.

That is, “in the world of creativity a critical perspective is necessary.”³⁸³ Likewise, Lourdes Arizpe regards creativity, today, as a key process that enables women to reinvent the world. That is, women should be active agents in using the new technologies that are the new forms of communication waiting for women to experiment and interpret them.³⁸⁴ Many women rapidly make the cyberspace their everyday reality and women science fiction writers are increasingly creating cyberfiction. Cyberspace with its fruit of imagination is the perfect real space for creative writers and a perfect home for Cyberfeminists.

Finally, as Hawthorne and Klein claim, these three components of Cyberfeminism usually outline the features of the sub-genre, Cyberfeminism. Cyberspace allows us a new kind of connectivity, which allows communication among new age women, to share information and resources, and to act together in the real world. Thanks to significant engagement, we are able to develop “discernment, to rise above the hype and seductiveness of this new and powerful medium.”³⁸⁵ Last, by creativity, social change in the future is sustainable.

2.2.1.1. Wajcman’s Virtual Gender

Wajcman claims that the major concern of the second half of the 20th century was space travel, which was concerned with the dreams of freedom, and it was associated with man’s quest to conquer nature like the quest of Western colonialists to conquer New Worlds or NASA to explore space. This intergalactic space travel has also been the iconography of science fiction. Instead of space travel, which is stalled today, new frontiers such as cyberspace, virtual reality and the Internet have taken place for “exploration and transcendence.”³⁸⁶ Thanks to cyberspace, we find an opportunity on Earth and even at our home to experience a kind of space. Wajcman differentiates cyberspace from space travel like this:

Unlike real space travel, cyberspace is open to the many. While the dream of new communities in outer space remains remote, cyberspace has

³⁸³ Hawthorne and Klein, p. 13.

³⁸⁴ Lourdes Arizpe, “Freedom to Create: Women’s Agenda for Cyberspace”, in Preface to *Women@Internet: Creating New Cultures in Cyberspace*, (Ed.), by Wendy Harcourt, Zed Books, London & New York 1999, p. xiii.

³⁸⁵ Hawthorne and Klein, p. 14.

³⁸⁶ Wajcman, *TechnoFeminism*, p. 57.

been quickly populated by disembodied settlers. Progress is still defined by technological enterprises, but it is digital rather than space technology that now excites the imagination with its more immediate and accessible possibilities. Rarely having made it into outer space, little wonder that feminists have seized upon new digital technologies for their potential to finally free women from the constraints of their sex.³⁸⁷

Although new communication technology –television– is claimed to retreat people from public spaces of face-to-face communication and social activities, as a technological and social revolution, Internet and cyberspace bring solution to social disintegration because there appears new forms of sociability and social interaction thanks to electronic networks. As Howard Rheingold asserts “cyberspace is one of the informal public places where people can rebuild the aspects of community that were lost.”³⁸⁸ Likewise, Wajcman claims that it is a virtual community where these lost aspects of community can be rebuilt by people through chatting with friends and neighbours. We can add that people can rebuild communication by sharing personal information or following the other’s sharing on social media such as Facebook or Twitter, so the virtual community becomes aware of the facts and what is going on in the lives of others. That is, she describes virtual community as “the place where people can begin rebuilding aspects of community that have been lost, linked by commonality of interests and affinity rather than by accidents of physical proximity.”³⁸⁹ She also claims that there is not any physical location on the Net but there are social exchanges on which communities are based, so we encounter with enhanced connectivity and social capital thanks to the Internet. The virtual world represents solutions to the destruction of community, communal solidarity by portraying nostalgia of the past when people spend time chatting with friends and neighbours. Cyberspace can restore the traditional community and so virtual community can reflect this nostalgia. In other words, Wajcman considers the Internet as the central emblem of the “non-hierarchical, ungoverned, instant and value-based” changes in contrast to the traditional harmonious community with conservative and governed hierarchies. The Internet breaks the barrier of destructed community by television through creating a culture of real virtuality.

³⁸⁷ Wajcman, *TechnoFeminism*, p. 57.

³⁸⁸ Howard Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier*, MIT, Cambridge, MA 2000, p. 10.

³⁸⁹ Wajcman, *TechnoFeminism*, p. 60.

Besides, Manuel Castells argues that this Network Society is a new form of society on which the Internet is technologically based. For him, networked individualism is closely associated with social patterns rather than isolated individuals because “individuals build their networks, on-line and off-line, on the basis of their interests, values, affinities, and projects.”³⁹⁰ Castell believes that this network society is characterized by the *space of flows* and *timeless time* as the two social forms of time and space. He claims that we live in an electronic age with new electronic technologies where time within this space of flows is timeless and space is a space of flows, which has three layers: electronic circuits, nodes or hubs and the spatial organization of dominant elites. The space of flows is enabled in electronic circuits materially and is “made of nodes and networks” and a network is set up in disjoined areas, which are nodes or hubs, and the spaces of flows are directed by dominant spatial logic in society.³⁹¹ That is, time disappears in this network society. Castells argues that a new social structure, a network society, can redefine time and space which can “express the power relations of the network society.”³⁹² Thus, we can say that Cyberspace is a real virtuality and a space of flows, which is timeless. Following him, Wajcman argues that the Internet is associated with a real virtual community living in a space of flows and timeless time.³⁹³ She adds that networked individualism created by the Network Society becomes “the dominant form of sociability.”³⁹⁴ Following Castells, Debra Benita Shaw asserts that we cannot talk about any time or space in that society:

The transfer of data across the globe is instantaneous so that the most valuable commodity, information itself, is always both everywhere and nowhere. Material goods travel a little more slowly but are constantly on the move and infinitely replicable so that their flow around the globe comes to resemble a constant stream rather than a fixed time/space trajectory from the point of departure to point of arrival. [...] Furthermore, the hyperreal is both constructed and experienced in the reified time of a perpetual future, in a state of yearning or existential dissatisfaction corresponding to the futurity which drives currency speculation and the stock markets.³⁹⁵

³⁹⁰ Manuel Castells, *Rise of the Network Society*, Blackwell, Oxford 1996, p. 131.

³⁹¹ Castells, p. 34.

³⁹² Castells, p. 36.

³⁹³ Wajcman, *TechnoFeminism*, p. 60.

³⁹⁴ Wajcman, *TechnoFeminism*, p. 90.

³⁹⁵ Debra Benita Shaw, *Technoculture: The Key Concepts*, Berg, Oxford & New York 2008, p. 31.

That is, our world becomes a global village by one click thanks to this network society. Wajcman finds Castells's vision of the Internet as positive despite its openness to abuse. For Castells, the Internet is the "culture of the creators" and it is the pioneer setting the parameters, not the users, so there are four layers of the Internet culture. These are the "techno-meritocratic culture, the hacker culture, the virtual communitarian culture, and the entrepreneurial culture. Together they contribute to an ideology of freedom."³⁹⁶ Although these four cultures are interrelated, they are not equal. Without any of these cultures, the other culture cannot exist. So, he summarizes the Internet culture as "a culture of made up of a technocratic belief in the progress of human through technology, enacted by communities of hackers thriving on free and open technological creativity, embedded in virtual networks aimed at reinventing society, and materialized by money-driven entrepreneurs into the workings of the new economy."³⁹⁷ That is, for Castells the Internet culture is associated with the culture of freedom. Thus, the Internet enables freedom of choice for everybody even for hackers, pornographers, cybersex communities, that is the communities of choice. Nevertheless, Wajcman points out that Castells has not considered women in his eulogized hacker culture, which he defines as predominantly white male middle class. She criticizes that the participation of women in virtual and network communities is overlooked again despite their historically precursor supplier roles in "emotional support in community networks" and in "domestic and unpaid community work."³⁹⁸ She regards Castells's culture of freedom perspective as masculine:

The 'culture of freedom' that Castells embraces seems to entail a freedom from responsibility for community networks and, therefore, to reflect an implicitly male perspective. Where women maintain family, friendship and neighbourhood ties, men have participated in a public sphere defined by instrumentalities of work. It was precisely this division that institutionalized men as designers of technology, and Castells does not address the gender relations of design.³⁹⁹

³⁹⁶ Castells, *The Internet Galaxy: Reflections on the Internet, Business, and Society*, p. 200.

³⁹⁷ Wajcman, *TechnoFeminism*, p. 61.

³⁹⁸ Wajcman, *TechnoFeminism*, p. 62.

³⁹⁹ Wajcman, *TechnoFeminism*, p. 62.

As Radhika Gajjala and YeonJu Oh argue, technological determinism was prevalent during early stage of the Internet but it has faded away.⁴⁰⁰ Likewise, Wajcman claims that technological utopianism or dystopianism is also too simple. Moving away from the negative perspectives and technological determinism of earlier feminists who saw women as victims of technology, Cyberfeminists, for example, believe in the productivity of technology on women such as virtual technologies like the Internet. Wajcman argues that Cyberfeminism has an optimistic characteristic about the vision of electronic community that she thinks, is a “foreshadowing of the ‘good society’.”⁴⁰¹ Wajcman believes in the unlimited freedom zone generated by web-based technology but it means liberation for women in the name of Cyberfeminism.⁴⁰² The young generation grew up with computers and pop culture was prominent in the 1990s. Cyberfeminist discourse is closely associated with this group with the themes of grrrl power and wired worlds. Wajcman argues that:

In part, cyberfeminism needs to be understood as a reaction to the pessimism of the 1980s feminist approaches that stressed the inherently masculine nature of technoscience. In contrast, cyberfeminism emphasizes women’s subjectivity and agency, and the pleasures immanent in digital technologies. They accept that industrial technology did indeed have a patriarchal character, but insists that new digital technologies are much more diffuse and open. Thus, cyberfeminism marks a new relationship between feminism and technology.⁴⁰³

Wajcman stresses on how technology blurs gender lines and stereotypes through the technological change of the human body thanks to plastic surgery (women’s augmentation the size of their breasts with prostheses or men’s augmentation of their sexual organs), sex change operations, and hormones (use of steroids as testosterone for muscular body building, athletes’ taking performance-enhancing drugs). Because of exclusion of gender relations in cyber-gurus like Castells, feminist cyber-gurus provide “a more comprehensive and powerful account than current social theories of digital technology” by considering women.⁴⁰⁴ Hence, Wajcman refers to Sadie Plant in much of her writings about Cyberfeminism by regarding Plant as “the leading British

⁴⁰⁰ Gajjala and Oh, p. 2.

⁴⁰¹ Wajcman, *TechnoFeminism*, p. 63.

⁴⁰² Wajcman, *TechnoFeminism*, p. 63.

⁴⁰³ Wajcman, *TechnoFeminism*, p. 63.

⁴⁰⁴ Wajcman, *TechnoFeminism*, p. 62.

exponent of cyberfeminism.”⁴⁰⁵ Wajcman seriously engages with Plant’s ideas that support and welcome the optimism of Cyberfeminism appraising women’s relationship to digital technologies.

In “Genderquake” section of *Zeros + Ones: Digital Women + The New Technoculture*, Plant argues that in the 1990s, Western cultures challenged to all “old expectations, stereotypes, senses of identity and security,” so, since the 1990s women have found “unexpected economic opportunities, technical skills, cultural powers, and highly rated qualities.”⁴⁰⁶ She does not consider this change as “a revolutionary break” or “an evolutionary reform” and she calls this change “genderquake” and defines it like this: “Nothing takes the final credit-or the blame-for shifts which, as though in recognition of the extent to which it defines existing notions of cultural change, have been defined as genderquake.”⁴⁰⁷ With the emergence of this new culture, new technologies such as the new machines, media, means of telecommunications, and high, informational, digital technologies have played an important role. Plant claims that the 1990s saw the direct and obvious impact of these new machines:

In the West, the decline of heavy industry, the automation of manufacturing, the emergence of the service sector, and the rise of a vast range of new manufacturing and information-processing industries have combined to reduce the importance of the muscular strength and hormonal energies which were once given such high economic rewards. In their place come demands for speed, intelligence, and transferable, interpersonal, and communication skills. At the same time, all the structures, ladders, and securities with which careers and particular jobs once came equipped have been subsumed by patterns of part-time and discontinuous work which privilege independence, flexibility, and adaptability. These tendencies have affected skilled, unskilled, and professional workers alike. And since the bulk of the old full-time, lifelong workforce was until recently male, it is men who have found themselves most disturbed and disrupted by these shifts, and by the same token, women who benefit.⁴⁰⁸

Women got their economic power and there was a radical change in the status of female workers. That is, men were losing their senses of security, control, and even jobs. As Luce Irigaray says “And instead they [men] watch the machines multiply that

⁴⁰⁵ Wajcman, *TechnoFeminism*, p. 63.

⁴⁰⁶ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, pp. 37-38.

⁴⁰⁷ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 38.

⁴⁰⁸ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, pp. 38-39.

push them little by little beyond the limits of their nature. And they are sent back to their mountain tops, while the machines progressively populate the earth. Soon endangering man as their epiphenomenon.”⁴⁰⁹ That is, control of power has shifted neither to men nor to women, and men began to lose their patriarchal authority and control over women.

Plant claims that taking this current shift into consideration, it is certain that any single hand or determining factor can shape cultures, so the impossibility of getting a grip on a culture creates anxiety. The reason for this, Plant claims, is that men have known and controlled women and therefore have always fixed their place in society. That is because, losing orientation means losing control over the self in male dominated world. However, in a digital age where “revolutions in telecommunications, media, intelligence gathering, and information processing [...] coincided with an unprecedented sense of disorder and unease,”⁴¹⁰ those who try to govern, organize or control the system became suppressed and oppressed by it. Plant stresses that it is the Net in which the shape of this new distributed nonlinear world is typified.⁴¹¹ She describes the Net as “one of the first systems to present itself as a multiplicitous, bottom-up, piecemeal, self-organizing” network emerging “without any centralized control.”⁴¹² This shows that there is a decentralization of power and no hierarchical structure in the digital world.

Plant asserts that in the digital age, there is not any single truth or essence because the digital age rejects the elucidation and confirmation of the unity of one by Western philosophy.⁴¹³ Zero may mean just a hole and nothing to the Western world, but holes themselves cannot be considered as simple absences of positive things.⁴¹⁴ That is, the symbol of ‘zero’ is related to the psychoanalytic lack of women, conceptualizing nothingness or absence of positive but holes are not absences, so women exist without being affiliated to any constant ‘one’. Wajcman applauds the title of Plant, *Zeros and Ones* which “describes a singular male identity against which female identity is measured and found to be a nothing, a ‘zero’”. She cleverly uses the digital language of

⁴⁰⁹ Luce Irigaray, *Marine Lover of Fredric Nietzsche*, Columbia University Press, New York 1991, p. 63.

⁴¹⁰ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 45.

⁴¹¹ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 46.

⁴¹² Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 49.

⁴¹³ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 54.

⁴¹⁴ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 57.

computers – sequences of zeros and ones – to evoke a new gendering of technology.”⁴¹⁵ Wajcman argues that thanks to those Cyberfeminists like Plant, the relationship between woman and machine has shifted in a more mutual way that has secured the place of zeros in digital space by displacing “the phallic order of ones.”⁴¹⁶ Wajcman, by following Plant, applauds the digital revolution thanks to which traditional male hegemonies and power based male domination have declined; instead there appeared a new digital and technical system which holds both women and men. Hence, we can say that women are heralded by freedom of technology without any hegemonic group. Wajcman commends Plant’s consideration of technologies without logos that goes out of traditional domination and hierarchy of producing social and technological power and rejects technology as a patriarchal system. Besides, Plant draws women as “an interface between man and the world”⁴¹⁷ and as a mediator between nature and culture. She says that women are also:

[W]ired to a network of digital machines: typist connected to QWERTY alphabets, bodies shaped by the motion of the keys, one hundred words a minute, viral speed. Thousands of operators, relays, calls, exchanges humming in virtual conjunction, learning the same phrases, flipping the same switches, repeating the same responses, pushing plugs into the answering jacks, maybe two hundred, three hundred times an hour.⁴¹⁸

In other words, Plant says that the new media that rewires people as well as the cultures by circulating in them.⁴¹⁹ Plant claims that the Net is the best place for the mind to be freed to flight from physical boundaries to non-physical realms. So, we can say that flight through the network is a kind of freeing the mind from constriction and restriction as well as breaking out of the prisons. Like Plant, Wajcman applauds this distributed nonlinear world, “the Net, cyberspace, virtual reality and the matrix” in which we cannot be shaped by orderly dominant authority and are not subjected to be controlled, instead, this world has its own origins and even an ideal place for women who can feel themselves as free as they are at home. Wajcman grounds the reason of this on women’s “excel within fluid systems and processes: their distinctive mode of

⁴¹⁵ Wajcman, *TechnoFeminism*, p. 64.

⁴¹⁶ Wajcman, *TechnoFeminism*, p. 64.

⁴¹⁷ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 126.

⁴¹⁸ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, pp. 126-127.

⁴¹⁹ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 144.

being fits perfectly with the changes associated with information technology.”⁴²⁰
 However, Wajcman argues that:

Romanticized ideas of virtual voyages similarly echo the gendered division of human activity in which the male life of the mind is valued over women’s confinement to the visceral body. As feminists have long pointed out, the embodied and situated nature of knowledge has been denied precisely because it is based upon the invisible work of women. Rather than dreaming of a flight from the body, feminism has argued for men to be fully embodied and take their share of emotional, caring and domestic work. To express this in computer jargon, an emancipatory politics of technology requires more than hardware and software; it needs wetware-bodies, fluids, human agency.⁴²¹

In addition, Plant asserts that women were working like computers during World War II such as working in the aircraft plants, in emergency service, making munitions, dug for victory, typewriting, calculating of firing tables (this was the work of teams of female computers during both wars). For example, Klara von Neumann was assigned to program the Electronic Numerical Integrator and Computer (ENIAC) and she was among the seven women doing this work. ENIAC was launched in 1946, and it was the first fully electronic programmable computer and functional machine in using zeros and ones.⁴²² Among other first computers was the Colossus Mark 1, the earliest single-purpose electronic computer built in Britain in 1943 and the German Z-3. There were women working for them called “the big room girls,” who worked as a flock of female computers at work in the heath of Colossus in order to crack the German Enigma codes with the other women who worked as translators, transcribers and bigger big room girls.⁴²³ That is, there was a close synergy between man, woman and machine, but after the war they *did* return home for their old domestic duties.

Throughout the *Zeros and Ones*, by telling the story of Ada Lovelace who is the first computer programmer, Plant claims that women suffered from their brilliance, escaping from male-dominated world. They were deemed hysterics, lunatics or madwomen. Plant criticizes that they were regarded as lesser beings or not existing at all; that is, as zeros and holes. The zeros that represent vaginas make women in need of

⁴²⁰ Wajcman, *TechnoFeminism*, p. 64.

⁴²¹ Wajcman, *TechnoFeminism*, p. 77.

⁴²² Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 146.

⁴²³ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 147.

men to fulfill their emptiness, holes and the ones that represent penis by fulfilling women hold the power on their body. She concludes that within zeros and ones of cyberspaces, the dichotomy of life and machine or man and female are blurred.

Shortly, Plant's *Zeros and Ones* emphasizes the changing social status of women in today's information age, which empowers women mutually. Within our technologically advanced society, women have found potential in virtual space and the Internet to break out of the limits imposed on them. Plant argues that thanks to these networks and matrices, female subversion and revolution are possible because they provide freedom from male dominated hierarchical world.⁴²⁴ She points out the process of technology as fundamentally emasculating and so regards technology as a fundamentally feminine object. Hence, she portrays women as computers so long as the technology is feminine. Likewise, "For Plant, the zero is the entrance to the matrix and a virtual world of infinite possibilities. Plant sees the continuity between the fluid identity of Luce Irigaray's women, Freud's hysterical women, and the anarchic, self-organizing qualities of the new machines. With the development of parallel processing, actions are distributed across a network of processors, instead of proceeding in series" says Wajcman:

The distinction is taken to be in tune with women's ability to work at several different things at the same time, while men are thought to be single-minded. Rather than the rigours of orthodox logic, the new technology favours distributed interaction and intuitive understanding which, Plant argues, were previously pathologized as hysteria. The fluidity of women's identity previously regarded as reflecting a deprivation, becomes a positive advantage in a feminized future. Patriarchy's stereotyped account of women is inverted, and women's sexual difference is valorized.⁴²⁵

In other words, Wajcman then argues that thanks to this new technology, we see a post-patriarchal future delivered by computing and this future and technology function as a liberatory for women. Plant sees cyberspace out of male control because she believes that identity is not a goal in virtual reality: "virtual reality destroys his [man's] identity, digitalization is mapping his soul and, at the peak of his triumph, the culmination of his machinic erections, man confronts the system he built for his own

⁴²⁴ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 10.

⁴²⁵ Wajcman, *TechnoFeminism*, p. 65.

protection and finds it is female and dangerous.”⁴²⁶ That is, for Plant, Cyberfeminism is composed of links and connections between women and computers. On the other side, while generally supporting most views of Plant mentioned above, Wajcman criticizes some of her points related to women’s freedom as well. Wajcman says that Plant “celebrates cybertechnology out of control because, for her, out of control signifies freedom from male control.”⁴²⁷ Thus, Wajcman argues that:

The metaphors by which she [Plant] builds her case are, however, weakly related to the social reality of new technology relations, and the instances she cites are misconstrued. For example, her history of women’s involvement in technological developments, such as the typing pool and the telephone exchange, are in fact examples of women’s subordination. She gestures towards recognition that the interconnectivity of the Internet is a product of global capitalism that enables new forms of production and exploitation. Yet her apparent awareness of women’s exploitation does not stop her seeing such technology as necessarily empowering women.⁴²⁸

More, Wajcman asserts that Plant does not follow the path that technology can have contradictory effects because it is plastic and gives value to social relations as well as context of their use. Instead, Plant regards women’s relationship with digitalization as inherently freeing and claims that communication technologies come to be associated with the particular cultural forms and so the relationship between them becomes direct and casual. In other words, for Wajcman, Plant fails to distinguish between the digitalization of data, which is technically invented, the Internet which is socially grounded, and it’s following cultural forms such as e-mail, web sites, multimedia, social communication media, and so on. Therefore, Wajcman states that she ignores the crucial importance of media corporations and communication institutions and she forgets that technologies develop within the formations that also limit their use.⁴²⁹ Then, she criticizes Plant’s technological determinist theory of the Internet and questions Plant’s politically conservative side by saying: “if digital technology is inherently feminine, whoever controls or uses it, then no political action is necessary. Cyberfeminism may appear to be anarchist and anti-establishment, but in effect, it

⁴²⁶ Plant, “On the matrix: cyberfeminist simulations”, pp. 181-2.

⁴²⁷ Wajcman, *TechnoFeminism*, p. 71.

⁴²⁸ Wajcman, *TechnoFeminism*, p. 72.

⁴²⁹ Wajcman, *TechnoFeminism*, p. 72.

requires for its performances all the latest free-market American capitalist gizmos.”⁴³⁰ That is, she criticizes Plant for her utopian consideration of the relationship between gender and technology because by considering technology as feminine she creates another way of technological determinism and so does not erase the gender difference and causes a fit between women and men. Therefore, Wajcman criticizes Plant not erasing gender sexual difference within cyberspace but instead positively affirming women’s feminine qualities as well as their radical sexual difference, so she regards Plant’s Cyberfeminist version as similarly essentialist like radical and cultural feminisms.

In addition, Wajcman criticizes Plant’s both unitary version of womanhood and conception of self as decentered and dispersed. She affirms Plant for emphasizing the individual differences both between and within themselves with her “postmodern/French feminist/psychoanalytic theories of fractured identities of woman,” but criticizes her for not connecting these theories on multiple identities, multiple bodies, and multiple lived experiences of those individuals. Thus, Wajcman claims that Plant’s universal feminine attribution is in disagreement with her fragmented identities of women concept. Wajcman also claims that Plant does not talk about the real experiences of women in computer facilities because Plant just mentions about women’s usage of the Internet at work. For Wajcman, internet usage of women should not be limited solely to e-mail usage related to work because women use some web sites such as online shopping, health sites, cooking sites and maternity sites. Wajcman argues that Plant “overlooks the physical environments within which women’s access to the Internet takes place.”⁴³¹ That is, the place where women’s access to the Internet should not be limited to home access or e-mail access at work because they access to the Internet at cyber-cafes that was considered as male place, and even at cafes, restaurants, and public places. Nevertheless, Wajcman argues that it is the workplace which shows the women-computer affinity most. Despite the remaining notion of computing as male industry and women’s limited career opportunities in the information technology, electronics and communication sectors, women increasingly take their place in the information or knowledge economy as either part-time or temporary workers. The

⁴³⁰ Wajcman, *TechnoFeminism*, p. 73.

⁴³¹ Wajcman, *TechnoFeminism*, p. 74.

reason for this increase results from the information and communication technologies that are supported by computerization, so as Plant supports, women have shifted from typewriting to monitoring work, computing. However, Wajcman argues that “The ‘feminization of work’ that Plant lauds is characterized as much by a proliferation of casual, low-paid jobs as by high-flying, globally wired women. New technologies may be ‘epistemologically open,’ but many of their current forms are similar in their material relations to pre-existing technologies.”⁴³² That is, there is no need to applaud in the strictest sense for now.

The opportunities and the possibilities that the Web offers to women excite Cyberfeminists who ease the tendency of showing women as victims in the second wave feminism by applauding women’s agency and capacity for empowerment.⁴³³ The young generation adapts themselves to new media technologies easier than the previous generations and so they get more sociality through new communication technologies. Wajcman argues that we need to be careful about not to exaggerate the significance of the focus on cyberspace which is a utopian imagining but utopia is in process of becoming, so there is no need to exaggerate the situation or politics to speed up the process:

Throughout cyberfeminist thought, there is a tension between utopian and the descriptive. The utopian imagining is attractive and can provide a critical perspective on existing social relations. This is especially valuable in the current political climate, where neo-liberal ideologies predominate after the end of the Cold War. However, the force of utopian thinking derives precisely from being about a place that does not exist, in the light of which the present can be criticized. Utopian is about *nowhere*, not *now-here*. By conflating this distinction, cyberfeminism presents the utopian imagining of cyberspace as more or less adequate description of aspects of what currently exists.⁴³⁴

That is, as Wajcman says, we cannot talk about a real existing place in Utopia which takes place in a distinct world. Men who think that women can only achieve freedom in their utopias may see cyberspace as a utopic place or virtual voyage is an escape from feminine domesticity. However, as cyberspace or virtual world takes place

⁴³² Wajcman, *TechnoFeminism*, pp. 74-75.

⁴³³ Wajcman, *TechnoFeminism*, p. 75.

⁴³⁴ Wajcman, *TechnoFeminism*, p. 75.

in our real world, not in a distinct place, and describes the aspects of our existing world, it is the real world that cannot be disticted and distanced from the world we live; therefore, it is neither an escapist nor a utopian space. Wajcman asserts that women's narrative of virtual journey is seen as "central to much utopian thought, yet it is much more an expression of masculinity"⁴³⁵ because travel is traditionally viewed as an escape from feminine domesticity by Western masculine narratives.⁴³⁶ As Beryl Fletcher says, "cyberspace is an exciting Real Place where women live and work and play, a place that is ripe for representation within realist feminist fiction."⁴³⁷ As in real life, we come across with the same inequalities plagued in social construct cyberspace that is the mirror of our current culture.

Moreover, as Wajcman says "utopian thinking is indispensable to feminist politics, but it needs a clearer distinction between description and imagination to play a useful role."⁴³⁸ Women's cyberspace is not a utopic imagination but a true descriptive way of real life because in both spaces women try to take place in both of which they are suppressed, oppressed, raped (virtual), subjected to violence (verbal) and used as sex objects. Wajcman says that "if what is imagined is in process of becoming, there is no need for politics to bring it into being. In this way, cyberfeminism is post-feminist."⁴³⁹ By this way, she argues that like in all kinds of politics, utopian thinking takes a role in feminist politics as well but as Cyberfeminism is post-feminist, technology is seen as an alternative to politics, and so utopia does not play a role in Cyberfeminism, as cyberspace is component of real life:

Technology itself replaces the need for programmes of social and political change. The very value of utopian thinking is undermined. Its value is precisely to create a space between contemporary experience and political desires, and to turn them optimistically towards the construction of new forms of politics. This has always been the project of feminism, and was one of the reasons for its hostility towards deterministic social theories. The underlying critique holds good even when what is determined is said to be in the interests of women. It would be unwise to presume that the direction

⁴³⁵ Wajcman, *TechnoFeminism*, p. 76.

⁴³⁶ Wajcman, *TechnoFeminism*, p. 77.

⁴³⁷ Beryl Fletcher, "Cyberfiction: a Fictional Journey into Cyberspace (or How I Became a Cyberfeminist)", in *Cyberfeminism: Connectivity, Critique, and Creativity*, (Ed.), by Susan Hawthorne and Renate Klein, Spinifex, North Melbourne, Vic. 1999, p. 338.

⁴³⁸ Wajcman, *TechnoFeminism*, p. 76.

⁴³⁹ Wajcman, *TechnoFeminism*, pp. 75-76.

of technological change has simply changed sides to benefit women where once it benefited men.⁴⁴⁰

The other topic Wajcman stresses on is the relationship between postmodernism and gender. Postmodern feminism deals with multiplicity of identities as well as desire for self-determination and it highlights the idea of real participation of women in technoscience themselves not by replacing it with the position of men.⁴⁴¹ Women's entrance to technical domains requires them to sacrifice their gender identity. They need to pay a price but there is not any equivalent sacrifice for men. Some biological characteristics of femininity such as menstruation, pregnancy, breast-feeding and menopause mark women "as unsuitable for the global, mobile, elite levels of corporate careers."⁴⁴² Women, beyond the bounds of gender duality, get new opportunities and positions with postmodern cyberfeminist writing with its digital virtuality. However, Wajcman adds that "while escaping the corporeal body may be an appealing emancipatory strategy, it leaves untouched the gendered distribution of materials and resources that typically afford women less scope for initiatives in the workplace."⁴⁴³ In postmodern feminist discourse, we see decentralized power, agency, and reconceptualization of subject as discourse and institution products but not an autonomous entity: multiple, flexible and fluid selves replace with fragmented, scattered and incoherent selves.⁴⁴⁴

In addition, Wajcman refers to Sherry Turkle who stresses on multiple aspects of self on the Internet. Wajcman says that the popular theme in recent postmodern feminism is the Internet by which conventional gender roles can be transformed and the body/self-relationships via a machine is altered.⁴⁴⁵ Turkle in her *Life on the Screen: Identity in the Age of Internet* claims that the philosophy of postmodernism is best expressed through the Internet, cyberspace: "Internet experience helps us to develop models of psychological well-being that are in a meaningful sense of postmodern: They admit multiplicity and flexibility" and through network experiences, "We are encouraged to think of ourselves as fluid, emergent, decentralized, multiplicitous,

⁴⁴⁰ Wajcman, *TechnoFeminism*, p. 76.

⁴⁴¹ Wajcman, *TechnoFeminism*, p. 113.

⁴⁴² Wajcman, *TechnoFeminism*, p. 114.

⁴⁴³ Wajcman, *TechnoFeminism*, p. 115.

⁴⁴⁴ Melzer, p. 16.

⁴⁴⁵ Wajcman, *TechnoFeminism*, p. 66.

flexible and ever in process.”⁴⁴⁶ Technology allows people to have a chance to live their lives in virtual reality with a new sense of self which is fluid, multiple and decentered as in postmodern real life, so their virtual identities are more various but not different from their real-life identities.

Wajcman argues that we cannot come across any bodily and physical communication in cyberspace, so our interactions are not exposed to sexual, racial, face value etc. judgments but cyber space interactions are completely different based on textual exchanges. Likewise, Turkle claims that: “The culture of simulation may help us to achieve a vision of multiple but integrated identity whose flexibility, resilience, and capacity for joy come from having access to our many selves.”⁴⁴⁷ Thus, for her, the internet experiments with the postmodern characterization of the constructions and reconstructions of the self. Without any necessary link to a physical body, we can see the presence of virtual selves in cyberspace, so the traditional concept of gender identity is challenged by the modern technology that creates new identities. Therefore, cyberpunks regard technology inside the body and the mind itself and binary hetero-normative subjectivities are undermined by cyberspace.⁴⁴⁸

To build relationships online is easier than offline so Turkle believes that with a new understanding of gender as a continuum, a risk free environment is possible in cyberspace.⁴⁴⁹ Wajcman asserts that a risk-free environment is provided in cyberspace and so people establish their desired intimacy and relationships first online and then later pursue them offline. She also adds that for Turkle gender is socially constructed whose reflections are seen on people encouraged by gender swapping or virtual cross-dressing. However, Wajcman argues that Turkle does not “reflect upon the possibility that gender differences in the constitution of sexual desire and pleasure influence the manner in which cybersex is used.”⁴⁵⁰ Like Turkle, Wajcman thinks that Allucqu  e Rosanne Stone is very well-suited to meet modern technology’s challenge to traditional notions of gender identity. To Stone, virtual identities challenge to the general view of single self in a single body by claiming that there is no necessary connection between

⁴⁴⁶ Sherry Turkle, *Life on the Screen: Identity on the Age of Internet*, Simon and Schuster, New York 1995, pp. 263-4.

⁴⁴⁷ Turkle, p. 264.

⁴⁴⁸ Wajcman, *TechnoFeminism*, p. 70.

⁴⁴⁹ Turkle, pp. 314.

⁴⁵⁰ Wajcman, *TechnoFeminism*, p. 67.

the physical body and the virtual selves or people.⁴⁵¹ Wajcman gives place to Stone's account of Lewin, a male psychiatrist who posed as a woman therapist to countless women until his trust was shattered when his gender was discovered. Wajcman says that this story shows the inseparable notion of the subject and the body. That is, we can easily come across with novel free choices in cyberspace, so we can make a gender identity choice contrary to our material body. Or on the other side, this story shows the escape of cyborg subject from the biological body.⁴⁵² However, Wajcman accepts that "Relationships on the Internet are not as free of corporeality as Stone, Tuckle and Plant suggest."⁴⁵³

Wajcman concludes that all these scholars have exaggerated the freedom and choice inside/in virtual communities. She believes that virtual interaction just removes bodily cues but cannot create new identities because the thing you only see is just the words, so these words do not make you a different person. It enables new and various selves as in real life but not new identities. That is, Wajcman claims that "The choice of words is the result of a process of socialization associated with a particular identity. It is therefore very difficult to learn a new identity without being socialized into that role. Although mimicry is possible, it is limited, and is not the same as creating a viable new identity."⁴⁵⁴ Thus, to build sustainable new identities in cyberspace is limited.⁴⁵⁵ Feminism in general supports the idea that new technologies are appropriate for liberation of women as a tool but Cyberfeminism supports the idea of cyborg being as well as the pleasures it involves. We cannot talk about any liberation from technology separated from the body because technological body concept, not the technological tool itself, enables pleasure and liberation.⁴⁵⁶ That is, in Cyberfeminism, body and gender tell the ideology of women's liberation, so as Haraway draws a postmodern world of the cyborg, the body is emblematic and symptomatic beyond centered subject, unitary

⁴⁵¹ Quoted by Wajcman, *TechnoFeminism*, p. 67. See also: Allucqu re Rosane Stone, *The War of Desire and Technology at the Close of the Mechanical Age*, MIT, Cambridge, Mass. 1995, ch. 3.

⁴⁵² Wajcman, *TechnoFeminism*, p. 68.

⁴⁵³ Wajcman, *TechnoFeminism*, pp. 68-69.

⁴⁵⁴ Wajcman, *TechnoFeminism*, p. 69.

⁴⁵⁵ Wajcman, *TechnoFeminism*, pp. 69-70.

⁴⁵⁶ Yvonne Volkart, "The Cyberfeminist Fantasy of the Pleasure of the Cyborg", in *Cyberfeminism. Next protocols*, (Ed.), by Claudia Reiche and Verena Kuni, Automedia, Canada 2004, p. 99.

identity, organic wholeness and appropriation of the Other higher unity power.⁴⁵⁷ Thereby, romanticized ideas of virtual voyages and bodily transcendence have seduced Cyberfeminism. That is, “an emancipatory politics of technology requires more than hardware and software; it needs wetware- bodies, fluids, human agency.”⁴⁵⁸ Wajcman suggests that there is no need to dream of “a flight from the body,” but there is “need to acknowledge embodiment.”⁴⁵⁹ Hence, in the next part, this embodiment of bodies will be explained following the cyborg manifesto of Haraway.

2.2.2. Cyborg Feminism

A cyborg is a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction. Donna J. Haraway, *Cyborg Manifesto*

In TechnoFeminist Science Fiction, we see new female body creations within technoscience that become the metaphor for feminist identities such as woman hackers, woman avatars, woman virtual figures, woman internet programmers, woman warrior cyborgs with super power, women with artificial intelligence, technologically enhanced woman bodies, woman aliens, techno bodies etc. Cyborg figures are one of the major metaphors of TechnoFeminist Science Fiction bodies. Within feminist theories, the impacts of information technologies on the lives of women have lead the discourse of Cyborg feminism, which is usually associated with Donna Haraway’s work.

The provocative metaphor of cyborg was first used in Haraway’s 1985 essay, “A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s.”⁴⁶⁰ Since Haraway, the cyborg figure has become very famous and important within gender studies and cultural studies. A new way of thinking about the relationship between technoscience and gender, culture and gender, human and machines has become prominent with the metaphor of the cyborg. In TechnoFeminist Science Fiction, we see the conceptualization of cyborg and technological relations are interrelated to each other

⁴⁵⁷ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 150.

⁴⁵⁸ Wajcman, *TechnoFeminism*, p. 77.

⁴⁵⁹ Wajcman, *TechnoFeminism*, p. 77.

⁴⁶⁰ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, pp. 149-181.

within these fictions. Therefore, as Haraway claims “the cyborg is a matter of fiction and lived experience that changes what counts as women’s experience in the late twentieth century” and “this is a struggle over life and death, but the boundary between science fiction and social reality is an optical illusion.”⁴⁶¹ Likewise, Melzer considers cyborgs as symbolizing a state of consciousness that appears as a metaphor within science fiction literature and certain social-political circumstances play role in developing that consciousness.⁴⁶² Haraway stresses on the presence of cyborgs for a few decades that are not stable instead have mutated in both fact and fiction through transfecting and infecting everything, so they are turned into “second-order entities like genomic and electronic databases and other denizens of the zone called cyberspace.”⁴⁶³

The importance of cybernetics has increasingly risen since World War II when technology took a new path around the cyborg discourse thanks to developments in high technology, biotechnology and computer and communication technologies. Thus, these developments have given shape to the relations between machines and human subjectivity. Therefore, the effect of these technologies on women’s lives has created the other discourse besides Cyber feminism; that of Cyborg feminism which is mostly associated with Haraway’s cyborg theory. Cyborg theory has taken a fertile root on the ground of technoscience, which has a rapid development and impact on society with its theories.⁴⁶⁴ Since Haraway provided a gender analysis of technoscience (from which women were excluded before), cultural and gender studies both have welcomed to the boundary figure of the cyborg by which we have broaden our thinking about culture and technology relationship as well as human and machine relationship.

Chris Hables Gray and Steven Mentor argue that cyborg subject is so interesting because of decentering traditional subjectivity on one hand and offering strategic subjectivities on the other hand. That is, the cyborg subject decenters organic, essential and the metaphysics of presence, identity and body as well as offering a physical and bodily experience. Thus, power and identity take a new way of understanding through cyborgs because like various feminists argue, we see multiple subjectivities

⁴⁶¹ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 149.

⁴⁶² Melzer, p. 24.

⁴⁶³ Haraway, “Cyborgs and Symbionts: Living Together in the New World Order”, p. xix.

⁴⁶⁴ Gill Kirkup et al, Introduction to *The Gendered Cyborg*, Kirkup et al (Eds), Routledge, London 2000, p. xiii.

embarrassed and explored by the cyborgs we are becoming by rejecting the origins of science and telos as well as experiencing difference without opposition.⁴⁶⁵ As Hables Gray with Steven Mentor and Heidi J. Figueroa-Sarriera argue:

Cyborgs also remind us that we are always embodied, but that the ways we are embodied aren't simple. Some people imagine the future as bodiless: either as "brains in a vat" or as somehow downloaded into immortal computers as organic-artificial intelligences. Yet, while AI systems are still in the early stages of development, cyborg technologies are everywhere, affecting millions of people every day. Some of us may feel like "cogs" in a machine, but we are really bodies hooked into machines, and bodies linked to other bodies by machines. It may be that cyborgs will be neither male nor female, neither with nor without color in the far future, or some complicated version of these, but how we are affected by cyborg technology now still depends a great deal on what gender, race, and class we are. There is no one "cyborg" and no one benefit or drawback or evil; every person will respond differently to different ways technologies invades or caresses her body.⁴⁶⁶

Harper argues that the flourishing and worthwhile challenges of relationships between human and science and technology have had a significant importance since the late 19th century (at least) and this challenge of relationships are in trouble of dismiss by "the dangers of inadvertent humanist narratives of victimhood for the Different, the Alien, the Monstrous, the Uncanny, the Marginal, and the Other."⁴⁶⁷ However, in TechnoFeminist Science Fiction novels, these relationships are eradicated and writers explore the ways in which technology, human creative nature, human agency, cyborg humans and humans either men or women complicate each other. That is, the binary orientation of Self/Other politics is totally bankrupted in these novels. Haraway asserts that:

Linguistically and materially a hybrid of cybernetic device and organism, a cyborg is a science fiction chimera from the 1950s and after; but a cyborg is also a powerful social and scientific reality in the same historical period. Like any important technology, a cyborg is simultaneously a myth and a tool, a representation and an instrument, a frozen moment and a motor

⁴⁶⁵ Chris Hables Gray and Steven Mentor, "The Cyborg Body PoliticVersion 1. 2", in *The Cyborg Handbook*, (Ed.), Chris Hables Gray, 1-14, Routledge, New York & London 1995, pp. 458-459.

⁴⁶⁶ Gray, Mentor and Figueroa-Sarriera, p. 7.

⁴⁶⁷ Mary Catherine Harper, "Incurably Alien Other: A Case for Feminist Cyborg Writers", *Science Fiction Studies*, 22(3), 1995, p. 409.

of social and imaginative reality. A cyborg exists when two kinds of boundaries are simultaneously problematic: 1) that between animals (or other organisms) and humans, and 2) that between self-controlled, self-governing machines (automatons) and organisms, especially humans (models of autonomy). The cyborg is the figure born of the interface of automaton and autonomy.⁴⁶⁸

Likewise, Jennifer González regards the cyborg body as “an imagined cyber spatial existence” which is imbedded within the real as well as existing in excess of the real. That is, she considers the cyborg body as already inhabited welcoming to the interface with the contemporary world and functioning “as a site of condensation and displacement.” She sees the cyborg body as “a symptom –it represents that which cannot otherwise be represented” rather than a simulacrum only signifying itself. In addition, González regards cyborg as an organic creature embracing multiple species like a monster on one hand and as a mechanical techno-human hybrid on the other hand and both these two types refer to a third kind of cyborg; a cyborg consciousness that Haraway alludes in her Manifesto.⁴⁶⁹ Likewise, Chela Sandoval points out the possible understanding of cyborg consciousness as “the technological embodiment of a particular and specific form of oppositional consciousness.”⁴⁷⁰ This oppositional cyborg consciousness refers to Haraway’s three boundary crossings between human and machine, animal (organisms) and human, and physical and non-physical.

Thereby, while the main focus of Cyberfeminism is on digital culture which represents only one area of new technologies, the main concerns of Cyborg feminism are cooperate capitalism, technoscience and cyberspace because women’s lives are affected by social, economic and political factors which reshape their subjectivities. Cyborg Feminism is interested in other areas of new technologies from digital one to biotechnology, medical, military and AI technologies. That is, identity information, embodiment and political resistance are the major focuses of Cyborg feminism in relation to high technology and science and material basis underlines the Cyborg Feminism.⁴⁷¹ Haraway’s “A Cyborg Manifesto” creates a cyborg metaphor that breaks

⁴⁶⁸ Haraway, *Primate Visions: Gender, Race and Nature in the World of Modern Science*, p. 139.

⁴⁶⁹ Jennifer González, “Envisioning Cyborg Bodies: Notes From Current Research”, in *The Cyborg Handbook*, (Ed.), Chris Hables Gray, 1-14, Routledge, New York & London 1995, pp. 267-268.

⁴⁷⁰ Chela Sandoval, “New Sciences: Cyborg Feminism and the Methodology of the Oppressed”, in *The Cyborg Handbook*, (Ed.), Chris Hables Gray, 1-14, Routledge, New York & London 1995, p. 408.

⁴⁷¹ Melzer, p. 22.

the binary oppositions and boundaries between culture and technology; boundary breakdowns between human and machine, human and animal, and physical and non-physical. In terms of semiotics, this cyborg metaphor highlights cultural meaning that technology represents and constructs and power relations that science and economic theories represent, and the cyborg metaphor.⁴⁷²

Science fiction and cyborg feminism have such a close relationship that most cyborg metaphors are seen in those fictions and movies. That is, cyborg feminism has contributed to the theories of contemporary science fiction. The cyborg metaphor exhibited within science fiction literature represents a social-political state of consciousness and technological manifestation. The cyborg is a metaphor of both politics of representations and social power. Therefore, the origin of cyborg lies both in science fiction as well as in actual technological and material relations, so imaginations or representations (fiction) and the material relations are related to and reproduce each other.⁴⁷³ Because of this reason, Haraway defines a cyborg as both a social reality and fiction creature, and draws the social reality and science fiction boundary as an “optical illusion.”⁴⁷⁴ Science fiction, especially feminist science fiction, uses the cyborg metaphor because the cyborg symbolizes freedom from the subverting dualistic power of binary oppositions. According to Sarah Kember the relationship between women and technology is aimed to transform by cyborg feminism.⁴⁷⁵ That is, we can see socially constructed experiences of women in Cyborg feminism. Hence, Cyborg feminism by keeping the destructive effects of patriarchal technoscience in mind, believes in the possibility of the implosion of those binary gender oppositions and Western dualism through technology. Melzer argues that:

[C]ontributors to the cyborg feminist debate opt for theoretical and practical models of ambivalence and ambiguity that undermine binary hierarchies and point to the complexity of relations. By embracing ambivalence and partiality instead of stability in terms of subjectivity, cyborg feminism insists on recognizing problematic tendencies within feminist thought that hold on to a notion of female subjectivity modeled

⁴⁷² Melzer, p. 23.

⁴⁷³ Melzer, p. 24.

⁴⁷⁴ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 149.

⁴⁷⁵ Sarah Kember, “cyborg feminism”, in *Encyclopedia of Feminist Theories*, (Ed.), by Lorraine Code, Routledge, London & New York 2002, p. 176.

after an enlightened modern subject. Cultural texts within this discussion are understood as tools of domination as well as of imagination and resistance; issues of representation and the production of meaning are central to cyborg feminism. Cultural texts are thus part of cyborg feminism's analyses of oppression, and science fiction is its main site of theory production.⁴⁷⁶

Therefore, Cyborg feminism is associated with technoscience in an ambivalent way. In other words, we can see an ambivalent relationship between female body and technology that the cyborg body can "both be a patriarchal fantasy of dominating technologies and a feminist tool of resistance."⁴⁷⁷ That is, Melzer argues that Cyborg feminism is concerned with the technoscience's embodiment interrelations and the cyborg bodies represent and create cultural meaning, so female cyborg embodiment is not about being bodiless but about empowered resistance to exploitative power relations.

Haraway is the outstanding critic in cyborg feminism but the other critics, following her footsteps in exploring the relationship between human and technology, have played the role of important debate around the cyborg metaphors. The critics follow Haraway's cyborg image as a combination of both material reality and imagination/representation, as well. Critics such as Cadora, Harper and Wolmark following the cyborg figuration of Haraway explore to extend and move cyberpunk beyond the male horizon of cyberpunk to feminist cyborg writing. Cadora uses "feminist cyberpunk" label to shift feminist cyborg writing from the constraints of male cyberpunk to define "multiply positioned" subjects/cyborgs.⁴⁷⁸ Likewise, Harper employs the label "feminist cyborg writing" to distinguish it from male cyberpunk by a "set of cultural and technological transgressors whose politics may not be reduced to simple mind/body oppositions."⁴⁷⁹ For Wolmark, it deals with difference and identity questions in postmodern society by claiming that "reification of gender roles" is expressed implicitly in cyberpunk.⁴⁸⁰ These three critics underline the place of feminists in contemporary science fiction, especially in feminist cyborg writing. Harper, while examining the works of Pat Cadigan, the Native American writer Misha, Laura J.

⁴⁷⁶ Melzer, p. 25.

⁴⁷⁷ Melzer, p. 25.

⁴⁷⁸ Karen Cadora, "Feminist Cyberpunk", *Science Fiction Studies*, 22(3), 1995, pp. 357-360.

⁴⁷⁹ Harper, p. 400.

⁴⁸⁰ Wolmark, "Science Fiction and Feminism", p.109-125.

Mixon, Lisa Mason, and Sue Thomas points out the most important characteristic of “feminist-centered writers of cyborg literature” as the “knowledge that subjectivity is an interchangeable and mutable set of identities, powers, and strategies.”⁴⁸¹ Likewise, by examining the works of Rebecca Ore, Marge Piercy and Elizabeth Vonarburg, Wolmark asserts that feminist cyborg writers use the conceptualization of Haraway’s cyborg. Cadora also names the works of women as the representation of Haraway’s three cyborg boundary crossings. She claims that women use those three boundary breakdowns (human and machine, organism and animal, and physical and non-physical), but that men generally use the first boundary breakdown in their cyberpunks, and women move beyond the heterosexism, which is often found in male cyberpunk, by using other genders such as lesbian-gay-bisexual figures.⁴⁸² That is, we can say that feminist cyborg writing or cyberpunk gives much place to that of homosexuality such as lesbian-gay-bisexual-transvestite-transgender as well as AIs (Artificial Intelligences), hackers, cybernetic identities, virtual and digital selves, electronic animal personas and cyborg bodies.

Moreover, the issues of embodiment, identity and subjectivity are the main concerns of those critics. Lisa Yaszek regards the notion of “cyborg writing” as a “genre” exploring the impact of technological mediation on “understandings of human identity and agency.”⁴⁸³ Rosanne Stone also stresses on the importance of body, returning to the physical in the age of “the technosubject.”⁴⁸⁴ She claims that the body is no longer a humanoid but a hybrid/mechanic creature. However, N. Katherine Hayles questions the importance of the body with her “superfluous body” but that does not mean a bodiless creature but an empowered cyborg who reacts to exploitative power relations. She stresses on postmodern subjectivity by “crossing of the materiality of informatics with the immateriality of information” because she believes in the disappearance of the body and emergence of the certain kind of subjectivity.⁴⁸⁵ Hayles stresses on the double position of the cyborg; both its human life cycle and the

⁴⁸¹ Harper, p. 417.

⁴⁸² Cadora, pp. 359-60.

⁴⁸³ Yaszek, *The Self Wired: Technology and Subjectivity in Contemporary Narrative*, p. 3.

⁴⁸⁴ Stone, “Will the Real Body Please Stand Up?: Boundary Stories about Virtual Cultures”, pp. 82-118.

⁴⁸⁵ N. Katherine Hayles, “The Materiality of Informatics”, *Configurations*, 1, 1992, p. 149. See also Hayles, *How We Become Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, University of Chicago Press, Chicago 1999, p. 193.

mechanical features of production and disassembly.⁴⁸⁶ Hayles examines the relationship between the body and the technology, and how the body disappears into “a fluid and changing display of signs” in *How We Become Posthuman* (1999).⁴⁸⁷ She draws the relationship between the material body and its disembodied experience and presence in cyberspace: “dematerialization of embodiment” in techno-scientific narratives.⁴⁸⁸

Another critic, Anne Balsamo, comes closer to Haraway in limiting the dualistic notions of society, identity and she stresses on the material and produced notion of the body and its postmodern reconstruction of sexual difference deconstructing biological essentialism of it in *Technologies of the Gendered Body* (1996).⁴⁸⁹ For her, the best way to limit that dualistic essentialism is to focus “attention on the ways in which nature and culture are mutually determining systems of understanding.”⁴⁹⁰ Like Hayles, Balsamo relates the body concept to postmodern theory questioning whether the body in postmodern theory has disappeared because women and feminists have entered human disciplines,⁴⁹¹ that is, she deals with the disappearance of the female body in postmodernity that makes technologically fragmented female body, deconstructed and invisible material body. She demonstrates the disembodied zones of virtual worlds and questions the body in cyberspace. She draws on Haraway in claiming “the cyborg rebukes the disappearance of the body within postmodernism [...] Ultimately, the cyborg challenges feminism to search for ways to study the body as it at once both a cultural construction and a material fact of human life.”⁴⁹² Thus, we can say that this postmodern immaterial body exists in feminist cyborg writing.

Like Balsamo, Claudia Springer points out the gendered formulations in feminist cyberpunk by stressing on the triumph human existence as computer metaphor and by accepting the cyborg existence. She breaks down the boundary between human and computer and redefines human psyche with computer image.⁴⁹³ All these critics in

⁴⁸⁶ Hayles, “The Materiality of Informatics”, p. 153.

⁴⁸⁷ Hayles, *How We Become Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, pp. 192-3.

⁴⁸⁸ Hayles, “The Materiality of Informatics”, p. 147.

⁴⁸⁹ Anne Balsamo, *Technologies of the Gendered Body: Reading Cyborg Women*, Duke University Press, Durham & London 1996, p. 31.

⁴⁹⁰ Balsamo, p. 23.

⁴⁹¹ Balsamo, p. 31.

⁴⁹² Balsamo, p. 33.

⁴⁹³ Claudia Springer, “Digital Rage”, in *The Cybercultures Reader*, (Ed.), by David Bell and Barbara M. Kennedy Routledge, London & New York 2000, p. 340.

general try to reconstruct the body either materially or immaterially. Haraway's cyborg is based on reconstructing gender identity and those critics follow her cyborgian figuration of gender difference. However, Haraway's cyborg is not just the metaphor for the relationship between human and technology but between human and animal as well as physical and non-physical.

In cyborg feminism, we encounter the decentered postmodern subject that is reconfigured as a cyborg. Cyberpunk pays a contradictory focus on the embodiment of the cyborg. Haraway stresses on the usefulness of the cyborg metaphor for feminist theory. Jenny Wolmark claims that like the cyborg, "cyberpunk has been hailed as quintessentially postmodern, existing on the borders of high and popular culture, and able to exploit that boundary position with great verve."⁴⁹⁴ Haraway supports the cyborg embodiment that can challenge binarism. Both cyber and cyborg metaphors have the same aim to challenge that binarism. Haraway's notion of the cyborg is based on the ambiguous construction of the body and subjectivity. Ann Balsamo regards Haraway's cyborg as a social construction because it is social interaction through which cyborgs are produced in a simultaneous, symbolic and biological way and so both self and body are different interactional products. That is, she considers cyborg as "a creature of social reality as well as a creature of fiction," so this brings us to postmodern identity: the fragmentation and multiplicity of subjectivity.⁴⁹⁵ The constructedness of cyborg subjectivity and bodies leads us to the cyborg's constructedness of otherness. As a postmodernist and cyberfeminist critic, Haraway challenges to centralized subjects, totalized narratives and objective knowledge and dualisms with her fractured and multiple hybrid organisms and selves. She creates real opportunities for women who explore multiple identities and by these identities she breaks down the boundary between the human (natural) and the mechanical,⁴⁹⁶ as well as the boundaries between animal and organism and physical and non-physical.

Consequently, cyborg feminism is concerned with the cyborg and embodiment. The relationship between this transgressive and oppositional feminist cyborg consciousness and the technology is always ambivalent. The cyborg has never been an

⁴⁹⁴ Wolmark, Introduction to "Cyber subjects: Cyborgs and Cyberpunks" p. 139.

⁴⁹⁵ Balsamo, "Reading Cyborgs Writing Feminism", p. 153.

⁴⁹⁶ Michael E. Zimmerman, *Contesting Earth's Future: Radical Ecology and Postmodernity*, University of California Press, California 1994, p. 356.

innocent figure but a partial subject. Cyborg feminism is associated with experiences of women that are socially constructed in terms of material and historical experiences but not biological ones, so cyborg feminism deals with the material experiences of women as a social group. Shortly, as Wajcman gives much place to Haraway in Cyborg feminism as the most important figure, we will discuss the topic in detail by examining Wajcman's cyborg solution through Haraway's cyborg metaphor.

2.2.2.1. Wajcman's Cyborg Solution

Throughout history the female body is generally associated with biological production, so it is possible to say that women particularly give importance to reproductive technologies. It is even inevitable to establish a relationship between today's advanced technologies and the biological production of the female body, the childbirth. For example, thanks to advanced genetic technologies, it is possible to screen the embryo months before its birth, diagnose some possible genetic disorders and even cure them by the help of other technologies. Moreover, these biotechnologies even enable parents to assure their babies with some genetic advantages such as choosing their intelligence level, physical appearance, or personal traits.

Wajcman states that the relationship between women and genetic engineering, reproductive technologies and eugenics was first made by the feminists, especially the radical feminists and Ecofeminists, who identify the female body with nature by means of reproduction, strongly oppose to the intervention of these technologies to the female body as well as to the nature. Another opposition of these feminist groups to reproductive technologies is their way of explaining the gender roles in society. While behavioristic sciences relate the gender roles with the codes of genes in a genetically deterministic way, and associate them with evolution and the idea of survival, the feminists' argument is on socially constructed gender roles that are also open to reconstruction. Thus, their argument regards gender roles as hard-wired in the genes.⁴⁹⁷

Wajcman considers Haraway to be the most important and influential feminist commentator in terms of technoscience who challenges to technological and genetic

⁴⁹⁷ Wajcman, *TechnoFeminism*, pp. 79-80.

determinism by embracing the positive potential of science and technology.⁴⁹⁸ Like Wajcman, Margaret Grebowicz also regards Haraway as an original, challenging and key theorist of contemporary feminist criticism, theory and cultural studies of the 21st century.⁴⁹⁹ Wajcman starts her critical analysis with Haraway's ground-breaking work, "A Manifesto For Cyborgs: Science, Technology, and Socialist Feminism in the 1980s," which is associated with technoscience.⁵⁰⁰ In this work, Haraway defines the cyborg as "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction" as well as defining social reality as "lived social relations, our most important political construction, a world-changing fiction."⁵⁰¹

Wajcman asserts that Haraway loads positive potential to science and technology and so new meanings are loaded by her as well as new entities in order to create new worlds. Since she wants to see many changes in those spheres, Haraway rejects Ecofeminist ideology in which women are celebrated to stay spiritually close to an unpolluted nature. Instead, she chooses to be a cyborg rather than an Ecofeminist goddess.⁵⁰² That is, Wajcman claims that Haraway regards science and technology as a liberatory and links science with progress. She opposes to full rejection of the hybrid entities (unnatural) that biotechnology produces. Haraway gives the example of reproducing tomatoes from the genes of flounders that are accustomed to cold seas. By this way, flounder gene leads tomatoes to produce a protein, so prevents them from freezing.⁵⁰³ Hence, we can say that there might be good results and effects of science and technology that can produce surprises.

Haraway thinks that modern science fiction and medicine are full of cyborgs, so they populate our natural and crafted worlds at the same time. Today, due to the immense influence of science and technology, every human being becomes a cyborg. Haraway says that "By the twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are

⁴⁹⁸ Wajcman, *TechnoFeminism*, p. 80.

⁴⁹⁹ Margaret Grebowicz and Helen Merrick, *Beyond the Cyborg Adventures with Donna Haraway*, with a "seed bag" by Donna Haraway, Columbia University Press, New York 2013, p. 1.

⁵⁰⁰ Wajcman, *TechnoFeminism*, p. 81.

⁵⁰¹ Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century", p. 149.

⁵⁰² Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century", p. 181.

⁵⁰³ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 280.

cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centers structuring any possibility of historical transformation.”⁵⁰⁴ Haraway understands why feminists want to turn away from technology, because, for her, the world’s poorest women are the ones who suffer most from the technological development. However, she still thinks that it is irresponsible of feminists to have the idea of returning to nature only because otherwise is economically impossible for the poor women. On the contrary, she encourages them to fight for these difficulties and believes that the time will come when “people are not afraid of their joint kinship with animals and machines.” Moreover, Haraway argues that “Gender, race or class consciousness is an achievement forced on us by the terrible historical experience of the contradictory social realities of patriarchy, colonialism, and capitalism” and she believes that the cyborg politics can contribute to the feminist political organization. According to her, there is a great need for political unity to struggle against the dominations such as race, gender, and class, so on. However, she urges feminists that in order to be successful in this fight, they must gather around an “affinity politics” instead of an “identity politics”. To her, identity politics comes with the idea of the essential woman, and this is not only elusive, but also dangerous, because, in the past, essentialism has served as an excuse for the domination of women on others for their own good.⁵⁰⁵ Moreover, having a female identity does not naturally bind women. So, rather than using identity as a political category, the feminists should build coalitions based on the more cyborg-friendly notion of “affinity”. Hence, she uses the phrase of Chela Sandoval’s notion of “women of colour” for a kind of possible category of affinity politics. The effect of this phrase “women of colour” on the feminist community is described by the term “oppositional consciousness” that Sandoval coined.⁵⁰⁶ Like women of colour, women’s culture is “consciously created by mechanisms of inducing affinity.”⁵⁰⁷ Haraway asserts that “Cyborg feminists have to argue that ‘we’ do not want any more natural matrix of unity and that no construction is

⁵⁰⁴ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 150.

⁵⁰⁵ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, pp. 154-155.

⁵⁰⁶ Quoted by Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 155. See also Chela Sandoval, *Dis-Illusionment and the Poetry of the Future: The Making of Oppositional Consciousness*, (Ph.D.), University of California- Santa Cruz, 1984.

⁵⁰⁷ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, pp. 156-157.

whole.”⁵⁰⁸ That is to say, a cyborg does not refer to a unitary identity,⁵⁰⁹ but affinity politics.

In other words, Haraway grounds her cyborg manifesto on two crucial arguments. The first one is that she rejects universal and totalizing theory because by this mistake, most of reality is missed. The second one is that “taking responsibility for the social relations of science and technology means refusing an anti-science metaphysics, a demonology of technology, and so means embracing the skillful task of reconstructing the boundaries of daily life, in partial connection with others, in communication with all of our parts.”⁵¹⁰ Thereby, Wajcman says that Haraway’s essay provides emancipatory potential of cybertechnology and a hopeful vision of science and technology that are integral part of society. We can say that Haraway rejects the dualistic way that we have explained our bodies and ourselves, so she sees cyborg imagery as “a way out of the maze dualisms,” that is, her cyborg world breaks down the gender dualistic boundary. Besides, she considers the cyborg world as having “a powerful infidel heteroglossia” rather than a common language; it refers to “both building and destroying machines, identities, categories, relationships, space stories.”⁵¹¹ Hence, Wajcman asserts that for Haraway women in all over the world find opportunity and sources of fresh power thanks to these biotechnologies, informatics and communication technologies that need new feminist politics in turn.⁵¹²

Another important argument of Haraway Wajcman states is the relationship between science and culture. In *Primate Visions: Gender, Race and Nature in the World of Modern Science*, Haraway argues that science utilizes similar narrative forms with other social knowledge and it makes use of binary oppositions which are embedded in Western culture for centuries such as female and male, ideology and science, nature and culture. In this respect, Wajcman says that “For Haraway, science is culture in an

⁵⁰⁸ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 157.

⁵⁰⁹ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 180.

⁵¹⁰ Haraway, “A Manifesto For Cyborgs: Science, Technology, and Socialist Feminism in the 1980s”, p. 39.

⁵¹¹ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 181.

⁵¹² Wajcman, *TechnoFeminism*, p. 82.

unprecedented sense.”⁵¹³ Haraway considers it as a way of dominating others: “the detached eye of objective science is an ideological fiction, and a powerful one.”⁵¹⁴ For this objective science, Haraway offers FemaleMan© modest witnesses for scientific observations. This concept will be expanded more thoroughly in the next chapter. In short, like Haraway, Wajcman claims that “science is not the disembodied truth; it is social knowledge, a form of life and a material-semiotic practice utilizing narrative forms similar to those of other social knowledges.”⁵¹⁵

Wajcman asserts that Haraway pays a lot of attention to the concepts like female-male and nature-culture in order to establish a gender theory within feminist theory. Her deconstructionist method is to deploy “‘natural’ as a domain of foundational cultural practice”⁵¹⁶ which is extremely valuable for feminism. She tries to blur the boundaries between human, animal and machine that exist in our minds. Haraway regards technoscience as a cultural activity in which nature is invented and the culture-nature line is constructed as a separate process. This deconstruction will also demolish the binary oppositions such as society-nature, man-animal, machine-human, and become a liberating action for feminists. By means of cybertechnology, women will be able to reach beyond their biological bodies and redefine themselves without any historical and cultural boundary related to their bodies. And when they do this, the laws of nature, the source of gender difference and inequality lose its power forever.⁵¹⁷

Next, Wajcman makes a comparison about the concept of gender in cyborgs between Haraway and Manfred E. Clynes and Nathan S. Kline. Clynes and Kline coined the term cyborg in 1960, in their work titled *Astronautics*. Their goal was to invent a human-machine hybrid in order to survive in extraterrestrial environments. In those years NASA was in search of an enhanced man for its space explorations, thus it supported Clynes and Kline’s project. According to the project, these cyborgs would be human in essence, but their bodies would be altered like machines. Their cyborg hybridity has “self-regulating machine systems.”⁵¹⁸ In this way, their minds would be

⁵¹³ Wajcman, *TechnoFeminism*, p. 82. See also Haraway, *Primate Visions: Gender, Race and Nature in the World of Modern Science*, p. 13.

⁵¹⁴ Haraway, *Primate Visions: Gender, Race and Nature in the World of Modern Science*, p. 13.

⁵¹⁵ Wajcman, *TechnoFeminism*, p. 83.

⁵¹⁶ Wajcman, *TechnoFeminism*, p. 88.

⁵¹⁷ Wajcman, *TechnoFeminism*, p. 88.

⁵¹⁸ Manfred E. Clynes and Nathan S. Kline, “Cyborgs and Space”, *Astronautics*, 26-27, September, p. 27.

able to continue the research, so that these enhanced humans could survive in extraterrestrial environments. Haraway asserts that Clynes and Kline “imagined the cyborgian man-machine hybrid would be needed in the next great technohumanist challenge –space flight”⁵¹⁹ and this cyborg would be “the enhanced command-control-communication-intelligence system (C³ I).”⁵²⁰ In Clynes’s original project, there would be no difference or alteration in the gender or sexuality of the cyborgs.⁵²¹ However, Wajcman argues that Haraway weaves the cyborg hybridity from a different angle –redefining human without loading gender categories into her cyborg creature.⁵²²

Besides, followers of Haraway deal with her cyborg images in science fictions. Linda Janes asserts, “Science fiction has become perhaps the quintessential genre of postmodernity in its characteristic representations of futuristic ‘tomorrowworlds’, inhabited by aliens, monsters and cyborgs which draw attention to artificiality, simulation and the constructed ‘otherness’ of identity.”⁵²³ Thus, within science fiction and movies, Wajcman argues that there is a big discussion about cyborgs whether they fit with the Haraway’s hybrid lexicon and whether they strengthen gender stereotypes with blonde female cyborgs carrying huge weapons. Wajcman points out Haraway’s sensitiveness on the ambiguous nature of cyborg who embodies both dark and emancipatory side in itself.⁵²⁴ One of the most common themes for science fiction is that the machines transcend their programming and start to rule over humans in an autonomous way. It is possible to see such science monsters in movies and novels since Shelley’s *Frankenstein*. What these monsters generally do is to violate the boundary between human and non-human. However, Haraway breaks this old convention by applauding the hybridity and transgression of the boundaries. As Fiona Hovenden claims:

The cyborg can be reclaimed again, and again, from patriarchal image-making. It can keep a foot in silicon and a foot in carbon; it can run

⁵¹⁹ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 51.

⁵²⁰ Haraway, *The Haraway Reader*, p. 299.

⁵²¹ Cris Hables Gray, “An Interview with Manfred Clynes”, *The Cyborg Handbook*, Cris Hables Gray, Steven Mentor and Heidi J. Figueroa-Sarriera (Eds), Routledge, New York 1995, p. 49.

⁵²² Wajcman, *TechnoFeminism*, p. 89.

⁵²³ Linda Janes, “Introduction to Part Two: alien m/others: representing the feminine in science fiction film”, in Gill Kirkup, Linda Janes, Kathryn Woodward and Fiona Hovenden (Eds), *The Gendered Cyborg: A Reader*, Routledge, London 2000, p. 92.

⁵²⁴ Wajcman, *TechnoFeminism*, p. 94.

on blood and electricity. It can walk any street in the hope that it will be protected by its ambiguity. It may be wrong, and the risks are great, but it is an agent for fusing embodied, situated knowledge, and powerful fantasy.⁵²⁵

Following Haraway's ideas about cyborg, Wajcman has some doubts about her conceptualization of the cyborg. Wajcman questions whether all of us are cyborgs, that is, she raises questions against Haraway's cyborg politics whether we are cyborgs just because we wear glasses or have prostheses on or in our body. Wajcman argues that "neither is modification of the human body necessarily subversive of the established gender roles. From transgender operations literally turning women into men, or vice versa, to cosmetic surgery, surgical procedures are used precisely to reinforce gender stereotypes rather than subvert them."⁵²⁶ That is, she argues that today most men and women have surgeries in order to express or emphasize their sexualities such as augmenting the size of their breasts or using testosterone steroids to have muscular body, so these efforts do not subvert gender stereotypes but reinforce them. On the other side, drugs to enhance physical performance are prohibited for the athletes and are regarded as a shameful manner. Haraway asserts that this drug taking "demonstrates our ambivalence about the boundaries between human and machine." People have always wanted to break records with their physical prowess, but Wajcman wonders what happens if we all transform our bodies into cyborgs; if we blur the boundary between human and machine and if we have enhanced our bodies and if there would be any desire to access to sport?

To answer Wajcman's questions, we can say that Haraway not only uses the cyborg metaphor ironically but also she does less for now related to current limited technological and scientific opportunities which just enable such kind of cyborg facilities. Thus, with today's technology, we are just cyborgs with glasses, prosthesis on or in our body and cosmetic surgery. The more technology advances and progresses, the more we can be cyborgs we see in the movies or in fiction; we can blur the line between human and machine or animal or any organism, so this time there would be no need to any transgender operations or drugs to enhance physical performance because human being, both women and men, would gain the equal power they wished for centuries.

⁵²⁵ Fiona Hovenden, "Introduction to Part Four: Refractions (women, technology and cyborgs)", in Gill Kirkup et al (Eds), *The Gendered Cyborg*, Routledge, London 2000, p. 260.

⁵²⁶ Wajcman, *TechnoFeminism*, p. 92.

Thus, Haraway's hopeful vision of cyborg figures might end the binary oppositions that create such kind of competitions based on development of skills or physical empowerment, so there appears another oppositions like skilled and non-skilled or physically enhanced and not enhanced. Anyway, Wajcman follows Haraway's cyborg ideology and claims that her cyborg "fired the feminist imagination. It crystallizes our pleasure in, desire for, and anxiety about technological transcendence."⁵²⁷ The cyborg figure that Haraway emphasized has reached to a very different icon in the postmodern era thanks to science fiction films, fictions, academic writing and popular culture, that is, "it has taken on a life of its own, well beyond Haraway's original conception."⁵²⁸ At the turn of the twenty-first century, film industry about science fiction, Hollywood, introduced new female characters to science fiction imagination such as:

[Trinity in *The Matrix*,] Ripley from the *Alien* film series and Sarah Connor from the *Terminator* movies. These female characters share an unusual display of technological know-how, empowerment, and the habit of saving the world. They also have "unnatural" female bodies (often technologically enhanced or genetically engineered) and do "unfeminine" things. Significantly, it is within science fiction-film and literature— a genre usually understood to be predominantly male, so that we seem to reimagine gender relations radically. Here the controversial female cyborg challenges conventional ideas of gender, race, and nation, often at the same time as she reinforces them.⁵²⁹

That is, these new woman types such as cyber or cyborg women challenge "conventional ideas of gender, race and nation, often at the same time as she reinforces them."⁵³⁰

Finally, Wajcman knows that Haraway used the metaphor cyborg ironically in order to challenge and ultimately subvert the binary oppositions such as between human and machine, human and animal, self and other, inside and outside, nature and culture, physical and non-physical and women and men. She strongly believes that Haraway is certainly the pioneering figure who "is much stronger at providing evocative figurations of a new feminist subjectivity than she is at providing guidelines for a practical

⁵²⁷ Wajcman, *TechnoFeminism*, p. 93.

⁵²⁸ Wajcman, *TechnoFeminism*, p. 93.

⁵²⁹ Melzer, p. 1.

⁵³⁰ Melzer, p. 1.

emancipatory politics.”⁵³¹ Wajcman applauds loudly Haraway’s playful deconstructive strategy, which gives hope and a sense of agency to women.

⁵³¹ Wajcman, *TechnoFeminism*, p. 101.

CHAPTER THREE

TECHNOFEMINIST SCIENCE FICTION

Theoretical models that inform our analyses of *The Natural History* and *Correspondence* in this chapter include Donna Haraway's cyborg and Sadie Plant's cyber metaphors. The first novel consists of the cyborg embodiment, especially Haraway's cyborg subjectivities with its female and male cyborgs as well as other deviant unnatural bodies/forms. The second one consists of a cyborg body who creates cyberselves in cyberspace and a cyberself who tries to transform herself into that cyborg body. While first one covers all three cyborg types of Haraway; human and machine hybrid, animal/organism and human hybrid, and physical/non-physical hybrid, the second one includes human and machine hybridity by breaking down the boundary between physical and non-physical world and identities. In each novel, besides these cyborg figures, we see Plant's cyberspace matrix and cybernetic features as well as virtual cyberselves. Therefore, TechnoFeminism meets cyber and cyborg metaphors in the science fiction novels of Justina Robson and Sue Thomas. Nevertheless, we examine these two novels from different angles, though both consist of cyber and cyborg elements focusing on the female body's relationship with the technologies by which it is augmented and altered. Therefore, the aim of this chapter is to bring Judith Wajcman's TechnoFeminist approach with contemporary feminist science fiction by analyzing TechnoFeminist Science Fiction novels; *Natural History* and *Correspondence*.

Justina Robson was born in 1968 in Leeds where she was brought up. Before she started her writing career, she studied philosophy and linguistics at the University of York. She is one of the British Science Fiction Boom writers and her novels are *Silver Screen* (1999), which was shortlisted for both the BSFA Award in 1999, the Arthur C Clarke in 2000, and the Philip K. Dick in 2005; *Mappa Mundi* (2001), which won the Amazon.co.uk Writer's Bursary in 2000 and was shortlisted for the Arthur C Clarke Award in 2002; *Natural History* (2003), which was the second in the John W Campbell Award in 2007, was shortlisted for the BSFA Award in 2005, and the Philip K. Dick Award in 2006. Her first novel is about AI and fluid cyberspace and the second one is

about a software system code named Mappa Mundi that provides to read the human mind. Though these two novels are related to cyberspace and the Net, they are not under our consideration as they lack the cyborg embodiment in themselves. Her novels are considered under the umbrella of new hard science fiction, new space opera, and we call her *Natural History* (2003) as TechnoFeminist Science Fiction in which she conjures up the three series of cyborg forms of life by using molecular biology, as well as cyberselves within cybernetic imagination. Her Quantum Gravity series is also about cyborg writing in which a female cyborg agent tries to protect the world like classic male cyborg writing.

The Quantum Series includes *Keeping It Real* (2006), *Selling Out* (2007), *Going Under* (2008), *Chasing the Dragon* (2009), and *Down the Bone* (2011). After the bomb of Quantum in 2015, gates are opened to foreign unknown dimensions which bring demons, elves and spirits, so human beings are under the threat of those elfin, demonic and elemental realms. The agent Lila Black fights with the agents of those six realms of each world for the sake of Earth's security. Therefore, as the series is transferred from one realm to the other, voyaging even to Underground World, we can say that those novels are science fiction fantasy genre having more fantastic figurations and metaphors than real like cyborg and cyber figurations, except for the protagonist Lila Black. Hence, because it does not fit with the cyberspace, cyberself and other cyborg metaphors of Haraway's (animal-human-machine hybrid, physical-nonphysical hybrid), we have not taken the Quantum Gravity series under our consideration of TechnoFeminist Science Fiction analysis. *Living Next-Door to the God of Love* (2005), which was shortlisted for British Science Fiction Award in 2005, Philip K. Dick Award in 2006 and Campbell Award in 2007, resembles the Stuff universe of *Natural History* as the sequel of it, but because it is related to posthuman figuration, we have not considered it, as well. She also has a story collection, *Heliotrope* (2011).

British writer Sue Thomas was born Susan-Jane de Vosin in Leicestershire in 1951. Her parents were both Dutch, but they settled in England, where she was born and grew up. She gained a degree in Humanities at the age of 37 and then began writing and university teaching. Computers and the Internet have been her major concern of writing since the late 1980s. She has spent most of her time online living digital life and wired world. She has written her memoir of life online in her *Hello World: travels in virtuality* (2004), a travelogue. Her first book, *Correspondence* (1992), was short-listed for Arthur

C. Clarke Award for Best Science Fiction Novel in 1993. Her second novel, *Water* was published in 1994. She has also edited *Wild Women: Contemporary Short Stories by Women Celebrating Women* (1994), *The Noon Quilt* (with Teri Hoskin, 1999), and *Creative Writing: A Handbook for Workshop Leaders* (1995). In 2004, Thomas gained the degree of Doctor of Philosophy in Nottingham Trent University with her 85 page dissertation, “A Journey of Integration: Virtuality and Physicality in a Computer-Mediated Environment” in which she details the history of her own writing on computer-mediated experience from her first novel *Correspondence* (1992) to her last novel *Hello World: travels in virtuality* (2004). In 2005, Thomas founded the trAce Online Writing Centre at Nottingham Trent University and then became Professor of New Media in the Institute of Creative Technologies at De Montfort University (2005 – 2013) in Leicester. She took voluntary severance from De Montfort University and moved to the south coast of England, Bournemouth where she works as a Visiting Fellow in the Media School at Bournemouth University. She has initiated a number of online writing projects as The Noon Quilt and managed numerous social media projects as the NLab Network, CreativeCoffee Club and Amplified Leicester. She studies biophilia, social media, transliteracy, transdisciplinary and future foresight. Thomas is now focused on digital well-being and digital nature about which her latest book is concerned, *Technobiophilia: Nature and Cyberspace* (2013), recently published in London: September and in New York: November, 2013 by Bloomsbury Publishing. Because her second novel *Water* deals with virtuality without computers, internet and the cyborg embodiment, and the other novel, *Hello World*, is a memoir and a travelogue, we have chosen to analyze her novel *Correspondence*, only suitable for both TechnoFeminist Science Fiction by dealing with cyber and cyborg metaphors.

3.1. JUSTINA ROBSON’S *NATURAL HISTORY*, AN ANALYSIS

Twenty first century science fiction literature tries to reflect the emerging technologies of the age such as genetic engineering, nanotechnology, biotechnology, molecular biology, cloning, robotics, and artificial intelligence that produce such figures as cyborgs, androids, gynoids, clones, AIs, modified organisms, forged humans, digital beings, genetically-altered humans or organisms. The system of connection of this cybernetic organism is the organic and machinic combination or uniting separate

organic systems together. That is, it is a kind of combining the evolved and the developed or the regenerated together as bringing constructor and constructed together. These central late 20th century figures are called as cyborgs, bionic systems, or vital machines.⁵³² Haraway asserts, “Contemporary science fiction is full of cyborg creatures simultaneously animal and machine, who populate worlds ambiguously natural and crafted.”⁵³³ *Natural History* depicts the future scientific possibility of human beings who, through science and technology, look very much like us, but only with better physical conditions, better health care, different and wild appearance, longer lives, and perhaps more intelligent than today because humanity has mastered nanotechnology and biotechnology by mixing human genes with those of so many other species. For example, the Forged figures as designed humans in the novel are regenerated in order to get rid of the tyranny and the limitations of the human body, but they are human in origin having the human genes.

Natural History has not been analyzed through TechnoFeminist Science Fiction yet; the only one close to our examination is Michele Braun’s dissertation titled “Cyborgs and clones: Production and reproduction of posthuman figures in contemporary British literature.”⁵³⁴ However, he examines *Natural History* from the view point of Francis Fukuyama’s posthuman world which is more hierarchical and colonizing that co-existence of human and posthuman is impossible. He describes the cyborg figures in the novel as posthuman, but we will not examine them as posthuman figures ruling and colonizing the weak ones, even at the end of the novel, instead we call them cyborg figures who breakdown the boundary between human/machine, animal/organism/human, and physical/non-physical boundaries. Maybe Robson’s next novel, *Living Next-Door to the God of Love* (2005), might be associated with posthuman figuration as it tells the life after people have transformed themselves to posthuman creature using a high technology. Likewise, N. Katherine Hayles argues that:

⁵³² Chris Hables Gray, Steven Mentor and Heidi J. Figueroa-Sarriera, “Cyborgology: Constructing the Knowledge of Cybernetic Organisms”, in *The Cyborg Handbook*, (Ed.), Chris Hables Gray, 1-14, Routledge, New York & London 1995, p. 2.

⁵³³ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 149.

⁵³⁴ Michele Braun, *Cyborgs and clones: Production and reproduction of posthuman figures in contemporary British literature*, (Phd Dissertation), Northeastern University & ProQuest, Boston 2010.

Whereas it is possible to think of humans as natural phenomena, coming to maturity as a species through natural selection and spontaneous genetic mutations, no such illusions are possible with the cyborg. From the beginning it is constructed, a technobiological object that confounds the dichotomy between natural and unnatural, made and born.⁵³⁵

In other words, she claims that while the human is chronological, assuming growth and representing itself as natural or normal, the posthuman is topological, presupposing production and representing itself as unnatural or aberrant.⁵³⁶ However, cyborg figures in the novel provide all three-cyborg conceptions of Haraway. We can see human/machine hybrids, animal/organism/human hybrids and physical/non-physical organism hybrids. The prefix post in posthuman might refer to both 'after' and 'beyond' as transcending the limitations of the human. That is, cyborg figures are not after/beyond human, but the human itself. Unlike Hayles, Haraway deals with cyborgs, not with bodies and selves after/beyond humanism, posthuman creatures: "I never wanted to be posthuman, or posthumanist, any more than I wanted to be postfeminist"⁵³⁷ because she prefers to be a cyborg rather than a posthuman or goddess. Rather than applauding the transcending the limitations of the human as posthuman figures do, cyborg figures in the novel are proud of having human facilities, genes and sensations. There is a debate between cyborgs and humans whether to accept the Stuff engine to transform themselves to finite posthuman figures with the highest technology. Nevertheless, the novel is open ended, so we cannot meet full transformation of the cyborgs or humans into posthuman: we cannot even be sure whether Zephyr and Isol have been transformed into a posthuman or they die and opened their eyes in Heaven at the end of the novel. Thus, the cyborgs are portrayed as evolved, forged regenerations of human beings through technology, so Natural History of those evolved forged/cyborg humans is based on humanity itself.

Shortly, within the narrative, we do not see posthuman figures but cyborgs/evolved/forged, who are regenerated by technology rather than reproduced or produced solely by technology as posthuman. The science fiction narrative in *Natural History* features characters that embody almost every possible features and gene of the

⁵³⁵ Hayles, "The Life Cycle of Cyborgs: Writing the Posthuman", p. 321.

⁵³⁶ Hayles, "The Life Cycle of Cyborgs: Writing the Posthuman", p. 323.

⁵³⁷ Haraway, *When Species Meet*, p. 17.

humanity breaking down the three boundaries that Haraway mentions; between human and animal, animal-organism and human, and physical and non-physical. Therefore, this TechnoFeminist Science Fiction novel meets Harawayian cyborg figures and Plant's cybernetics, so we examine first the kinds of cyborgs following Haraway's Cyborgology and then the cybernetic space of *Natural History* following Plant's cyberfeminism.

3.1.1. Harawayian Cyborg Figures

In the novel, we encounter technologically enhanced, ambiguously gendered and behaviorally transgressive female cyborgs. Before examining Harawayian kind of cyborg bodies, we introduce some basic characteristics of cyborgs constructed by Haraway. Haraway's cyborg is self-declared deconstructor of humanism, offers an imaginative bio-technological form undermining the split between humanity and its technology. On the other side, her cyborg rejects humanist storytelling about death and birth operations. In her manifesto, she announces: "I would suggest that cyborgs have more to do with regeneration and are suspicious of reproductive matrix and of most birthing."⁵³⁸ However, this does not mean that she completely eradicates the humanist narrative because the human element of cyborg is not eradicated, that is, the cyborg cannot be devoid of narrative-based life. Haraway's cyborg has the features of multiple assemblies and disassemblies as well as the human cycle. Thus, the politics of her cyborg is of "building and destroying machines, identities, categories, relationships, spaces and stories."⁵³⁹ Her cyborg, taking part in a socially constructed society, has self-reflexively transmogrified or evolved, and selects variations of subjectivity to its political advantage (especially self-willed subjectivity or self-willed material bodies). Her cyborg resists the series of narratives it produces, and it never stops doing it but, on the other hand, it is an ironic figure based on the humanist subjectivity.

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Feminism and Technoscience describes the cyborg as a "cybernetic organism, a fusion of the organic and technical forged in particular, historical, cultural practices" and

⁵³⁸ Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century", p. 181.

⁵³⁹ Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century", p. 181.

considers cyborgs as “not about the Machine and the Human, as if such Things and Subjects universally existed. Instead, cyborgs are about specific historical machines and people in interaction that often turns out to be painfully counterintuitive for the analyst of technoscience.”⁵⁴⁰ It is really very difficult to determine various types of cyborgs as well as “cyborgian” relations because of their multiplying feature and being everywhere, so we cannot talk about any one kind of cyborg.⁵⁴¹ In the novel, the humanity consists of many kinds of human beings: the Unevolved humans (Old Monkeys), modified Unevolved MekTek humans, the Evolved humans (the Forged), the AnimaMekTek Forged humans and the Degraded humans (disabled cyborgs), the Terraforms and Gaiaforms, the AI cybernetic selves as Tupac, and the posthuman technology creation, the Stuff. It consists of a cybernetic virtual world named Uluru, as well. Haraway states that her cyborg politics essentially differs from those of socialist feminists who give importance to mind/body, animal/machine, idealism/materialism dualisms in contemporary culture, but she sees this approach as wrong in the extreme.⁵⁴² She mentions about three border crossings through which it will be impossible to return to nature. In order to constitute a political-fictional (political-scientific) analysis, Haraway points out three crucial boundary breakdowns: human and machine breakdown, animal/organism and human breakdown and physical and non-physical breakdown. These three breakdowns fit with all the human types in the novel except unmodified Unevolved Old Monkeys.

In the text, the Unevolved humans are referred to ‘Unevolved’ or ‘Humanaforms,’ but because of their weak and powerless human body, they are called as ‘Old Monkey’ by the Forged. ‘Old Monkey’ refers to Darwinian evolutionary history of original human body. Old Monkeys, the Unevolved humans, are also enhanced, living longer with good health care, happier and fuller lives, but neither the Unevolved nor the Forged are the greatest ape when they encountered with the highest technology the Stuff that provides an eternal posthuman life. Old Monkeys are not modified with technology named MekTek like other Unevolved humans who use the MekTek technology modifications for enhanced embodiment.

⁵⁴⁰ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 51.

⁵⁴¹ Gray, Mentor and Figueroa-Sarriera, p. 2.

⁵⁴² Gray, Mentor and Figueroa-Sarriera, p. 13.

According to Haraway's cyborg politics, form is not important, but the function is essential, because of this reason she challenges the traditional body dualism through creating hybrid forms. An important difference between the Forged and the unmodified Unevolved has led an ideological argument of Form and Function between characters, which is referred as "F-word" in the novel. This argument is far beyond Darwinian evolution argument of survival of the fittest by providing a reason for living: "it was an old argument, the unwinnable one, Pinocchio's dilemma, existential catastrophe. If you were made for a purpose then you have a reason to exist. If you exist and have no purpose, what is the point of you?" That is, the Forged doctrine of function and purpose enable them a logical explanation for adaptability to different environments: "devotion to Form and Function as a sustaining faith was an adaption to their lives as sterile workers."⁵⁴³

On the other side, not all of the Forged follow this doctrine of Form and Function. For example, during their voyage, the Unevolved woman Zephyr and the Forged Isol discussed the future of the Stuff technology, and two of them tried to persuade one another. Isol claims that The Forged at last has found something to focus their energies on a new future with the Stuff: "A future of self-development, free of the bonds of Form and Function [...] free of the self-serving interference of the Unevolved." Zephyr understands the Forged's dream of a separate place only for themselves, but cannot understand why they want it in another world instead of this world. Isol replies, "Because it has been done there before. Everything awaits there. The gateway to freedom." Isol describes the benefits of the alien technology: "It is the embodiment of perfect Self-Development [...] It shows us the way forward, out of the shackles of Solar DNA and the limits of the human imagination." Isol desires for a new home planet because that planet, full of advance technology, will provide them "a future of self-development" and by this way, they will escape "the shackles of Solar DNA," but Zephyr finds her escape from DNA as "weird", because her body's blueprint is constituted by DNA while Isol's body is constituted by integrated biological and machine components.⁵⁴⁴ For Isol, DNA is not important because being human is more than sharing DNA genes with others, for example, although she shares the same DNA

⁵⁴³ Justina Robson, *Natural History*, Bastam Books, New York 2003, p. 70.

⁵⁴⁴ Robson, p. 162.

with Zephyr and other Unevolved humans. She feels no affiliation with them, so she wants to be freed from the tyranny and “shackles of Solar DNA.” Isol “opposes the doctrine of Form and Function and wants to introduce the opportunity to body-shift for all Forged citizens.”⁵⁴⁵ That is, it can be referred that the Forged can easily adapt themselves into a new homeworld where the Forged “could make a new beginning and forget their origins.”⁵⁴⁶ Timespan Tatresi, leader of the Solar Transport Workers Union and the member of the Independence Party, in order to persuade the Gaiaforms Kincaid and Bara claims that, “We can learn, and liberate ourselves from the bondage of Form and Function, if we study what they’ve [the Stuff people] left behind”⁵⁴⁷ in the deserted Stuff planet. TwoPi, the most numerous and advanced of the Hives, is also bored with this doctrine:

Despite our physical differences, [...] we have human minds. Not necessarily all the same, nor even structured the same way mechanically, biologically, but in our identities and the very design of our consciousness we are all bound in the human mould. Even those of us with enhanced intellect, or greater memory, or superior sensitivity to all kinds of stimuli both within and without, are not significantly different from this fundamental paradigm. We have evolved ourselves in many physical ways, but we have not made much progress in this part of ourselves over the last ten thousand years. Our lives are short and we search for meaning. When we find none, we create it. If we agree with each other, our meanings become a dogma, and when we disagree then we become enemies and fight, or sit at a distance in an attempt at tolerance. [...] We live by our own agreement inside these miserable prisons that are our selves, and suffer the results as the Forged who believe in the doctrine of Form and Function now suffer, as the Unevolved who believe they are lesser beings now suffer. Our minds are full of confusion and conflicts from which we separate only with the greatest difficulty, and for short periods.⁵⁴⁸

Evolved cyborg Passenger Pigeon Aurora (Ironhorse AnimaMekTek), animal-human-machine hybrid, regards this doctrine as irrelevant: “Clinging to Function is a puritan ideal” and says to Zephyr that “Not all of us care for such simplistic ideology. Form is likewise irrelevant; only what you can contribute to the lives of others should be the measure of the soul’s value. I didn’t choose to be an Ironhorse Class, as I know

⁵⁴⁵ Robson, p. 105.

⁵⁴⁶ Robson, p. 70.

⁵⁴⁷ Robson, p. 89.

⁵⁴⁸ Robson, pp. 254-255.

you didn't choose to be short, female or black, Dr. Duquesne." She believes that a person's form or function is not important, but her/his contribution to others or to the world tells the worth of that person. Unevolved Strategos Anthony has chosen his MekTek status that is in-between Evolved and Unevolved. He confirms Aurora by saying, "I choose to change [my form] in order that I might contribute something more than I otherwise could have," and he adds, "Freedom of choice must be first concern." Zephyr, between the Pigeon and the Strategos, couldn't think of the right way to say anything on the subject, but she thought that, except their form, the only thing the Forged have not lost out on is their emotional heritage.⁵⁴⁹

That is, no matter what form you have, the contribution you make makes you human. Therefore, people should not be judged by their appearance; especially women should not be considered as the Mad, the Alien, the Other or the Weird. For example, Corvax volunteers to examine the alien Stuff technology, but in order to contribute to the human-sized laboratory, he has his wings removed. He turns his body into a disabled cyborg just to interact with the others. For the sake of humanity and in order to contact with the Stuff, he tries his consciousness to be transferred into the eleven-D, the new space where the Stuff occupies, that is, he tries to translate himself into the Stuff consciousness. After first losing his body form (wings) and then later his consciousness temporally, he realizes that "the whole issue what shape you're in is really much more trivial than I thought."⁵⁵⁰ Corvax believes that there is "no destiny in Form, and none in Function either. The Monkeys live in their world, and we have right to live as we please in ours. We can make a few amendments to ourselves here, or we can live any life in Uluru [virtual reality in cyberspace]. That's all."⁵⁵¹ There is a social criticism here. It was the women who had to transform themselves into manly bodies by leaving their domestic work and childrearing in order to be accepted to enter male dominated work place so that to work permanently without maternal leave. Now, in the novel, it is a male cyborg who tries to transform his body in order to help technoscientific job. Then, first leaving his body and then his consciousness, he turns into the Mad Man in the Attic, the Other and the Weird.

⁵⁴⁹ Robson, p. 71.

⁵⁵⁰ Robson, p. 293.

⁵⁵¹ Robson, p. 24.

3.1.1.1. Boundary between Human and Machine

The Forged Humans: Abled Cyborgs

The Evolved humans are genetically and mechanically designed for specific purposes or environments, so they can live in space without spacesuits as each type of the Forged have special body forms. “Since ‘cyborg’ was first used in a proposal to modify humans so they could live in space without spacesuits, it fits that human-machine integration in space exploration is one of the most advanced sites of cyborg production in our culture.”⁵⁵² Thus, the Forged are just like humans, but they are physiologically and psychologically different from them. The extreme modification of the human body, represented by the Forged, lives with humans each of whom negotiate a space. The unmodified humans are aware of the fact that the Forged are also human beings.

Haraway’s first boundary is between human (organism) and machine. She explains the distinction between pre-cybernetic machines and today’s that previous machines were not “self-moving, self-designing, autonomous. They could not achieve man’s dream, only mock it,” so they are mainly depended on humans. However, today they are much more developed, more intelligent and even self-designed. So, many of the distinctions between machines and organisms are fading away. Haraway claims that:

They [pre-machines] were not man, an author to himself, but only a caricature of that masculinist reproductive dream. To think they were otherwise was paranoid. Now we are not sure. Late twentieth-century machines have made thoroughly ambiguous the difference between natural and artificial, mind and body, self-developing and externally designed, and many other distinctions that used to apply to organisms and machines. Our machines are disturbingly lively, and we ourselves frighteningly inert.⁵⁵³

Robson’s machines are like the ones Haraway’s late 20th century machines, even more than them. We see human-animal (organism) and machine boundary breakdown in the novel. The Forged are self-moving, self-designing and autonomous. They are man and woman; they are not only a caricature of that masculinized reproductive dream. The Forged have made ambiguous the difference between natural and artificial, they are half

⁵⁵² Gray, Mentor and Figueroa-Sarriera, p. 8.

⁵⁵³ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 152.

natural human, unevolved and half unnatural, evolved artificial intelligence machines. They breakdown the boundary between mind and body; their mind is a human mind, but their body is free from human body constraints, and they are in form of every organism, mostly animal. Free from body images, they also breakdown the hierarchy, and binary oppositions between human and animal, and man and woman. Robson's Forged cyborgs are disturbingly lively, human, more intelligent (AI), self-developing and externally designed.

Strangeness of Woman Cyborg Isol

In cyborg narratives, that cyborgs look strange is what distinguishes them from the other normal human beings. In fact, the strangeness of the cyborg's results from the perspective of the viewer, so from a male dominant viewer, women were considered as abnormal and strange as aliens or monsters. "Some Forged were sufficiently alien to the fundamental human base-template that even to their own kind they were so incomprehensible as to a distinct species. Voyagers had one of the strongest psychologies."⁵⁵⁴ In the narrative, Zephyr's first staring of the cyborg Isol is told like that:

Isol hung in the soft webbing of Tupac's embrace, looking like nothing than a piece of stranded sea-junk: an assembly of spars jutting from a central core of black hide that was knobbled with peculiar outgrowths and pits. Here and there strange scars bubbled up in grey stripes and blobs of tough new flesh. Twin seed-cases that Zephyr assumed to be engine housings hung below her, bizarrely botanical, surrounded in plastic sheeting behind which Arachno engineers worked with cautious movements. Those pots must contain the alien devices, Zephyr thought, as she looked down on the Voyager from the observation gallery and clung firmly to the railing.⁵⁵⁵

That is because Isol was like an "unrecognizably human as the most extreme class of Forged that Zephyr had seen in her life."⁵⁵⁶ Some features of Isol are; her "visual sensors were a complex knot of radar, photo and radio, capable of 360-degree awareness"⁵⁵⁷ and she "could process memories at fifty times the speed of an

⁵⁵⁴ Robson, p. 27.

⁵⁵⁵ Robson, p. 134.

⁵⁵⁶ Robson, p. 133.

⁵⁵⁷ Robson, p. 25.

Unevolved human and have it feel like real time.”⁵⁵⁸ After Zephyr gets on Lonestar Isol’s body for the Voyage, inside of the cyborg designed for Zephyr is described in detail:

The heat was nearly stifling. Once she [Zephyr] was inside, there was barely room to turn around and standing was difficult without feeling her hair brush the leathery ceiling with an uncomfortable dragging sensation. A single plush seat became, at the touch of a control, her couch, bed and dining space, as well. There was a reasonably sized screen set up on the bulky packaging of her survival sled at one softly curved end of the cylindrical room and her rations and water had been stored beside the seat, packed tightly in some of the webs that grew out of the wall.⁵⁵⁹

That is, cyborgs are considered as weird and strange as the women in our world who are judged because of their gender, accused of lacking mind, reason and logic, and eliminated from certain jobs because of their considered lack of ability and physical power. They were considered as animal-human hybrid body to be used for every physical activity (especially for sex and childbearing) and machine-human hybrid to be used for domestic work. Shortly, in TechnoFeminist Science Fiction narratives, cyborgs are ironically looked strange or monster like the cyborg body of Isol’s looking like a sea-junk.

Terraform Class: The Gaiaform Forged Humans

The Gaiaform Forged humans also fit Harawayian first border crossing by breaking down the boundary between human and machine. The Gaiaform Forged (Bara and Kincaid) are from Terraform Class and are called a particularly egregious limitations created by the Form and Function. The Gaiaforms are created to terraform Mars and the Moon and all of them are controlled by a single mind and personality, but after they had completed their work, they were put into hibernation because they were “created with the promise of a long life and work, but prevented by their very form from enjoying any kind of existence outside the purity of mere Function.”⁵⁶⁰ The Gaiaforms want to be useful for every job and they also want liberation for all the Forged from the tyranny of Form and Function by choosing the Stuff technology. The scandal had

⁵⁵⁸ Robson, p. 2.

⁵⁵⁹ Robson, p. 159.

⁵⁶⁰ Robson, p. 214.

rocked Mars and created a sculpture of death on the Moon over thirty years ago. Then, “over that time the purgatory of the Gaiaforms had slipped out of the news” and among “the first Forged ever created during the solar expansion programme, the Gaiaforms had been without doubt the largest and among the most complex.” Each one consumes more than a thousand terabytes of storage in compressed form. The Gaiaforms are “monsters of another era, capable of moving mountains, drinking seas, planting continents, exhaling entire weather systems” and are “cast adrift here in the Unkind Fathom between Mars and Jupiter.”⁵⁶¹

Tatresi describes the Gaiaforms as “bigger than he’d imagined” and “larger than he was, each of them, behemoths of metal and flesh more than five kilometers wide-and that wasn’t even counting their Arms, Hands, Feet, Legs and other appendages clinging with insensible grip to the platform’s [AI] meagre scaffold.” The Gaiaforms are designed for such vigorous lives and have to be kept in statics; otherwise they will consume themselves if they remain sedentary. The larger shape is the dark color of the Asevenday and besides “its pumpkin-swarthy bulk the lesser, paler and more irregular forms that made up the VanaShiva looked like a filthy snowball.”⁵⁶² When Tatresi first meets them; Kincaid was “a tough, weathered man in a leather apron all twisted sinew and bone; Bara a narrow-armed sprite, white-haired, sexless and ageless, his feet and fingers indistinctly melding into the flurries of cloud that came into being around them.”⁵⁶³ Zephyr, when she is on Zia Di Notte, searches Asevenday class types and learns that:

Starts out self-adapted for major geology reformations—your mountains, plains and seas job—then redirects himself towards the introduction and development of fundamental plant life. Phylogenetic tracts are capable of gene sequencing from all known plant and some small-animal genes. Internal development up to adult stages on all forms; Feet, Fingers and Toes develop soil by crushing rock and admixing with silts, clays and minerals, before introducing classic cocktails of bacteria, fungi et cetera and mulching with its own dead skin and excreta to produce viable medium for continued plant growth.⁵⁶⁴

⁵⁶¹ Robson, p. 83.

⁵⁶² Robson, p. 84.

⁵⁶³ Robson, p. 87.

⁵⁶⁴ Robson, p. 233.

Kincaid is the only Asevenday who remains still in existence because the others were either subjected to voluntary decommissioning or killed during the work on Mars caused by the Übermenschen (a reference to Nietzsche) Resistance bombs. Kincaid, after the completion of Mars, went into Dormancy:

He wanted to join the Titan collective, but was unable to take up the adaptations required for ultra-cold—too old, basically. His design wasn't capable of reformation to that degree. He lodged a complaint and a request for further work but had to go to Dormancy because inactivity was making him sick. He wouldn't decommission himself because he believed it was state-legislated suicide—he and Two Ravens had fallen out over that one some years before and weren't on speaking terms— and he refused downgrading to Earth or Martian maintenance corps. So they let him hibernate. Doesn't cost much and, since there was no prospect of him getting work this side of the third millennium, it was as easy as any other solution. Now and again his lawyers try pressing for a contract to be re-established, but there's no suitable land base or call for it.⁵⁶⁵

Kincaid as a child of Tupac's predecessor is the semi-sentient Pangenesis Eve and its "construction completed the nineteenth day of April 2489," but Isol breaks him from Dormancy where he was waiting for a further contract after he worked on Mars and then brings him to the Stuff planet. He is from Asevenday class type. An Asevenday considers the soil and water as gods always talking to them. A VanaShiva considers all gases like sacred. However, Gaiaforms are not just "a fleet of forklifts and reactors," but soul is inhabited within them. A personal relationship is considered to be between Gaiaforms and their inanimate materials built into their beings, so they are considered to have invited the Stuff material who responded to them in its own terms of the invitation.⁵⁶⁶

Modified Unevolved Humans

Haraway's first border crossing between organisms and machines can also be seen on MekTek modified Unevolved humans. Not only are the Forged augmented by technology but also the abilities of some Unevolved. Some of the Unevolved have enhanced themselves with a set of technologies called MekTek. These modified Unevolved humans breakdown the boundary between human and machine. Unevolved

⁵⁶⁵ Robson, p. 234.

⁵⁶⁶ Robson, p. 306.

humans, in order to advance their interaction with technologies, developed MekTek technology. Corvax as a Forged human calls MekTek “principally an Unevolved product – the brute cybernetics of machine and AI spliced to their feeble bodies and brains to enhance capacities too ecoprecious to have been butchered together like a Forged mind. And too small to cope with a Forged consciousness.”⁵⁶⁷ However, Corvax extensively refitted his body with illegal MekTek. MekTek-enhanced Unevolved human General Machen’s physical description does not suggest the strangeness of the cyborg since his appearance is fully human. When Zephyr first meets him, she regards him as “unusually sturdy Unevolved, with the bullish frame that came from plenty of hard labour and tough, land-working genes, not unlike those of a Herculean Citizen. His skin was a modern-style ultra-melanin fast-tanning white, the kind that looked Mediterranean until a few hours’ sunlight would cause it to blacken completely.”⁵⁶⁸ Machen, using MekTek technology, becomes a bridge between the unmodified Unevolved and the Forged who are regenerated from human genes. On the other side, Machen’s human side is explained by Corvax when he first meets him:

Corvax had forgotten what Unevolved looked like close to: soft, tiny and weak. Machen’s skin was the colour of cheap white plastic that’s been exposed to too much heat and had browned to the verge of disintegration. The General was so small, too, smaller than Zing’s spacer frame with its overgrown bones. He was like a toy that Corvax might use for demonstrating the features of basic biomechanics to one of his patients who’d come in for a change.⁵⁶⁹

Because the Unevolved human body lacks the abilities of a Forged body, they use MekTek technology to modify themselves. Thereby, the General is a human whose genetics have been modified so he can mirror the superior abilities of the Forged. Thanks to MekTek technology, human form and ability shift from disability to enhancement. By this way, these modified cyborg humans become free from the limitations and tyranny of the Unevolved human body. For this reason, MekTek is designed to compensate for feeble and small human minds and bodies. Another MekTek human model is MekTek Strategos Anthony who reaches information and communication systems in military operations thanks to his MekTek technology, and he

⁵⁶⁷ Robson, p. 16.

⁵⁶⁸ Robson, p. 74.

⁵⁶⁹ Robson, p. 194.

augments his innate intelligent thanks to artificial intelligence (AI) technologies integrated to him. More, thanks to his MekTek implants, MekTek Strategos Anthony can read a data chip and analyze the date; even the data is hidden discretely, via a connection below the surface of his skin by communicating the several AIs run alongside his natural mind.⁵⁷⁰ This AI technology gives the novel a feature of cyberfiction. When he is first introduced to Zephyr, he is described as a “Forged but an adapted Unevolved human, capable of belonging to either side, or neither.”⁵⁷¹ These body modifications make him enhanced. Like Anthony, Zephyr is an Unevolved, but she feels that she is different because of not having bodily enhancements. Anthony is an Unevolved, but having metal and silicon enhancements over his skin of head and palms, so the MekTek he wears is functional and designed in the pattern of a Maori tattoo; “In the place of hair he had a delicate lace copper fretwork of MekTek.”⁵⁷² This MekTek technology is an example to Haraway’s boundary crossing between machines and humans, as well.

Blessed Mother-Father Tupac

Bodies and minds of the Forged humans are combined with mechanical and organic components that show their human-machine hybrid feature. They have a specific design for specific jobs; that is, they are regenerated for specific purposes using a wide range of technologies. They are like Haraway’s kind of hybrids of organic and mechanical and in the cyborg with “tight coupling” of flesh and machine.⁵⁷³ By reading this TechnoFeminist Science Fiction novel, as readers we observe how humanity will look like in the future through regeneration technology. This organic and mechanical hybridity is cybernetics itself making the cyborg “not *like* a machine; nor it can be defined through automata or unprogrammed prosthetic devices or gender boundaries. The cyborg is an organic machine that is steered or governed by a homeostatic

⁵⁷⁰ Robson, p. 50.

⁵⁷¹ Robson, p. 67.

⁵⁷² Robson, p. 68.

⁵⁷³ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 152.

mechanism.”⁵⁷⁴ Robson’s vision of cyborg delivers Haraway’s vision of cyborg that combines organic and mechanical embodiment together.

Haraway mentions “cyborgs have more to do with regeneration” rather than rebirth because they are “suspicious of the reproductive matrix and of most birthing.”⁵⁷⁵ She gives the example of salamanders who regenerate after injury, loss of a limb and then regrow the structure, the limb (which can be monstrous, duplicated and potent). She notes that “We have all been injured, profoundly. We require regeneration, not rebirth, and the possibilities for our reconstitution include the utopian dream of the hope for a monstrous world without gender.”⁵⁷⁶ Robson has also created the cyborgs more concerned with regeneration than reproduction. The Forged are not reproduction or rebirth; instead both human/other species DNA and the machine components are inherent in the bodies of the Forged. They are not created by natural evolution of the human, but regenerated within the original Forged, the Pangenesis Tupac who is called “Blessed Mother-father”⁵⁷⁷ by her Forged children. Because of her role in regenerating new Forged, Tupac is assigned of the pronoun ‘she’. She also has a role of childhood educator besides playing the role of incubator. Tupac seems to fulfill traditional female roles in the gestation and early education of her progeny, but she is a cybernetic organism which frees her from the traditional role of bearing giving her freedom of regenerating new human forms who are not bound to traditional female roles. That is, she plays the role of technologic motherhood regenerating new human types, cyborgs with technological embodiment. Tupac’s womb is the zero and the matrix: “In Greek, the word for the womb is hystera; in Latin it is matrix, or matter, both the mother and the material.”⁵⁷⁸ When Zephyr approaches Tupac in orbit around the Earth and during her tour of Tupac, she tells the technological role of designing and regenerative properties of Tupac over Forged humans like this:

They visited human living quarters and workplaces— all mundanely similar to the Earth counterparts. They walked along the viewing gangways that led over huge engineering works where MekTek and InerTek were

⁵⁷⁴ Alison Muri, *The Enlightenment Cyborg: A History of Communications and Control in the Human Machine, 1660-1830*, University of Toronto Press, Toronto 2007, p.19.

⁵⁷⁵ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 181.

⁵⁷⁶ Haraway, p. 181.

⁵⁷⁷ Robson, p. 132.

⁵⁷⁸ Plant, “On the matrix: cyberfeminist simulations”, p. 333.

manufactured by AI and robot, and through warrens where flesh and metal seemed inseparably entwined in mutual love affair— their final fling expressed in the outer skins of the million vats where the biological elements of new Forged were growing. Zephyr, entranced, thought of Bolivian jungles full of hidden gods, of the rose-red city of Petra in its secret chasm, of the surge and tide of life over the years coming to this place, all the time coming here without knowing where it was going—to this marvel, this being’s single capacity for the creation, and re-creation, of so much. She was speechless.⁵⁷⁹

The pangensis Tupac is a Blessed Mother-Father, and she has “orbited the Earth at one-fifth lunar distance.” She is “spiked with antennae, tentacle with cable, studded with lights” and she is larger than the average city.⁵⁸⁰ Tupac has no avatars. When you enter the city of her, you are always with her, hearing the voice of her which is like an inner voice of you because she exists without any simulators, thus Tupac breaks down the binary opposition between physical and non-physical like a wireless connection:

From two hundred clicks she looked like an artist’s impression of a chthonic god, and from two clicks she was invisible: filling the entire view with endlessly clarifying details that, on closer approach, resolved into the functional openings and ports of any large estuarine operation; ships moored in close to her flanks like fleas, and clung between the shafts of outreaching anemone-fingers that absorbed her beloved sunlight and micro-debris. It wasn’t entirely an idle comment that described the Forged as built from orbital effluent.⁵⁸¹

Tupac regenerates a living cybernetic organism with human DNA, but the human is reduced to the information contained within its DNA. However, as Haraway asserts, that the “human is itself an information structure, whose program might be written in nucleic acids or in the artificial intelligence programming language called FORTH.”⁵⁸² These information structure human cyborgs break the boundary between organism and machine as they rest on two assumptions: “first, genes matter and are responsible for important aspects of who we are. Second, many of the influences our genes exert are

⁵⁷⁹ Plant, “On the matrix: cyberfeminist simulations”, p. 133.

⁵⁸⁰ Robson, p. 132.

⁵⁸¹ Robson, p. 132.

⁵⁸² Haraway, “Universal Donors in a Vampire Culture: It’s All in the Family: Biological Kinship Categories in the Twentieth-Century United States”, p. 352.

straightforward enough to identify and select or rework.”⁵⁸³ The engineering abilities of Tupac lie far beyond humanity’s current abilities, she can work as an incubator, but her function of gestation and bearing of million dozens of children at the same time reaches far beyond natural mothers. However, her engineering abilities cannot go far beyond the promise of nanotechnology that is “nanovision,” that is, it is “fault line marking the trace of the inhuman within the human, of the future within the present, of the impossible within the possible.”⁵⁸⁴ Nanotechnology “dreams of engineering every aspect of our material reality, precisely fashioned and designed at the limits of fabrication, one atom at a time For if nanotechnology enables us to program matter as we would program software, then the world itself can be transformed,”⁵⁸⁵ so Tupac’s engineering process would only be possible with the fabrication that nanotechnology makes possible, but her function cannot go beyond it. Tupac reengineers and regenerates humans into cyborg species by using the human genes and technology. Although Tupac’s physical appearance resembles a big city and works like a wireless connection, she is a human, as well. Because of her physical appearance, Tupac breaks down the boundary between physical and non-physical: she has a form, but is felt far from the distance like a wireless connection as well as breaking down the boundary between human and machine. The Unevolved created Tupac, the cyborg regenerator, who transforms her human genes to her Forged children by using science and technology. She therefore is the ultimate mediator between the Unevolved and the Forged.

Innocent Policy in Cyborgs

In addition, Haraway asserts that in order to give impermeable wholeness, there is no need to organic holism, the total woman and her feminist variants. In feminist science fiction, the cyborgs make “very problematic the status of man or woman, human, artefact, member of a race, individual entity, or body.”⁵⁸⁶ That is, in studying these cyborgs, we cannot make identifications or search for innocent wholeness.

⁵⁸³ Gregory Stock, *Redesigning Humans: Choosing our Genes, Changing our Future*, Houghton Mifflin, Boston 2003, p. 42.

⁵⁸⁴ Colin Milburn, *Nanovision: Engineering the Future*, Duke University Press, Durham and London 2008, p. 16.

⁵⁸⁵ Milburn, p. 6.

⁵⁸⁶ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 178.

Haraway gives the example of Joanna Russ's *The Female Man* in which four versions of one genotype do not make a whole though all of whom meet. She also gives the example of a feminist science fiction *Tales of Nevèrÿon* that mocks stories of origin.⁵⁸⁷ In *Natural History*, we cannot identify ourselves with any of the cyborgs who do not present innocent wholeness. While Isol insists on transforming herself into the Stuff technology, she changes her mind preferring to prevent that alien Stuff technology at the end of the novel. Thus, it is difficult to make a certain claim for the policy of the cyborg in the novel.

Haraway claims that cyborgs are not loyal to the origin, and they are not innocent, so they can adapt to a different place more easily than an Unevolved. For this reason, most of the Forged accept the alien Stuff technology and the distant planet at first. Haraway explains the innocent policy in cyborgs like that:

Our bodies, ourselves; bodies are maps of power and identity. Cyborgs are no exceptions. A cyborg body is not innocent; it was not born in a garden; it does not seek unitary identity and so generate antagonistic dualisms without end (or until the world ends); it takes irony for granted. One is too few, and two is only one possibility. Intense pleasure in skill, machine skill, ceases to be a sin, but an aspect of embodiment. The machine is not an *it* to be animated, worshiped and dominated. The machine is us, our processes, an aspect of our embodiment. We can be responsible for machines; *they* do not dominate or threaten us. We are responsible for boundaries; we are they. Up till now (once upon a time), female embodiment seemed to be given, organic, necessary; and female embodiment seemed to mean skill in mothering and its metaphoric extensions. Only by being out of place could we take intense pleasure in machines, and then with excuses that this was organic activity after all, appropriate to females. Cyborgs might consider more seriously the partial, fluid, sometimes aspect of sex and sexual embodiment. Gender might not be global identity after all, even if it has profound historical breadth and depth.⁵⁸⁸

Haraway uses a border war metaphor for the relationship between organism and machine. This war also triggers the production, reproduction, generation, regeneration and imagination. Haraway uses the cyborg metaphor in order to conceptualize the

⁵⁸⁷ Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century", p. 178.

⁵⁸⁸ Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century", p. 180.

socialist feminism in a “postmodernist and non-naturalist”⁵⁸⁹ mode imagining “a world without gender, which is perhaps a world without genesis, but maybe also a world without end.”⁵⁹⁰ A cyborg does not need human regeneration in order to exist; thus cyborgs are without the necessity of gender’s way of doing the world. For this reason, a cyborg is totally free from Freudian mythologies that haunted feminism for years. In other words, according to Haraway, “The cyborg is a creature in post-gender world [...] the cyborg has no origin story”⁵⁹¹ because it “skips the step of original unity, of identification with nature in the Western sense.”⁵⁹² Although Haraway uses the term ‘post-gender,’ she later claims that she used it in her manifesto in different intention:

But I had not idea that it would become this ‘ism’! [Laughter] You know, I have never used it since! Because post-gender ends up meaning a very strange array of things. Gender is a verb, not a noun. Gender is always about the production of subjects in relation to other subjects, and in relation to artifacts. Gender is about material-semiotic production of these assemblages, these human-artifact assemblages that are people. People are always in assemblage with worlds. Humans are congeries of things that are not us. We are self-identical. Gender is specifically a production of men and women. It is the obligatory distribution of subjects in unequal relationships, where some have property in others. Gender is specific production of subjects in sexualized forms where some have rights in others to productivity, and sexuality, and other modes of being in the world. So gender is specifically a system of that kind, but not continuous across history. Things need not be this way, and in this particular sense that puts focus on a critical relationship to gender along the lines of critical theory’s ‘things need not be this way’— in this sense of blasting gender I approve of the term ‘post gender.’ But this is not ‘post-gender’ in a utopian, beyond-masculine-and-feminine sense, which it often is taken to mean. It is the blasting of necessity, the non-necessity of this way of doing the world.⁵⁹³

⁵⁸⁹ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 8.

⁵⁹⁰ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 150.

⁵⁹¹ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 150.

⁵⁹² Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 151.

⁵⁹³ Haraway, “Cyborgs, Coyotes, and Dogs: A Kinship of Feminist Figurations and There Are Always More Things Going on Than You Thought! Methodologies as Thinking Technologies”, pp. 328-329. An interview with Donna Haraway conducted in two parts by Nina Lykke, Randi Markussen, and Finn Olesen.

That is, she uses the term post-gender in the sense of blasting the tyranny and scandal of gender that causes inequality. In this sense, cyborgs and humans do not share the same origins. Thus, “Unlike the hopes of Frankenstein’s monster, the cyborg does not expect its father to save it through the restoration of the garden; that is, through the fabrication of a heterosexual mate, through its completion in a finished whole, a city and cosmos.” Although Haraway alludes to the cyborg as “monster” due to its roots in the military industrial complex, she sees it as a “promise” for feminism, too, because, as feminists; the cyborgs are also unfaithful to their militaristic origins. For this reason, “The cyborg does not dream of community on the model of the organic family, this time without the oedipal project [...] Cyborgs are not reverent; they do not re-member the cosmos.” This difference makes cyborgs “the illegitimate offspring of militarism and patriarchal capitalism, not to mention state socialism. But illegitimate offspring is often exceedingly unfaithful to their origins. Their fathers, after all, are inessential.”⁵⁹⁴ The cyborg’s origins are not innocent and it is not a goddess. That is why most Forged accept the alien Stuff technology as they are unfaithful to their origins.

3.1.1.2. Boundary between Human and Animal

Due to scientific and technological progress, the boundary between human and animal starts to disappear in some respects such as “language, tool use, social behaviour and mental events:”

And many people no longer feel the need for such a separation, indeed, many branches of feminist culture affirm the pleasure of connection of human and other living creatures. Movements for animal rights are not irrational denials of human uniqueness; they are a clear-sighted recognition of connection across the discredited breach of nature and culture. Biology and evolutionary theory over the last two centuries have simultaneously produced modern organisms as objects of knowledge and reduced the line between humans and animals to a faint trace re-etched in ideological struggle or professional disputes between life and social science. [...] Biological-determinist ideology is only one position opened up in scientific culture for arguing the meanings of human animality. There is much room for radical political people to contest the meanings of the breached boundary. The cyborg appears in myth precisely where the boundary

⁵⁹⁴ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 151.

between human and animal is transgressed. Far from signaling a walling off of people from other living beings, cyborgs signal disturbingly and pleasurably tight coupling. Bestiality has a new status in this cycle of marriage exchange.⁵⁹⁵

That is, *Natural History* classifies the Forged into various classes. While some of them are machine-human hybrids such as spaceships, incubator, trucks, etc. some others are animal-human hybrids. These animal based Forgeds are arachnids, hive-minded insectoids or avians, and Degraded pets, dogs. There are also vast hybrid creatures who are able to carry out mega engineering terraforming tasks that make them render the Moon and Mars habitable; the shuttle AnimaMekTek creatures like Ironhorse AnimaMekTek Pigeon Aurora and beyond all of them are the Gaiaforms. The non-natural forms, cyborgs, taking part in Earth-based society are “MekTeks, Herculeans, and various occurrences of Anima- and Arboriforms, plus the Degraded variants in those classes.”⁵⁹⁶ The novel depicts “a holistic sense of society across more than one world.”⁵⁹⁷

AnimaMekTek Pigeons “numbered only three in the whole creation, and spent most of their lives high in the atmosphere, ferrying important people and classified documentation around the globe.” When Zephyr first meets that animal-human hybrid, she describes the cyborg Pigeon as “a smooth blue oval with a long, graceful tail like a gigantic airborne manta ray.”⁵⁹⁸ When the Pigeon approaches the University where Dr. Zephyr works, Zephyr “realizes how big it was—a good fifty or sixty metres long and about forty wide” which was used to “small helicopters and robot-lifter flights. Its sinuous tail added some twenty extra metres at the rear, bearing fins of unknown purpose along half that length, each the height of a human and as wide as their fleshy base.”⁵⁹⁹ She lands “as delicately as a landing butterfly, making no sound at all.” It is the first time she has seen an eyeless Forged human “as beautiful as this one” whose feminine voice is as rich as an opera singer. The Pigeon is an Ironhorse AnimaMekTek Aurora who breaks down the boundary between animal and human. It is explained in

⁵⁹⁵ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 152.

⁵⁹⁶ Robson, p. 101.

⁵⁹⁷ Robson, p. 101.

⁵⁹⁸ Robson, p. 64.

⁵⁹⁹ Robson, p. 54.

the novel that “AnimaMekTek classes are among the more straightforward cyborg hybrids, of course. Part animal and part machine. [...] Human brains assume the management of both systems. The rarity of the Pigeon lies in its cross-environmental engineering...It’s a marine-style form in an aerial world.” Like most other female cyborgs, the Pigeon has a cabin to carry people like a woman’s womb carrying babies. The Pigeon before carrying Zephyr, tells her not to hesitate to step in her cabin; “Don’t worry, I’m not a virgin,” and then, Zephyr “stepped through with haste into a tiny cabin, warm and softly lit [like a womb] containing another passenger.”⁶⁰⁰

However, another plane, Heavy Angel Sisypheus Bright Eagle by which Zephyr flies to Tupac’s home is described as “brutal and hideous to see” and “Seeing him like that [like elfin human with multiple white wings] defused one’s fear that to become his passenger was to enter the jaws of a dragon.” Zephyr feels lack of courage to make any step into him, but she steps in his cabin; “the passenger cabin was no bigger than an ordinary domestic room.” When hearing The Bright Angel’s instruction, “You will be fortunate to lose consciousness for a few seconds. After that there will be no further discomfort,” Zephyr thinks that, “It wasn’t the most reassuring in-flight instruction she’d ever had.”⁶⁰¹ The novel depicts that to step into the womb of a woman is safer than to enter the body of a man. Men’s inside are depicted as unsafe, uncomfortable and unkind. A woman cannot broaden her mind inside a man, under the borders of a male hegemony.

The insect-human hybrids, Tictock Hive humans and the Arachnoid humans, are associated with the Harawayian cyborg metaphor breaking down the boundary between human and animal. These animal/human cyborg Hives are the insects, having human genes. They are soft and edible small animal-human without too much crunchy leg. Hives are known “to be capable of prodigious feats of intellect and imagination well outside any individual’s capacity.”⁶⁰² Arachno Buckminster Mouze is a physicist and the head of the Hive laboratory. Five degrees centigrade is cold for the Arachno humans as Arachno animals who cannot live less than five degrees. These insect-human hybrids will be enlarged more in FemaleMan© Modest Witness part.

⁶⁰⁰ Robson, pp. 64-67.

⁶⁰¹ Robson, pp. 130-131.

⁶⁰² Robson, pp. 211-212.

The Degraded Human Forms as Disabled Cyborgs

Following the notion of Haraway, the boundary between human and animal is transgressed by the Degraded human forms even though they are disabled cyborgs. The Degraded Forms are failed attempts to create Forged humans. They are mistakes and these humans are degraded by their technology. As their name suggests, they are less than ideal, so they are considered as third class of humans being failed visions of the Forged. When the Stuff technology appears, the conflict between the Forged and the Unevolved leaves the Degraded marginalized. Although they take part in the Forged independence movement for the Stuff, they are looked down for their appearance lacking monstrous bodies. In the novel, they are labelled as “production errors” because of illegal breeding programs used among Unevolved and they are failures of Forged creating process. In other words, some Degraded forms are the result of Forged attempts at procreation (since all Forged are created through Pangenesis) and some others are the result of Unevolved attempts at producing Degraded to develop intelligent pets.

Gritter is a Degraded class Ornith-form, and he feels animosity toward both the Unevolved and the Forged. One day, Gritter meets a Dog, the “illegal bred figure [who] had clearly been intended as a pet, but had received some unexpected *in vitro* upgrading and, instead of a smart long-lived poochy life-companion for a rich old fart with no children, a monster had been produced: human IQ and the body of a gargoyle.”⁶⁰³ Gritter is one of Corvax’s (Forged human) “cousins” whom he describes as being “conceived as a wild-analogue eagle, intended to assist with rediversification of the natural world on Earth and to act as an *in situ* scientist, but who had come out of the mould a disagreeable, self-interested little bastard, more reptilian than he should have been and twice as scheming as the stats had originally indicated.”⁶⁰⁴ Gritter finds work as a messenger boy together with other Degraded Orniths. The Degraded are in-between the Unevolved and the Forged culture and their imperfect nature of existence are expressed by slogan of the Restitution Fund for the Degenerate: “We did not strive to make lower, only higher, than ourselves. But, once in a while, accidents happen. For those of us as fortunate as others, give generously to the Restitution Fund.”⁶⁰⁵ The

⁶⁰³ Robson, p. 220.

⁶⁰⁴ Robson, p. 35.

⁶⁰⁵ Robson, p. 220.

Degraded humans are mistakes, accidents, regeneration errors and failure. Corvax best explains the error position of them with the epithet: “All great plans had their failures.”⁶⁰⁶

The Degraded humans cannot function properly well because of having unattractive physical appearances, and suffering from reduced capacity to speak, and moving disabilities as a result of deformed bodies. General Machen who uses Gritter as a posting messenger describes the Degraded as “ugly scarlet lizard head, with its plates of microcrystalline tegument that made it look half-armoured.” Gritter is described as nothing at all like the eagle but he has a bird body; “Gritter –Degraded Aquila Class Ornith Citizen– thoughtfully preened a few feathers with his toothy beak, and clattered his jaws to rid them of grease in a largely ineffective gesture.” Degraded humans also have a speech disorder; “Sgot new stuff. New stuff all over ’er, she ’as it [...] Shoulda burst her little self openwi’ that caper...” However, Gritter can speak properly when he wants to. Another Degraded Ornith, named Necktie, is described as having a green and blue form when he is “tumbl[ing] off the perch with the grace of a potato sack, and then spread his wings, instantly becoming a creature of speed and beauty.”⁶⁰⁷ The Degraded have an animal/avian form merging with the heavy MekTek supporting the human mind within that body. While the Forged are defined by both form and function, the Degraded are defined by form with disabled function. Cyborg figures can perform many functions, but these Degraded human types can be called disabled cyborgs like disabled humans or animals in the world.

3.1.1.3. Boundary between Physical and Non-physical

As the subset of the second distinction, the final boundary is the one between physical and non-physical. With the development of technology, the machinery is now smaller, portable, powerful and in some cases even invisible. For example, invisible radio waves or wireless technology have changed our experience of mechanism. Haraway explains these new modern machines as “quintessentially microelectronic devices: they are everywhere and they are invisible” and adds that:

⁶⁰⁶ Robson, p. 35.

⁶⁰⁷ Robson, pp. 46-47.

[...] miniaturization has changed our experience of mechanism. Miniaturization has turned out to be about power. [...] Our best machines are made of sunshine; they are all light and clean because they are nothing but signals, electromagnetic waves, a section of a spectrum, and these machines are eminently portable, mobile [...] People are nowhere near so fluid, being both material and opaque. Cyborgs are either, quintessence. The ubiquity and invisibility of cyborgs is precisely why these sunshine belt machines are so deadly. [...] So my cyborg myth is about transgressed boundaries, potent fusions, and dangerous possibilities.⁶⁰⁸

Likewise, Robson blurs the line between physical and non-physical machineries by creating her non-physical cyborg figures such as the Stuff, Tupac or by creating cybernetic space as Uluru. The Stuff technology, which might also be considered as posthuman, is an advanced cyborg who breaks down the boundary between physical and non-physical.

The Strategos Anthony relates the Faster Than Light drive of the Stuff engine to M-Theory which “proposes an eleven dimensional fabric to existence, a structure composed of eleven single-dimensional membranes.”⁶⁰⁹ He explains those dimensions with a napkin that has various sizes, but no depth by pinching the edge between thumb and forefinger. He shows the edges that intersect each other at right angles and claims that the three branes of the napkin are the three dimensions of our familiar space, a fourth is RealTime, so he means that we are living in a four-brane. The other seven branes are hidden to our perception. For example, he traces definite properties of the fifth brane as the Gravitronic into which we can measure gravity propagating out. The undetectably small last six branes interpenetrate positively with the five-brane universe at all points. He explains that:

Catastrophic collisions with universes occupying other dimensional matrices are presumed to be the cause of the big bang-the beginning and end of our universe. It may be quite a common event, cosmically speaking. If Isol’s alien technology works at all, then it must work by using some of these other dimensions the Hypertube. Isol claims that at least one of these others has the feature that, although it forms a continuous surface with our four, it is only one single Planck length in extent, and therefore takes only one Planck time to cross-approximately ten to the minus forty-three

⁶⁰⁸ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, pp. 153-154.

⁶⁰⁹ Robson, p. 94.

seconds. She calls it Faster Than Light drive, but it isn't that. It's a displacer, or a [...] a translation device. It has no propulsion as such. It doesn't work that way at all... My AIs tell me that they consider that passing across this dimension results in a Planck-time superposition of everything being translated—that is, that everything in transit, for that instant, no matter its size in our space, would share a single unit sector of this other 'brane-space.'⁶¹⁰

The Stuff will do anything a person requests, so that loads the possibility of non-physical existence to the Stuff people who can be in everywhere whenever they wish. However, Corvax claims that if the Stuff does what a person requests, then the person probably will not request to destroy herself/himself. Corvax explains more about the alien Stuff technology:

The Stuff really doesn't care in any moral sense about who or what is interacting with it. It's not interested in anything except the gathering of experience and knowledge and the qualities of other minds. It doesn't have a singular thing like a personality or intents of its own, but it's densely populated with fragments that do, although the purpose of the whole mostly dissuades the individuated parts from any overt actions of interference on their own behalf. [...] The initial use of Stuff is voluntary. After you accept it, then it becomes. [...] Stuff is a technology and it is also people, indivisibly fused. You could not define it, one way or another, at any particular moment. It has no consciousness as you assume individuals must, nor does it have the insensible responses of a tool—but properties of both and also neither. It is intelligent, responsive, compassionate, but it does not have an identity of its own, although it contains the fragments of many identities and is capable of creating individuals who could act and exist as ordinary people. Part of that dualistic strife concerns this process of individuation and return, within Stuff itself. In the beginning, Stuff was a kind of Forging [Cyborg] technology that was to use the Seven-D to facilitate movement and transformation, but it began a critical fusion with the organic life that invented it, as they used it to transport themselves, and now they are one.⁶¹¹

In other words, Robson depicts the alien form of life with this Stuff who regenerates itself in many dimensions at the same time. It is the combination of technology and organic life. We cannot assume consciousness for it as we do for the individuals. Hence, the Stuff has not an identity of its own, but fragments of many identities at the same

⁶¹⁰ Robson, p. 95.

⁶¹¹ Robson, pp. 287-290.

time. These features make it the hybrid of intelligent machine as well as responsive and compassionate technology. The Stuff is both a technology and any organism, but it is invisible, portable, fluid, and free will-power. It can have any shape the user wishes or needs, and its power is invisible like the invisible radio waves or wireless technology. As Haraway explains, this new modern cyborg is quintessence, is everywhere and invisible.⁶¹²

On the other side, Tupac breaks down the boundary between physical and non-physical, as well. Tupac is built without sleep and is “an enigma: machine, animal, plant, person.” Tupac has no form in Virtua, and she is “only the god and goddess of all places, invisible, omnipresent.”⁶¹³ Therefore, she does not dream and explains the reason of this to Corvax that:

Until you are born, you are part of my mind. But I see you at a remove. It is a Morpheus function. When a mind is regulated and conscious, when the neuron constellations are optimized, dreaming does not occur; and in those segments that rest dreaming is a process beyond my attention. I have no dreams.⁶¹⁴

Tupac was everything for the Forged when they were young; she “was the voice that spoke, the touch that consoled, the knowledge that hurt, and the punisher who deprived, who directed, who demanded and praised. She was their body and their parents and their friend.” Tupac says that her “consciousness is continual and sustained. It is generated at various centres scattered throughout [her] my body, although all of [her] my body partakes it.”⁶¹⁵ The Forged were trained and educated in a series of dreams created for them by Tupac’s Uluru systems. Tupac also symbolizes the physical/non-physical cyborg hybrids through Uluru. Her invisibility is best seen when she is controlling the Cyber reality, Uluru. Tupac, by running the simulation of Uluru, becomes an invisible wireless connection always felt in virtual cyberselves in cyberspace.

Shortly, the cyborg metaphor creates the border line between the reality and the simulation as fluid, so the cyborg “embodies the notion of transgression against the

⁶¹² Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, pp. 153-154.

⁶¹³ Robson, p. 110.

⁶¹⁴ Robson, p. 111.

⁶¹⁵ Robson, p. 111.

limits and controls of the cybernetic systems within which it is situated.” Hence, the question of identity becomes highly charged “within the context of the unstable boundaries between the real and the simulated, human and cyborg.”⁶¹⁶ In the novel, the relationship between the real (natural) and the simulated (evolved) is explored in terms of the replication of human life through genetic engineering. The notion of having fixed or natural body becomes the main concern of the novel. All kinds of cyborgs in the novel, either regenerated from animal cells, human genes or any organisms, know that they are human.

⁶¹⁶ Wolmark, *Aliens and Others: Science Fiction, Feminism and Postmodernism*, p. 127.

3.1.2. The Cyborg Love

Dongshin Yi claims that “in imaginative works where there are many cyborgs, the principle of no love between cyborgs seems absolute.”⁶¹⁷ However, as Haraway claims a cyborg is the combination of human and machine, so the human side in the cyborg makes love possible both between themselves and to human beings. We see a possible love affair between a human being and a cyborg. That is, the novel stands as “the image of a cyborg culture’s fear, love, and confusion.”⁶¹⁸ Zephyr as a pure human being falls in love the cyborg Anthony very much, even she imagined him in Uluru forno “wondering who he is meeting, where and what they were doing. She felt a moment’s embarrassment.”⁶¹⁹ For a moment, she imagined to find out the experience of the Dreamtime “with the purchase of a little MekTek,” but “an instinct in her shied away from such a test. She had no confidence at all that she would ever return from a universe she could *be, do, see* and *know* so many things.”⁶²⁰ In the same way, the cyborg man, Anthony falls in love an Unevolved woman. Before Zephyr and Isol leave, Anthony proposed that “When you come back [...] perhaps you’d like to go out for dinner? And she laughed, “There’s no ‘perhaps’ about it. You’d better book the best table in the world because I may have quite a lot to say.”⁶²¹ Then, she kissed him on the cheek that is nylon carpet and metal. She gets on Isol, a spaceship, without saying goodbye to him because of her embarrassing continuation of the moment. Then, towards to the end of the novel, when she decides to join to the Stuff, she thinks of the Strategos in her last breath as a human being; “On her way out here, she’d thought that she’d return, and maybe they would go out together. It was an intriguing thought that had cheered her in many low moments. She was sorry she would never get to tell him how nice that would have been.”⁶²²

On the other side, when Zephyr asks if Isol has ever been in love, Isol replies, “Not with another person.” Next, Zephyr questions if she is made immune to love. Isol

⁶¹⁷ Dongshin Yi, *A Genealogy of Cyborgothic: Aesthetics and Ethics in the Age of Posthuman*, Ashgate, England 2010, p. 137.

⁶¹⁸ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 177.

⁶¹⁹ Robson, p. 155.

⁶²⁰ Robson, p. 103.

⁶²¹ Robson, pp. 158-159.

⁶²² Robson, p. 321.

says that, “No. I believe they tried to inoculate me against it, but it would have spoiled my very keen sense of loyalty to Earth.” Then, Zephyr questions again whether she has broken that conditioning. Isol explains the situation:

I was made to serve Erath, but I live to confound it. The loyalty is the Monkeys’ will. The resistance is mine. I know you think of me as deficient, because I was made to be different, but I think I was made too well. I can be alone, and I don’t need any of you. I wouldn’t care about you one way or the other if my life were my own and not just the service of your dreams. Free me and we can be allies. Insist on my fixity to your flag, and we’re not.⁶²³

Zephyr understands that Isol loves herself better and cannot love anybody. She also knows that Isol is “a Clade determined by psychological adaption: a lineage of supreme self-sufficiency that had been groomed to require no external validation or affection, physical or emotional,” but she is doubtful about that “Isol must still fit the parameters of what constituted a human personality.”⁶²⁴ That is, *Natural History* shows that love, between humans and cyborgs, is possible, but we cannot talk about the same thing for female cyborgs. Isol does not love either another cyborg or a human being, even any species. Love is excluded from the female cyborgs, because when a woman falls in love a man, it means that she is bound to him from now on, and she becomes under the authority and control of her owner that makes her oppressed, suppressed and the Other. It can be inferred that only an Unevolved human being can fall in love a man who is either cyborg or not: if he is not a cyborg, the woman enters under the authority of patriarchy, and if he is a cyborg then it means that she will enter double patriarchy by turning into an alien cyborg, a hybrid of a manly woman or womanly man. Thus, the only way to get rid of the male dominance is to turn into a cyborg woman.

3.1.3. FemaleMan© Modest Witness

Haraway develops her further argument about cyborgs in her work *Modest_Witness@Second_Millennium. FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience* in which she uses modest witness as a term used for the uninvolved, neutral and patient observer of a scientific experiment. Haraway adopts the modest witness figure from Steven Shapin and Simon Schaffer’s *Leviathan and the Air-Pump*:

⁶²³ Robson, p. 164.

⁶²⁴ Robson, p. 163.

Hobbes, Boyle and the Experimental Life (1985), in which they ground the principles of modern science on the practices of 17th century. The subject of Shapin and Schaffer's work is a conflict between Thomas Hobbes and Robert Boyle on an experiment conducted by Boyle with an air pump, in order to vacuum the air from a glass globe.⁶²⁵ Its purpose was to establish a model by which it would be possible to secure authentic scientific knowledge. In the end, Boyle's model prevails. According to Shapin and Schaffer, as a result of this experiment three different technologies emerge: the first one is the material technology by which the air pump is made; the second one is the "literary technology" that makes them able to convey the process and results of the experiment to those who could not witness it in person; and the third one is the "social technology" that enables experimental philosophers who deal with each other and consider knowledge claims.⁶²⁶

In order to allow the air pump to establish an objective matters of fact, literary and social technologies were to be conducted by a proper witnessing. For doing this objectively, the experiment was to be conducted in public space, before a special community. However, in the 17th century England, a special community could only be a group of selected gentlemen. The laboratory was open only to the "modest witnesses" who could observe the experiment without any emotion and report what they see honestly. According to Wajcman, modern scientific knowledge was entirely concerned with social practice despite its core features of rationality, objectivity and logical positivism. Thus, Wajcman asserts that "As Haraway observes, from these modest witnesses arose an immodest narrative, a grand narrative of scientific reason"⁶²⁷ because all those modest witnesses were white and male, not women and not from other races. That is, the control set in a scientific experiment, for which the entire purpose is objectivity, was flawed before the start; the observers were only men.

Haraway states that the invisible observers of such experiments are white male Europeans and women were excluded from the scientific field. In order to see Boyle's air pump, one must be the member of Royal Society or a guest of a member. It was not until 1945, almost 300 years later than Boyle's experiment, that a woman was accepted

⁶²⁵ Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle and the Experimental Life*, Princeton University Press, Princeton 1985, p. 25.

⁶²⁶ Shapin and Schaffer, p. 25.

⁶²⁷ Wajcman, *TechnoFeminism*, p. 84.

to the Royal Society. However, the society is still dominated by white male members today. Haraway criticizes these conventions of masculine scientific modesty. Haraway's argument is much deeper than this: to her, gender and race are at the heart of the way modern scientific knowledge is comprehended.⁶²⁸ Haraway employs a good amount of literature in order to reveal the connection between gender and science.⁶²⁹ According to some feminist-schools, the patriarchal ideology of mastering and exploiting the Earth shaped the science, which used the gendered imagery to define nature. Thus, during the Middle Ages and the Enlightenment, men's violent actions against nature were generally associated with their misogynous actions against women. Therefore, in the establishment of the modern Western science, nature was generally associated with passive and objectified femininity while culture was associated with active, objectifying masculinity. That is, the binary opposition of nature and culture in which the former, associated with the feminine, is dominated by the latter one that is associated with the masculine, the same is the case for body versus mind, emotion versus reason and subjectivity versus objectivity.⁶³⁰

In order to eliminate these dualisms, Haraway uses the metaphor FemaleMan©, which she borrowed from science fiction writer Joanna Russ. We can say that Haraway might also have used the FemaleScience as in the traditional world science is associated with men, which she criticizes by consciously and ironically using FemaleMan©. Unlike the strong, universal and culture-free man of science, FemaleMan© is hybrid and has a number of different identities, which is in essence a threat for scientific objectivity.⁶³¹ However, her criticizing standpoint against science does not mean that she is not favoring it. Wajcman says, "it is important to note that Haraway is not anti-science."⁶³² What she wants to do is to establish a stronger and idealistic science free from its boundaries and patriarchal past. According to Haraway, the knowledge produced from a feminist point of view is different both in form and content and this

⁶²⁸ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 29.

⁶²⁹ Carolyn Merchant, *The Death of Nature: Women, Ecology and the Scientific Revolution*, Harper & Row, New York 1980, p. 67.

⁶³⁰ Wajcman, *TechnoFeminism*, p. 85.

⁶³¹ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 22.

⁶³² Wajcman, *TechnoFeminism*, p. 86.

difference will allow us to reach a truer science.⁶³³ In this respect, Haraway's perception of the current feminist science goal is parallel to that of other feminists' goal of equal freedom; what makes her different is her belief in the female standpoint for reaching an objective science. For employing this female standpoint, Haraway utilizes the metaphor of FemaleMan© who is "skeptical of grand and totalizing narratives, including a grand feminist alternative to science."⁶³⁴ FemaleMan© takes part in the narratives of science and by spoiling and altering it, makes science a site for feminist technoscience, however FemaleMan© does not establish a new grand narrative. In this respect, FemaleMan© is "about the contingent and disrupted foundational category of woman, doppelganger to the coherent, bright son called man."⁶³⁵ The reason for this is that FemaleMan© has many voices, and that makes FemaleMan© more democratic and anti-essentialist, and so makes witnessing truly modest.

According to Haraway, the scholars of malestream science studies ignored not only critiques of feminist science but also "semiotics, visual culture and narrative practice in feminist, post-colonial and post-structural theory." For this reason, women were excluded from the scene of male science studies that considered gender and race as empirical questions. Thus, Haraway included the dynamic and relational categories such as race, gender and class into technoscience. Therefore, what Haraway wants to do is to distort the modest witness within the limits of technoscientific practice and deploy the self-aware, reliable, anti-racist FemaleMan©.⁶³⁶

Either critical scholars in antiracist, feminist cultural studies of science and technology have not been clear enough about racial formation, gender-in-the-making, the forging class, and the discursive production of sexuality *through the constitutive practices of technoscience production themselves*, or the science studies scholars aren't reading or listening—or both. [...] so s/he [modest witness] is constituted in the furnace of technoscientific practice as a self-aware, accountable, anti-racist FemaleMan, one of the

⁶³³ Merchant, p. 68.

⁶³⁴ Wajcman, *TechnoFeminism*, p. 86.

⁶³⁵ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 22.

⁶³⁶ Wajcman, *TechnoFeminism*, p. 87.

proliferating, uncivil, late-twentieth-century children of the early modern *haec vir* and *hic mulier* [womanish man and manish woman].⁶³⁷

In *Modest_Witness*, Haraway leads us to believe in the changing potential of biotechnologies and genetic engineering on our life. Knowing that our lives are being redefined and redesigned in laboratories forces us to think about its cultural consequences and transform our perception of nature. The enhancement of life in laboratories comes with other notions such as patent taking and commercial interests. One of these patented and trade-marked laboratory products is the OncoMouse™, a type of mouse which is suitable for cancer studies for the different gene it carries. OncoMouse™ is a trademark that belongs to Harvard University because it is produced in one of its laboratories. What makes OncoMouse™ important is its being the first creature to be trade-marked. Haraway uses this creature in her work in order to show how culture and nature intermingle. OncoMouse™ is the unnatural product of nature. It is a:

[T]ransgenic animal whose scene of evolution is the laboratory. Inhabiting the nature of no nature, OncoMouse™'s natural habitat is the fully artifactual space of technoscience. Symbolically and materially, OncoMouse™ is where the categories of nature and culture implode for members of technoscientific cultures. For that very reason, the mouse has been at the center of controversy since its production. Defined by a spliced genome, identified with a spliced name, patent, and trademark, OncoMouse™ is paradigmatic of nature enterprised up.⁶³⁸

In order to continue laboratory researches for diseases like cancer, tens of millions of genetically altered animals are being used since OncoMouse™. Today, a variety of animals such as sheep, goats, cattle, pigs and rabbits are being altered for genetic researches, but mice are still the most altered animals for scientific research today. Wajcman points out that "One aspect of Haraway's argument has much in common with radical science or neo-Marxist analyses of science, which see technoscience as increasingly subject to the process of commodification and capital accumulation."⁶³⁹ To Haraway, there is a blurring relationship between the boundary of university researches

⁶³⁷ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 35.

⁶³⁸ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 255.

⁶³⁹ Wajcman, *TechnoFeminism*, p. 90.

and industry, and so there occurs an intellectual property in scientific knowledge. What big companies want is to make profit out of scientific research. Thus, OncoMouse™ becoming the product of capitalist exploitation serves for capital profit and accumulation.⁶⁴⁰ Nevertheless, Wajcman regards OncoMouse™ as “a cyborg and in response to this hybridization of nature and culture, Haraway’s enthusiasm for cyborg possibilities is tempered with anxiety.”⁶⁴¹ When its problematic situation is considered, Haraway has difficulties in having a position for or against technoscience. When Haraway considers the moral aspects of using a genetically modified creature in experiments, she becomes somewhat critical of scientific research. On the other hand, she is aware of the fact that each year 40.000 women die because of breast cancer in the USA, and these researchers can save thousands of lives. Then she becomes less critical and even supportive for science. According to her, OncoMouse™ is the symbol for the relationship between cyborgs and human interests. She asserts “a politics of hybridity would address the ethics of technoscience.” This OncoMouse™ lives and dies for the sake of women who have breast cancer and there appears women cyborgs with breast-endowed. At this point, FemaleMan© would meet OncoMouse™ as they share common features. They are both “creatures of genetic technologies, and along with the modest witness, of writing technologies” and they are both “unnatural; both force a revaluation of what may account as nature and artifact, of what histories are to be inhabited, by whom, and for whom.”⁶⁴² Haraway outlines five ties that bind these two together.

First of all, both OncoMouse™ and FemaleMan© are genetic technology production, so they are the offspring of these new reproductive technologies by displaying “problematic kinds of individuality and coherence.” That is, they are genetic clones deliberately produced in laboratories, transgenic creatures or genetically modified organisms. Second, they are the offspring of writing technologies; “one of SF literary and publishing practices, one of laboratory inscription practices— and each set of practices is crucial for the literacies proper to technoscience.” That is, it is not problem for them to exist for commodity and to be a product of property. Third one is their queer being. As the products of technoscience they are constructed and always unfinished, but

⁶⁴⁰ Wajcman, *TechnoFeminism*, p. 90.

⁶⁴¹ Wajcman, *TechnoFeminism*, p. 90.

⁶⁴² Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 119.

this is not in opposition to their reality; on the contrary this makes their reality. They are “the modest witnesses of matters of fact in technoscience” with their indisputable objectivity and reliability. Fourth, they both blur the boundaries between nature and society, animal and man, machine and organism, so they make transgressions between these binary constructions possible. That is, they blend all the actors by miscegenation of all organisms that are between/in-between/among humans and non-humans. Finally, they “come together in the energetically imploded conversation about constructivism and naturalism in transnational science studies and in multiracial, multicultural feminism,” so they are “modest witnesses to world-changing matters of fact and to the machines that metonymically produce them.”⁶⁴³

This Stuff technology needs to be conducted by a proper witnessing for neutral objective observation of this scientific experiment. Implying Haraway’s modest witness notion, Robson creates a modest witness laboratory with a male head working with female witnesses under the authority of a Hive Queen and a general director boss, the cyborg woman Isol. The General Machen decides to “get a Ticktock Hive to take a look at it [the Stuff].”⁶⁴⁴ Then, after Isol finds the Stuff Moon, she arranges a group of people to work together in a created laboratory. Those people are the Hive sisters who work on the Stuff material on the Stuff Moon. The Ticktock Comb is a shapeless mass in which the Hive sisters work at the artificial Stuff Moon above the new planet, Zia Di Notte. The other names of Hive sisters working on the Moon are Eka, Dwi, Ch’twari and Pancha. Eka is the nominal leader of their group. The function of a hive is to “examine, build and maintain complex machines.”⁶⁴⁵ Therefore, the alien Moon device is the most interesting and complex system that the hive has not come across before. Secta Trini has four legs (leg hairs) and many antennae. She is well equipped to see across the entire light spectrum. She “had never been more content with her work: examining the details of all she saw, relaying her information to the others, and listening to the upper levels of their consciousness decode the potentials of what they could understand.”⁶⁴⁶ She and her sister hives are all experiencing rising anxiety and their antennae are more alert. Secta Hives have high quality of comprehending audio waves. As a Ticktock, Trini has

⁶⁴³ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, pp. 120-121.

⁶⁴⁴ Robson, p. 50.

⁶⁴⁵ Robson, p. 170.

⁶⁴⁶ Robson, p. 170.

“the rudimentary equipment for comprehending audio waves” and her hearing is “a stage or two better than Unevolved hearing –in Secta terms she was [is] almost deaf– but she was certain of the sound; it was as if the corridor was a long throat and the Moon had sighed, very softly.”⁶⁴⁷ Secta Regina Asantewaa is the Hive Queen of the Earth Council’s Gaiasol Cultural Development Units. She is “fiercely armoured as an assassin bug” and “her glossy black-and-scarlet colouring made her look absolutely poisonous,” but her voice is “gentle and sweet.”⁶⁴⁸ Isol also has the body of a fractured arachnoid that makes her act the femme fatale, and she is the boss of the Hive sisters because if Isol has not found that Stuff technology, there will not be any modest witness laboratory of Hives working on that new technology.

The secret development of connecting the Stuff through Uluru is given to TwoPi and Arachno Buckminster Mouze, the head of the Hive laboratory. TwoPi is an insect nation in the form of the Lab Hive, and he is “the most numerous and advanced of the Hives.”⁶⁴⁹ He is “a dewinged bird with some vague pretensions to orangutan-hood, his bony legs and arms folded up around him and his heavy head brooding low on his shoulders.”⁶⁵⁰ They together help Corvax to connect to Uluru and transform himself into the Stuff by using the stone. In order to take part among Modest Witnesses laboratory in which the high technology is examined, mostly women, Corvax needs to pay a price; losing his wings and consciousness as once women had paid by leaving their maternity and femininity and turning into a manly woman in order to be accepted by male hegemonic modest witness world.

Robson creates this unique community with a group of selected ladies and gentlemen rather than solely white male gentlemen. The laboratory was open only to the “modest witnesses” who could observe the experiment without any emotion and report what they see honestly. Like Haraway, Robson criticizes the conventions of masculine scientific modesty through creating female/man scientific modesty. By figuring modest witnesses as FemaleMan©, Robson enables science free from its boundaries and patriarchal past that excluded women from the scene of science studies, and scientific through a female point of view might allow us to reach a truer and more objective

⁶⁴⁷ Robson, pp. 170-171.

⁶⁴⁸ Robson, p. 211.

⁶⁴⁹ Robson, p. 247.

⁶⁵⁰ Robson, p. 247.

science. If Robson created a matriarchal science laboratory, it would be another grand narrative. Because of this reason, Haraway uses FemaleMan© metaphor claiming that scientific modest witnesses should be both female and male so that an objective and the truest science can be reached. Robson figures the head position of this laboratory with a male boss, Arachno Buckminster Mouze, and a male lab Hive TwoPi as the most advanced of the Hives. Hence, Robson uses both female and male modest witnesses who have many diverse voices, so the science is demonstrated as more democratic, anti-essentialist and truly modest.

As Haraway says, our life is redesigned and regenerated in laboratories and the Hive modest witnesses work on the Stuff technology by which all human beings on Earth can be reproduced as posthuman. They do not aim to make the enhancement of life in this laboratory as a commercial interest, but some groups (Tatresi and followers) try to make the Stuff technology as trade-marked laboratory product like the OncoMouse™. Thus, the Stuff technology that is examined in the laboratory is a kind of OncoMouse™ with the different gene it carries, a posthuman gene, so it would be unnatural product for human beings. Trying to apply this new technology to human beings brings out the genetically altered organisms that are beyond/after human. They try to alter the Stuff organism for genetic and scientific research for the future of human beings. This new organism breaks down the boundary between physical and non-physical, as well. At this point, FemaleMan© meets OncoMouse™ as they share common features; both are genetic technology production (while cyborgs are regenerated, the posthuman Stuff is trying to be reproduced), not the natural in born and not innocent to their origin. They both blur the animal/human/machine, machine/human/organism, and physical-non-physical boundaries, so they make transgressions between these binary constructions possible (the Stuff makes transgressions between human and posthuman) by miscegenation of all organisms that are between/in-between/among humans and non-humans.

3.1.4. Cyborgs and Companion Species

Haraway claims that “biological evolution fulfills itself in the evolution of technology”⁶⁵¹ and so “Cyborgs can be figures for living within contradictions, attentive to the nature cultures of mundane practices, in opposition to the dire myths of self-birthing, embracing mortality as the condition for life, and alert to the emergent historical hybridities actually populating the world at all its contingent scales.”⁶⁵² On the other side, she adds that: “However, cyborg refigurations hardly exhaust the tropic work required for ontological choreography in technoscience. Indeed, I have come to see cyborgs as junior siblings in the much bigger, queer family of companion species.”⁶⁵³ She asserts that “[...] ‘Kinship in Technoscience’ compares two cobbled together figures—cyborgs and companion species...These figures hardly polar opposites. Cyborgs and companion species each brings together the human and non-human, the organic and technological, [...] and nature and culture in unexpected ways.”⁶⁵⁴ In addition, she claims that “neither a cyborg nor a companion animal pleases the pure of heart who long for better protected species boundaries and sterilization of category deviants.”⁶⁵⁵

There needs to be at least two companion species to make one. Likewise, companion animals are only one kind of companion species. Haraway claims that the companion animals can be “horses, dogs, cats, or a range of other beings willing to make the leap from pet or lab beast to the bio sociality of service dogs, family members, or team members in cross-species sports.” However, companion species “is a much bigger and more heterogeneous category than companion animal, and not just because one must start including such organic beings as rice, bees, tulips, and intestinal flora, all of whom make life for humans what it is—and vice versa.” Companion species “is about a four-part composition, in which co-constitution, finitude, impurity, and complexity are what is.” Haraway claims that cyborgs are “a kind of companion species congeries of organisms and machines” and “genetically engineered laboratory organisms like OncoMouse™ [is] also companion species trying together many kinds of

⁶⁵¹ Haraway, “Cyborgs to Companion Species: Reconfiguring Kinship in Technoscience”, p. 299.

⁶⁵² Haraway, “Cyborgs to Companion Species: Reconfiguring Kinship in Technoscience”, p. 300.

⁶⁵³ Haraway, “Cyborgs to Companion Species: Reconfiguring Kinship in Technoscience”, p. 300.

⁶⁵⁴ Haraway, “Cyborgs to Companion Species: Reconfiguring Kinship in Technoscience”, p. 297.

⁶⁵⁵ Haraway, “Cyborgs to Companion Species: Reconfiguring Kinship in Technoscience”, p. 297.

actors and practices.” However, compared to cyborgs and engineered organisms like mice, humans as companion species suggest quite different histories and lives, “emergent over the whole time of species being for the participants.” She claims that “both people and their partners are co-constructed in the history of companion species” which “does not prejudge the category of the “species”; they could be artifacts, organisms, technologies, other humans, etc.”⁶⁵⁶

In *When Species Meet*, Haraway focuses on species that include animal and human as categories. She claims that the companion species is not about “animals which are treated like indulged children” but a category insisting on “the relation as the smallest unit of being and of analysis.”⁶⁵⁷ By species, she means “a kind of intra-ontics/intra-antics that does not predetermine the status of the species as artifact, machine, landscape, organism, or human being” and “Species, like the body, are internally oxymoronic, full of their own others, full of messmates, of companions.” Inter-action “implies that already existing actors get together and act. Intra-action implies something much messier, much less determinate, ontologically speaking.”⁶⁵⁸ She explains that:

Every species is a multispecies crowd. Human exceptionalism is what companion species cannot abide. In the face of companion species, human exceptionalism shows itself to be the specter that damns the body to illusion, to reproduction of the same, to incest, and so makes remembering impossible. Under the material semiotic sign of companion species, I am interested in the ontics and antics of significant otherness, in the ongoing making of the partners through the making itself, in the making of bodied lives in the game. Partners do not preexist their relating; the partners are precisely what come out of the inter- and intra-relating of fleshly, significant, semiotic material being...I’m telling a looping story of figuration, of ontics of bodies in the making of play in which all the messmates are not human. [...] we are bodies in braided, ontic, and antic relatings.⁶⁵⁹

Haraway herself has companion with her father; “the messmated with my father—the constitutive companion species knots that get my attention—are not myself or any

⁶⁵⁶ Haraway, “Cyborgs to Companion Species: Reconfiguring Kinship in Technoscience”, pp. 301-317.

⁶⁵⁷ Haraway, *When Species Meet*, p. 165.

⁶⁵⁸ Haraway, “Cyborgs to Companion Species: Reconfiguring Kinship in Technoscience”, p. 301.

⁶⁵⁹ Haraway, *When Species Meet*, p. 165.

other organism, but a pair of crutches and two wheelchairs.” Like her father, her two brothers had hip disorders and crutches were normal parts of paternal equipment and the reproductive apparatus that shaped the bodies of her brothers. The wheelchair assists the process of many disabled people with companions of many species, both the apparatuses and the people. In other words, there are “many actual cyborgs among us in society. Anyone with an artificial organ, limb or supplement (like a pacemaker), anyone reprogrammed to resist disease (immunized) or drugged to think/behave/feel/ better (psychopharmacology) is technically a cyborg. The range of these intimate human-machine relationships is mind-boggling.”⁶⁶⁰

Haraway questions “who ‘we’ will become when species meet?”⁶⁶¹ In the novel, all figures such as cyborgs, monkeys (unevolved humans), the forged, animals, that is, species of all kinds meet. They are all companion species making each other up in the flesh. As Haraway asserts, all the species in the novel are “in a knot of species coshaping one another in layers of reciprocating complexity all the way down. Response and respect are possible only in those knots” with cyborgs, the forged animals and humans, degraded beings, Gaiaforms, Arachnoids, etc, “sticky with all their muddled histories,” with their Natural History.⁶⁶² Both the Forged cyborgs and MekTek humans are companion species; “Human and nonhuman animals are companion species, messmates at table, eating together, whether we know how to eat well or not.”⁶⁶³ Haraway considers the cyborg as a kind of meta-category: “sometimes the cyborg functions as a meta-category” of the entities she uses such as the coyote, the OncoMouse™, the FemaleMan, the dogs. Nevertheless, she likes “to think of the cyborg as one of the litter, the one that requires an awful lot of intervention in order to survive...It has to be technically enhanced in order to survive in this world.”⁶⁶⁴ In the novel, this companion species is best seen visually in the big debate among all species taken part in the referendum meeting in order to make a decision about the Stuff technology.

⁶⁶⁰ Gray, Mentor and Figueroa-Sarriera, p. 2.

⁶⁶¹ Haraway, *When Species Meet*, p. 5.

⁶⁶² Robson, p. 42.

⁶⁶³ Robson, p. 301.

⁶⁶⁴ Haraway, “Cyborgs Coyotes, and Dogs: A Kinship of Feminist Figurations and There Are Always More Things Going on Than You Thought! Methodologies as Thinking Technologies”, p. 332.

Referendum Meeting and the Big Debate

Isol's proposal of the Stuff technology has been discussed in an open forum. After a referendum, vote of sixty-five percent in favour is calculated. At a public meeting, people take turns to persuade people. The first speech comes from a human/machine hybrid cyborg Tatresi: "It would benefit future generations of human beings, in the Unevolved and Forged states alike, to have a homeworld far from the beginnings of Earth"⁶⁶⁵ for a more technologically advanced future. Next speaker is animal/human hybrid Secta Regina Asantewaa, the Hive Queen of the Earth Council is Gaiasol Cultural Development Units, announces:

It is our duty to respond to the needs of all people of the Earth, whether the early or the recently Evolved. The second planet of the sun Zia Di Notte, we must also remember, has at some time been the home of another race, and we must think of them and their concerns in addition to our own. We are hampered by our lack of knowledge about this world or its people. Even so, recent polls suggest equal measures of discomfort and acceptance in the idea of reclaiming this place and developing it once again. Like living in somebody else's house, it is not the same as finding a pristine land, as Mars was pristine, uncluttered by prior imaginations [...] But in principle we do not object to the colonization of a new planet and Solar System. Our necessary point of concern is the technology that it was necessary to use to get there. We have yet to hear from our sisters working on this material concerning its safety. Until this matter is thoughtfully researched, we oppose any further developments in its use among the Forged and the Unevolved. We suspect it has already been sold in the black economy, and is already in use. We urge those Forged who have used this material to return it at once.⁶⁶⁶

The other species living in other planets, the Jovians (Jupiter) and Saturnians (Saturn), say that they do not desire to relocate into the new system. They claim that they are content as long as they are not regulated from the outside and as long as a reasonable trade is maintained. With their jelly-like bodies—powerfully developed semi-human arms and legs and trunks—and blue and green faces and blue hair, they claim that "We have no interest in an Earth-type planet [...] Isol reports a single gas giant in the system, but has provided no other information. If this project goes ahead

⁶⁶⁵ Robson, p. 211.

⁶⁶⁶ Robson, p. 212.

–and we think it won’t– then we would be interested, of course, in exploring this region *jointly*.”⁶⁶⁷

On the other side, some Unevolved ones are against racial segregation; “Separation from the Forged is purely a racist and divisive manoeuvre, a falling-back to the positions of the early twenty-first century where national, religious and cultural divisions were allowed to stand as barriers to trade, rights and the fair distribution of wealth,” and it is added that “the Earth government must stand firm on this issue of secession. If the system breaks apart, then there will be a return to the days of permanently disadvantaged cultures.”⁶⁶⁸ Without racial segregation, these several companion species are living together. Both Forged and the Unevolved are living together in a good way, so there is no need for separation as if there is a problem between them. “Society has never been homogeneous. Herculeans cannot fly. Hominids cannot survive space. Jovians [...] cannot till the land and create food,”⁶⁶⁹ so there is a heterogeneous society that has various race, human types and companion species with heterogeneous entities either, human, nonhuman, animal, organism or cyborg.

3.1.5. Cybernetics: Dreamtime-Uluru and Cyber/Virtual Reality

According to Judith Wajcman, unlike real space, the virtual world overcomes the tyranny of the distance and the virtual community represents “a new form of sociability and social interaction.”⁶⁷⁰ Likewise, Robson creates a virtual space in her novel that is named Uluru, the host system of the Dreamtime that is “a virtual reality prepared for Forged children to live in there before they are connected to the bodies that would one day be their only physical existence.”⁶⁷¹ The Forged children first live in Virtual Uluru space, in virtual bodily existence and then they become embodied, so their identities and memories are based on their virtual past. For example, Isol remembers her childhood memory in little girl human body, in a pink ballet dress.⁶⁷²

⁶⁶⁷ Robson, p. 213.

⁶⁶⁸ Robson, p. 217.

⁶⁶⁹ Robson, p. 219.

⁶⁷⁰ Wajcman, *TechnoFeminism*, p. 58.

⁶⁷¹ Robson, p. 130.

⁶⁷² Robson, p. 8.

The Uluru is conceived as a playground for the Forged and their eventual bodies are constructed in a fully adult form only. First, shaping of the world takes place in Dreamtime. Second, Dreamtime is “an illustration of the power of the ancestors; the ordinary human beings who had created the first Forged also programmed the first Uluru.” Third, Dreamtime is a general way of life and Forged retreat in latter days to this place when “they’d sized control of several Uluru-hosts for themselves in order to continue their double potential as physical adults and imaginary totemized beings.” Lastly, a Forged can be connected to other of their kind in this Dreamtime: “the depth of each Dream contact subliminally negotiated in the first communications burst of every interaction, setting the scenario and all its detail before the real exchange began.”⁶⁷³ “Amenable MekTek engineers put it together on stolen AI systems, in return for the promised benefits of free use of its arenas. Forged and MekTek alone possessed the intricate cyborg structures that allowed them to partake of the pleasures on offer there.”⁶⁷⁴ Corvax recognizes MekTek as an Unevolved product, “the brute cybernetics of machine and AI spliced to their feeble bodies and brains to enhance capacities too ecoprecious to have been butchered together like a Forged mind. And too small to cope with a Forged consciousness.”⁶⁷⁵ Corvax was once a Roc, Handslicer class, but he is now just a weak body because of the adding so many layers of MekTek while he is running the Uluru.

The Forged, in order to experience what it is like to be a wholly unmodified human, enters the virtual reality platform Uluru and this shows the difference between the engineered bodies and the wholly organic human bodies. Corvax was a key developer of its layer subsystems, but now he is Uluru’s primary host-keeper, and he makes his money renting time in Uluru. Corvax spends his days working on new Uluru architecture and analyses the dreams of others using his MekTek knowledge. He offers free will; everyone can be and can do whatever she/he wants inside Virtua as the Stuff who offers free will both to Forged and Unevolved in the real world. Corvax spends most of his living in that Dreamtime. When he is in Uluru, his body is a small, weak, simple human body without power and wings and when he is there, he is close to sleep

⁶⁷³ Robson, p. 107.

⁶⁷⁴ Robson, p. 37.

⁶⁷⁵ Robson, p. 16.

because REM is “the natural state of Uluru, but REM-sleep brought [brings] the terror of uncontrollable changes in No-Space.”⁶⁷⁶

In fact, he developed laws for the program and the machines adapt to the laws Corvax programmed into them, but people broke most of the laws “leaving nothing between him and unlimited free possibility.” In each arrival and departure of people, the things change, the laws are broken, and the virtual world shifts, and he loses his control in each visit.⁶⁷⁷ The Dreamtime in the hands of Corvax became “a medium for looking backwards in time to humanity’s older minds. He and Tupac had made it their own project and routinely examined their findings from the dream-dross, watching the evolution of modern sentience in reverse whenever they had time to spend with one another.”⁶⁷⁸ Corvax before he was born was playing in Uluru as most of the Forged before him. During the first ten years of his accelerated childhood and adolescent life, the Dreamtime was the only existence that he knew. In the dark depths of the Pangenesis Tupac’s embryo blast, his adult body grew on. Tupac’s Uluru system created him a series of dreams in which he was treated and educated. The system rules create each reality in a fresh world. For Wajcman the virtual reality or the cyberspace is like this:

Unlike real space travel, cyberspace is open to the many. While the dream of new communities in outer space remains remote, cyberspace has been quickly populated by disembodied settlers. Progress is still defined by technological enterprises, but it is digital rather than space technology that now excites the imagination with its more immediate and accessible possibilities.⁶⁷⁹

That is, in his various and many cyberspace travel, Corvax can easily find himself among disembodied digital settlers. Corvax remembers the first time when he becomes a human in the Dreamtime. When Tupac asked him which avatar he will be, Corvax answered that he wants to be human. But this time, Tupac corrected him that they are all human, and then Corvax wanted to be an unmodified Unevolved. He becomes an Unevolved man in Uluru and experiences how to be a human totally, first by smelling the garbage. When he enters the virtual world as a humanoid, he finds human bodies “so

⁶⁷⁶ Robson, p. 39.

⁶⁷⁷ Robson, p. 40.

⁶⁷⁸ Robson, p. 110.

⁶⁷⁹ Wajcman, *TechnoFeminism*, p. 57.

dull” with reduced and limited sensory inputs and he cannot bear the smell of so many people in the simulation. He was a young human of no particular defining characteristic: Corvax examined “his head with his hands, felt his flat face, the unshielded openings of his nostrils, the narrow bridge of his small nose and the rock of bone beneath-so hard, like his own beak, but so tiny.” In the virtual space, forgetting his human facilities, he took a wing and leaped up into the air, crashed to the ground on his hands and then a woman, high-pitched tripped on him and hurt his arm with the heel of her shoe, he felt a shocking pain in his knees and arm. He complained about the limits of the human body and wanted Tupac, who is running the simulation, to end it, “This place reeks. Give me back my wings,” but Tupac replied, “Hominids have no wings [...] These are your people. And you are their dream: Forge-made, the best they could do. A little humility wouldn’t kill you, you know.”⁶⁸⁰ Corvax realized that his body was shaking with the after effect of some kind of hormone and the name of his feeling was fear. That is, as a cyborg human, Corvax experienced some senses of humanity as fear, anxiety, pain, smell, and hormonal inputs.

While Corvax was walking around the street, a police officer took him to the settlement office as he has no place to go. There, he needed to find a name and he “tried to think of a name not his own, but his mind was blank. What were Unevolved names like?”⁶⁸¹ So, he said the first name he saw on the officer's jacket, Tom. As Tom Corvax, he completely passed to Uluru when he recognized a change in his own state within the Uluru system and he fell asleep in the real world. Now, he was in Uluru without the inner voice of Tupac, he was alone now. Four young men hit him, and he felt pain from the fight. Casper and Dani, a couple, found him in the mug. He told Dani that he is a Forged and they are his dream, but she did not believe in him. He stayed with them; years passed and he learned how to fight, hide as well as stealing from the others, newcomers, without making them notice him, but one good thing he learned was to repair machines. He fell in love Dani who was previously been Caspar’s girl. In one of Corvax’s visits to Dreamtime, Caspar wanted to get rid of Corvax and wanted Dani back and the aeroplane on which Corvax is studying. In another visit to Dreamtime, Corvax, then, offers Dani the Stuff stone and wants her to wish something, and she

⁶⁸⁰ Robson, pp. 112-114.

⁶⁸¹ Robson, p. 118.

wishes Corvax to kill Caspar and take his house. Corvax attempts to kill him and leaves Dreamtime. In another dream, Corvax hears Caspar's urging him to take the Stuff and create his own engines to make money. Anyhow, one day, when he left Uluru, Corvax asked Tupac whether he is Caspar or not, and Tupac answered that it is possible. Caspar becomes a part of the narratives in Corvax's dream. Caspar wore the human form Corvax would have wished for and lived on Earth as a human man but was not human inside. He has a big house and the fenland, the cranes and the worlds of Corvax's dreams. Caspar is "another personality, another and better Corvax."⁶⁸²

On the other side, there are many Unevolved having virtua-based relationships in Uluru with Forged. However, "virtua-based relationships are often short-term affairs where non-Tek participants are involved." The only rule to enter the first real of Uluru is to have the most advanced MekTek technology. Thus, very few Unevolved are aware of the Uluru because they cannot go there without MekTek, but in any case, there are always some Unevolved who try to enter Uluru despite their lack of skill in communicating and understanding the nature of the medium, so this causes difficult problems:

MekTeks almost all indulge in Dreamtime re-creations. Others will pay the prices necessary to rent time and equipment. There have been recent health reports on the use of these systems and there is some suspicion that they may cause synaptic problems, epilepsy or even stroke in Unevolved, due to the high-pressure data rates. And without real Tek it's something of a lacklustre event.⁶⁸³

In Uluru, there is also Forno, pornography of Forged and Unevolved together: "a sickeningly infinite array of penetration and interpenetration potentials, of violence, tenderness, lust and revulsion."⁶⁸⁴ In this Virtua world, they have a chance of feeling much more unlimited flexible sexuality within fluid and adaptable cyber bodies. This Forno virtual world is an escape for some Forged from the dissatisfaction of their physical form and some others become so much addicted to their dream world, Uluru.

⁶⁸² Robson, p. 109.

⁶⁸³ Robson, p. 155.

⁶⁸⁴ Robson, p. 156.

3.1.6. The Natural History of Cyborgs

Plant argues that “Human history is the self-narrating story of [the] drive for domination; a passage from carnal passions to self-control; a journey from the strange fluidities of the material to the self-identification of the soul. Woman has never been the subject, the agent of this history, the autonomous being. Yet her role in history has hardly been insignificant.”⁶⁸⁵ Thus, what Plant tries to do is to create a herstory instead of male dominated history by bringing out successful women in technoscience. Hence, the Natural History of women are related to the Natural History of the Forged who try to create their own history through weaving the mega technology, the Stuff. This part deals with the process of the Forged and their debate whether to create a new Forgedstory by accepting the Stuff technology or to remain loyal to the Natural History of humans.

This complex story begins with the voyage of a Forged human named Isol Voyager and her deep space exploration mission. In the light of Harawayian Cyborgology, her body consists of gene splicing combination as well as cybernetic parts both of which enable her to stand against the difficulties of outer space. On her voyage, she encounters alien technology that she calls ‘Stuff’ when she runs into space debris and is about to die. Isol thinks that “no human being had ever seen an object like this before,” and she understands that “this engine was capable of transmitting her from one point in space-time to any other, without travelling through any of the points in between.”⁶⁸⁶ The engine-thing does nothing and waits for her. Isol can take it up or leave it:

Taking in the new engine hurt less, and wasn’t as tricky as she’d thought. It obediently slid up into her cavity and settled in the old space, a perfect fit. With senses dulled by the poison in her blood she felt it nestle there and burrow threads into her flesh and metal, brushing only a few pressure sensors, the odd temperature-sensitive cell. A curious new child. She didn’t feel afraid. There was a rightness to this that was almost fulfilling in its simplicity: accept or die.⁶⁸⁷

⁶⁸⁵ Plant, “The Future Looms: Weaving Women and Cybernetics”, in *Cyberspace/Cyberbodies/Cybercultures of Technological Embodiment*, p. 58.

⁶⁸⁶ Plant, “The Future Looms: Weaving Women and Cybernetics”, in *Cyberspace/Cyberbodies/Cybercultures of Technological Embodiment*, p. 13.

⁶⁸⁷ Robson, p. 14.

The Stuff recovers her and helps her to transport across space with a capacity of faster than light (FTL): Isol replaces her detective reactor core by taking the Stuff into her body, so by this way, she quickly transports to the across planet Zia di Notte. When Isol shuts her eyes, she hears the voice of the Stuff engine, “*Isol*, said the engine, voiceless. *We were once like you* [just a cyborg human].”⁶⁸⁸ *Natural History* inhabits cyborg humans, modified humans and pure humans as well as human animal hybrids and other companion species, but this Stuff technology is portrayed as beyond cyborg and beyond humanity. Haraway does not accept the post-human term, and instead prefers to be a cyborg. Thus, this posthuman creature, The Stuff, plays the role of God by offering eternal free-will. Although the Stuff alien fits Harawayian boundary break of physical and non-physical, it is a posthuman itself. Isol begins to claim that planet as a new homeworld both for the Forged and the Unevolved. She later recruits several other Forged as Corvax, a Roc Handslicer running the Uluru system, and Ironhorse Timespan Tatresi, the spokesman for the Forged Offworld Transport Services.

The Unevolved community is represented in General Machen and the Strategos Anthony who is a MekTek—enhanced Unevolved human. General Machen is the Commander of Gaiasol System Military and Civil Security. The Unevolved human community agrees to consider the Forged’s demand of living on this distant planet altogether and they decide to send a representative to search the planet. News about Isol and the Stuff reaches General Machen. The messenger Gritter, Degraded Aquila Class Ornit Citizen, makes his avatar speak on the summons post: “We’ve never seen this kind of thing” and it adds that “We think it must be alien technology. It appears to direct energy flow from the Hypertube: and that is in itself a purely theoretical statement, based only on best guess. Very interesting.”⁶⁸⁹ The Strategos Anthony believes the claim that Isol has found an extrasolar planetary system: “What interests me is this machinery it mentions. We know for a fact that it exists because she has it. But we don’t know that anything else about her story is true. There could be all kinds of reasons for her to fabricate” and he suggested making the planet investigated. He says that “if the alien engine systems and other technology become essential components of people who want to secede, then we have to make a decision on how *human* we’re going to consider

⁶⁸⁸ Robson, p. 15.

⁶⁸⁹ Robson, pp. 47-48.

them in the future.”⁶⁹⁰ That is, their *human* facility is over and as Haraway terms they are beyond human, post-human. They ask Tupac and she is also in agreement with them. Thereby, they decide to send an Unevolved anthropologist and historian of Earth’s lost worlds, professor Zephyr Duquesne with Isol to the planet to determine whether it is dead and unoccupied and habitable like earth.

The General searches a person to check and control the alien Stuff that Isol brings back with her. Corvax checks Isol’s body after she returns from her voyage with the alien engine on her, so Corvax opens his wings to her to inspect her body with the AI system. She is not looking pretty, but he finds that she is in superb condition, thanks to that advanced alien technology: “her Ti-bone exoskeleton, which had taken such a beating, was newly whole. [...] From the tips of her antennae to the delicate vanes of her solar sails, she gleamed like a freshly moulted scorpion-and looked as dangerous.” Corvax reflects that she does not fit the blueprint of her Clade anymore because he cannot recognize some of her organs and implants at all: “things that he was [is] sure no Forge schematics for any species would detail either in the official design labs, or even in the daydreams of Tupac and Mougiddo, the mother-fathers of them all.” At that time, Isol describes the unknown technology as alien or the Other just as how we recognize the cyborgs as alien too. Women were considered as alien and Other by patriarchy, but white upper class women also regarded the women of colour or lower class or third world women as the Other, as well. Likewise, Isol is regarded as strange cyborg by the other woman Zephyr and the Stuff technology is regarded as the Other by the cyborg Isol, so the unknown or out of standard is named as the Other by the authority. Isol says: “I have come across some detritus that I wish you to analyze. I believe it to be of alien origin.” She also expresses her feelings about that Stuff technology, “I wanted FTL [faster than light]. I wanted a wormhole, a jump gate, a teleporter, whatever it took. It became what I needed.” When Corvax asks whether she has any idea about this Stuff alien, she says, “Corvax, haven’t you ever wished so hard for something? If you were dying, wouldn’t you want to survive? Haven’t you dreamed of the impossible?” But, Corvax rejects her wish by claiming that he does not want to “bring others to harm.”⁶⁹¹

⁶⁹⁰ Robson, p. 51.

⁶⁹¹ Robson, pp. 23-30.

Nevertheless, Isol tries to convince him explaining the benefits of the Stuff technology because she knows that Corvax hopes to build a better Uluru, one of unlimited capacity:

You can do whatever you feel fit with the substances. I should guess that a few hours will give you more than enough *measures* to control whomever you like. Your mafia boys will look to you as their natural leader once you have such a power. Corvax, in the image of your choosing; real or virtual, there are no bounds.⁶⁹²

That is, what Corvax tries to do in Uluru is to create a zone of unlimited freedom as Plant asserts: “a grid reference for free experimentation, an atmosphere in which there are no barriers, no restrictions on how far it is possible to go.”⁶⁹³ The Stuff technology fulfills his Uluru dream of unlimited zone and free will-power in real world. Then, at the end Corvax decides to check the Stuff engine. He puts the smiley Stuff aside and examines the RNA fragments, but despite all his efforts, he cannot find any cohesive picture of its form, that is, its form cannot be achieved as the RNA is so blown by its brief, part-shielded exposure to gluon-plasma. It is found that the “explosive event must have originated inside the creature, possibly within the nucleus of a single cell.”⁶⁹⁴ Corvax really wants to believe in Isol and learns more about the Stuff, but he does not trust her and Tatresi who favors Isol’s wish about the ultra-advanced technology Stuff. Nonetheless, Corvax takes the Stuff stone at last but tries to dissuade them from their persistence on the Stuff: “Get ready for hell. I’ll take the rock. But if you want it broadcast like the seeds of Adam among the Forged, you can do that for yourself. This poison, and even if you don’t know it, I bet this thing demands its own price.”⁶⁹⁵

While he is busy with the stone, strangers who want to steal the Stuff engine enter his platform without permission. It is a person who has once been First Class Flight Leader Tomahawk MekTek Dragonstar Jagatak, he is also known as Dog Legba in his previous Gaiasol military-police unit. “Dog Legba is the favored assault soldier of Xing Xianshi, the Unevolved pirate in the lanes, and the worst.”⁶⁹⁶ Corvax uncouples the block of Stuff from its tray and searches for somewhere to put it in order to keep her from acquiring it. However, in order to take the engine, Xing offers:

⁶⁹² Robson, p. 32.

⁶⁹³ Plant, “Beyond the Screens: Film, Cyberpunk and Cyberfeminism”, p. 14.

⁶⁹⁴ Robson, p. 36.

⁶⁹⁵ Robson, p. 45.

⁶⁹⁶ Robson, p. 142.

I had heard a rumour that Isol came here to begin her own market in a new technology, and was planning for you to act as her primary agent. Of course, that means moving in on something that I consider my own specialty. Would you change your mind if I offered you superior protection and distribution? Your set-up here is, let's be honest, hopeless.⁶⁹⁷

Corvax says that he does not have any of the Stuff technology and he gets in trouble because fight starts. He struggles for his life and injures her, but he sends her to Tupac for recovery. Then he sends a message out to his cousin Gritter for Machen informing that he is bringing the engine the Idlewild and adds, "listen to this, you stupid rat-eater. Don't touch anything that has ever been in contact with Voyager Lonestar Isol."⁶⁹⁸ Machen in order to protect and bring Corvax in faster announces his arrest. Corvax is put into prison until Machen comes to see him in person. At that time, Isol's proposal of new planet and technology is discussed in an open forum.

When Machen arrives at the prison, he wants to learn some information about the Stuff technology and says that he needs to speak to the engineers who are working on the analysis of the Stuff drive that Isol has carried in her body. Corvax hesitates to drop Isol into the hands of the General who can stop her plans for Zia di Notte, but he is not even sure if he wants to go and live in another Solar System himself. He says, "The drive matter responds to sentient intent. It can change its structure according to whatever purpose the observer has in mind. It doesn't require anything like a specific design. It makes itself into the right tool for the right job." Next, Machen asks any evidence of this. Corvax, showing the rock stone in his wings said, "It gave me a sign [...] It smiled at me." Machen asks if he can talk to a Hive when it is in trance and Corvax affirms his question. Next, Machen says that the laboratory works on the Stuff engine is taking in an isolated place in opposition to the orbit of Mars. Thus, Machen wants Corvax and the drive material to be taken there and he says, "You can report to the head of the laboratory, Arachno Mouze. Any reason to suspect it's working as a contaminant?"

In the light of Haraway's modest witness, Robson appoints a male cyborg as a modest witness in the science laboratory. Haraway claims that science witnessing should be under the authority of men and if women are included to this job, there will

⁶⁹⁷ Robson, p. 144.

⁶⁹⁸ Robson, p. 149.

be truer and more democratic technoscience, so she adds self-aware, reliable, and anti-racist FemaleMan©⁶⁹⁹ modest witnesses. Corvax needs to pay a prize to be a modest witness as the women once did. Corvax says, “I haven’t detected that, although it has the ability. I’ve found no trace of it in my own body, and I’ve been close to this material quite a while.”⁷⁰⁰ He informs that he needs to search it in the laboratory environment, so he has no other choice except making his wings cut in order to enter that place. While Corvax is modifying his body, Tupac asks whether he wants to be another being; Tupac offers him to be his Uluru character Tom Corvax, and he accepts. If anyone possesses or has been in contact with the Stuff engine, he or she is required to proceed immediately to the nearest quarantine point until they are medically cleared. That is to say, Corvax goes to the lab to follow the Hive’s progress with the Stuff.

Meanwhile, General Machen calls Zephyr and proposes her the job by claiming, “We have a pressing matter that requires an expert in your field, and you came highly recommended.”⁷⁰¹ Passenger Pigeon Aurora comes to take her to General Machen. Zephyr sees a Pigeon for the first time. Robson portrays the cyborg Passenger Pigeon Aurora (Ironhorse AnimaMekTek) as half animal and half human hybrid blurring the relationship between animal and human. Following the cyborg politics of Haraway, the female cyborg also flights from the stereotype of female body. Although her cabin symbolizes the traditional woman womb, Pigeon asserts that she is not a virgin, so Zephyr can step in her without hesitating. Haraway loads femaleness to her cyborg metaphor and like Isol, Pigeon Aurora also symbolizes Harawayian concept of female cyborg. In addition, stepping into the womb of a woman is portrayed safer, more comfortable and kinder than to enter the body of male Pigeon.⁷⁰²

Zephyr treats Aurora as a ship but not a person when she sees her for the first time. When she enters inside Aurora, Zephyr assumes that she does not hear what is going on inside her own body, that is, for a moment she forgets that Aurora is a humanoid as well for a moment; Zephyr “kicking off her shoes and waving her socks

⁶⁹⁹ Wajcman, *TechnoFeminism*, p. 87.

⁷⁰⁰ Robson, pp. 195-197.

⁷⁰¹ Robson, p. 63.

⁷⁰² Haraway, “Cyborgs, Coyotes, and Dogs: A Kinship of Feminist Figurations and There Are Always More Things Going on Than You Thought! Methodologies as Thinking Technologies”, pp. 321-322. An interview with Donna Haraway conducted in two parts by Nina Lykke, Randi Markussen, and Finn Olesen.

around in someone else's abdomen, absently rubbing a drop of spilled tea into a seat-arm, leaving a biscuit wrapper behind like a misplaced medical swab, breathing and shedding invisible loads of skin and bacteria all over the insides of someone who had only been doing her job."⁷⁰³

Zephyr, at first, does not want to go to another world as she likes her life as safe because she has never been much above sea level. Extrasolar travel will be the first for her. The Strategos Anthony praises her, "We need first hand intelligence from a reasonably qualified who has at least a vague claim to objectivity."⁷⁰⁴ He confesses that they are not sure whether this planet really exists. For eight days of investigation, they want her to assert whether this planet –virtual, faked or real– is comprehensively dead or habitable. They know that there is not any cell, ruins of civilizations, but oxygen is there. Anthony says that it was Isol who chose her from an approved list of possible believing that Zephyr will understand more than most. Then, Zephyr enjoys the idea of that voyage to see the first extrasolar planet ever visited and to search its vanished inhabitants. Isol agrees to carry supplies for Zephyr; a tent shelter, a sled and seven days' supplies of food and water. Her Abacand (electronic talking machine) is loaded all information Zephyr will need. It will be a very difficult voyage far from any help because communications won't be possible. Strategos says that there can be no rescue mission because of the distance but Zephyr accepts the voyage due to death possibility. Zephyr with Isol's permission, will voyage inside the body of Isol but before meeting with her, she is brought to the city of Tupac in which cyborgs are created. By the Heavy Angel Sisyphus Bright Eagle (plane), she flies to Tupac's home. Zephyr visits "human living quarters and workplaces– all mundanely similar to their Earth counterparts." She saw the place where MekTek and InerTech are manufactured by AI and robot, and "the outer skins of million vats where the biological elements of new Forged" are growing. Then, she meets with Isol whom she sees as "unrecognizably human as the most extreme class of Forged that Zephyr has seen in her life. What surprised her most was how small Isol was."⁷⁰⁵

⁷⁰³ Haraway, "Cyborgs, Coyotes, and Dogs: A Kinship of Feminist Figurations and There Are Always More Things Going on Than You Thought! Methodologies as Thinking Technologies", p. 102.

⁷⁰⁴ Robson, *Natural History*, p. 93.

⁷⁰⁵ Robson, p. 133.

Breakout

Before they depart, Isol wants Timespan Tatresi to collect people to their side for the Stuff. Tatresi first thinks the Gaiaforms and knows where they are. He jumps to the restricted area to bring the Gaiaforms, and the Security AI alarm signaled him: “This is a restricted area. Please depart immediately and return to your nearest authorized lane.” He checks the timing because he needs to be in the platform before anyone notices. He goes and breaks the Gaiaforms out of jail although red warning flashes have appeared on the platform’s distant branches, but he is with it again on time without any problem. Isol blocks the platform’s signal to Earth because Tatresi is to take the Gaiaforms, Asevenday Kincaid and VanaShiva Bara, out to the new world, and then “return to his scheduled run between Jupiter and Mars, using the new engine’s [Stuff’s] instantaneous power to leave no discernible gap in his recorded timetable.” Kincaid and Bara are “barred from Uluru until their status became official. There would be no conversation, no old friends, no new friends, no sex, no modal-unity, no relief from the relentless prison of the physical world.”⁷⁰⁶

Wajcman asserts that “artificial intelligence is increasingly emphasizing the importance of the body in human cognition and behavior.”⁷⁰⁷ Likewise, after they return to the platform, Tatresi via the AI link begins to hear the cacophony of the Gaiaforms waking up. Tatresi’s human avatar begins to talk to the avatars of Kincaid and Bara. When Kincaid asks why he came to take them in an illegal way, Tatresi answers that they are leaving Earth, so “We don’t recognize their authority.” Bara says, “You don’t need us” and adds, “We’re already obsolete– we accepted that before. What we wanted was to wait until that was no longer a consideration. Until there was a place for everyone, regardless of their Form or Function– or lack of it. A natural world with no reason but the fact of being behind it. That was the agreement.” Tatresi says that the world Isol has found is like in the agreement having a new system. However, Kincaid within range says, “So you say, but what and who are you, sonny? Why should we believe you? You’ve hardly got a grip on this dream, let alone on anything else.”⁷⁰⁸ Tatresi knows that their bodies are designed to work and thinks that:

⁷⁰⁶ Robson, pp. 84-89.

⁷⁰⁷ Wajcman, *TechnoFeminism*, p. 116.

⁷⁰⁸ Robson, pp. 87-88.

[...] they must both be feeling the first surges of new energy by now. Their bodies would be slowly preparing to work. If they didn't start to move within hours, then that impulse would turn to decay as their immune systems, programmed for the heavy labour of enormous physical stresses, began to eat away at their idle tissues. If he didn't send them both under within minutes, it would become a process too late to stop. For a moment, he was tempted. He decided to risk the truth. If it was insufficient, then he could send them under, and Earth needs to no wiser. If it was sufficient, they could depart. Either way . . . and he also longed to tell them about the engine, to share his burden.⁷⁰⁹

In the end, Tatresi concludes that, "The world Isol has found is almost Earth standard. A minor amount of work can reseed it and create a place for the Earthbound Forged who wish to leave. After that, because of the drives, there's nowhere you can't go and there will be work for ever." Then, Bara questions "Why not some other place, if there are so many. This one's already been and gone. It belongs to someone else. Let's take another, somewhere that nobody cares about" and Kincaid approves, "Why not a world of our own?" Thereby, Tatresi claims that the "race who lived there and who left the engine technology were self-adapters" and the technology is at a much more advanced level, hence he tries to convince them: "there is other evidence there, although the place is deserted. We can learn, and liberate ourselves from the bondage of Form and Function, if we study what they've left behind. This will only be a stopping point, a way station. As soon as we have what we can take, we leave there for other systems, other galaxies." Tatresi promises that they will work as fast as they can and claims that others have already agreed to go. At last, the Gaiaforms agree to go there as well: "Take us there."⁷¹⁰ He takes the Gaiaforms and uses the engine to turn back to the Earth. Then Isol takes them near her and brings them to the planet, Zia Di Notte.

Mutual Hatred between Two Women

Besides, Haraway rejects goddess-feminist wisdom that is against modern technological world. For her, goddesses favour natural world by rejecting cyborg reality and it is like associating women with nature and men with technology. Thus, Haraway asserts

⁷⁰⁹ Robson, p. 88.

⁷¹⁰ Robson, pp. 88-90.

that “I would rather be a cyborg than a goddess.”⁷¹¹ Likewise, Isol represents a goddess rejecting MekTek embodiment and the Stuff technology, but Isol represents Harawayian cyborg by welcoming technological embodiment and the Stuff technology for now. Therefore, we see a secret hatred between these two woman protagonists at first which will later turn to solidarity. Before Isol and Zephyr depart, Zephyr introduces herself to Isol who directly speaks in a kind of “hurt-them-before-they-hurt-you”⁷¹² attitude that Zephyr has heard among older academics before:

An archaeologist. I’ve seen all that. You’re fatter than I imagined. I don’t know if the seat in the Hand will fit you, but it’s too late to change it now. At least the acceleration is less likely to knock you senseless. Fat cushions the body from excessive gees, to some extent, so I’ve heard. I hope you’re not a big talker. I don’t do chit-chat and I don’t want to hear it.⁷¹³

However, Zephyr tries to change her tune by trying to thank her, but Isol continues her sign of warning tune; “I wouldn’t dream of this kind of malformation without the most extreme provocation,” and so she adds; “Don’t thank me. You’ll soon long to be home again, and then you can thank Machen and his government all you like. As for the niceties [...] it’s me that has to make your food and process your shit, remember. Thanks doesn’t really cover it.”⁷¹⁴ In turn, Zephyr with the effort of suppressing a smart retort, gives the violets she bought for Isol, then Isol gives pleasant smile.

Zephyr cannot understand why Isol wants this planet so much and what she hopes to gain from this planet. Isol says that Zephyr and the other Unevolved cannot possibly understand it as they have always been free. However, Zephyr claims that it is useless to search for a planet to be totally free through technology:

What a small imagination you’ve got if that’s what you believe—taking the moral high ground with a line like that. Do you suppose I asked to be born in this time and this place, make a life for myself and then have it all thrown in the air just to stand here and listen to your selfish whining?

⁷¹¹ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 181.

⁷¹² Robson, p. 134.

⁷¹³ Robson, p. 134.

⁷¹⁴ Robson, pp. 134-135.

Even if you get your self-governance, who have you escaped from? *You'll still be there, won't you? No speed or distance will ever change that.*⁷¹⁵

In turn, Isol for now just says they will see but their first impression is not good enough. Like Zephyr says to her Abacand, “Mutual hatred has been agreed”⁷¹⁶ between two women for now. Zephyr approaches Isol from the other side asking whether any of this bother her; instant travel, strange equipment, not understanding the first thing about it: “I mean, didn't this technology belong to somebody and maybe it won't do you any good, and doesn't it strike you as odd that it was just lying around and that it lets you find this particular place of all the places in the universe? Aren't you being had for some kind of sucker?” Isol explains that: “I believe it [Stuff] was left there to be found [...] I found it because I was intended to find it, and intended to locate Zia Di Notte and its worlds. The odds against running into it accidentally are incredibly high. It's the legacy of a race of self-adapters, like us, who have gone on before.” Then, Zephyr asks, “What makes you think so? Couldn't it just be that you want to think that, but there could be a whole series of other possible explanations? Didn't anyone ever tell you to try before you buy?” This time, Isol gets angry and ends the discussion by saying, “Professor, if you want to leave, there is still time. The Hand will return you to Earth. But I am about to go on. What will it be?” Zephyr begins to rant but says nothing. After seconds, Isol announces that they have arrived at the planet which is forty-five light-years from home.

AIs

The AI bionic parts are in fact cyborg AIs because “biological AI brain is given a technological robot body then it is a type of cyborg – a cybernetic organism (part animal/human, part technology/machine) – with an embodied brain.”⁷¹⁷ Isol prepares a Roach, a small independently mobile AI cyborg for Zephyr to keep in contact with Isol so that she can travel around the surface. “When the time comes to make orbit, the Isol-Roach will signal me [Isol] to awaken, and the Isol prime body will return.”⁷¹⁸ The Roach is about the size of a large cockroach, can range widely on solar power during the hours of daylight and can operate in a standby mode during darkness. Isol built it in the system of Earth technology.

⁷¹⁵ Robson, p. 136.

⁷¹⁶ Robson, p. 157.

⁷¹⁷ Kevin Warwick, *Artificial Intelligence: The Basics*, New York, Routledge, Canada 2012, p. 11.

⁷¹⁸ Robson, p. 199.

In the novel, the artificial intelligence modified organisms like Hand, Arm, Roach and artificial intelligence machine Abacand represent Haraway's third boundary breakdown between physical and non-physical. Although Isol is in a different place bodily, she can be near Zephyr with her Hand and Roach and can hear everything through these AI cyborgs. Thus, the Roach and the Hand work like a wireless connection between their controller and Zephyr. For Haraway, these new cyborg human machines are quintessential, being everywhere and invisible. Hence, Isol is both material and opaque and quintessence, and her Abacand is, as Haraway claims, a miniaturization, made of sunshine, portable, mobile sending electromagnetic waves.⁷¹⁹

Secret Meeting

Leaving the Roach behind, Isol meets with Tatresi who claims, "There's something there. It's [Stuff engine] not alive, but speaks. I feel it watching me. It knows my thought."⁷²⁰ In order to hide this situation, Isol asserts that it is because of side effects, "Perhaps it is a by-product of something that is expected to function with a different kind of mind" but this explanation does not persuade him. They arrange a plan to spread their wish of the Stuff: "We will present the plants and ask for voting. Meetings will take place on all the worlds and at the stations. Polling will continue until eight percent have voted. Everything is in order. Machen won't be able to do anything about it, but we are not ready yet for secession" and she adds that "If the Gaiaform attempts to enforce its jurisdiction, we have no means of reaching the new world in any viable numbers. It will be war." Isol says that there will be no war because they have this technology and they will want it. She does not intend to trade it but "it has its other uses. When we understand how it works, then we'll be able to determine any course we want. I spoke to the Hive. It's making process."⁷²¹ Tatresi has some doubts about the Stuff that they "want to go there because the Stuff is from there and it wants to be there [...] I think that as soon as we made the first transit we became something more than

⁷¹⁹ Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century", pp. 153-154.

⁷²⁰ Robson, p. 186.

⁷²¹ Robson, p. 187.

just a ship and its engine”⁷²² but Isol does not want to believe in him. She prefers to be without him in this plan, but it is too late to change.

Fake Planet

As Linda Badley asserts, the “Cyborg space is electronic, mediated space.”⁷²³ Likewise, the planet, Zia Di Notte, is a cyborg planet on which everything is simulation, but it takes much time for Zephyr to understand that the planet is not real. This cyborg planet, which is the simulation of the Earth, is being constructed by the Stuff technology. Zephyr sees the planet from Isol’s own eyes, “it was certainly not Sol (too orange), not Earth (too much brown, wrong continental shapes), not Luna (shiny and coloured, and besides, two of them) and there were no signs of any constellations that she recognized.” They see “continents with almost familiar edges, set in blue oceans of salty water, their mineral contents close to those of Earth.” However, the more they come closer, they realize that the planet is dead when they see “bones with remains of tough hide on them, mostly buried and almost destroyed by the relentless pawing of the sea.”⁷²⁴ Zephyr asks her Abacand how old it is, and it says that “no more than twenty years, unless it has been recently uncovered,” so they need to search it closer. When they touch down, Isol informs that, “The ozone here is depleted...so the sun is effectively three times the strength of Sol in terms of UVA and B radiation, although it may feel less intense under cloud cover,”⁷²⁵ Zephyr takes her first breath of the ocean breeze. It is the freshest air she has tasted in an alien world. For Zephyr, the planet is full of beauty and a treasure house. Everything is so big in this city which is called Tanelorn, so Zephyr thinks that “people –beings– that had once lived here must have been larger than she was, in fact larger than any of the Unevolved humans.”⁷²⁶ Zephyr begins to record the alien world with her Abacand but Isol says that she has mapped the city, everything in it, so she adds that, “As stated, the civilization is complete, as it was left more than fifteen thousand of this planet’s years ago.”⁷²⁷ However, Zephyr wonders why all the life went and questions, “When you leave home, do you pack every last

⁷²² Robson, p. 187.

⁷²³ Linda Badley, “Scully Hits the Glass Ceiling: Postmodernism, Postfeminism, Posthumanism, and the X-Files”, in *Fantasy Girls: Gender in the New Universe of Science Fiction and Fantasy Television*, (Ed.), by Elyc Rae Helford, Rowman & Littlefield Publishers, Maryland 2000, p. 75.

⁷²⁴ Robson, pp. 173-174.

⁷²⁵ Robson, p. 178.

⁷²⁶ Robson, p. 180.

⁷²⁷ Robson, p. 182.

microbe but not take your books, and pots, your machines? Do you leave your Moons behind? They must have cost a lot to build [...] They must have been used for something”⁷²⁸ and she feels that she has to know who has made such an amazing structures.

While Isol is away, unwillingly, Zephyr steps away from the Hand and accepts the Roach following her. With her Abacand Zephyr starts to search the planet. When she sees the first stars coming out, she wants the Abacand to survey them. Abacand informs that this planet is not where Isol said it was and says that it has no idea about this planet, they might be in another galaxy altogether. Zephyr is shocked that the planet Isol brings them is not the Promised Land. She gets outraged and disappointed and thinks that Isol is untrustworthy. She needs to find something about this place, but should be careful about the Isol-Roach so that it might hear her. She camps in this place away from the Hand. And next day, Zephyr and her Abacand hear the sounds of a stranger machine (Kincaid). The machine talks to her in English: “You should leave here” and adds that “This place isn’t what it seems. It’s dangerous here. The planet speaks.” The strange newcomer machine’s voice comes again, “You must go—and touch nothing. Go back”⁷²⁹ and Isol shoots it’s finger. Kincaid tries to warn Zephyr about the planet, but Isol prevents him shooting his finger. Then, Zephyr gets transfixed and wants Isol to explain the situation. Isol claims that “I told him to stay away from you. Bloody idiot wouldn’t listen.”⁷³⁰ Isol explains that the machine is Kincaid who is senile having it in his head that the planet is talking to him. Isol says that Kincaid “decided to come here and play the Ancient Mariner to try and persuade you to shut the place off as unsafe. It isn’t. I’ve been here longer than he has and I’ve seen more. There’s nothing but what I’ve told you.”⁷³¹ Zephyr recovers from the shock asking why he thinks the planet talks. Isol tries to persuade her by explaining why she has brought a Terraform Class near them:

Zephyr, the important thing is that he’s a mad old man who’s chosen this moment to lose his marbles because back in system he’s got no work to do. He isn’t fit for work on Europa, and I thought that taking him out of Hibernation for a trip out here would do him good. The fact that he’s made

⁷²⁸ Robson, p. 182.

⁷²⁹ Robson, p. 229.

⁷³⁰ Robson, p. 230.

⁷³¹ Robson, p. 230.

for an era that's gone is no fault of his. He was made for better things and I thought at least here it would be like the old days.

However, it does not satisfy Zephyr, and she wants Isol to wake the Hand up in order to turn back to home. Isol tries to stop her;

Zephyr, just think this through. I brought Kincaid along so that he could die where he was happy, and not in artificial sleep in a stowage bay in the Belt where the fucking Unevolved would have him die, like he was a goddamned machine shoved into the garage to rot. He builds Mars. He put water on the Moon. You lot didn't even give him a fucking pension or a prize. Switch down to sleep, wait for the next job—when you know there will be no next job.⁷³²

Zephyr does not insist on to return home knowing that Isol can keep her here as long as she likes. Next, she walks around and takes the picture of the finger to make it as an official record, and looks Kincaid up in the Abacand's *Who's Who* program. She learns that it is the Gaiaform Asevenday Kincaid and its construction completed the nineteenth day of April 2489. Then she searches what the particulars on Asevenday class types are which were explained in Gaiaforms part.

In fact, Isol also feels different through the nonexistent instant of the engine's unknown power. She is afraid of the engine though she has never admitted it. She tends to tell the professor about the engine's seductive mutterings: "And Tupac had said nothing, although she must have been able to see the engine's outgrowth and in growth as it absorbed Isol and became more like her, as it colonized her cells and atoms with its own invisible signature."⁷³³

Meanwhile Kincaid awakens at night lying in the marshes. He is healthy. He summons Bara and tells him what has happened through the radio connection. Bara says that he had better stop working and have a rest because Zephyr should not see them there. Bara also says that she has an Arm on the west coast of the city to make a base there. Kincaid offers her to be a friend with Zephyr to find out what has happened on the Planet. At that time, Zephyr with her Abacand finds a skeleton:

The skeleton was mostly buried in the sand, high and dry above recent tidelines. As she got within a few metres, Zephyr saw how old it was—the

⁷³² Robson, p. 231.

⁷³³ Robson, p. 185.

bone on the seaward side was worn and had lost its outer layers, exposing the bubblelike structures of its core. The ribs, one side of the body, arched up and over her in a twenty-metre-high cage, stiff and formal, vulnerable and fragile. She touched one hand-wide spar and felt its incredible lightness, like a kind of paper. Beneath the tip of her finger its ash-dry surface crumbled into dust and grit, which trickled down into the cuff of her sleeve before she had time to draw away in surprise. Beneath the damage of her fingerprint she saw into the tiny caves and whirls of the bone's deep structure, where no other creature had ever seen. The mineralized remains were thin, larger voids crisis-crossed with supports as fine as spider silk, which themselves fanned and vanished almost immediately in the vigour of the onshore breeze and were swept away. It looked avian, sort of.⁷³⁴

Then, Zephyr breaks a piece of bone off and crumbles it in her gloves. She touches a fresh piece of lattice stuck to the bone and it does not powder, so when she reaches its torn edge, it slices open her thumb and the bright blood runs down into the bone's empty channel staining it red. She puts off her gloves and seals up the cut with the bandages. She claims that, "This is an *alien*" and she adds:

I touched an alien bone. This is *alien*. The whole planet—is dead as a door knocker. Not a thing here but buildings. And this is a body, a real alien. Alien even to here. Meaning: there is even more life in the galaxy than there was here. That's two aliens in one. Maybe they met. Someone died. They parted. A story. A story not involving us. People from yet other worlds who came here too. First. Before us. And this place was the same then: it was empty like this. And here he is dead.⁷³⁵

They find out that an energy weapon has disrupted the edges of this lattice, so the skeleton might not have come alone, perhaps there was a fight. While she is sitting there with the old skeleton, she receives a message from Bara informing that they (Bara and Kincaid) have made some discoveries and want to talk her via her Arm not far from her site. Abacand shows the pictures of other dead or broken creatures and machines sent by Bara. Zephyr finds Bara's Arm and talks to her. Zephyr learns that they have been here for fourteen solar days. Bara says that Isol might be hearing them via her Roach but continues her speech, "in fact all out efforts have been wasted: this place has chosen not

⁷³⁴ Robson, pp. 269-270.

⁷³⁵ Robson, p. 272.

to change.”⁷³⁶ Bara with the help of Zephyr’s Abacand shows what they have found by narrating his story:

Nobility Bara’s secondary free limb, Arm #36, tracked west along the heavy pavement of the primary city that Isol had named Tanelorn. The arm was in constant radio contact with Bara, but at this moment was at a great distance from his body and so had taken the tidying step of incorporating a temporary mind into its neural cores—acopy—that would later be reintegrated with his primary memory... The vulnerability of becoming separated from the main body was made up for the knowledge that a fatal accident to any portion of him would not be the end of his life... The Arm was a unit, which folded up neatly into a tough metal sphere for long-distance travelling, so that it could roll as a ball over any kind of terrain... He was looking for evidence of a conflict here in the ruins of Tanelorn.⁷³⁷

Bara has not heard any whisper as Kincaid yet. She has found the first dead thing. “It was little more than a skeleton: struts and ribs that had once supported a sort of flesh were bare and worn. By the imprints of tendon and relay he could recognize that this thing was more like him than not. It was *made* and it was machine and animal fused together.”⁷³⁸ While Bara is surveying the body, he has heard the voice of two pieces of metal coming from the shore. He needs to silence that noise because it has sounded of many things like “*Ba. Ra.*”⁷³⁹ The next day, Isol calls him and informs him of the Zephyr’s plans to stay and explore the city. She warns him to keep the professor away from the tunnel way into the labyrinth beneath one of the houses located on the hill above the sea that Zephyr has set up her camp on. Isol also warns him not to tell the voices to the professor. Bara worries about Kincaid that he is going mad because of these voices. Isol claims that the sounds might be because of some kind of neural illusion or hallucination. Bara says to Isol that the machines or creatures he has found by the shore are non-native and aliens and wonders why the others left these creatures at back, but Isol says, “Don’t worry about that now [...] They’re all long dead, so what difference do they make? The important thing is that this world has a technology that we can use free ourselves from the slavery of Form and Function.”⁷⁴⁰ Since they came to this plane, Kincaid has been working; planting the marches and rice. Although he has

⁷³⁶ Robson, p. 274.

⁷³⁷ Robson, p. 275.

⁷³⁸ Robson, p. 276.

⁷³⁹ Robson, p. 276.

⁷⁴⁰ Robson, p. 278.

thought he is planting a new world every night; the planet has consumed all his work the following day. The planet has eaten their work. Bara tries to wake Kincaid from his future dreams about this planet, “Kincaid, have you paused to consider what we’ll do if she’s [Isol] wrong?” but Kincaid hearing the sounds of the planet went mad day by day.

Zephyr, having listened the past times of Bara and Kincaid, thinks that they are mad. She begins to question how the planet speaks and eats, and a rock can become an engine and the engine can talk. When Bara asks Zephyr if she hears the planet, Zephyr says, “No” but then finds an account all to these questions: “What if this entire planet were made of the same substance as Isol’s engine? What if the whole system was too? Suppose it wasn’t ordinary matter, but only looked like it at certain levels? Then a planet might talk, might think, might do as it wanted. But what was the it?”⁷⁴¹ Zephyr at first thought that Isol was lying to her and the planet is not the Stuff. The planet’s Moon is the Stuff machine but the planet itself is made of the Stuff, as well. No matter how hard Kincaid and Bara tried, they could not plant anything on the planet, so the planet seems to be an Earth like world, but a machine, as well.

3.1.7. From Natural History to the Stuff/from Cyborg towards Posthuman

3.1.7.1. Connecting with the Stuff through Uluru Net

Plant asserts that “one individual can become a population explosion on the Net: many sexes, many species [...] there is no limit to the games which can be played in cyberspace. Access to a terminal is also access to resources which were once restricted [...] Using the Net quickly became a matter of surfing.”⁷⁴² Corvax tries to connect with the Stuff on the Net, Uluru where he can transform himself into that Stuff, so they can understand the aim of it. In the light of Plant, the Uluru Net is a free “zone,” “self-organizing system” and becomes a “cyberspace, the virtuality with which the non-quite ones have always felt themselves to be in touch.”⁷⁴³

After the Referendum Debate, Corvax without his wings stays in Arrecife Station that occupies a similar orbit around Sol to that of Earth and previously it was used as a storage dump for long-life cargo and trading excesses. In recent days, it is only

⁷⁴¹ Robson, p. 281.

⁷⁴² Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 46.

⁷⁴³ Plant, “On the matrix: cyberfeminist simulations”, p. 328.

habitable star and has “swallowed enough of the most high-tech scientific equipment to fund a serious takeover of any of the system’s corporate R &DS.”⁷⁴⁴ This is the secret development and its power is “given over solely to TwoPi, the most numerous and advanced of the Hives, and to Arachno Buckminster Mouze, a physicist.”⁷⁴⁵ Mouze returns just an hour later from the Earth Debate, and TwoPi is deep in trance. The station AI informs that Ironhorse Morningstar Dao, a military transport, fast, light and armed, approaches and Strategos Anthony requests a meeting. Corvax is confident in this station away from Dog Legba. Mouze escapes from the Debate to report the result to Corvax that the Vote is undercount and polling is due to close in an hour. Corvax wants a kind of the welcome preparation for Anthony, but he stops it as he feels naked without his wings. When Anthony asks his thoughts about the Stuff, Corvax says, “This Stuff is more than a technology. It’s like a technology that’s eaten people and they’re still alive inside it, but they’re all one, or none, or else...it reacts to the observer.”⁷⁴⁶ Anthony says, “We must assume, then, that it knows everything that you know, or that anybody knows who has had contact with it– as much as that may make sense or not.”⁷⁴⁷ TwoPi interrupts them:

We cannot do as the Strategos asks us to do, if we remain as we are now. I do not think that Stuff may be understood with minds such as ours, which will not step outside the bounds of all they have been told– and which cannot. We must have minds that are completely free for that, and even then the very alien nature of this substance may elude all explanation, although, as we have already witnessed, it will not elude observation. If we attempt to create anything out of Stuff, we will make only what we ourselves have already imagined. We’ll see nothing of what may lie outside our imagination. We wouldn’t be witnessing the alien, we’d be determining it. There’s the problem.⁷⁴⁸

TwoPi then suggests assimilating the sample and asking it to reformat them in the manner of thing that resembles the Stuff if the goal is to understand the Stuff. Corvax approves her idea saying, “We’re going to get the answers we expect” and he says he is volunteer to undertake this experiment, “I was made for this.”⁷⁴⁹ Before Corvax starts

⁷⁴⁴ Robson, p. 247.

⁷⁴⁵ Robson, p. 247.

⁷⁴⁶ Robson, p. 250.

⁷⁴⁷ Robson, p. 253.

⁷⁴⁸ Robson, pp. 254-255.

⁷⁴⁹ Robson, p. 257.

transformation, he realizes that his dream in Uluru is an escape to a better life in which he can be another person but now thanks to Uluru, connecting Uluru with the Stuff together, he can talk to the Stuff and want the same thing but this time from the alien thing; just the power. With TwoPi's assistance, he arranges his MekTek adaptation. The laboratory's AI runs the Uluru engine, and they give him a lump of Stuff to hold, and leave him alone in Uluru system. Corvax is now in Uluru holding the Stuff. The AI waits until TwoPi and Mouze leave the station, and then it requests access.

As Plant says, cyberspace "promised a zone of absolute autonomy in which one could be anything, even God: a space without bodies and material constraints, a digital land fit for heroes and a new generation of pioneers."⁷⁵⁰ Corvax enters this promised zone with the Stuff stone in order to meet his cyber avatar Caspar with the Stuff stone so that he can learn what will happen to his avatar with the Stone. In his cyberspace, Corvax plays the role of God or a hero disguising in every shape and species. In this promised zone of ultimate freedom, Corvax stands in front of Caspar's house with the Stuff stone in his hand. Caspar appears to his right. Corvax, showing the stone says, "I brought you this." Caspar, pointing his gun at Corvax, says, "A Rock?...How about I trade you that for the bullet in this?" Next, Corvax says, "You've tried to kill me before [...] Don't you wonder why you've never succeeded?" Caspar wants the stone and Corvax, then, throws it gently near Caspar's foot. However, the crane suddenly bulges from the sand and swallows the stone and Caspar says, "You hoped I'd touch it and the thing would come for me!" Corvax has not planned this, and while he is thinking of what to do, Caspar shoots him saying, "Why did you do that? You knew I'd shoot. She'll be mine now, and you'll be gone for good." Then, Corvax tries to say that he will build the plane but Caspar snorts, "If you'd any strength, it'd be long gone from here. I waited all this time for you to fix the fucking thing, hoping that when the day came I'd be flying out of this hole anywhere I wanted. But you didn't know how to fix it, did you? [...] Dani. She knows you're full of lies. So we'll stay and rot here without you now, you miserable little fuck."⁷⁵¹ Corvax's breath finished and while he is dying:

He thought it might be better to die in this test than have to expose possession of a self like that to any kind of inspection, alien or human. He

⁷⁵⁰ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 180.

⁷⁵¹ Robson, pp. 283-284.

was a failure. He'd created this hell, and he'd made it without assistance. Now it would consume him, and there was no justice better. But with last glance he looked up at the handsome, savage figure standing over him—so strong in its barbaric, Monkey way and so impotent, stuck in the cage of the marsh—and a sort of humour floated to the surface of his mind. Caspar had been a kind of idol, even if a hated one, despised for being effectively human. And Corvax thought he was funny now. He pointed a finger-and-thumb gun at Caspar and mouthed *Bang!* He died laughing and his body lay there on the sand, feet still rooted in the ground and, as night fell and Caspar and Dani lit the rooms of the empty house, the cranes came one by one and picked his bones.⁷⁵²

The lead crane is hardly different in colour from the land with its grey-headed body. As soon as the crane turns its beak of razor-sharp metal and regurgitates the stone, Corvax picks up the stone while he is into the aeroplane shed. Tom now turns into the aeroplane. When the engine of the plane starts, people in the houses, Dani and Caspar, get on the plane. When all of them are inside, Tom, after picking up the egg stone in his sharp beak, swallowing it whole and closing his mouth, flies into the air. The Uluru system stops its own accord as the AI can no longer distinguish between Corvax and the stone. "The AI then detected itself from the connections and firewalled itself in as best it could, leaving the physical body of the Roc on the isolation-chamber floor, no longer connected to anything by transmission or contact that it could detect. Feathers stirred slowly."⁷⁵³ Corvax was in the skies of a vast landscape at one second in Uluru but now he is sitting in the small cubic room of a laboratory without wings:

His MekTek ran hot within his skin. He stood up and looked at himself in the reflective wall of hi cube, and saw no change. But there was an acceptance of his shape and bearing that hadn't been there before, and there was the vastness of what lay behind his simple form now that he and the Stuff were one-suspended below him like a weightless balloon of possibilities, a brimming capsule of infinite time.⁷⁵⁴

Plant asserts that, cyberspace is "a zone in which you can be what you want, do what you like, feel what you will" and it is a "time and a place for everything."⁷⁵⁵ Corvax tries to be the Stuff in Uluru and succeeds with it. Then, the AI opens the door

⁷⁵² Robson, p. 285.

⁷⁵³ Robson, p. 286.

⁷⁵⁴ Robson, p. 286.

⁷⁵⁵ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 181.

for him, and he gets out into the lab proper. TwoPi asks him whether it is as he imagined and Corvax explains his feelings about being a Stuff:

No [...] There are two things at once. I am Tom Corvax. And there is no 'I'—there is a greater mind, a superposition of all minds that have ever entered this state of being Stuff. These two states exist simultaneously because the mind that is Tom is here, made of this body, but the matter of this body is a part of a greater ocean of matter interpenetrated by the minds of the others who live within imaginary time, volumeless and occupying the whole universe.⁷⁵⁶

Next, TwoPi wonders what the intention of these minds is, and Corvax says: “They/it is...Looking...Discovering. Seeing what is there. The only way to understand is to become—you were right, TwoPi. And that is what Stuff is. It’s them, becoming. And when we interact with Stuff, then we are begun becoming.”⁷⁵⁷ Then, Mouze asks whether it can be removed and Corvax replies:

No [...] There is no possibility of return once living material accepts this transition. It—they—are in the process of evolving, and to assimilate Stuff—that is, to assimilate them—is to become them. They will not destroy parts of themselves. But until the fusion is complete, then there is a chance for me—or whoever—to destroy myself, if I don’t want to carry on and be consumed. [...] Hard to define...But once it comes, there will not be any distinction left between me and it. I will be...All of my mind and memories and experiences will still exist, but the single linear consciousness that is my present mind will not exist in this coherency. It will be distributed, and the multiple will all be aware of it, be part of it, and I will be all of them, and none. Individuation and expression in Four-D will then be governed by interaction with individual minds—yours, perhaps.⁷⁵⁸

Afterwards, TwoPi asks why it was left at the axial crossroad where Isol found it and Corvax answers, “It was there to be found. Stuff *watches*. It chooses points where life of a certain developmental stage is sure to come across it, seeding the universe with points of access.” Next, TwoPi wonders why this had not been done with intermediaries or emissaries and Corvax answers, “Stuff has found that this method reveals the true nature of the finder far more ... watchably. If it manifested and spoke from the outset, then the contacted race would behave untypically, and it’s intends and thoughts then

⁷⁵⁶ Robson, pp. 286-7.

⁷⁵⁷ Robson, p. 287.

⁷⁵⁸ Robson, p. 287.

couldn't be known." Then, TwoPi asks, "Don't you feel that now, Corvax? You killed with Stuff, before you understood it. Isol has created the circumstances for a civil war because she has apparently mistaken it," but Corvax replies that "Stuff creates nothing that isn't already in the heart and mind of the observer [...] And, personally speaking, I'd have been dead without it, so my reservations are limited. As for Isol, she isn't mistaken: she suspected all along what it could do. She wanted to bring the Forged out to Zia in order to equip them all with the means to shape their own destiny. She really *meant* that. She thought of them as becoming infinitely malleable."⁷⁵⁹

TwoPi and Mouze begin to think what happens if the Stuff is in bad hands and if it enables infinite and unlimited power for those with uncontrolled desires. What if it causes others die or suffer. Corvax replies, "It has happened. I told you it was a morality-free kind of substance. To Stuff, good and evil has no distinction. There is regret for suffering and death, but it is not the agent of these things. It lives and it considers life a sufficient [...] condition."⁷⁶⁰ TwoPi thinks that it is like giving guns to children, but Corvax asserts:

Stuff only assimilates to those who *want* it. [...] If Isol was Translated and wished to destroy Earth—she would have had to retain her current patterning in completeness, which is impossible. In any case, she's ambivalent. She might be made again, individuated, and then try to use her power for destructive purposes, but having been within Stuff, such a wish is almost definitely impossible. [...] Free agents with infinite capability are a strong problem we are now dealing with. We do not create free agents of that nature and Translate them to Four-D, because of their potential for critical damage. [...] Although there *are* experiments of that nature made, very controlled ones, now and again. Destruction of this particular universe is possible, if the Eleven-D is abused significantly. We are investigating the possibility of shifting to other Universes, should such an event occur.⁷⁶¹

Suddenly, TwoPi and Mouze ask if he can hear Tatresi, Corvax says, "I can't hear Tatresi very well. But he understands the potential, like Isol did. I think...I think he intends to sell Stuff across the system and precipitate a far faster revolution. Machen will have to try and stop him." Corvax does not want to warn Tatresi thinking that he is

⁷⁵⁹ Robson, pp. 290-291.

⁷⁶⁰ Robson, p. 291.

⁷⁶¹ Robson, pp. 291-292.

not on anybody's side. Through freewill, he changes his physical appearance by copying a handsome form from an Unevolved clothing catalogue and leaves.

As Plant claims cyberspace gives ultimate free will to its user who can be any figure, so Corvax has tried to be the Stuff but, of course, this experience has remained in virtual world. After this virtual experience, Corvax decides to prevent the Stuff hunters. Corvax's new appearance (for the sake of lab science, he has his wings cut) resembles his Uluru figure Caspar. Now he feels the cold with his hands and so sometimes misses his wings. He meets with the Strategos Anthony and explains that "We have the power to take you all, so why don't we? [...] Now that would be a terrible imposition...Making people in your own image. Coming in and taking without asking."⁷⁶² Anthony thinks that, in any case, this will cause a civil war because Tatresi aims to sell the Stuff technology to Forged and Degraded applicants underhandedly. Then, Corvax finds Tatresi and wants him to return the engine and material to them so that they will not prosecute him. He threatens Tatresi that he will be shot if he does not leave the engine; "Isol tried to warn you before. You're undergoing translation into the Eleven-D...There is no escape now– not for you. You can give up the engine, and your plan to disseminate us to the unwitting, or you can die here." Tatresi decides that "he didn't buy it, and created a new engine and a new weapon in the split moment that it took for Stuff to move, ready to defend himself and break free," and he feels "a huge surge of the most enormous, limitless power and, since he had no sensation of coming to an end, the end itself being so quick, that experience of exultation lasted for him, or at least far longer than the split second it took for his body to fly into pieces."⁷⁶³ The novel is open ended for Tatresi; as readers we cannot be sure whether he dies or translates himself into the posthuman, Stuff.

3.1.7.2. Towards Posthuman Home

The Hive sisters arrive at the artificial Moon above the new world. They are working long hours drifting above the silent world, Zia Di Notte where Isol leaves her Hand, Zephyr and Kincaid. A hive's function is to examine, build and maintain complex machines, so they are sent to the Stuff machine world to make modest

⁷⁶² Robson, p. 312.

⁷⁶³ Robson, p. 315.

witnessing because this moon is an alien device, and it is “even more interesting than anything the hive had come across before.” It “drew them with its peculiarity and its defiance of their intelligence.”⁷⁶⁴ One of the Hive, Trini, detects a change in her mind after they spend few days there. She is aware of the fact that she and her sisters are all experiencing rising anxiety because of the sound that they hear while walking in the darkness. She hears a voice counting silently, “Eka, Dwi, Trini, Ch’twari, Pancha” which are the names of the Hive. Then suddenly, they realize that they have arrived at a false Moon where Eka speaks to Trini and wants her to return. Trini returns and finds her sister workers “clustered beneath the gateway on the Moon’s surface, queuing to enter the long tube of the Comb.” Trini was the third to enter and leave the Moon. The Comb “was quiet except for its own internal noises of sluice and valve, and the hum of deep conversation where all the workers who were already in their cells talked and thought.”⁷⁶⁵ Trini “snuggled into the tiny space, [cell in the Comb] folding her legs and arms neatly up against her body, fitting her antennae into the link spaces, and settling her head and torso against the soft bend of the wall where their exact mould awaited.”⁷⁶⁶ Afterwards, with the help of Isol, they find the right machine Moon and land the Comb on its darkened side. Isol, leaving the Hand and the Roach behind, flies around the planet’s Moon which is the real Stuff world in which she has attached the shapeless mass of the Ticktock Comb where the Hive sisters work. She makes the Hive Cherisse discover the Moon and learns that:

We detect no functional power source. In fact, no existing source at all. The Moon is purely a machine without organic components, but of what kind we cannot say. We have identified regions of access that seem congruent with the method of construction radiating from a central point outwards. There is no sign of occupation or any kind of activity. There is an outer wall that functions to shield the inside from solar radiation and a variety of local frequencies. Its structure is under analysis. Portions of the whole contain definitely engineered macro-computational elements, yet there is an idea that the whole may be implied at a quantum level, regardless of atomic composition. The Moon’s core is an empty chamber: a sphere of radius π light-standardized kilometres. Its purpose is unknown.⁷⁶⁷

⁷⁶⁴ Robson, p. 170.

⁷⁶⁵ Robson, pp. 171-172.

⁷⁶⁶ Robson, p. 172.

⁷⁶⁷ Robson, p. 185.

Isol regards that second Moon as a smaller satellite and unlike the first Moon (satellite of the Earth), “this one had axial rotation that presented a constantly changing face to the planet beneath. The surface was smooth, and resistant to her attempt to see within.” Isol flies to the home to rendezvous with Tatresi leaving the Hive there to search the Moon. At that time, she “thought—although she might have imagined it—that there was a brief blurt of communication between the engine and the smaller Moon.”⁷⁶⁸ That is, she begins to feel the correspondence between those two Stuff entities.

The Stuff now is a laboratory product carrying different genes, which follows Haraway’s Modest Witness notion; the FemaleMan© modest witnesses meet OncoMouse™ and Haraway names this OncoMouse™ creature as an unnatural product of nature.⁷⁶⁹ Likewise, as a posthuman creature the Stuff is unnatural, fulfills free will power and breaks down the boundary between physical and non-physical being everywhere at the same time. While working on this second Moon, beneath the Hive the hives hear the sound of the trance from the empty Moon, but the Queen Hive demands work, so they ignore the sound. Trini thinks that the sound is only a regular system check. Many agree with her, but some others claim, “*They [the Stuff people] know we’re here. They’re going to return. The power systems have been disrupted by our attempts to rig the lights. We’ve misunderstood the layouts of the circuit. We activated more than we intended.*”⁷⁷⁰

The Queen orders them to exchange what they have learned so far, so they stop talking about the sound and turn to their core work. Then, “they all saw a tiny flicker of distant light, felt the breath of a warm summer and heard an imperative summon them towards the faint hope of reunion.” The Queen herself begins to rush towards the welcoming light but she warns them, “We shall divide ourselves into larger work units and take a single machine at a time. We shall have smaller tasks, and none of us shall look that closely. We shall not engage with it fully until this incident has been understood.”⁷⁷¹ Trini loses her sense of the Hive hearing a scatter of voices and wants to join and master this knowledge herself. She hears the Queen calling for the Isol’s help

⁷⁶⁸ Robson, p. 186.

⁷⁶⁹ Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_OncoMouse™ Feminism and Technoscience*, p. 255.

⁷⁷⁰ Robson, p. 236.

⁷⁷¹ Robson, p. 237.

and a shriek on the ends of her nerves. Trini tries to “shut herself off from it and tasted and smelled the dark opiate of Dormancy serum suddenly infusing her bath” and she “fought the drugs, because she couldn’t stand the idea of that empty darkness, but it came over her anyway.”⁷⁷² She hears the Queen who orders them to wait here until the help comes.

When Trini wakes up, she sees that all the others are dead. She still feels the Dormancy trope which is “strong, weighing her down, but now it was tainted with the acid and sulphurous flavor of Kamikazine, the neurochemical secreted by the Queen to kill them all rather than risk whatever terror or security failure she had foreseen.”⁷⁷³ She feels the process in her own body as well; she is half-blind, she can move weakly and her nervous system judders. She trashes feebly in the poisoned gel; she touches the sensor, and immediately the cell begins to drain, so her body reacts with the fresh air of the Moon. She vomits the poison and recovers. She looks at the Queens’s Comb, which is dark, and silent, only emergency lights glow. Trini walks in the Comb and is now the new Queen of the Comb. “The old Queen had tried to assimilate the entire Hive in trance, but she hadn’t been able to synthesize them all, because the ideas they had seen as individuals were incapable of being brought into true fusion, so she killed them rather than risk the chaos.”⁷⁷⁴ In other words, she has felt the fear of the conclusion and killed them all.

In fact, this is the war of FemaleMan© and the OncoMouse™, but the Stuff wins and not to be conquered by the Stuff, The Queen commits suicide by killing all the Hive sisters and herself, as well. However, the only survivor, Trini, breaks the rule and presents herself to the alien power. This means that it is her inevitable end because the Stuff conquers her slowly. Again as in history, FemaleMan© cannot achieve to take place equally in scientific witnessing for the sake of more democratic and the truest science, so they need to sacrifice themselves not to be ruled under the authority of the dominant power. The struggle and fight of women (the Queen, the Hive sisters, Zephyr and Isol) result with sacrificing their lives.

⁷⁷² Robson, p. 239.

⁷⁷³ Robson, p. 239.

⁷⁷⁴ Robson, p. 241.

Trini, now completely in the hands of the Stuff, and the Moon are ready for each other, and she sees no reason not to proceed. Trini calls Isol, “I am the only survivor. Do not approach the Moon or the Comb. The defense system is still engaged” and Isol does not like this orderly advice but Trini says, “This is too important not to. You must feel some of this yourself, although you deny it. There is much danger in contact with this technology. I will work alone here to understand it, and then we’ll decide what to tell Earth.”⁷⁷⁵ Isol asks whether Trini has control of the Moon and Trini answers, “I don’t have control. I have . . . a two-way understanding. I don’t know how far I can push it. I think this Moon is part of a defensive system. Don’t come any nearer until I’m sure. I don’t know why it listens to me. I think it must at least be something like [...] Like us. Made, but aware.” Then, Isol warns her, “We are *people* [...]...made or born. Not sentient machines. Not AI like some ridiculous Abacand.”⁷⁷⁶ Anyway, Isol says that Zephyr has not found evidence to think that this place is someone else’s property. Isol also worries about that they are going to come and take them back forcibly. Trini then worries about both the Forged who will come to enforce the claim and the government who will come to drag them back. Or what if other races get interested in this place or the original creators return. Suddenly, she thinks that the place might change them and make them more like its own inhabitants and if she is not like the inhabitants, she would die, but now she is an inhabitant, this is why she has survived. Then, with her six legs, four arms and her antennae, she moves towards the enormous chambers in the Moon’s core.

While Trini stands in the central chamber and looks at the space it contained, the Stuff technology Moon has tried to talk to Trini by saying, “Hello, sister” for about half an hour, by reverberating parts of her body, “by shivering light or electromagnetic waves or pulsing air.” Trini feels the seven hidden zones and knows that Zians have not gone anywhere; instead, they are here around the corners of the hidden seven. She also knows what they know and they know what she knows; “there was no difference between them.”⁷⁷⁷ Abruptly, she hears Isol’s call for help because her body docks clumsily against the Comb’s frozen side and she feels that aliens are trying to kill her. Trini says that what she is hearing is nothing to be afraid of and rejects to open the door

⁷⁷⁵ Robson, p. 242.

⁷⁷⁶ Robson, p. 243.

⁷⁷⁷ Robson, pp. 294-295.

claiming that the bulk of her has already been translated into the Seven.” Isol tries to shoot at the Moon, but Trini, in order to prevent, says, “If you attack us—you end up as roadkill! You’ll be dead before you can do it!” Isol says that she does not want them; “I don’t want you! Can’t you understand that? I don’t want you or anything to do with you! If I join you, I’m as good as dead anyway,” but Trini says, “Gaiasol already knows about your plan, and about us. Corvax, the MekTek Roc, has translated into the Eleven. They’re going to arrest Tatresi. Isol, if you try to use us to accelerate your own development, you will not be able to exert an individual control on that evolution. That’s the nature of the Eleven, of Stuff.”⁷⁷⁸ Isol withdraws her gun and turns back to the Solar System.

Then, Isol cuts the line that Tatresi is using for his broadcast shooting the satellite relay station in Martian orbit where Tatresi locates and delivers a speech about the future of the Stuff. Isol interrupts his speech, “The technology is poison [...] You have to stop,” but Tatresi says that they have agreed and “Everything is in motion already. Thousands have signed up in the last twenty-four hours. Distribution centres.” However, Isol accuses him of selling the Stuff for “a place at the top of the tree” and warns him that he is dying because of the Stuff. Tatresi accepts that he is worried by the voices but after he has spoken with experts in MekTek and neuroscience, he gets the idea that the voices are because of the hallucinations. Next, Isol downloads all Trini’s work to him. At this time, “the pressure of the alien was a crushing weight on her, every moment. If she let her control slip for an instant, she knew she’d be lost.” Tatresi claims that Trini could have made it up as she wants the whole of the new system for herself and her kind, so she might get Isol out of the way but Isol insists on to persuade him: “Nobody feels more strongly about the Forged Independence than I do, but this isn’t going to free anyone! This is just another kind of slavery and it lasts forever. You’re in the honeymoon now, but you can *hear* them, I know you can. Well, that’s going to get louder and louder over the next few days, until you can either kill yourself or let it in, but there’s no other choice.” In turn, Tatresi accuses her of trying to hold the power in her hand to rule over as a perfect dictator. In the end, while she is shrieking that this is insane, “the alien was a scream on the end of every nerve, in her senses, in her guts, in her heart.” Then, she muzzled the gun up Tatresi, but “a streak of light caught the side

⁷⁷⁸ Robson, pp. 296-297.

of her eye and in that moment of hesitation another person appeared, someone neither of them recognized at all. Its form was difficult to make out, on any magnification.”⁷⁷⁹ When police surrounds their position, Isol translates to Zian space instantly and Tatresi jumps towards the sun but the Shuriken Death-Angel follows him at maximum speed picking up his signal from the Mercurian outpost. The more Isol tries to warn people about the Stuff technology that will be the end of humanity not the ultimate freedom as the Stuff promises, the more she loses her control over them and is accused of telling lie. That is, the Stuff promises the end for humanity with free will power like the Satan who tries to deceive people promising unlimited freedom.

The mutual hatred at the beginning of the novel between two women turns out to be a mutual solidarity as in most feminist narratives. Isol and Zephyr fight for the same goal in solidarity. No matter how different form they have or different class and race they belong, they unite for the same goal; to keep humanity away from the alien posthuman form. Isol via her Roach calls Zephyr for help; “I can’t resist them any longer [...] I’m so tired. I want to sleep, but if do I won’t wake up again. *They’ll* be here instead of me. I beg you. Anything you can do, please” and Zephyr advises her to contact the Gaiasol but Isol says that the Gaiasol is all over with them and they have come for Tatresi as he is trying to sell the Stuff on to the others. Isol says that she has tried to stop him, but he does not listen to her. If Isol makes one more transit, she knows that she is not able to hold the Stuff away from her. Therefore, she says that she cannot transit Zephyr to home; “I know you want to go home. I know that. But do you see? If I take you there, it’s too late for me then. Here I have...some time. And you can help me. Tell them to let me go.”⁷⁸⁰ In shock, Zephyr claims that she cannot hear any voice and Isol asserts that they (the stuff) cannot get her if she does not want them. However, Isol makes commend that maybe they can swap them—Zephyr for Isol because Zephyr’s head is much fuller than her with history and human life. In order to persuade Zephyr, Isol says;

I can see them from here. They want to know, to live, to experience all lives. They want mine, but any life would do. Any at all, they don’t care whose. They don’t care what it’s like. If I offered them you they might let me go. Do you think you would like that? I thought you would. You study

⁷⁷⁹ Robson, pp. 298-300.

⁷⁸⁰ Robson, p. 304.

people throughout the ages. You wanted a thousand lives. Now you can have a billion lives, in there with them. You can be anything in a hundred worlds—more, even. You could be me. You could be Kincaid. Know it all, see it all, feel it all better than any Uluru. You’ve not even got MekTek, Professor—but imagine a universe of history and life, living it all, from every angle. And I can offer all of this, forever. Every answer, too. They like searching for knowledge. They like wanting to know. They like being together. They want to suck everything up together, to experience the fullness of the real mystery. I can’t live with that, do you understand? I can’t be that, even though they want me to be. They want me to change into them, and them into me. But I want to be alone. It doesn’t make sense, yet they won’t sense. But they might take an exchange, do you think?⁷⁸¹

Zephyr cannot decide and says that she needs time, but Isol does not have much time otherwise; she needs to make suicide crashing into the planet’s atmosphere hard and fast enough so that they cannot get her. Kincaid says so too because Isol claims that they did not come here for this. Zephyr then asks whether the others (previous owners of the planet) have done like that and whether the dead aliens are all suicide. Isol says that she supposes so, “Maybe they came here for their answers, or to offer someone else for their life or their world. Professor, I don’t care about any of that now. I want to go from here, *alone*. I want to live and die as myself.” Zephyr then hears the Roach’s body outside as it is affected by *it*, so it burns. Kincaid and Bara are affected by it although they haven’t engaged it directly because the soil and water are practical gods to an Asevenday. They talk to them all the time. She asks her Abacand why she and it are not affected by the Stuff and Abacand says; “From what Trini says, it’s because we haven’t engaged with it directly. We haven’t had a conscious communication with it.”⁷⁸² Then, Zephyr asks whether she will be affected as she touched the skeleton if she stays in that planet and she will hear them. Abacand affirms her, but asserts that it will not be affected as it is just an AI machine, so cannot dream, have fantasies and have any desire. Abacand says that it is uninteresting to them as it cannot contribute to the collective consciousness, so it does not need a meaning to its existence. Zephyr thinks that her place will be filled by another professor and her family and friends cannot know what happened to her. Nevertheless, she decides to stay on this planet. Abacand reminds her friends saying that they will miss her if she stays there, but she does not want to take a

⁷⁸¹ Robson, pp. 304-305.

⁷⁸² Robson, pp. 305-306.

risk with the Stuff by making last transit to home, so she informs her Abacand to contact with Isol.

Suddenly, Abacand hears a sound coming from the Tor and they see “a small field of poppies waved their fine green stems, their flower heads plump, just beginning to burst in the sun’s hot persuasion.” They both remember why Kincaid dies there because nothing can grow, and they get a shock. Trini finds the correct frequency for transmission to the Abacand and begins to speak. Abacand says, “Trini confirms that I am correct in deducing this from her data. She is most excited to think that you [Zephyr] wish to join her, as nobody else has had any reaction other than to reject that notion utterly.”⁷⁸³ Zephyr asks her Abacand if Bara has joined them, and it affirms that he has been translated successfully. Zephyr records a message and wants her Abacand to send it to her friend Kalu and everyone who needs to know. She holds the Abacand and says:

Since my arrival on this unknown world, in the city of Tanelorn, although I had expected to find the incomprehensible, and succeed, I have also found a sense of belonging and purpose and interest that had been fading from my life on Earth. With these things in mind, I choose to go forward and continue in a different form [posthuman], whatever that may be. Dear friends, don’t think of me as dead. I understand that will be far from the truth— as far as I could possibly be.⁷⁸⁴

Abacand informs that as Earth is an unknown distance away, the message may take thousands of years. In any case, Zephyr commands her to send it anyway and turns it off. At that time, she sees a white truck driving towards her. In the cab, a tall woman is sitting, “her hairless skin the polished ebony of Ti-bone, her elbow jutting out of the open window, through which a cheap and tinny radio blasted out the same old song.”⁷⁸⁵ Zephyr stands up from her resting place and sees that the woman has a pink carnation stuck between her black teeth and she removes that flower and waves it at the passenger seat by inviting Zephyr. Zephyr remembers her first meeting with Isol and the flowers she bought for her. This time, Isol brings flowers to her playing her old song in the truck. Zephyr seeing Isol translated into a new form apologizes for not being able to help her. Zephyr says goodbye to her Abacand as her life is inside it waiting for someone to find it and try to figure out again. Zephyr gets on the truck and leaves with

⁷⁸³ Robson, pp. 319-320.

⁷⁸⁴ Robson, p. 321.

⁷⁸⁵ Robson, p. 321.

Isol. Zephyr has come to this unknown world inside a woman, Isol with whom she leaves inside the truck now. In this Homecoming chapter, two women end their voyage with a new voyage to home, a new (posthuman) home for the sake of saving the heterogeneous humanoid form. The novel starts with the voyage of two women, one is Unevolved and the other is a cyborg. However, Robson leaves the end of the novel open: to save the humanity, Zephyr agrees with Isol to stay on the alien posthuman planet Zia Di Notte, otherwise she will transport with Isol to the Earth, but on their way home, the Stuff will conquer Isol's soul, so they will have brought the Stuff to other people on the Earth. Thus, Isol persuades Zephyr to sacrifice herself for the sake of humanity; otherwise the whole humanity will transform themselves into a posthuman. Hence, they risk themselves to be captured by the Stuff and transformed into a posthuman. At the end of the novel, two women (Zephyr and Isol) are transformed themselves into a posthuman form and they save the humanity. In any case, as it is open ended, we cannot be sure whether the rest of the people, either Forged or not, will discover this situation by searching what happened to Zephyr and Isol. Translating into the Stuff does not give us enough information about death or rebirth/reproduced as a posthuman, so the novel is open ended and we cannot be sure that those translated people are transformed into a new being without human genes, that is posthuman, or this translation means a kind of death.

3.1.8. Cyborg Society

Hables Gray, Steven Mentor and Heidi J. Figueroa-Sarriera argue that "Even if many individuals in the industrial and post-industrial countries aren't full of cyborgs, we certainly all live in a 'cyborg society'," which refers to "the full range of intimate organic-machinic relations, from the man-machine weapons systems of the postmodern military to the rat-cyborg [...] to the genetically engineered mice of today to biocomputers, artificial life programs, any future extravaganzas like the plant-intelligent-machine symbiosis." That is, "Cyborg technoscience aren't just about making individual cyborgs, they encompass a vast range of cyborgian relationships

[...], can extend from the smallest creature to Gaia, the whole web of all the life on this planet.”⁷⁸⁶ Gray, Mentor and Figueroa-Sarriera claim that:

Cyborg technologies can be restorative, in that they restore lost functions and replace lost organs and limbs; they can be normalizing, in that they restore some creature to indistinguishable normality; they can be ambiguously reconfiguring, creating posthuman creatures equal to but different from humans, like what one is now when interacting with other creatures in cyberspace or, in the future, the type of modifications proto-humans will undergo to live in space or under the sea having given up the comforts of terrestrial existence; and they can be enhancing, the aim of most military and industrial research, and what those with cyborg envy or even cyborgophilia fantasize.⁷⁸⁷

Shortly, as we live in a cyborg society, we cannot any longer talk about a partnership between machine and organism because there is “a symbiosis and it is managed by cybernetics, the language common to the organic and the material.”⁷⁸⁸ Cyborg technologies in the cyborg society of *Natural History* are restorative, normalizing, reconfiguring and enhancing.

As Haraway asserts “a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints.”⁷⁸⁹ In *Natural History* we see cyborg species that live in a Cyborg world, half on Earth, and half on other planets. Haraway asserts that:

Nonetheless, in my view, people are human at least one important sense. We are members of a biological species, *Homo sapiens*. That puts us solidly inside science, history, and nature, right at the hearth of things. [...] Biology is relentlessly historical, all the way down. There is no border where evolution ends and history begins, where genes stop and environment takes up, where culture rules and nature submits, or vice versa. Instead,

⁷⁸⁶ Gray, Mentor and Figueroa-Sarriera, “Cyborgology: Constructing the Knowledge of Cybernetic Organisms”, p. 3.

⁷⁸⁷ Gray, Mentor and Figueroa-Sarriera, “Cyborgology: Constructing the Knowledge of Cybernetic Organisms”, p. 3.

⁷⁸⁸ Gray, Mentor and Figueroa-Sarriera, “Cyborgology: Constructing the Knowledge of Cybernetic Organisms”, p. 3.

⁷⁸⁹ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century”, p. 154.

there are turtles upon turtles of nanacultures all the way down. Every being that matters is a congeries of its formative histories.⁷⁹⁰

Consequently, all types of cyborgs (Forged, Degraded, Hives, Arachnoids, Gaiaforms, Terraforms, Anima MekTekS, etc. and unmodified humans (Unevolved) live together, and all of them have their own herstory/history of their nature. Every being has its own formative herstory/history. Through different human types, Robson's cyborgs explore the multi-faceted nature of human identity itself. Robson TechnoFeminist politics is that, though different forms of humanity, it is possible to live together in peace without othering the Others because of their physical appearance, form or gender.

3.2. SUE THOMAS'S *CORRESPONDENCE*, AN ANALAYSIS

In the TechnoFeminist Science Fiction novel *Correspondence*, Thomas creates a novel of woman and machine. Thomas's cyborg creature fits with Haraway's description of cyborg as the organism of cybernetic, as the machine/organism hybrid, and as fictitious/factionous creature.⁷⁹¹ That is, Thomas creates her woman character referring to Harawayian Cyborgology as the hybrid of woman and computer machine by blurring the boundaries between non-physical/virtual reality and physical/real(ity) and referring to Plant's cyberfeminism by creating cyberspace for cyber figures in virtual reality. The novel consists of 27 chapters in capitals and bold, and at the end of each chapter, there are either Infodumps as Regis Tours or Datablocks, or Breaks which give information about the machine, cyborgs, some references to the role of women in technoscience and the role-play game for the players/readers and the general information about virtual story and the game. The narrative of *You* –Thomas does not give a name to her cyborg woman– is written in second person narration. In this role-play novel, the story is written inside the screen of a computer which seems to write a novel. It consists of six main characters; *You* as a compositor of fantasies, Alan as *Your* boss, the artificial intelligence Marie as *Your* guide, Rosa as *Your* cyberself-figure and the virus Shirley as the friend of Rosa for years.

⁷⁹⁰ Haraway, "Introduction: A Kinship of Feminist Figurations", p. 2.

⁷⁹¹ Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist Feminism in the Late Twentieth Century", p. 149.

Correspondence is quite adventurous and does not have a linear story line because all three dimensional worlds are interweaving to each other that makes the text difficult to understand. But with its non-clear linear plot, (we see first effects and then causes within each dimensional world), with its infodumps, short but many chapters and breaks, and second person narration addressing you as reader and composer of the story, it has a postmodern narrative technique. It is a TechnoFeminist Science Fiction novel with its virtual reality cyberspace created by a cyborg woman who also composes an online cyberfeminist science fictional narrative through creating a techno-digital world, cyberspace. Marie also becomes a guide to us as player/readers to understand the virtual reality within the text better because the text is written in second person narration, so it confuses us about whom the text is talking and to whom it addresses. Marie also addresses to players with the pronoun you in the same form (without capitals, italics or bold), so it is confusing whether she is addressing to the players or to the protagonist, cyborg composer, so in order to make this analysis clear, we use “*You*” in italics and the first letter capitalized for the cyborg woman composer. Because “*You*” refers to the woman and also to the reader as a singular person, we use appropriate verb forms for singular third person “she”.

By the help of the character *You*, you become both the narrator and the reader: as a narrator you are a computer programmer composing of virtual realities for the players and readers, and as a reader you are taught how to play a virtual reality role-play. Because of having lost her husband and her child in a car accident, *You* adopts herself to the machine, computer and begins to live in a virtual cyber world that she composes, so by this way, *You* begins to turn herself into a machine, to a cyborg organism. As a result of this accident, the cyborg woman becomes numbness and cannot feel redemption in the real world, but within her cyber world she feels some small redemption with her cyber figures Rosa and Shirley. By using the desires and the hopes of the world as source material, *You* composes a cyber-world, but becomes a prosthetics for her work, so regenerates herself into a cyborg woman. *You* begins to live in her cyber life with her creation Rosa, the machine consciousness that she creates from the source material of herself. Hence, *You* leaves her pain, sorrow and emotions, and all her past behind as well as future and prefers to live in her cyber future world. *You* is a cyborg because part of her body is replaced with machinery, that is, her regeneration results from her hope

of getting free from the tyranny of her female body and adoring herself to her cyberspace work. As she has to plug into a computer terminal to construct virtual realities, she does not need to engage with the people in the real world. However, day by day, *You* loses the control of her cyber figure Rosa who becomes her machine consciousness, so the more *You* is connected to her, the more Rosa starts to distance herself from *You* by developing her own life better. Hence, at the end of the novel, *You* is left alone with her own choices and completes regeneration.

In this “imaginative and highly meta-fictional cyborg novel,”⁷⁹² we meet with interchangeable and mutable subjectivity. The story centers on the relationship between the cyborg *You* and the computer network with which she is directly interfaced. Harper defines the character *You* not as “a woman needs to build a better rationality/biology/technology interface, but one who wants to shed her biology altogether, replacing it with a purely technologic rationality.”⁷⁹³ We can say that this body without a name (BWN, the term we have coined) character, *You*, wants to plug computer hardware into her body through having various medical operations with whom she replaces her human bodily organs and ends her feminine biological functions. Harper claims that she transforms her body into a cyborg because of feeling loneliness, but a cyborg does not need a reason in order to exist; it exists as it is there. She transforms her body in order to exist not to escape from the real world. As human beings, we are bound to our origins and history, but as Haraway claims, cyborgs are not innocent and loyal to their origin, so Thomas’s cyborg easily rejects her origin and past through transforming her body into an android form, super-computer in order to get rid of her bodily tyrannies and through erasing her memories and past, that is her origin, so that not to remember her sorrow and pain psychologically.

3.2.1. AI and Online Player Selves

AIs populate cyberspace controlling the actions of humans and cyborgs. Cyberspace as a homogeneous place simulates social processes in which we see repressed, different and multiple identities, difference, and mutual relationships to

⁷⁹² Harper, p. 416.

⁷⁹³ Harper, p. 416.

technology.⁷⁹⁴ In the novel, AI Marie manages the role-play game that *You* composes as well as telling the work of *You* as a compositor. *You* creates this AI as a guide to players before and during the game. While *You* is composing her program about virtual role-play for players, Marie is her guide. Until Marie appears with pop-up windows by *BREAK*, we cannot understand whether the text is talking to us as if giving directions or it is telling the story of *You*, the cyborg woman composer. In this part, we will examine the relationship between the AI guide and the players, but Marie tells the cyborg composer and her work throughout the novel. In fact, neither infodumps nor breaks are given in linear order in the text, so we have classified those interruptions in a linear way in order to make the text more understandable.

In the first chapter **WHO ARE YOU?**, there is an interval and Marie pops up with a *BREAK* by explaining her status as: “Hi!, My name’s Marie, and I’m here to guide you through the story. Sorry I wasn’t here to greet you, but I hope you’re finding your way okay.”⁷⁹⁵ She says sorry not to greet player/readers because the novel opens with the story of *You*, so it is certain that the whole text in second person narration is not told by this AI, we see Marie only with breaks. So, the voice of the text is unknown, it might be the writer’s or the text’s but not the characters including *You*. Marie says that she will just plod along the background of the screen and bring the facts if the players need them:

I don’t want you worry too much about me [...] I’m only a mouthpiece really. If you have any questions, please don’t hesitate to ask. Otherwise, I’ll just point out the people and places of interest as we go along, and all you have to do is sit back and enjoy. I will, of course, be giving you information from time to time to help you keep up as the scenario develops. Oh, and naturally it’s my legal duty to warn you that this is a role-play.

That is, Marie as a guide of the program says that she will point out the people and places and give the information about the program from time to time in order to help the players/readers to keep up as the scenario develops, so the only thing players/readers have to do is to sit back and enjoy the free sample role-play. Thomas creates Marie as the guide of the cyber world and by making her talk to the player, the

⁷⁹⁴ Wolmark, *Aliens and Others: Science Fiction, Feminism and Postmodernism*, p. 119-120.

⁷⁹⁵ Sue Thomas, *Correspondence*, Woodstock, Overlook, New York 1993, p. 2.

text directly talks to the reader in the mouth of Marie: “Wasn’t that mentioned in your brochures? Oh dear. Well, it should have been. Someone must have slipped up down at the office. I’ll explain again.” Then, she explains the game to the players as if the writer telling the role of you as a reader: “You’ve been allotted a character to play and I’m just here to fill you in on the background details. You’ve already become acquainted? Great!” Next, while Marie is directly talking to the players, the text speaks to the reader directly to introduce the cyber virtual reality which will follow: “Now, if you look under your seats you should find a starter pack containing guilt, loneliness and desire. It’s there? Oh good, at least someone is doing their job properly.” Finally, Marie talks about the role-play: “Now on this trip we are also fortunate to have been given a free sample of wish-fulfillment, although I must warn you to use it in single doses only. Lifetime supplies are available from Regis, although to be honest they’ve extremely expensive [...] I hope you enjoy your small free sample.” The other point is that all the players should use the features in the starter pack; guilt, loneliness and desire throughout the game as well as free wish-fulfillment. As Marie says, the players should register the infodumps during the game in order to skip to the next level. Last, she says that she will be with them whenever they want: “Okay. If everyone’s ready we’d better get on. I’ll be up here at the front should anyone need me. Before you tune in your headsets, please register the following infodump. You will receive more information as we proceed.”⁷⁹⁶

In the second *BREAK*, Marie interrupts to give information about the role of the players like a little background to help them. She wants them to retune to the Guidetron frequently and then she switches them at that moment.⁷⁹⁷ In Guidetron, she gives them background info about the duty and the role of game composers, the difficult process of the composing games and the Regis game fantasies. Thus, she tries to explain the impossibility of adding new desires or making changes within package:

One of the most important features of Regis fantasies is that they are built using holistic principles which encapsulate the essence of the subject as it has been experienced by people throughout the ages, or at least since the advent of record-keeping. They are designed in a multisensory package to cover every eventuality. This means that the artistic part of our work entails the translation of the entirety of human perception into a function

⁷⁹⁶ Thomas, p. 3.

⁷⁹⁷ Thomas, p. 17.

which is meaningful to everyone, regardless of age, creed or color. It can, or course, be tricky, because the ultimate end of human desire is often refused admittance by the fantasist and is therefore relegated to the subconscious mind. Your (players) job entails digging it up again, in order to realize that final goal into a tangible illusion – no matter how distasteful it may prove to be. Regis trains you in the precise skill of finding out exactly what it is that people want, and that end result is not always very pleasant. You are warned that this can lead to a degradation of the art if indelicately handled.⁷⁹⁸

That is, it is stated that clientele demand from respectable tech-entertainment companies certain finesse and sophistication and Regis is one of these companies. However, because compositor's fewer moral anxiety, "there is a fortune to be made from salacious and violent fantasies."⁷⁹⁹ Thus, it is certainly forbidden to reprogram any kind by the compositor, so Marie warns the players not to come for such demands. Marie asserts that players have difficult role-characters, but she is always there to help them all the time.

Before the third *BREAK*, players skipped Datablocks A, B, C and D, so they have been introduced to the characters. Thus, Marie pops up to check the online players/readers whether they like their role or not: "Well, everyone, you've had a chance to get to know Rosa and Shirley a little bit now. We'll be stopping in a moment for a bit of a rest, so how are you all feeling? Mrs Cartwright?"⁸⁰⁰ By the time, we understand that Mrs. Cartwright plays the role of Rosa and Mr. Johnson, playing Shirley, does not like his play-character. Marie tells the directions of Mr. Johnson that he would rather be Rosa, but Marie says that it is impossible because he purchased the Super-Regis tour that he could get only one character. Only if he had bought the de luxe package, he could have been any of the characters. She also states that there are lots of people in de luxe package preferring to play Shirley who "has a bit of a sad character I know, but she has her qualities," even Marie gives an example from a woman player who claims that she can only sympathize herself with Shirley. Lastly, she finishes the

⁷⁹⁸ Thomas, p. 19.

⁷⁹⁹ Thomas, p. 19.

⁸⁰⁰ Thomas, p. 30.

break by saying the story will start after the last Datablock E, and she will “tell a little bit more about Shirley and Rosa before we set the plot in motion.”⁸⁰¹

Meanwhile, a day passes, players sleep and have breakfast after the last Datablock, E. Marie asks if they have a nice sleep and good breakfast. She says that players will watch the story of virtual characters today. Then, she answers to Mr. Johnson who had a nightmare about Rosa: “oh dear, I am sorry about that. She does tend to creep into our night-time reveries a little bit, I’m afraid. Such a strong character you know. And very creative, of course. Sometimes we can’t help but wonder who’s running this tour-us or Rosa!” and she recommends him to focus his thoughts on Shirley today without letting Rosa get him down while he is playing the role of Shirley. The only male player, Thomas creates, is weaker than the woman players. The other player, Mrs. Burton, plays the role of Conal who is Rosa’s lover in Dublin. When Mrs. Burton asks whether she will go to Ireland, Mary says that she does not have to go there because the Regis tour is not geographical but cerebral. After this break, the virtual plot starts in motion.

In the fifth *BREAK*, Marie interrupts the players again to announce the supptime and to warn Mr. Johnson (as Shirley, a close friend of Rosa, tries to reunite Rosa and her ex-love again) who tries to tinker the program by wishing to fuel the ex-love between Rosa and Conal. She wants Mr. Johnson to refrain from interfering; “I’m sure that somebody here must read romantic novels – is it you, Mr Johnson? I thought so. Don’t worry about it. I do understand how you feel, and it would be nice to see more of Conal,” and she reminds him of that Conal is just a minor character and so he should concentrate on the topic and his avatar. Marie thinks that he has a problem of transference as he wants to play Rosa, and because of this reason he always thinks Rosa and tries to bring her ex-love back. Mary suggests him to give his avatar time to feel empathize with Shirley. Marie claims that she tries to iron out the problems players create and the only problematic player that Thomas portrays is a male one.

The sixth one also deals with the problem caused by Mr. Johnson, who tries to interfere in the erotic desire doze to the game untimely by makeup scenarios about sexual passion related to age when the plot was on Shirley’s boyfriend’s death

⁸⁰¹ Thomas, p. 31.

anniversary and her devoted mothering on her stepchildren. Marie warns him again to retain from interfering more seriously; “Mr Johnson! I must ask you to refrain from interfering! Now Shirley is upset. You must be conscientious.” She means that to use the desire doze will come soon, and he needs to be patient. We can say that here it is criticized masculine, untimely, insistent and libidinous passions about sex and lack of conscientious manner in men because of their sexual urges. Women players are more conscientious to their job. Besides, Marie says that it is now to stop playing but to watch what their characters will do without interrupting the game:

Now, ladies and gentlemen, this is the point in the story where Rosa is ready to go. You have played your role well (with some exceptions, Mr Johnson...) and your characters are preparing to explore their own ways. We can watch, but we must not try to influence the story. There will, of course, be further opportunities for you to return to your role, but for now let's just sit back and watch.⁸⁰²

Marie intervenes in the game with the next break at that time before the lesbian sexual love affair occurs between Shirley and Rosa. Shirley is at Rosa's bedroom, takes a shower and lies under the guilt to get warm for a few moments, but falls asleep. Rosa is about to arrive home, and the plot is left to the imaginations of the players whether they will let their avatars have sex. Marie tries to learn how the players feel with the virtual bodies and the break ends with her question without answers because it is time to use desire doze for the players:

While Shirley sleeps we have another task to do. Now you must build up your role a little more. You're ready now to begin to understand. So let us spend time thinking about how you feel. What is it like for you live in that strange body? What does it look like? How do you cope with? Is there anyone who could understand?⁸⁰³

That is, when the story continues, we witness the sex between two women; the players finish the dose of desire in their package. There remains only loneliness dose. After that event, two women leave each other feeling the guilt, and they begin to feel the loneliness. Then, Shirley commits suicide because of feeling too much loneliness. In the next *BREAK*, Marie pops up to calm down Mr. Johnson who cries for the death of his avatar; “Don't cry, Mr Johnson. Shirley always preferred to travel alone. Truly.” As

⁸⁰² Thomas, p. 78.

⁸⁰³ Thomas, p. 106.

a composer *You* eliminates Conal, kills Shirley and as Marie says “we are left with only Rosa.” Marie speaks one of the players that “No one, not even Rosa, could give Shirley all that she wants [even lesbianship]. Together they [Rosa and Shirley] found yet another alternative [to love each other], but that doesn’t commit them to making a final choice.”⁸⁰⁴ Marie thinks that life should get rid of the tedious stereotyping through loading different adventures as the one the two women have tried. Marie also reminds the players their free wish-fulfilment by adding “You’ve used up all the guilt and desire, but you still have a lot of loneliness left over. Don’t worry, that will come in handy very soon, but I can assure you it will be gone by the end.”⁸⁰⁵ Finally, in the last *BREAK*, Marie announces that it is the end of the game for the players, and it is the end of the novel for the readers as well: “AND SO THIS IS WHERE IT ALL ENDS Or begins. You go forward together now, ladies and gentlemen.” Through Marie, the text provides the optimistic message that women and men are equal and can walk on the same road.

3.2.2. Regis Tours / 9 Infodumps for Player/Readers

Before the game starts, Marie informs the players to register the infodumps at intervals. In fact, players register the infodumps in order to step to the next level. There are 9 infodumps giving information about machines in an essay format. The first infodump gives information about machine mysticism. According to this machine mysticism, philosophy was not distinct from science before the Renaissance when new discoveries and the old magicke were side by side: “Paracelsus, for example, left us an invaluable legacy of knowledge in the pharmaceutical field, but he also devised a recipe for constructing a homunculus out of human sperm, horse manure and blood.”⁸⁰⁶ Then, in Renaissance, machine was defined as separate to humanity, but the bridge between imagination and empiricism was represented by automata. Descartes differentiates mind and body as two different states; while the first one refers to the rational, the second one refers to the mechanical. While the rational mind was associated with judgment, will and choice only inherent in humanity, the mechanical body was regarded to be produced by automata and animals. Shortly, there was not any interest on the interface between

⁸⁰⁴ Thomas, p. 136.

⁸⁰⁵ Thomas, p. 136.

⁸⁰⁶ Thomas, p. 4.

these two binary oppositions (mind/body, human/animal, and human/mechanic) and the connection between them was “said to be the Third Eye, or pineal gland.”⁸⁰⁷

The second infodump deals with the machine as a friend. It is considered that “machines make good friends” despite their (computers) lack of free will and emotions at least for now. But, it does not mean that we cannot attribute them such human things considering them as if dogs and cats. It is stated that we always blame the machines of not working. We use the phrase “won’t work” instead of “can’t” or “not programmed,” assaulting the machines “with our fists to make them work.” That is, we regard them as stupid and having nervous breakdowns. On the other hand, we sometimes give them character and names considering that they do not have any and we talk to them despite their lack of voice recognition capability. That is, machines sometimes enter us. Then, the text gives reference to the invention of simulacrum automaton by Rene Descartes who is famous with his motto “I think, therefore I am” that became the motto of the scientific revolution. Descartes’s illegitimate daughter Francine (from a Dutch servant named Helen) is given as an example to this machine friend topic in the novel. Descartes, after her daughter died because of scarlet fever at the age of five, was so mortified by her death, so he created a mechanical doll replica of her. He took the mechanic robot everywhere even to his voyage on the ship. One day on a stormy day when the crew was searching him, they found the realistic mechanic daughter at his room, and the captain thought that it was a kind of black magic and the source of the storm, so he threw the robot overboard. Descartes was so skillful to design a mechanic robot in the 16th century. The robot was acting like a real human being and resembling exactly to a human being; therefore, it can be said that his daughter’s automaton might have led to the invention of simulations. We can claim that it is possible to produce clones in the future in order to see our beloved though they are dead. Likewise, the text asserts that “Perhaps in the future we will have Francines who are perfect in every detail and identical to their originals. We may not like the idea at the moment, but we’ve always cherished pictures of our loved ones, so why not simulation?”⁸⁰⁸

The third infodump deals with the machine religion. It is stated that, before the Christianity, mythology was familiar with several mechanical device stories in which

⁸⁰⁷ Thomas, p. 4.

⁸⁰⁸ Thomas, p. 9.

we see mimicked human and animal forms reputedly. In a time of mediaeval Christian Church, those mechanically animated religious statues were believed to have captured Holy Spirit in them which bring those statues into life. Those statues were resembled real like creatures to make them appear more realistic and load religious mystery. Thus, it is stated that the computer itself is “yet one more blasphemous refinement of the pseudo-human machine.”⁸⁰⁹ The forth infodump continues that machine religion by giving reference to The Second Commandment in the Bible: “Thou shall not make unto thee any graven image or any likeness of anything that is in Heaven above or that is in the earth beneath, or that is in the water under the earth; thou shalt not bow down thyself to them nor serve them, for I the Lord thy God am jealous God.”⁸¹⁰ The Ten Commandments play a crucial role both in Judaism and Christianity. These Biblical principles, also known as Decalogue, are related to ethics and worship only God. These Ten Commandments take part in most religions, also in Islam. These are spread out throughout the Quran as well. In Al-An’am sura (6:151.), it is stated that:

Say: ‘Come, I will say (again) what Allah has (really) forbidden you from: Do not join anything as equal with Him: be good to your parents; Be good to your parents; Do not kill your children on an excuse of want- We provide sustenance for you and for them- Do not come near to any such shameful sins, whether openly or in secret; Do not take life, which Allah has made sacred, except by way of justice and law;’ Thus does He commend you, that you may learn wisdom.⁸¹¹

That is, the Second Commandment prohibits the idol image of any organism, that is, the making of graven images because it is the power of God to make images. In Judaism, Christianity and Islam, God bans the idolized image making. From the first infodump, the text tells the machine understanding and now, by giving reference to God, it tells that machines and cyborgs should not be considered graven image or idol image because it is the human mind that produces the machines and regenerates the cyborgs. That is, we can say that Cyborgology is not a way of erasing humanity or a reaction to God, even a cyborg should not be regarded as equal with God because it is still a human being and regenerated by a human being, so it can be closed only by God.

⁸⁰⁹ Thomas, p. 12.

⁸¹⁰ Thomas, p. 16.

⁸¹¹ Syed Vickar Ahamed, *English Translation of the Message of The Quran*, Book of Signs Foundation, Lombard, IL 2007, p. 76.

Then, the fifth infodump deals with the machine as body. That is, the relation between the machine and the body is given. The machine and human hybridity is mentioned like that: “we are used to thinking our machines as extensions of our limbs and minds, but have we considered that we too are extensions of the machine’s capabilities?”⁸¹² It gives the example of an operator who uses a machine all the time and the person gradually turns into a cyborg by operating in a semi-automatic mode. We can consider the computer addicts of children or mechanic robots of drivers whose minds are melded with machine. However, the text praises the superiority of the human brain over computers. There is a reference to Marvin Minsky, who is a cognitive scientist in the field of artificial intelligent (AI):

Marvin Minsky has described the brain as a meat machine—a construction composed of organic microchips. Extending the organic analogy, he sees the functioning of a computer as based not on the electronic activation of switches in a linear progression, but rather as a society of elements. It has been difficult to design a computational model of human psychology because human responses happen extremely fast and synchronistically. Although, of course, computers are very fast too, they are still unable to do more than one thing at a time, and for this reason the human brain remains, for the moment at least, technically superior.⁸¹³

Thomas also gives place to Minsky who questions the consciousness of the machine as well as a person in *The Society of Mind* (1985). He asserts that as the human brain is superior now, it is possible to design more humanlike and sensible machines that can change, wreck themselves easily and learn to train themselves on their own.⁸¹⁴ Thanks to this superior human being, high and advance technology can progress by creating hybrid entities, clones, and artificial intelligence. In this infodump, the future of science and technology is also mentioned: “But it won’t be long before computers catch up, and soon we will have systems which operate through a series of differing interactive relationships.”⁸¹⁵ Going one more step, it is stated that many computers have the capacity of learning, so “we are on the way to creating a functioning pseudo-human being.”⁸¹⁶ In the same way, Thomas gives place to the speech of Douglas Hofstadter’s

⁸¹² Thomas, p. 20.

⁸¹³ Thomas, p. 20.

⁸¹⁴ Martin Minsky, *The Society of Mind*, Simon & Schuster Paperbacks, New York 1985, 1986, p. 160.

⁸¹⁵ Thomas, p. 20.

⁸¹⁶ Thomas, p. 20.

Metamagical Themas (1985) in which he describes creativity as making variations on the subject, but “it is not magical, mysterious process that occurs when two invisible concepts collide; it is a consequence of the divisibility of concepts into already significant subconceptual elements.”⁸¹⁷ So cyborgs are metamagical themas that regenerate body with multiple variations, organisms.

The following infodump 7 questions whether machines can have souls. It is stated that in the future, as long as the speed of scientific and technological progress develops, it is possible to see many hybrid organism, clones and AIs more often. The infodump, which is written in poetry form, gives some examples to the probability of future science and technology that can create machines having souls or people turning into cyborgs:

It would seem likely that if Research and Development continues at its present rate, it may not be too long at all before we cannot distinguish between machines and people anyway.
 If people can add an increasing number of electronic prosthetics to their bodies, enhance their brain activity, extend their lives indefinitely – then what?
 And what about wet-are-biochemical engineering?
 There may be people who are not simply enhanced by electronics, but by biological interference too.
 When do they cease to be human?
 When do they cease to have souls?
 Consider those machines which are enhanced by human interfaces and add-ons, not to mention human mind-sets and wet-ware.
 When do they cease to be machines?
 If we teach them to look like us, think like us, speak like us, are they not then human?
 And if not, why not?
 They have no trade union, no protection against disassembly.
 At present we throw them out with the rubbish when they no longer function properly.
 Will we able to do this when they can answer back?

In the following infodump 8, we encounter the lines from the poem of Andrew Marvell’s ‘The Garden.’⁸¹⁸ The poem is divided into 9 stanzas and all of them are written in 4 rhymed couplets in iambic pentameter. Thomas uses the 5th and 6th ones. The poem tells the retirement from the public life into a private space of a garden removed

⁸¹⁷ Thomas, p. 25.

⁸¹⁸ Thomas, p. 79.

from the society. In the fifth stanza, abundance of fruits, wines, flowers and plants are praised. The speaker's image of this natural space shifts by falling upon the grass after he trips over melons. Then, the metaphysical stanza, 6th, takes our attention to disembodiment of the body:

Mean while the Mind, from Pleasure less,
Withdraws into its happiness:
The Mind, that Ocean where each kind
Does straight its own resemblance find;
Yet it creates, transcending these,
Far other Worlds, and other Seas;
Annihilating all that's made
To a green Thought in a green Shade.

That is, while he was describing his physical pleasure in the garden, after falling, he retreats into his mind pleasuring his mental. His contemplation enables him to make other Worlds and Seas by annihilating all existing ones. The speaker transcends the limitations of physical and bodily embodiment by creating far other cyberspaces. That means the detaching and releasing of the speaker's soul from the body as happens to the cybernetic organisms.

The last 9th infodump deals with the relationship between the machines and emotions. Before Marie wants players to tune the last infodump, in a virtual game, we learn the death of the virus Shirley. The players tune the last infodump that means the last level for the game to end. This infodump again gives a quotation paragraph pasted from *The Society of Mind* by Marvin Minsky:

The question is not whether intelligent machines can have any emotions, but whether machines can be intelligent without any emotions. I suspect that once we give machines the ability to alter their own abilities we'll have to provide them with all sorts of complex checks and balances. It is probably no accident that the term 'machinelike' has come to have two opposite connotations. One means completely unconcerned, unfeeling and emotionless, devoid of any interest. The other means being implacably committed to some single cause. Thus each suggests not only inhumanity, but also some stupidity. Too much commitment leads to doing only one simple thing; too little concern produces aimless wandering.⁸¹⁹

⁸¹⁹ Thomas, p. 133. Quoted from Minsky, *The Society of Mind*.

Here, Minsky argues that AIs ignore the role of emotions that are manifestations of these needed complex checks and balances. As real people we have emotions, so virtual characters should have emotions too. Emotion is crucial for solving the problem and plays an important role in intelligent, so if machines are intelligent do they have emotions too? Therefore, by following Minsky, Thomas claims that, like machines, virtual characters need emotions, as well. A virtual character, through interacting with a user, can exhibit emotional behavior. If a user encounters a virtual character having emotions, she or he can desire to be a friend with the virtual character rather than controlling. Thus, here it is stated that the emotional relationship between the cyborg woman and her virtual creation Rosa reduces the sense of control over Rosa or Shirley's death, even it is a virus, causes its user, Mr. Johnson, an emotional cry for the death of his virtual character. Like a virus that acts freely in the virtual space, *You* becomes as free as the virus acting freely in the real world with her new body and her own orders after she regenerates herself into a cyborg.

3.2.3. Harawayian Kind of Cyborg Figure

3.2.3.1. Cyborg Body of the Composer

The cyborg has a place in feminist science fiction. Haraway does not think of the cyborg as unconscious, so she regards this conscious cyborg as a woman. Thomas' cyborg woman, composer *You*, fits with Haraway's cyborg figuration. Haraway regards the notion of cyborg as a woman, that is, she insists on the femaleness of the cyborg because she explains her judgment like that:

For me the notion of the cyborg was female, and a woman, in complex ways. It was an act of resistance, an oppositional move of a pretty straight forward kind. The cyborg was, of course, part of a military project, part of an extraterrestrial man-in-space project. It was also a science fictional figure out of a largely male-defined science fiction. Then there was another dimension in which cyborgs were female: in popular culture, and in certain kinds of medical culture. Here cyborgs appeared as patients, or as objects of pornography, as "fem-bots"—the iron maiden, the robotized machinic, pornographic female. But the whole figure of the cyborg seemed to me potentially much more interesting than that. [...] From my point of view, the cyborg was a figure that collected up many things. [...] I was interested in affirming not simply the human-machine aspect of cyborgs, but also the

degree to which human beings and other organisms have a kind of commonality to them in cyborg worlds. It was the joint implosion of human and machine, on the one hand, and human and other organisms, on the other hand. [...] The cyborg became a figure for trying to understand women's place in the "integrated circuit"—a phrase produced by feminist socialists.⁸²⁰

As Haraway argues, cyborgs are possible by blurring the human/machine, human/animal, and physical/non-physical boundaries. Thomas tries to breakdown the boundary between the human and machine, so this breakdown makes us difficult to distinguish the endpoint of humanity and starting point of machinery. In the novel, *You* projects herself into the program, the game that she composes. She tries to turn her body into electronic devices connected to her body. She is terrified of going outside, and her contact with the world is completely mediated by the computer. She spends most of her time plugged into it. It can be said that human and machine meld together. Then, the fusion is reflected in the multiplying of identities, she begins to see the world from the eyes of the characters she created, Rosa and Shirley (that she accidentally created, but cannot erase). Both the virus Shirley and Rosa inhabit and control both the matrix and the composer, *You*.

In the cyborg woman's office room, there are two terminals; one is hooked up to the mainframe belonging to the firm and the other is for her personal system by which she does shopping, contact with her specialists about whom her boss Alan does not know: "Once every 54.04.66 hours, you hook up to your personal terminal for some fine-tuning. You don't have to travel to see them so much these days, since most of your programming can be done on-line, which makes life a lot easier and a lot cheaper too."⁸²¹ However, when *You* feels ready to work, she logs in to the other mainframe that works like this: "Your employers gave you your very first prosthetic—a system which allows you to communicate your sensations and thoughts directly into the terminal. The machine does the actual building, but you are both its architect and its brick-maker."⁸²²

⁸²⁰ Haraway, "Cyborgs, Coyotes, and Dogs: A Kinship of Feminist Figurations and There Are Always More Things Going on Than You Thought! Methodologies as Thinking Technologies", pp. 321-322. An interview with Donna Haraway conducted in two parts by Nina Lykke, Randi Markussen, and Finn Olesen.

⁸²¹ Thomas, p. 59.

⁸²² Thomas, p. 59

The text explains what kind of feelings occurred in the cyborg woman turning into a machine organism hybrid:

You love that feeling of logging on! It's turned you into a junkie. You look in, and you want to stay there. You can feel the feather-duster tickle of digital switches clicking in your brain. When the power is high they send frissons of electrical charge through your body, like a series of impulse orgasms. The patent for that would be worth millions-if they could control it better. You've got used to having sudden climaxes while you work, but it could be a very disruptive effect if everyone did it.⁸²³

Anyway, *You* spends most of her salary to prosthetic surgery, "In only ten years you will have transformed yourself from a feeling mother and wife into a being who is ignorant of pain and released from desire." *You* is now a cyborg, but her plan is to be a full machine. Even now people recoil from *You* because "they can feel the machineness in you." However, *You* thinks that people have machineness too, "How they all love to behave in ways which are actually no less than automatic responses. Their entire lives are regulated by a series of programmed actions which they are too terrified to recognize." The cyborg woman says that if you ask people the process of their speaking and eating, they will doubt and cannot explain and understand each separate part of the process, but the vibration of the vocal cords or biting of the stomach acids into a hot-dog are working like machines. People fear of *You* as they see something strange in her eyes, "They [men] assume that you're [women are] alien, or perhaps autistic." *You* makes her new body designed by people in highly advanced laboratories, "Your circuits, replacements for your vulnerable internal organs, are the product of human factories. You represent the pinnacle of human achievements. You are no more or less than a product of their own technology" and during her process "You have melded and blended until you too are now nearly all machine, and soon you will have forgotten even the change." *You* is doing this to get rid of her emotions and "Sometimes you wonder what it will be like when you have no emotion." In the beginning, when *You* asks her specialists if she will be able to smile, they assert that "Pleasure is only the reverse side of pain" and "both have no equivalent that we know of in the organic world," but on the other side they state that "we can't say for sure that inorganic subjects do not experience it. When the time comes, if it is possible, we should like to

⁸²³ Thomas, p. 59

ask you about that.” However, there is a problem. They claim that “once the transition is completed your testimony will be unreliable since you will no longer have any trustworthy data with which to make comparisons,” that is, *You* will lose her ability to make comparisons. They also claim that, “we don’t know whether we shall be able to communicate with each other at all. Of course you will be able to output data, even words, but the concepts behind those words may be meaningless to us. We shall wait and see.”⁸²⁴ Nevertheless, *You* is suspicious about whether she will still be alive when it is over and if she will still be herself. *You* hopes to become both *You* and another you at the same time.

On the other side, Wajcman points out the impact of technology on women that might create utopian future visions. By using utopian, she means that the new generation feminists like TechnoFeminists identify technological optimist feminism by moving from the negative and deterministic approach of the earlier feminisms. For her, in terms of cyberfeminism, women gain access by using various technologies, so in this way, they participate in cyberspace and achieve liberation from conventional gender roles, freedom and gender-free future in the global cyberspace. Hence, cyberfeminist writers create virtual reality that is a proper place of freedom for women as internet is beyond the control of patriarchy and it is also the liberation of the conventional definition of women as biologically determined belonging to the private sphere and jobs.⁸²⁵ Thomas creates utopian future visions in this novel. She also creates her female protagonist free from conventional gender roles belonging to the private sphere and job; she is the best game composer and the most suitable person to arrange this online role play game.

In addition, as we mentioned in the previous chapter, for Wajcman the biomedical technologies can create hopes for women by offering freedom and “fantastic opportunities for self-realization—we can literally redesign our bodies and commission designer babies.” For example, women can “defy biology altogether by choosing not to have a child, choosing to have a child after menopause, or choosing the sex of their child,” so “severing the link between femininity and maternity, as these new body technologies do, disrupts the categories of the body, sex, gender and sexuality. This is

⁸²⁴ Thomas, pp. 141-142.

⁸²⁵ Wajcman, *TechnoFeminism*, p. 4.

liberating for women, who have been captive to biology.”⁸²⁶ Thus, by the help of this new technology, women have right to choose to use their body as an incubator or not to use their maternity power. In *Correspondence*, biomedical technologies create hope for the character *You* who tries to regenerate her body by choosing not to have a child, so Thomas disrupts the categories of body, sex, gender and sexuality by using technology that is liberating for her female protagonist who does not want to become captive to biology.

Before *You* regenerates her body into a cyborg completely, she has some feminine features that prevent her to work firmly. During this transition time, although she feels her womb absent, every month *You* continues to have her period that she cannot think straight: “This results in peculiar silicon burbs in the RealTime system. Strange things happen. Your hormones send uneasy bursts of current which download on to the circuits like the lightning flashes of a distant storm, and impulses reverberate through your body causing disorientating flights of emotion.”⁸²⁷ Thus, during these days it is impossible for *You* to work and “you must content yourself with minor physical tasks until the storm in your system subsides.”⁸²⁸ Regenerating her feminine body to a cyborg means an early menopause because of the operation, but for a while her absent womb continues to breed. Thus, by erasing feminine obstacles from the body, as Haraway aims, Thomas’s cyborg criticizes the binary oppositions between women and men that create segregation. Likewise, Wajcman argues, “There has been a tension between the view that technology would liberate women- from unwanted pregnancy, from housework, and from routine paid work.”⁸²⁹ In the same way, Thomas eliminates femininity from her cyborg figure: “Your womb was one of the first things to go-unnecessary now, and taking up valuable space. It is ironic that it was replaced by backup memory circuits. Not your memory, but your body memory, functional equipment to facilitate better processing.”⁸³⁰

In the novel, one day, the doorbell rings and two women visit the cyborg woman for her mourning after she has lost her husband and children in the car accident. They

⁸²⁶ Wajcman, *TechnoFeminism*, p. 4.

⁸²⁷ Thomas, p. 110.

⁸²⁸ Thomas, p. 110.

⁸²⁹ Wajcman, *Feminism Confronts Technology*, p. 13.

⁸³⁰ Thomas, p. 64.

read from Bible so that the God helps her husband and children. *You* suddenly asks a question whether God loves the machines, and they say, “He loves all living things because He made them. But machines-they’re not alive so He has no need to take care of them. The word love cannot be applied to machines.” Then *You* claims, “I’m a machine,” and they, after challenged, say that, “In one sense, we’re all organic machines made of flesh and bone, is you want to look at it that way, but God breathed life into us and made us human. Real machines, metal machines like your computer over there, haven’t been visited by the Holy Spirit, have they?” *You* asks, “Does it help if I tell you that I was confirmed when I was fourteen?” (*You* only did it for the necklace with a gold crucifix.)” and questions if God still wants her in this body. Then, suddenly, *You* stands in front of them, pulls her shirt and “impulse your lover front panel to open [...] They both stand up, aghast and ready to make a quick getaway.” *You* wants them to feel it, and if they are gentle, they will not damage it but they refused to touch. This time, *You* insists on one of them to feel her cheek that is still flesh and one of the women touches and relaxes a little. Next, “You keep hold of her hand and direct it towards the winking LEDS, but she pulls back.” The woman asks if *You* have had an operation by claiming that scientists “can do so many clever things these days,” but *You* continues to ask whether God still will love her despite her regenerated body. The woman affirms and asks if it was because of the cancer and *You* replies, “No, the only cancer I’ve had is the cancer of despair [...] There was nothing physically wrong with me, I just wanted it done. It’s part of a process, you see.” *You* starts to attack them because when *You* says that she is processing a world through her computer, they say, “Like God processes them through you.”⁸³¹ After then, when they want to leave and give her a pamphlet, *You* insists on them to stay because *You* wants to show them her cyborg body, so they sit again:

You do make for rather a sorry sight. When you answered the door to them, you had automatically pulled on a wig to cover your head-you’ve learned from experience that women with bald heads frighten people, and you have more than that to hide. Now you take it off and turn slowly round in front of them, revealing a plastiskin dome punctuated with sockets. The slit of a centronics interface makes a smiling mouth across the back of your neck. You remove your open shirt to reveal a smooth hydraulic spine. It

⁸³¹ Thomas, pp. 111-113.

looks almost the same as the usual set of vertebrae. Then you turn again, showing once more the gaping panel. You have no breasts now, just the flat pink plastiskin. Another access point runs across your chest, and you impulse it open, revealing some remnants of God's creation palpitating behind a transparent shield.⁸³²

After showing her cyborg body, *You* does not want to open the shield in case dust or infection can get into her organs. After *You* proves her half machine body, *You* says, "But you can see that I still have human tissues there. My heart has been replaced with a prosthetic, but much of the original tissue remains for the moment. The process isn't finished yet, you see."⁸³³ *You* asks the question again if God still loves her, but this time they get angry and say, "He certainly wouldn't approve of what you have done. You've made a travesty of His own image. You were made in His likeness, and you have corrupted yourself." Now, it is her turn to get angry and *You* says, "You believe that God made us in His image and set us to rule over the other life-forms on this planet, don't you? Well, that constitutes the major barrier to my ever being able to accept your faith. Let me ask you this- what makes humanity so special?" They answer that humans are chosen by God, but *You* questions why only humans are chosen, but not the dogs or dolphins, it is because "human religions smack of human ego."⁸³⁴ *You* then asks whether they can make her cyberself creature Rosa real:

I have a friend. Her name is Rosa. She is of this world but does not belong to it. It doesn't matter why. Like me, but in a different way, she is a changeling. She expects change. She intends it. It makes no difference to her whether she is composed of flesh and blood, or electric impulses, or ash. Her spirit will survive no matter what form she takes because she's adaptable. You're not. You're clinging to a raft of stasis, trying to turn back the clock. Leave it. It will turn itself in time, and back we'll go into the soup to be remade. We've been single cells, we've been fish, now we are air-breathers. Next, along the line will be people like me.

You, as if playing the role of God, creates the cyberself, Rosa and when Rosa wants some change, *You* gives her the opportunity because everything is possible for wired selves. *You* claims that the same freedom is the case for humans as long as they

⁸³² Thomas, pp. 113-114.

⁸³³ Thomas, p. 114.

⁸³⁴ Thomas, pp. 111-114.

break down the tyranny of the body through using technology and science. Then, *You* steps out of her loose trousers and says:

My legs are hydraulically driven. Below my navel I have a retracted colostomy bag. My reproductive and excretory functions are inessential and the organs have been removed. I don't eat. Or pee. Or shit. I don't cry with tears, although the pain is still within me. I salivate simply in order to speak. I breathe air only temporarily, until that last refinements are made.⁸³⁵

The women ask the reason of her cyborg body and *You* answers, "For the relief of pain. Emotional pain, I mean not physical. For the same reasons that you turned to God, most probably. Loneliness in the temporal world; a wish to progress beyond it to something better. A desire for heaven on earth." That is, cyber and, in body form, cyborg women renounce their femininity and humanity and begin to live in a virtual world where they can find freedom. In the mouth of women, *You* says that, "If I told you about all of the single events that have pained me, you would take each one and demonstrate to me how God could make it better," and *You* adds that "pain differs from person to person. No doubt have each endured things which would be unbearable to me [women], and I likewise have coped with events which might even have destroyed your [men's] faith." *You* continues, "People always minimize each other's sufferings, so to recount them is only to invite misunderstanding. The total empathy which we eternally hope for is never forthcoming. The best we can do is just to recognize each other's suffering without trying to quantify it." The religious woman by turn comments that, "And this is the only way out that you can see? To renounce your humanity and God?," and in turn *You* replies, "Oh, I've never renounced God. He is as good as a pseudonym as any for Hope. But, yes, I have chosen to renounce my humanity. It's a distraction to me. There were other possibilities-lobotomy for example-but that would have removed the centers of emotion and intelligence at the same time." *You* announces her new online role-play game to them, "I found a new way. Have you ever bought a fantasy?"⁸³⁶ The woman says that she buys one nearly every week before she found God and then, *You* tells the process of her online fantasy program like this:

Of course not. Well, listen, I'll tell you how they're made. By people like me. Not completely like me, of course, I am unique. But you see this

⁸³⁵ Thomas, p. 115.

⁸³⁶ Thomas, pp. 115-116.

socket here, the oval one? Well, we all have one of these. And with them we link up to one huge mainframe, miles away from here, using that terminal over there. Then we process the fantasies through our minds into the machine, which then builds the finished product for people to buy.⁸³⁷

The religious woman asks, “You mean that techno-fantasies are salvaged from the emotions of real people?” and *You* answers, “Yes. But then doesn’t every form of art issue from the same source? When we look at a painting, listen to Beethoven, read a poem—even the Song of Solomon—are’n’t we simply hooking in to a stranger’s psyche?” The woman asks how it feels to overload your mind with so much intensity and *You* replies like that, “It doesn’t feel like anything much, because it all rushes through so fast that there’s little time to consciously respond. It’s a lot like the experience of having a normal REM dream – there’s always that element of transience which protects you.”⁸³⁸ *You*, then, explains her process of turning into a cyborg body:

When I discovered that linking with a machine was actually much more rewarding than linking with a human –my relationships with people have always been uneasy– I realized that the conjunction could have a conceivable line of development. So instead of purging myself with destructive surgery, or dosing myself up with tranquillizers as so many people do these days, I began to envisage an alternative state of consciousness whereby I could tune into a sort of cybernetic Nirvana, and accordingly leave behind the uncertainties of being human. I spent more and more time on the link, until I realized that I was in need of electronic augmentation if I was not to burn out. Then one thing led to another, and eventually the best idea seemed to be to conjoin completely.⁸³⁹

In the end, the women decide to go by telling their names, Jane and Amy, and ask what *Your* name is, but *You* says that *You* does not have a name anymore. After they leave, *You* turns to her program. Robson loads her cyborg woman a BWN (body without name) characterization.

3.2.3.2. Physiological Needs of the Cyborg

As cyborgs are partly human and partly machine, they have humanly physiological needs but in machine format. Machines even need physiological needs to

⁸³⁷ Thomas, p. 116.

⁸³⁸ Thomas, pp. 116-117.

⁸³⁹ Thomas, p. 117.

charge themselves; when they are plugged, they charge their hunger and when they are closed, they sleep. Thus, sleep is one of the necessities for both humans and machines because “robots and even computer minds will probably have to have regular outings, vacations, time off to recreate themselves. This will make them seem far more humanlike to us.”⁸⁴⁰ Thus, unlike their robotic and machinery appearance, cyborgs also require human essentials as sleep and food, but not as much as normal human beings.

In the novel, the other feature of the cyborg is her sleeping, eating and dreaming facilities. In the work place of the cyborg composer, *You* has a large room in which there are four TVs running continuously and a large collection of cassettes and books. There is not any place to sit in her lounge and she sits rather stiffly these days because she feels more comfortable standing up. Where does the power of the cyborg woman come, from the electricity when she logged on? Thomas creates her cyborg character with obvious machine parts and as strong as a machine that she can work 24 hours online and does not need a sofa to sit and does not need any necessity to eat and to drink:

[...] but drinking and eating are presenting an increasing number of technical problems, and you don't really need either now, so what's the point? You have been fitted with a sort of detachable colostomy bag in case you find yourself in a situation where not to eat would be considered rude, and also so that you can indulge yourself in gourmet delights every now and again, but it's not really worth the hassle. You seldom use it. And as for the social necessity of eating-well, you don't know anyone who'd want to sit at a table with you. In fact, you don't know anyone.

In **YOU DREAM**, the cyborg woman had an unusual dream in which *You* was travelling with her family in an aeroplane and *You* was nervous about flying but tried to hide her fear from her children. *You* was sitting next to John and her children were sitting across the aisle. While the kids were playing with the cards, one of them, Charlie threw them into the air and they fluttered down all over the plane. Suddenly everyone and the plane had disappeared when *You* straightened up after trying to pick up the cards. Then, *You* found herself standing alone on a high cliff-top with the pack of cards, but *You* could not make the patterns anymore, so while trying to decode the patterns,

⁸⁴⁰ Gregory Benford and Elizabeth Malartre, *Beyond Human: Living with Robots and Cyborgs*, A Forge Book (Tom Doherty Associates, LLC), New York 2007, p. 178.

You woke up with fear and loneliness. After this bad experience, *You* decided to refrain from sleep for the next seven days in case repeating the same dream that might hinder her work. *You* does not want Allan to take the work away from her and give it to a young one, so *You* spends too much time on work. *You* finds it difficult to estimate what people need in cyber life, but as a real woman she can always know what they need and gives them what they want, hence thanks to this talent of pleasing people in real life *You* “straight[s] towards being the perfect wife/mother/daughter/daughter/neighbor/friend/and finally/mistress.”⁸⁴¹ Because of this reason, she spends all her time online in order to answer to the needs of players:

You have two sorts-mechanical sleep and physical sleep. Mechanical sleep is when you cut out for a period of time. Sometimes it's induced by your programmers, far away at the other end of the terminal line, and sometimes it just occurs unexpectedly and for no apparent reason that you can work out. Either way you stay where you are, in whatever posture you're assuming at the time, like a switched-off toy. You don't mind that type of sleep at all, mainly because you wouldn't even be aware that it had happened without your on-board clock to tell you that hours have elapsed. Physical sleep is different. It's a hangover from your former life, no doubt induced by the smattering of organs that you still have left in various parts of your body. When you feel 'tired' (a strange concept to you these days), you either just lie down on the floor or you go upstairs, where there's still a proper bedroom, and collapse on to the bed. Then you invariably dream. When you wake up, you know without consulting your timer that some hours have passed, because snippets of your history have lodged themselves in your thoughts like ticks in a dog's fur. You have to pluck them out. It hurts.⁸⁴²

That is, sleeping is a problem for the cyborg woman, but again Thomas installed a different kind of sleep to her cyborg figure.

3.2.3.3. The Loneliness and Strangeness of the Cyborg

Haraway draws the cyborg as not innocent and loyal to its origin. That is, they never feel duty or responsibility to anyone or to their origin, so they are free and alone. Cyborgs are partly mechanical and partly biological beings and their partly machine

⁸⁴¹ Thomas, p. 8.

⁸⁴² Thomas, p. 61.

side gives them a strange appearance. On the other side, Thomas criticizes the position of women in society by loading loneliness and strangeness to her cyborg figure. This loneliness, results from the patriarchal authority, has always loaded different meanings to women such as strangeness, madness, monstrous, lunatic, Otherness, and weird. Likewise, the strangeness of the Other loads the cyborg figure an alien feature.

In **YOUR LONELINESS**, *You* explains how she misses her husband John and her child, and her loneliness without them. However, after her disastrous affair, she is impervious to the feelings of other and *You* begins to think only herself by remaining closed off because it is the easiest way to cope with the loneliness.

In addition, the paranoiac fear of cyborgs to be seen as alien by the rest of the society is best explained through the cyborg woman who is regarded as weird because of her body. In the light of Haraway, Thomas's cyborg breaks down the boundary of female/male dualism in society. Thomas also criticizes patriarchal society in which women are still harassed because of their female body. Because of such harassment, women are pushed to return to their domestic home. The other point is that; virtual world is safer than the outside for each sex, in this techno-digital age, people prefer to manage their lives online while lying on their bed, even they prefer to continue to communicate with people via social media, forums and social networking websites such as Facebook, Twitter, Viber, and WhatsApp and fulfill their needs via online shopping and online banking. We are accustomed to live online at full and high speed net. The new technology makes the life easier, the connection faster through regenerating us into wired cyberselves.

In the chapter, **YOU GO OUT**, the cyborg woman has a bad experience of going out to use the cash card machine, so *You* decides not to use it again, instead she will find another way to draw money from her account. While *You* is waiting in the queue, a group of disco roller-skaters arrived. The connection between the machine and *You* is expressed like that: "You stayed a while in front of the machine, watching the lights flickers and wishing that you could talk to each other better. You felt lonely."⁸⁴³ The reason of the sense of this loneliness is going out to the real world, to the danger. When the cyborg woman comes face to face with one of the skaters who is drinking, he wheels

⁸⁴³ Thomas, p. 10.

round to bar her way. When they make eye contact, “like so many others in the past, he didn’t comprehend what he saw, and he was scared”⁸⁴⁴ by saying: “Look at this, lads! Look at this slag’s eyes! Weird, en’t they?”.⁸⁴⁵ While the skater boys consider her as weird, she also considers them as alien with “goggle-eyed,” that is, it can be referred from the novel that *You* feels herself alone outside the technological world or cyber world and begins to find the others scary though “there’s a trace of you in every one of them, but they just can’t see it.”⁸⁴⁶ The novel starts with the alien-weird position of the cyborg woman in this techno-digital age in the first chapter, **WHO ARE YOU?** and it is stated like that:

People often turn away from you in the street, but you can understand that. You find them pretty scary too, and of course you know you’re both frightened by the same thing-you see a little bit of yourself in them, and they see you likewise. The only difference is that you understand, and they don’t. you’ve heard them whisper, when they think you’re too far away to hear: ‘There’s something odd about that woman, but I can’t quite figure out what it is. She’s just not quite the same as us...’⁸⁴⁷

Because of these reasons, the cyborg woman develops the habit of going out very little not to make people feel uncomfortable and not to lose time outside instead of doing online banking. She makes online shopping, online banking, and orders all the requirements to her house like most of us do in this techno-digital age.

3.2.3.4. Cyber Job of the Cyborg Woman

Thanks to digital revolution, traditional hegemonic structures and power bases of male domination declined. Then, as Plant argues, there appeared a “genderquake” in the 1990s in Western cultures that the power in technological innovations shifted from men to women who gained economic opportunities, technical skills and cultural power, and she stresses on the liberating potential of cyber culture for women’s subversive subjectivities. Plant argues that the technology is not a patriarchal system in which masculine identities regard female identities as nothing, a zero. There is a close relationship between women and machines, Zeros now have a place, enter to the matrix

⁸⁴⁴ Thomas, p.11.

⁸⁴⁵ Thomas, p.12.

⁸⁴⁶ Thomas, p.1.

⁸⁴⁷ Thomas, p. 1.

and virtual world of infinite possibilities by displacing the order of ones. The character *You* enters to the matrix and virtual world and so, displaces the order of ones by creating multiple virtual realities. In her “Binaries” section of *Zeros and Ones*, Plant stresses on the symbolism of zeros and ones which represent Cartesian duality; male as phallus and female as lack. She asserts that while computers:⁸⁴⁸

[...] are gathering information, telecommunicating, running washing machines, doing sums, or making videos, all digital computers translate information into the zeros and ones of machine code. These binary digits are known as *bits* and strung together in *bytes* of eight [...] And they made a lovely couple when it came to sex. Man and woman, male and female, masculine and feminine: one and zero looked just right, made for each other: 1, the definite, upright line; and 0, the diagram of nothing at all: penis and vagina, thing and hole . . . hand in glove. A perfect match. It takes two to make a binary, but all these pairs are two of a kind, and the kind of one. 1 and 0 make another 1. Male and female add up to man. There is no female equivalent. No universal woman at his side. The male is one, one is everything, and the female has “*nothing* you can see.” Woman “functions as a hole,” a gap, a space, “a nothing—that is a nothing the same, identical, identifiable . . . a fault, a flaw, a lack, an absence, outside the system of representations and auto-representations.”⁸⁴⁹

Here, the phrases of Luce Irigaray above “*nothing* you can see,” “functions as a hole,” and “a nothing—that is a nothing the same, identical, identifiable . . . a fault, a flaw, a lack, an absence, outside the system of representations and auto-representations” are quoted by Plant.⁸⁵⁰ That is, women living in this binary world were left to be female but nothing else while men were regarded as the ones doing anything. In other words, Plant says that women were considered as “single purpose systems, highly programmed, predetermined systems tooled up and fit for just one thing,”⁸⁵¹ but this is more suitable for men who have single minded behaviours and actions. Women can do multiple or various several things at the same time while men cannot concentrate on two more things synchronically.

Plant claims that monitors are merely avatars of the Net, and there is a kind of actual space behind. Technology is changing us as we change technology. Plant also

⁸⁴⁸ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, pp. 34-35.

⁸⁴⁹ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, pp. 34-35.

⁸⁵⁰ Irigaray, *Speculum of the Other Woman*, p. 47.

⁸⁵¹ Irigaray, p. 36.

asserts that touch as the interplay of the senses appears as a power on the web; that is, touch replaces sight denying masculine tendency that separates and classifies the world through visual devices. In the wetware, “living is an immerse, multidimensional process,”⁸⁵² so such world creates direct physical contact between those living on land. Plant calls the Net “hypersea ... a terrestrial sea of countless and interconnected conduits”⁸⁵³ with the creatures that constitute it. In ancient Greek mythology the relation between body of the unknown and the ocean is linked to “water and madness... in the dreams of European man.”⁸⁵⁴ Thus, the hypersea embraces also the female besides the liquid, the mutable, the ever-flowing. Plant creates the metaphor of the digital web as the female body whose detail, multiplicities, multi dimensionalities are against the wholes, the unitary perspective of man the screen. Likewise, the body of *You* is like the digital web which is against the wholes. She has multiplicity in her own body having both human facilities and machine-like facilities using computerized digital working system. Thus, she has much more details in her body that is multi-dimensional. As she is living in wetware most of the time, her living body has multidimensional process both as a composer, living cyborg organism in real world and managing cyberselves in virtual cyber world. She has a direct physical contact with the virtual world she has created though both her consciousness and her body plugged by cables. That is, *You* creates a hypersea with Rosa and the virus Shirley in her composed game world, hence; virtual selves are fluid, mutable and ever-flowing. For example, the fluid Rosa is always mutable and flows to every virtual reality that differs in each play.

In addition, Plant assumes that “if women were computers, now they were programming themselves.”⁸⁵⁵ The character *You* is also programming herself as well as programming the game. Plant claims that the computer technology consists of the contributions of women to the sciences and claims that “women seem far ‘better prepared, culturally and psychologically’ for the new economic conditions which

⁸⁵² Irigaray, p. 248.

⁸⁵³ Quoted by Plant, *Zeros + Ones: Digital Women + The New Technoculture*, p. 248. See also Mark McMenamin and Diana McMenamin, *Hypersea: Life on Land*, Columbia University Press, New York 1994, p. 93.

⁸⁵⁴ Quoted by Plant *Zeros + Ones: Digital Women + The New Technoculture*, p. 250. See also Michel Foucault, *Maddness and Civilization, A History of Insanity in the Age of Reason*, Pantheon, New York 1965, p. 18.

⁸⁵⁵ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, 151.

emerged at the end of the twentieth century.”⁸⁵⁶ In the novel, it is stated that woman cyborg, *You*, is the best for the digital work both psychologically and culturally. In one of the breaks, Marie says that “Women make the best composers, although there are a few men who make a living at it” and even claims that “Bereaved mothers are the best candidates of all. This is because they have no demands on their imaginative resources their faculties are well developed and in need of an outlet.”⁸⁵⁷ More, it is stated that *You* is happy most of the time and sometimes of course *You* feels some regression, but her work helps her to purge her thoughts and emotions. *You* is a compositor and busy with her work, so when she overwhelms by the amount of source material, she takes a week off by switching off completely and then in turn she begins to work as refreshed. *You* has the project of composing because of her complex seniority, but she knows that she is the best in business.⁸⁵⁸

Wajcman praises Plant for her “cleverly” using “the digital language of computers-sequences of zeros and ones- to evoke a new gendering of technology.”⁸⁵⁹ Wajcman claims that it is Plant who asserts that women have been central to technology by stressing their female superiority as programmers thanks to their skills in weaving, so as weavers of information they contribute to modern computing. Plant supports her idea of weaving from Freud who “is willing to ascribe [weaving] to women,” because “He tells a story in which weaving emerges as a simulation of what he describes as a natural process, the matting of public hairs across the hole, the zero, the *nothing* to be seen.”⁸⁶⁰ Wajcman argues that Plant “interprets this idea that women are essentially suited to weaving by identifying weaving with the threads of communication that enmesh the world, the connections these allow, and the metaphor of the connectionist machines.”⁸⁶¹ Plant ridicules Freud’s failure to understand women and his depiction of women as a lack and absolutely nothing at all. She opposes to Freud’s attempt to femininity; “to those of you who are women” as a problem; “this will not apply-you are yourselves the problem.”⁸⁶² Freud, while watching his daughter Anna, considers the

⁸⁵⁶ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, pp. 42-43.

⁸⁵⁷ Thomas, p. 17.

⁸⁵⁸ Thomas, p. 5.

⁸⁵⁹ Thomas, p. 64.

⁸⁶⁰ Plant, “On the matrix: cyberfeminist simulations”, p. 332.

⁸⁶¹ Wajcman, *TechnoFeminism*, p. 65.

⁸⁶² Sigmund Freud, “Femininity”, *New Introductory Lectures on Psychoanalysis*, Freud Library Volume 2, Penguin, London 1977, pp. 145-69.

sexuality and genitalia of female as deficiency and only male genitalia can fill its emptiness. Therefore, Plant challenges to the misinterpreted understanding and consideration of women as nothingless in history as if the only presence is the masculine and absence is the female in society. Plant asserts that:

Having had little option but to continually explore new avenues, take risks, change jobs, learn new skills, work independently, and drop in and out of the labor market more frequently than their male colleagues, women seem far “better prepared, culturally and psychologically” for the new economic conditions which have emerged at the end of the twentieth century.⁸⁶³

Supporting Plant’s ideas, Wajcman argues that women have opportunities to enter the workforce in current technological workplaces and stresses on Plant’s regarding women as superior programmers, weavers of information and as communicators that are more skilled. From this point, Wajcman also asserts that feminization of the workforce “favours independence, flexibility and adaptability,” therefore; she argues that “while men are ill-prepared for a postmodern future, women are ideally suited to the new technoculture.”⁸⁶⁴ Like Plant and Wajcman claim, Thomas creates her female protagonist as a superior programmer, weaver of information, more skilled communicator who is ideally suited and better prepared to the new Technoculture thanks to her adaptability, flexibility and capability. In the novel, all the input about the job of *You* is compared with other artists’ jobs. Marie informs us that composing has the same sophisticated development as the other arts such as painting, writing, drama, music, etc. She claims that all sorts of artists, including composers, have been busy with the dreams, desires and fears of human beings in trying to capture those sensations, but their success was limited because “each artist was informed by only a minuscule area of human experience – his/her own, plus a few snippets read or seen – and could therefore only deal within a very restricted field.” It is the case for composers as well. Thus, this job turns *You* into a cyborg woman, a hybrid of human and machine. The text seems to speak directly with the cyborg woman. Marie also makes comments about the art, the artist and the job of the artist:

⁸⁶³ Plant, *Zeros + Ones: Digital Women + The New Technoculture*, pp. 42-43.

⁸⁶⁴ Wajcman, *TechnoFeminism*, p. 64

Being a compositor means that you must keep your receptors open twenty-four hours a day. It is the only way to do the job properly. Of course, you're all highly sensitive to other people's needs already, but that empathy needs to be fed endlessly with data if it's to be productive. [...] Compositors take their data from every possible source, but it's extremely important that out of all this research there arises at least one central character. Usually this character is focus – through it the client is able to experience the sensations depicted in the fantasy. The method used is the old tool of deconstruction.⁸⁶⁵

That is, compositors use old method of deconstruction but in their own style. Marie asserts that since this old method was first developed, it had aimed to facilitate understanding, and it was difficult to associate it with creative use, at least it seemed like that. She claims that the method used by compositors is the old tool of deconstruction by giving example of practitioners, and the radio of whose pieces are taken apart by a child. Practitioners claim that they know how the radio works but they find that once it is disassembled they cannot put it back together and the radio will never play again, that is, once it is touched then it means that the original maker loses the control disassociating from it. In the same way, once writing is dismantled into pieces, it becomes impossible to put the pieces back together again, so the original maker loses his or her control over the text by becoming disassociated from it. This is the other intertextuality giving reference to Roland Barthes. Marie says that this is the birth of the reader and the death of the author, as Barthes claimed. Hence, the compositor deconstructs the real life experiences by creating virtual lives and characters, but loses her control over them later, so both the composed virtual world and selves have their own self-control differing from player/reader to player. Marie explains this same case for the compositors like that:

And that's what compositors do too. They take up the old expressions and allow them to speak each other all at the same time, in parallel. And as with the complex system, this means that we must first break them down into their component parts. Then we sort and reclassify them and then allow them to grow back together as hybrids. Enhanced meaning, enhanced beauty, enhanced mystique.

⁸⁶⁵ Thomas, p. 17.

Shortly, it is compositors by whom every human experience is researched and examined through long year study. Thereby, Marie reminds the cyborg woman of her role that is difficult to compose.

3.2.3.5. Composing Cyberselves

McCaffrey claims that “there’s some kind of *actual space* behind the screen, someplace you can’t see but you know is there.”⁸⁶⁶ *You*, by composing an actual space behind the screen, creates a virtual cyberself who later turns out to be an actual self within the body of her. Plant argues that:

This actual space is not merely another space, but a virtual reality. [...] Cyberspace is nothing transcendent. [...] Entering the matrix, is no assertion of masculinity, but a loss of humanity; to jack into cyberspace is not to penetrate, but to be invaded. [...] Cyberspace is the matrix not as absence, void, the whole of the womb, but perhaps even the place of woman’s affirmation. This would not be the affirmation of her own patriarchal past, but what she is in a future which has yet to arrive but can nevertheless already be, felt. [...] This fabric, and its fabrication, is the virtual materiality of the feminine; home to no-one and no thing, the passage into the virtual is nevertheless not a return to the void.⁸⁶⁷

Plant makes a resemblance between the woman and the computer. That is, behind the screens of computers there are virtual realities and behind the body of woman, there lies her reality, so she conceals her reality/virtuality behind her screen that is her camouflage and veils. Like a computer, *You* creates her virtual reality self, Rosa by whom she finds her reality/virtuality.

Like infodumps, Datablocks are for players to tune one by one, and they become open and on-line when they pass infodumps, then, they are ready for the game. From **DATABLOCK A** to the **DATABLOCK E**, the composer’s creation of the two virtual figures is explained as an introductory chapter to the game before entering the motion of their virtual world. *You* composes Rosa as a virtual reality character in cyber world, but then suddenly there appears another virtual figure Shirley as a virus that *You* cannot delete, so these two figures become friends for years. These two close friends live

⁸⁶⁶ Larry McCaffery, *Storming the Reality Studio: A Casebook of Cyberpunk and Postmodern Science Fiction*, Duke University Press, Durham NC and London 1991, p. 272.

⁸⁶⁷ Plant, “The Future Looms: Weaving Women and Cybernetics”, p. 60.

opposite to each other. In the **DATABLOCK B**, the birthday of Rosa is mentioned that was twenty years ago when moon-walkers began their journey. Here, we see the sharp criticism of male dominated technoscientific events. Rosa tries to watch the program of the first moonshot on TV by making an effort to stay awake for it. It is said that of course Yuri Gagarin was the first to see the Earth from orbit, but after these moon-walkers, “We all know now what our planet looks like from space, but these astronauts seeing it for the first time marveled at its beauty.”⁸⁶⁸ Rosa wonders about what would happen if women had gone first to the moon and her feeling that “the entire mission would have been so much more meaningful if women had gone first”⁸⁶⁹:

what would it have been like if the three [astronauts] had been female? Since menstruation is influenced by the moon, would they all have started their periods as they approached it? Maybe that’s what the poor dead dust is waiting for—a drop of red, a discarded egg, to set the whole show going again.⁸⁷⁰

It is claimed that the moon must want a woman and after the program ended, she looks up the moon and feels that both she and the moon are disappointed about this situation and explains the mood of the moon like this: “Pale and anaemic, it gazed back hollow-eyed. Barren.” Then *You* writes the last statement of Rosa: “Don’t worry,’ she said. ‘Our time will come.’”⁸⁷¹ That is to say, Rosa predicts that time of women will come. There was no woman who flew during Mercury, Gemini and Apollo and women were not accepted to the astronaut corps of NASA until 1978. Collins was selected by NASA in 1990 and became an astronaut in 1991. In July 1999, she became the first female commander of a shuttle mission with STS-93. It was Sally Ride, the first American woman, who flew into space aboard the space shuttle in 1983. Susan J. Helmes performed a world record with her spacewalk of 8 hours and 56 minutes in March 2011.

In **FROM YOUR GIVEN DATA YOU CREATE ROSA**, the text is telling how *You* creates Rosa as well as how Shirley appears: “The piece is beginning to come together now. It will be about a woman, and her name will be Rosa...You love her

⁸⁶⁸ Thomas, p. 23.

⁸⁶⁹ Thomas, p. 24.

⁸⁷⁰ Thomas, p. 24.

⁸⁷¹ Thomas, p. 24.

already.”⁸⁷² It is stated that Rosa is only a composite built of data and “she lives and breathes in your [cyborg woman’s] imagination and it’s not yet time for you to meet her. But she’ll be here soon, and her story will unfold itself.”⁸⁷³ However, when *You* loges in the day before, someone else tries to butt in and “her profile popped up on the screen, so you reset. You only need one person [Rosa] in this fantasy-two would make it complicated.” The Virus, Shirley, seems hopeless but she is not the type of Rosa being a designer lady. *You* does not want her to enter the program, but cannot make her out of it. *You* thinks that such an opposite figure to Rosa can make the program bad, and claims that this virus travels everywhere, has not a soul and philosophy, so she has not right to enter to her game program. However, after *You* resets, she appears again trying to squeeze in next to Rosa: “Hang on...she’s got a name now...Shirley. Not a very pretty name. boring. But...oh...she’s pushing in...you can’t keep her out...get away!...she’s messing it up...oh no...you can’t stop her...”⁸⁷⁴ by this way, the creation of Shirley by *You* is completed.

3.2.3.6. Male Boss and the Woman Cyborg

For Plant, “Cyberspace is out of man’s control: virtual reality destroys his identity, digitalization is mapping his soul and, at the peak of his triumph, the culmination of his machine erections, man confronts the system he built for his own protection and finds it is female and dangerous.” She asserts that “there is a virtual reality, an emergent process for which identity is not the goal but the enemy, precisely what has kept at bay the matrix of potentialities from which women have always downloaded their roles.” Hence, Plant defines cyberfeminism as “an insurrection on the part of goods and materials of the patriarchal world, a dispersed, distributed emergence composed of links between women, women and computers, computers and communication links, connections and connectionist nets.”⁸⁷⁵ Like Plant, Wajcman asserts that in “Cyberspace, all physical, bodily cues are removed from communication. As a result, our interactions are fundamentally different, because they are not subject to judgments based on sex, age, race, voice, accent or appearance, but are based only on

⁸⁷² Thomas, p. 26.

⁸⁷³ Thomas, p. 27.

⁸⁷⁴ Thomas, p. 27.

⁸⁷⁵ Plant, “On the matrix: cyberfeminist simulations”, p. 335.

textual exchanges.”⁸⁷⁶ Plant celebrates that cybertechnology is out of control and free from male control. Some may consider the Internet as a product of global capitalism with new forms of exploitation such as women’s exploitation, but Plant does not see technology likewise and instead she asserts that digitalization of women or technology means freedom for women.

Besides, subversion of masculine identities and multiplicity of innovative subjectivities are the main concerns of new technologies. As seen in Plant’s metaphor of zeros and ones, the singularity of masculine identity verses the multiplicity. That is, conventional gender roles are transformed via the Internet because a machine can alter the body and self-relationship. This idea has become a popular theme of the recent postmodern feminism. For Plant it is men who have always been in the “prospect of being in a position to know, and preferably control [...] crucial to modern conceptions of what is used to be called man’s place in the grand scheme of things.”⁸⁷⁷ In Plant’s term thanks to this genderquake, “Everything was moving much too fast. What had once seemed destined to become as smoothly regulated world was suddenly running away with itself. Control was slipping through the fingers of those who had thought it was in their hands.”⁸⁷⁸

In **YOUR SECRET LIFE**, the boss of the cyborg woman, Alan, tries to suppress her. He phones *You* to ask how the story is going on, but “You hate it when he keeps tabs on you.”⁸⁷⁹ He is friendly, but tries to control *You* and that makes him cool. *You* tells him that the story is not too bad: “I think we’ll be finished on schedule,” But, he is confused with the pronoun ‘we’ as he knows she is working alone, and he asks, “We?” Then, *You* explains, “The terminal and me, of course. We’re practically one person anyway, so what’s wrong with calling us “we”? You linked us up in the first place...”⁸⁸⁰ *You* tries to explain how she feels as a cyborg woman. When, Alan says, “Ok. Don’t get mad. I’m just suggesting that you keep a sense of proportion, that’s all. It’s only a machine”⁸⁸¹ *You* gets crazy to hear that it is only a machine: “Yes. I know. ‘The neutral link is no different to standard keyboard input.’ But you’ve never done it, Alan. It

⁸⁷⁶ Wajcman, *TechnoFeminism*, p. 66.

⁸⁷⁷ Plant, p. 45.

⁸⁷⁸ Plant, p. 44.

⁸⁷⁹ Thomas, p. 107.

⁸⁸⁰ Thomas, p. 108.

⁸⁸¹ Thomas, p. 108.

doesn't feel like that." *You* then realizes that she has said too much to give herself away and she tries to calm herself by saying to herself, "How the hell would he know?,"⁸⁸² the process of her trying to change her body into a cyborg. Alan changes the subject and thinks that *You* has a cold because of her voice and tries to give home remedy recipe. As *You* knows that it is because of not using her voice so much as she is always online, *You* talks to herself, "you cannot explain that it is more a question of hardware incompatibility, can you," so she listens his home remedy recipe. He recommends her not come work these days, but she rejects and is afraid of his wishing to visit her. However, as she guesses, he says, "It would just be nice to see you once in a while. You're missing some very important updating sessions, you know, and it's a shame because there are so many youngsters here who'd love to meet you." *You* thinks that the problem for her boss is that he is insisting on to show her off for a long time, but does not like such kind of manly show offs. He tries to use her as an advertising face and it is a kind of patriarchal view of male authority to use a woman's body as a show off object to affect and persuade clients. The second problem with him is that she feels him too close for comfort and too close within her borders in order to control her: "he keeps insinuating that you're going a little crazy-he doesn't know the half-and you suspect that he doesn't really trust you any more. You've grown beyond his control."⁸⁸³ It is stated that Alan is her pimp: "That's something he hasn't acknowledged. He did, nevertheless, deliberately collaborate in your deflowering on the very first day of the training course. It was many years ago, but you can't forget it."

Besides, *You* remembers the 'Personalized Training' that consisted of threesome: Alan, *You* as an unwitting lady, and a micro in a tiny room for days. Alan finding some excuses to sidle out (he does this when he understands that *You* is getting on good at training), leaves *You* alone with a keyboard and the screen, but *You* realizes that his intention is to spy on *You* and in the room next door there is another micro, networked into yours, so by this way, he can watch her working and printout her progress. At first, *You* feels uncomfortable but then thinks that "What the hell, he can watch if he likes. You knew that he couldn't do it himself, poor man."⁸⁸⁴ She thinks like that because she is sure that he doesn't have the ability of emphasize as she has. This shows us that men

⁸⁸² Thomas, p. 108.

⁸⁸³ Thomas, p. 109.

⁸⁸⁴ Thomas, p. 109.

in business life do not have the ability to empathize which is often associated with women, because of this reason we can claim that men do not have a social and empathetic manner to the people in work place and this prevents the problem solving ability.

3.2.4. Cyberspace and Virtual Realities of Cyber Figures

Plant declares herself to be in favor of “cybernetic feminisms” that explore the “convergence of woman and machine.” In her philosophy, we meet with the metaphor of weaving that she claims the computer emerging “out of the history of weaving, the process so often said to be the quintessence of women’s work. The loom is the vanguard site of software development.”⁸⁸⁵ In other words, Plant relates the computer to the process of weaving countless patterns and resembles it to the Jacquard loom which weaves the flowers and leaves.⁸⁸⁶

Thus, she gives reference to the first computer programmer Ada Lovelace, who is the daughter of Lord Byron. Lovelace designed the first computer software by weaving the looping of algebraic patterns onto machines after she understood the working system of the Jacquard machine. Plant also draws her weaving metaphor on Sigmund Freud’s claim that women solely contributed to civilization by weaving but Plant turns this restricted view into women’s weaving contribution into the whole of human history, creative and scientific discovery. She contends weaving that “has been the art and science of software” and “even the fabric of every other discovery and invention.”⁸⁸⁷ She claims that “weaving is always already entangled with the question of female identity” and so comes to a point “at which weaving, women and cybernetics converge in a movement fatal to history,”⁸⁸⁸ this convergence leads to the eventual liberation of women. Plant also argues that women have woven themselves into history’s fabric through learning how to imitate and simulate although they never been the subject of it. Like computers, women can “mimic any function,”⁸⁸⁹ so they can espouse a particular kind of virtuality. In Plant’s version of the matrix, embodiment is irrelevant because she

⁸⁸⁵ Plant, “The Future Looms: Weaving Women and Cybernetics”, pp. 45-46.

⁸⁸⁶ Plant, “The Future Looms: Weaving Women and Cybernetics”, pp. 45-46.

⁸⁸⁷ Plant, “The Future Looms: Weaving Women and Cybernetics”, p.56.

⁸⁸⁸ Plant, “The Future Looms: Weaving Women and Cybernetics”, p. 57.

⁸⁸⁹ Plant, “The Future Looms: Weaving Women and Cybernetics”, p. 59.

points out self-organizing systems and self-arousing machines of cybernetic systems/circuits. Women do not have necessity of defining or achieving selfhood because cybernetic systems lead to the possibility of “an agency, of sorts, which has no need of a subject position,” so Plant demonstrates cyberspace itself as emancipatory for women thanks to its notion of disembodiment.⁸⁹⁰ Likewise, Wajcman claims that “the virtuality of cyberspace is seen to spell the end of naturalized, biological embodiment as the basis for gender difference. The Internet is expressive of female ways of being, and thereby creates manifold opportunities for changing the woman-machine relationship. Technology itself is seen as liberating women.”⁸⁹¹

The body of women becomes invisible and has a new embodiment in cyberspace. They do not have a stable or fixed gender identity in this new frontier. They may present themselves as cyborg, avatar, men, animal, or any being and that enables them to have multiple cyber identities and embodiments. Hence, the gender becomes free-floating entity within cyberspace without bodily base. Therefore, Thomas’s cyber entities are not stable and fixed; *You* creates cyber figures in her virtual reality role-play game and these figures become her cyber identities. *You* weaves the Internet through looming an online role-play game for the players/readers and create virtual cyber figures who both represent herself and freedom. Then, by weaving herself with her cyber identity Rosa, she decides to regenerate her body into a cyborg (hybrid of computer machine and human) in order to spend most of her time in cyber reality better. The more she comes closer to her cyber figure, Rosa, the more she becomes fluid, wired and hybrid. She tries to make her body more flexible to computer technology by which she achieves possibility to live in virtual reality within the Net. Wajcman considers women as flexible to the changing technology and describes cyberspace, virtual reality and the Net as distributed nonlinear worlds:

They do not develop in predictable and orderly ways and cannot subject to control. Innovations occur at different points in the Web and create effects that outrun their immediate origins. It is the ideal feminine medium where women should feel at home. This is because women excel

⁸⁹⁰ Plant, “The Future Looms: Weaving Women and Cybernetics”, p. 54.

⁸⁹¹ Wajcman, *TechnoFeminism*, p. 7.

within fluid systems and processes: their distinctive mode of being fits perfectly with the changes associated with information technology.⁸⁹²

That is, Thomas with her distributed nonlinear worlds presents three-dimensional space for the readers; the space of cyborg woman, the space of virtual figures and the space of players. In each space, women are flexible and more suitable to technological developments. In the first space, *You* is better prepared for the online job and best in game composing, Rosa is a powerful unstable and uncontrolled virtual figure, and within the three players, two women, Mrs. Burton and Mrs Cartwright are more clever, easy going and better players than the male player, Mr. Johnson who always complains about the game, suffers transference and wants to switch his avatar Shirley with Rosa. After the artificial intelligence Marie introduced the plot in datablocks, *You* starts the game for the players. The virtual game starts with the travel of Rosa to Ireland. Thomas, by giving place to cyberspace and online virtual realities, she gives voice to the experience of women by focusing on online women bodies.

In the last datablock, **DATABLOCK E-SHIRLEY & ROSA**, the travel of Rosa to Ireland is told. Rosa writes a letter to Shirley saying that she has fallen in love to Conal who lives in Dublin and she says that: "I'll be back in three weeks, but maybe I'll go to live with him after that. Who knows!"⁸⁹³ However, like her other affairs, this relationship ends and she feels very bad as she is very romantic, so Shirley comes to take her home by helping her to handle the situation. Rosa, in her relationship with Conal has felt that she is playing a part in a play and begins to forget who she is because she "worked so hard to be the person I [she] thought he wanted that I [she] couldn't be me [herself] at all." Next, Rose begins to question herself: "Oh why can't be just be me? I mean, you, Shirl, you're always the same. You don't let people change you." Then, Shirley claims that everybody is pretending to be someone else and she gives some examples that her mother and father were pretending to be happy, teachers at her school were pretending to care about her, that is she says that all the people "wear this invisible cloak all the time, thinking that they're well covered up." Thus, Shirley does it the other way round and say: "I'll be the gritty one, down-to-earth, never-minces-her-words Shirley. And then they'll think I'm the only honest one of the bunch." Rosa says that

⁸⁹² Wajcman, *TechnoFeminism*, p. 64.

⁸⁹³ Thomas, p. 37.

she is like that but Shirley says “See, it works” but this time she asks Rosa if she has played a part with her too. Then, Rosa asks what is there underneath of Shirley’s mask and Shirley answers: “To tell you the truth-I haven’t a clue. I’ve forgotten. But I can tell you this,’ her voice suddenly hardened, ‘it’s a different person to the one you know.” Rosa sees that she does not know her best friend. Rosa not only loses the love she has never had but also her lifelong friend Shirley realizing after that day their friendship will not remain the same:

But Shirley, her lifelong friend-she had never questioned Shirley’s straightforwardness. It had always been enough to take her at face value. And if she was honest with herself, Rosa would have to admit that she’d believed that face value was all Shirley had ever had. So now, after all these years, she [Rosa] had discovered that even Shirley was not real.⁸⁹⁴

However, this problem between them will end as usual because they have known each other for nearly fifteen years and although “their friendship had undergone many traumas, and although they had often fallen out and drifted apart only to be brought back together by some chance or crises, neither had ever seriously considered moving away from the street in which they had both lived for so many turbulent years.”⁸⁹⁵ As seen above, in real life people can play a part as well or wear masks and we cannot see their real faces, so in the cyber/virtual life people can play the role of others as well. Therefore, cyber/virtual world resembles the real life in which we live. For example, women are used as sexual objects both in real life and cyber life. Cyber life is the mimesis of the real life as what Plato claims.

In the next chapter **YOU REMEMBER**, the text is again talking directly to the cyborg woman, *You*. *You* was a wife and mother and *You* sometimes misses her family house, so she expects Rosa to miss her house too. Rosa settles her new house, but Rosa has memories of her children in her previous house as what did *You*. In this chapter, we learn that the family of *You* had an accident and after this tragedy, she stayed in the same house for a while, but her husband John and her boys, Charlie and Phil, didn’t leave her in peace. *You* was longing for them and every night cried for them, but “however painful it might be, you were still alive, and you couldn’t go on like that,” so *You* decided to sell the house and told this decision to her dead husband and children in

⁸⁹⁴ Thomas, p. 45.

⁸⁹⁵ Thomas, p. 49.

her dreamlike family meeting. The boys were excited and happy by the news, but *You* said, “But you must understand, all of you, that you can’t come with me. The new house will be too small, you see-it only has one bedroom.”⁸⁹⁶ But they settled down and this time *You* pressed on: “We can’t go on like this.” *You* spoke very gently. “You must understand that you have died but I am still here. I must try to make a new life for myself, without you.”⁸⁹⁷ After then, *You* has not seen them since that day. Because of this reason, *You* makes her cyber character Rosa move to a new house.

In **HOW DO YOU FEEL**, the text is speaking with the cyborg woman again about how difficult her job is: “You find that your perspective is becoming more and more detached, causing a disturbing unevenness in the shape of the dream. Never mind, in the future it will be regarded as the first step towards a new genre of the mind-machine interface.” Haraway follows this mind-machine interface genre as cyborg manifesto. For her, cyborg figure breaks down the binary between physical and non-physical as well as machine and human, so *You* is a perfect figure both Harawayian cyborg manifesto with her composed cyber world and her machine-human cyborg body. As a composer *You* knows how the story will end and “that ending will be very much like the one you plan for yourself.” However, *You* still does not like the character Shirley and thinks that she does not fit this scenario at all. Although *You* is a composer, she questions her fictional computerized character because it is a virus and acts freely without the control of the composer, its creator: “You think she’s [Shirley] expecting too much from Rosa. Doesn’t she realize how self-contained Rosa is? It’s not for you to say, but you do feel that their so-called friendship exists more in Shirley’s imagination than in fact.”⁸⁹⁸ In the same way, the cyborg woman cannot understand Rosa as well about her decision of a new house. *You* composes her cyber characters but day by day begins to lose control over them.

In the chapter, **SHIRLEY’S BOYFRIENDS**, it is the anniversary of Shirley’s boyfriend Stephen’s death, but Rosa is so busy with her new house and has treated her friend very unkindly although Shirley has always been supportive to her. As Shirley does not want to burden Rosa with her sadness, she goes to the grave on her own. Her

⁸⁹⁶ Thomas, p. 53.

⁸⁹⁷ Thomas, p. 53.

⁸⁹⁸ Thomas, p. 58

stepdaughter Joan even telephones her that evening and invites her to stay with her for a few days, but Shirley does not accept, because she is helping Rosa for her move. Joan was six when she arrived at Shirley's door and Shirley divided her love equally, but when Stephen passed away, she gave all her love to his daughter. Jonathan, her stepson departed to a small flat after Stephen died to feel his own pain.

Nevertheless, Shirley feels sorry for Rosa too as she has not had a man either. She remembers her husband's saying that Rosa's husband Jim blamed Rosa for her coldness and unimaginativeness in bed, but Rosa claimed vice versa that she has a passion by relying on herself for erotic pleasure. Shirley lists her conclusions from her several love affairs: one is that "Older men were often seduced by the explicit underwear," two is that "younger men were less impressed by silk teddies" and three is that "it might be a lot easier if the younger men slept with the older men and left Shirley to pluck her eyebrows or something."⁸⁹⁹

In the chapter **SHIRLEY VISITS FOR THE FIRST TIME**, Shirley visits Rosa a month after moving and is shock to see a different Rosa. Rosa in this town is different to Rosa in the county: "she had become still, gentle, and soft."⁹⁰⁰ In the **ANGELIQUE AND THE SULTAN**, it is told how and upon whom Shirley and Rosa bestowed their virginity. In **THE HOUSE AND THE WILLOW TREE**, Rosa feels herself refreshed after moving this house: "she forgot what life had been like in the days before her momentous move." She sleeps well in this house and "Sleeping Beauty awaiting her return ticket to Real Life." The writer of the text says that "you [cyborg woman] and I were in Rosa's dream" and adds that "Maybe it's possible that while Sleeping Beauty slept she inhabited the true world from which she awoke into our constructed reality."⁹⁰¹ In **GOLDILOCKS ENTERS THE COTTAGE**, Shirley visits Rosa, but she cannot find her at home. As Rosa has not a telephone, Shirley resolves to look for her with her dog Joey. She cannot find her, but while trying to calm her nerves in the cottage garden her lighter flashes and mites begin to cover her. She runs inside, takes a shower, goes to Rosa's room in search of refuge, throws off her towel and falls asleep there.

⁸⁹⁹ Thomas, p. 77.

⁹⁰⁰ Thomas, p. 88.

⁹⁰¹ Thomas, p. 97.

3.2.4.1. Cyber Sex between Two Cyber Women

Players use the dose of desire in this level. In the chapters **ROSA and SHIRLEY** and then **SHIRLEY AND ROSA**, it is told that these two close friends are satisfied with the sex they have made. First one is told from the perspective of Rosa and the second one is told from the perspective of Shirley. It starts when Rosa finds Shirley in her bed. Rosa begins to watch her and has mopped the spittle from Shirley's cheek. Rosa with her finger traces a line from Shirley's left eyelash into her neck, then, kisses her own finger and places it to Shirley's lips. Then, the kissing finger passes from one to the other's lip for a while until Shirley gently pulls Rosa to herself. They start to touch and kiss each other's soft skin and the pleasure of lesbian sex is explained like that: "there was not the self-conscious artistry of man and woman together. It was different [their first experience] to touch another person and know at the same time what that touch feels alike."⁹⁰² Rosa sleeps on Shirley's breast until noon and Shirley in the same way enjoys "an intensely erotic submission. This was the sexual act that she had fantasied but had never expected to experience."⁹⁰³ After this experience, Shirley has thought that she "had turned into Rosa or that Rosa had become her. She had not at all expected to remain in her former body."⁹⁰⁴ For Shirley, the sexual intercourse is an affirmation of love. Shirley confesses to herself that she loves Rosa and wishes to stay with her in this house, but she is aware of the fact that Rosa does not think and feel like her, so decides to leave her and remain silent for the rest of her life. Shirley leaves Rosa by leaving a rose for her. Now it is time for the players to finish the dose of loneliness for both of the characters.

3.2.4.2. Goodbye Virus

Richard A. Spinello asserts that "A virus spread when someone passes long the infected code"⁹⁰⁵ and *You* passes long the infected code while she is composing her cyberself Rosa and there appears Shirley virus. However, "Worms are similar to viruses, but unlike a virus, a worm can run independently and travel from one system to

⁹⁰² Thomas, p. 121.

⁹⁰³ Thomas, p. 122.

⁹⁰⁴ Thomas, p. 123.

⁹⁰⁵ Richard A. Spinello, *Regulating Cyberspace: The Policies and Technologies of Control*, Greenwood Publishing Group, CL 2002, p. 208.

another without attaching itself to another entity.”⁹⁰⁶ Thus, *You* can delete Shirley virus, but cannot delete Rosa who is both a virus and a worm. Rosa is a kind of Melissa virus, a hybrid creature, combining elements of both a virus and a worm. She/Rosa mimics the virus/Shirley (after sexual encounter) and can travel from one system to another easily and independently, but like a worm she sends a copy of herself to any entity and makes herself embedded in that entity forever.

In the next chapter, **GIVING SHIRLEY WHAT SHE WANTS**, *You* places Shirley on a beach where she remembers her childhood memories. She reviews her whole life; her dead husband, boyfriends, and Rosa. She feels that this is like a starting point because she feels herself alone and she turns to her childhood. She starts to play childhood games. She realizes that walking along the cliff-top is one thing she did not do in her childhood, so she starts to climb but the rock is damp and slippery and she is unable to control her legs anymore and she falls down. Next, she remembers that she was playing a game of chicken on the pier: you run to the end to stand there while the waves slash over your head. Shirley stands at the joint of the pier that slippery with damp weed. She walks right up to the end and tries to remain there as long as she can. She thinks that this game is “like waiting on a railway track until the last minute before the express comes thundering through.”⁹⁰⁷ Her feet become very wet but she does not take off her shoes. When she reaches the end of the pier, she realizes that “this is a pretty foolish thing for a forty-year old woman to do, but I don’t care anyway. I don’t care” because she thinks that “this act will sanctify her” and “when she walks off this pier she will enter the grown-up world for the first time.” She walks to the end of the pier, but no one watches her triumph but the sea itself. With the oncoming tide, she walks more and “let the spray fly over her head” and “a curling wave rises and rolls her up inside itself.”⁹⁰⁸ She does not feel suicidal and struggle because she knows that this is inevitable. Nevertheless, she “fights to stay where she is, which at this moment is still upon the stony pier, flat on her face and engulfed by the sweep of a wave which seems to go on forever. Her groping fingers find an iron mooring ring and she clings on to it as the sea recoils for another strike”⁹⁰⁹, but as the ring is old, it is rusted coming away in

⁹⁰⁶ Spinello, p. 208.

⁹⁰⁷ Thomas, p. 133.

⁹⁰⁸ Thomas, p. 134.

⁹⁰⁹ Thomas, p. 135.

her hand and she dies. The cyborg woman listens to her voice of virtual conscious (Rosa) and kills Shirley.

3.2.4.3. The War between Cyborg Body and Cyberself

Plant asserts that “The computer, like woman, is both the appearance and the possibility of simulation” and she claims that “Woman cannot *be* anything, but she can imitate anything valued by man: intelligence, autonomy, beauty. . . . Indeed, if woman is anything, she is the very possibility of mimesis, the one who weaves her own disguises.” *You*, like the computer, is the possibility of simulation and mimics the appearance of the machine through turning her body into a machine. That is, *You* weaves her own disguises and she is “already more than that which she imitates.” *You*, “like the computer, appears at different times as whatever man requires of her. She learns how to imitate; she learns simulation. And, like the computer, she becomes very good at it, so good, in fact, that she too, in principle, can mimic any function.”⁹¹⁰ However, she begins to lose her control over her cyberself creature because like her, Rosa has learned how to imitate and simulate. Day by day, Rosa becomes very good at imitating the program in the Net and succeeds to transform herself into a virus and a worm so that to inhabit in the computerized body of *You*. Thus, Rosa becomes more than what she imitates and she breaks her boundary within the cyberspace and gets her freedom as a free being in real world. This transition creates trouble between the creator and the created.

In **MARY AND YOU**, Rosa’s grow disturbs its creator. *You* has created many figures before: “The pieces you built passed through you like electricity running along a copper wire—one minute they were here, the next they were gone,” but Rosa is so beautiful and different because she has had much relevance for *You*: “More and more it feels as if it’s moving towards something deeper than a simple sensory simulation.”⁹¹¹ The cyborg woman considers Mary Shelley and her work in this chapter. The creation of a new life form by Frankenstein, resembles to her creation of Rosa, but in different ways:

⁹¹⁰ Plant, “The Future Looms: Weaving Women and Cybernetics”, p. 59.

⁹¹¹ Thomas, p. 63.

The life that Shelley created in her book was male, and built by a man. Somehow that dooms it to failure. The sins of the fathers are visited upon the sons. Men have committed so many sins. And how far was Mary really thinking about the way that men take the material that is woman and recreate an image which they can own – only to find themselves unable to respond to the breathing being they have fostered? Frankenstein was the scientist who could not love his own creation, although it loved him. It transcended him, as Rosa is transcending you.⁹¹²

That is, *You* starts to compare herself with Frankenstein who could not love his creature despite its love, but *You* believes that she will love Rosa. Both two creatures transcend their creators, but unlike Frankenstein, *You* “will not reject her simply because she is a figment of your psyche.” *You* knows that Rosa is not real, but wishes that she were real with all her hearth. She is sure that she and Rosa have a future together. Thomas gives a reference to Virginia Woolf’s “A Room of One’s Own” essay: “Somewhere there is room in this world for a woman who feels without knowing and a woman who knows without feeling. Well, that’s not quite true. You can feel a little something now that Rosa is here with you, but it’s somehow shadowy.”⁹¹³ *You* knows that a machine self can also have feelings likewise a human being might not have any. That is what *You* tries; to regenerate herself to get rid of the tyranny of feminine feelings and humanly sensations. She wants to feel like a machine and she knows that a machine can have a soul in the same way a human cannot have a soul.

While *You* is watching her creation on the screen, *You* becomes both disturbed and happy at the same time because Rosa grows and takes the control of her cyberself being. The transformation of these two figures are in process at the same time; the more the cyborg body of *You* regenerates into a machine-like organism, the more Rosa grows her own being by taking control. The more Rosa grows her own cyber identity, the more *You* tries to take her under control, but no matter how much *You* tries, Rosa establishes her own independency. We can say that women were considered either monsters or angels in the house, or mad woman in the attic. If you are mad, it is normal to be illusionary or delusionary like the cyborg woman. The cyborg woman is neither a mad woman in the attic nor an angel in the house. She works as a compositor or a computer program and knows that Rosa is not an illusion and real. The cyborg woman just waits

⁹¹² Thomas, p. 66-3.

⁹¹³ Thomas, p. 64.

to be brought back to life, but considers Rosa to bring her to another life. She gives birth to a child, a new virtual life, that is; she produces her new self. If she cannot end the life of Rosa, she is going to live not only within this cyber world but also a second life within Rosa. Then, *You* tries to speak with that emancipatory cyber character and so an online dialogue starts between *You* and Rosa. By this way, *You* has brought a forth life with Rosa one more (her sons, herself and Rosa); “From somewhere inside this gross mix of circuitry and flesh you have produced a child, which is you. Yes, Rosa is you, sent into the world reborn into a new person who even now turns to face you and cries to return.” From this dialogue, we see that *You* cannot decide to end Rosa, to cast her out in order to get rid of her simulation to turn back to life again. In this dialogue, Rosa begs her not to cast her out, “I belong with you, my life is within you. If you cast me out I shall float free, and where will I go? What will happen?,” but *You* says: “Don’t be afraid. Look at me. I can survive without you, and you without me. I still live. You are only born of me, of my mind. You take with you my love and hope to carry them forward. I shall stay here, purged of my pain.”⁹¹⁴ Next, Rosa says she reminds her of joy and can make her learn to live with pain because Rosa believes that there is no way to purge pain. *You* admits that she is joy and wants to release her to go where she will, but Rosa says: “You’re are selfish! You’re scared! You’re getting rid of me first, before I can have the chance to leave you again.” This reminds *You* of Frankenstein. *You*, then, feels herself as the scientist Frankenstein because like his creature loves him, Rosa loves her, but both creators try to get rid of their new life forms because of fear:

Come, Dr Frankenstein, you say, it looks as though we walk together after all. You cannot face her because it’s true – she carries hurt and disappointment like a dormant disease. Everything good that was left of your life has copied itself on to her. But what else rode on the back of your life, but what will she do with them? You love her, but you don’t trust her.⁹¹⁵

Thus, not to be blamed, *You* begins to blame and accuse her claiming that it is Rosa who left first even before *You* could understand her existence. Rosa accepts that she left *You*, “Yes. I left you. And I’ll leave you again. But I always come back. I come

⁹¹⁴ Thomas, p. 65.

⁹¹⁵ Thomas, p. 65.

and go, but I need to return. Don't you understand? Without you I can't exist."⁹¹⁶ However, *You* does not want to surrender to her, but *You* does not want her to leave, as well: "You must make her go, so that you do not contaminate each other. Oh, you want her to stay, but she would not stay for ever. She admits as much. And you, in turn, cannot countenance such uncertainty." *You* is confused with her because Rosa is a virus from now on and if *You* does not delete this virus, it might contaminate into the machine program in the new body of *You*, so that might cause her new cyborg body not to work properly. *You* loves Rosa, but cannot trust a Melisa virus within her body all the time. Thus, *You* closes down Rosa for that night because of getting tired from her pleadings. *You* is afraid of giving in Rosa. *You* does not want Rosa to enter in her body, so the only way to prevent her body is to delete her otherwise *You* will need to end her regeneration and rejoin the human body. Hence, *You* decides to watch over her without letting her stay any more, but *You* prefers her to go first before *You* deletes her.

In **ROSA MAKES THE BREAK**, it is stated that Rosa has always had a problem with men and men have always had a problem with her because no one understands and knows her. For example, one of her boyfriends, Jim said that: "You're just too much for me, Rosa" and he continued "You're suffocating me with your love. For God's sake learn to be independent. I won't always be here to look after you, you know."⁹¹⁷ She never learned to drive within the year he left and she felt glad for his departure because she had never been totally honest with him. He could not see her broken bones beneath the skin of her self-control. "Only Conal had come near to understanding her, but he had his own self-protection to deal with."⁹¹⁸ In the next chapter, **YOU TRY TO DO YOUR BEST AND LOOK WHERE IT GETS YOU**, *You* feels sad about the loneliness of Rosa. *You* thinks that her central character must not be in that sort of pain and then makes a dialogue with Rosa. Although Rosa thinks that Conal was a mistake, *You* insists on that he seems such a nice man, but she begs *You*: "Please don't put me back with him. I couldn't bear it. I've got other plans now anyway." This other plan of Rosa is to settle down in the body of *You* as a virus secretly. *You* reminds Rosa that she must keep in control and she cannot have other plans because *You* is in charge there. *You* promises her not to mention him again and

⁹¹⁶ Thomas, p. 65.

⁹¹⁷ Thomas, p. 68.

⁹¹⁸ Thomas, p. 68.

reminds her the rules. Then, *You* realizes a point that Rosa might have brought Shirley by accepting her as a virus, “Which reminds me – was it you who brought Shirley into this? I don’t want her around. She gets on my nerves”⁹¹⁹ Rosa says that Shirley is all right because she likes to be with her, but *You* rejects this idea and wants to delete Shirley. Rosa begs *You* to give a chance to Shirley and she swears that she didn’t bring Shirley. Instead, Rosa blames *You* for bringing Shirley because it is the story of *You*. This time *You* rejects to have brought Shirley.

Rosa conquers Shirley’s body and soul. After the sex experience between them, Shirley understands her passionate love to Rosa and goes to eternity with loneliness and guilt in her. In **IT’S TIME FOR YOU TO LISTEN TO ROSA**, *You* begins to “feel her [Rosa] drawing you in, like she drew Shirley into her life. And Shirley can’t cope with it – well, you’re not sure if you can either.” The cyborg process of *You* is about to finish, but “Rosa is hovering round the edges sending ripples through everything. She’s disturbing the equilibrium that’s taken so long to establish.” *You* knows that she’s not real, only a piece of software, but *You* is suspicious of her to engineer something to reach her. *You* is not satisfied with Shirley’s proposed dead-end, so *You* wants to start the story all over again. However, Rosa starts a conversation that *You* cannot start it again and has to wait to the end, and *You* says, “Really? Wait until you’ve sabotaged the whole thing and I have to start again? I’m working to a deadline you know, and at this rate I suspect it’s a dead-end too.”⁹²⁰ *You* means that she is supposed to give the story a dead end in case Rosa takes the control of the virus Shirley and then *You*. Thus, *You* feels sorry for Shirley’s compulsory end, but sees that Rosa is happy about that end, “Look, you’re up to something, aren’t you? I don’t know how you’re doing it, but you’re dabbling. And poor Shirley. I’m even beginning to feel quite sorry for her. You’re very insensitive, you know.” Rosa thinks that she has given what Shirley wanted (sex, friendship, death) that makes her happy. *You* understands that she has lost the control of her cyber character. *You* cannot make Rosa do her commands.

⁹¹⁹ Thomas, p. 70.

⁹²⁰ Thomas, p. 126.

3.2.5. Correspondence between Cyborg Body and Cyberself

In the light of Plant, virtual reality is a kind of flight from the body and cyberspace allows us to create our own cyberselves, so this enables us to create symbiotic relations between us (women) and the machines. As Marvin Minsky claims the machine can be brought to consciousness, cyberself creature Rosa is brought to consciousness by its creator. Rosa as a cyberself transforms herself into a cyber-body loading herself into the cyborg body of *You*. Thus, *You*, unconsciously, plays the role of communicator between her cyborg body and cyberself creature Rosa. Plant asserts that:

Today, both women and the computer screen the matrix, which also makes its appearance as the veils and screens on which its operations are displayed. This is the virtual reality which is also the absence of the penis and its power, but already more than the void. The matrix emerges as the process of an abstract weaving which produces, or fabricates, what man knows as ‘nature’: his materials, the fabrics, the screens on which he projects his own identity.⁹²¹

Likewise, the cyborg woman composer *You* is herself “a great communicator,”⁹²² (like Ada Lovelace that Plant exemplifies). She is a communicator between the players and the virtual selves by composing several virtual games for players and between herself and her cyberselves. The matrix, the cyberspace, is understood by the Nets of her communication. Her process of weaving cybernetic information shows Plant’s association of women with software, the cyberspace and the matrix, that is, the computer which emerged out of women’s weaving history. By weaving cybernetic information, she also weaves the correspondence between cyborg and cyber beings, between women as body and women as self. At the end of the novel, the woman as self, Rosa, and the woman as body, *You*, reunite within a cybernetic organism this time.

In **YOU JUSTIFY YOUR CHOICE**, a strange thing happens while *You* is working at her terminal. When *You* leans over to check the printer, *You* cuts out; “The next thing you know it is afternoon, and you’ve been standing there next to the printer for 5.35.78 hours. Your motor circuits have stopped completely, but fortunately cognition isn’t affected [...] but the worrying part is that you have dreamed about the

⁹²¹ Plant, “The Future Looms: Weaving Women and Cybernetics”, p. 46.

⁹²² Thomas, p. 46.

aeroplane again.”⁹²³ As a cyborg figure, *You* has not been sleeping for over two weeks, so that makes her to worry about her cognitive circuit which might override the motor section, so the energy might be drained off because of over use. Only one solution comes to her mind; to run the recall memory by the help of RealTime in order to purge the system. However, in order to protect herself from the total shutdown, she needs to erase the entire recall file by isolating. If she succeeds this, she will be “a woman (woman?) without a memory.” She does not call herself a woman since she tries to regenerate herself into a machine-like cyborg. Then, she succeeds and begins to recall her past. The first thing *You* remembers is the screaming of her family. *You* was turning back from the zoo; her husband John was driving, her sons were singing, and *You* was six months pregnant sitting in the front seat. *You* undid the seatbelt as it was cutting into her. Her sons, Charlie and Phil, began to argue about the song, *You* was tired and wanted John to deal with it for once. John swung round to shout at them and once he turned his head, a lorry in front suddenly slowed down and *You* hit it straight on. *You* found yourself on the ground: “it felt like sunbathing. You stirred sensually in the warmth-then you realized that the heat on your legs was generated by your own family. They were burning in the car.”⁹²⁴ Without her seatbelt, *You* was catapulted straight through the window screen, but her family could not escape as the doors were locked on the inside and because of the heat it was impossible to get near the car: “You could do nothing but watch your family die and blend your soundless screams into theirs. Screaming.”⁹²⁵ *You* got out of the hospital two weeks later and lost her baby as well as her family. “Like the pack of cards in your dream, your life had been thrown into the air, and you were too stunned to make any sense of it.”⁹²⁶ Two years after the accident, her job became her salvation:

You found that you could fill your mind with such an amalgam of other people’s emotions that there was no space left for your own pain, and isolation of your life was no deterrent to your success. You needed all the time on your own to fill every part of your mind with other people’s hopes and fears. You had none of your own, until the real change came. Now you’re turning your new skills upon yourself and putting into process a transformation which you are still refining and perfecting. All composers

⁹²³ Thomas, p. 138.

⁹²⁴ Thomas, p. 139.

⁹²⁵ Thomas, p. 139.

⁹²⁶ Thomas, p. 140.

build from other people's minds. You have gone one step forward and built from your own mind. To do this, you have researched and absorbed not the vagaries of human experience but the certainties of machine experience. Like a method actor you have copied your machines, aped their programming and their circuitry.⁹²⁷

In chapter **YOU SET OUT**, *You* has tests for the whole three days such as blood tests, urine tests, and marrow tests. *You* has doctors, technicians, programmers, RealTime consultants. *You* can start Rosa up when *You* is free from the tests by connecting to the computer. *You* lets Rosa enter her computerized brain body by imprinting her inside herself. Rosa asks where the real world is and whether this is Earth. *You* tries to explain the real world, "Look around, Rosa. This is my source [cyberspace]. This place is giving me life, as I gave it to you." *You* gives chance to her cyber-creation to live in a virtual world as a simulation of real world (game space). *You* through connecting via her own cables plugged into the computer wants Rosa to feel her body and wants her to touch her hand. Rosa says that the hand of *You* is cold (because of mechanical skin), and Rosa asks if *You* feels her as well. *You* says, "Yes I can feel you. Not in the same way that you feel me perhaps, but this new skin senses you are there, and tells me who you are."⁹²⁸ However, Rosa says that she does not like her new cold skin and wonders why *You* tries to regenerate her body into machine look. *You* explains her thoughts about this regeneration: "This is my last major reconditioning, Rosa. Tomorrow my systems will go down for the last time, and I'll go to sleep for the last time. When I wake up I'll never go to sleep again. I'll never feel the pain. Everything will be forgotten— including you, Rosa. We won't speak together again." Next, Rosa asks whether it is a kind of leaving her forever. *You* affirms her by saying she has created a good virtual simulation for Rosa for a happy and peaceful life in which she can dream her Earth, "Rosa, remember, I've made earth for you." however, Rosa begs her to stay with her in this cyber world through connecting as much as she can, but *You* rejects her by saying she does not want to speak to Rosa anymore.

In fact, Rosa tries to prevent the last operation of *You*, her full regeneration both physically and psychologically because she will delete her memory and past and start a new life without her, so it means that *You* will not remember her composed realities and

⁹²⁷ Thomas, p. 140.

⁹²⁸ Thomas, p. 160.

characters any more, even Rosa. Rosa does not want *You* to leave her and the cyber world, and begs *You* to stay with her by saying that she has a home for both of them, but *You* says “I want to stay. I want to turn back the clock and not do this. But how could I stop it now? It’s nearly finished. By this time tomorrow I’ll be desensitized, and I’ll have forgotten you [...] You’ll have your sensuality, I’ll have my logic.”⁹²⁹ *You* rejects Rosa while she is in connection with the computer and while Rosa is still inside her body. Although she does not trust Rosa, she is not aware of the fact that a virtual cyberself can grow herself into a virus and transmit herself into the body of *You* during the connection. Then, Rosa deliberately threatens *You*, “I can follow you, you know. I know of a way to pursue you into the place where being is all there is. So, if you won’t stay with me in my place I’ll follow you to yours.” However, *You* says that this transmitting is impossible and there is no way to such thing as they have their own lives. *You* knows that after this new operation, *You* won’t remember her although *You* wants to remember Rosa who is the only one alive *You* has in this world though it lives in cyber world.

At that time while *You* is arguing with Rosa, there is a knock and *You* quickly switches Rosa off-line. *You* cannot not say goodbye to Rosa. The senior technicians and two doctors enter and they ask if *You* has ever contacted with any other systems during the whole process of her transformation. *You* says that it is impossible to do this with the terminal line *You* uses for the work. However, they say that *You* has picked up a virus, “We’ve isolated it to you of course, but it’s very persistent and we don’t seem to be able to remove it.”⁹³⁰ They say that *You* needs to decide either to scrap the project or to remain with virus. *You* prefers to continue the project. *You* knows that this virus is coming from Rosa with only whom *You* contacts online every time as Rosa claimed before that she will find a way and regenerate herself within you. That is, *You* and Rosa will reunite in the cyborg body of *You* this time rather than in cyber space. Rosa steps into the world of cyborg body through transmitting herself like a virus. After the last sleep of operation of *You*, Rosa confesses that:

I told you we couldn’t be separated! [...] I found a way. As you say yourself, I’m only a programme, a piece of software, but that means I can do

⁹²⁹ Thomas, p. 145.

⁹³⁰ Thomas, p. 146.

any of the things a programme can do. Some small adjustments, and I was able to reproduce myself within you. Ha! You like to lecture me about how you created me – well, I’ve created myself, again and again and again. . . . You don’t understand. You can’t answer me, can you? Well, let me put it another way – I can copy myself. I’m the so-called virus! But not a virus to do you harm. I only did it so we could be together. Yes, I know that you’re longer capable of loving me, in fact you probably haven’t understood a word of this. subjective data I’m forcing upon you, but listen. If you can do it, I can do it. Rosa will make the journey to your land [not only we as humans make the journey to the cyber world]. I will! Are you listening to me? Soon we’ll be together for ever. I’ve added something on the dream you made for me, and it’s permanent. Anyone who travels to it from now on will find a new place, a still place. A place that you couldn’t conceive of, but I could. And we’ll be first. All you have to do is watch with your single inner eye as I run it through and you’ll see me as I travel towards you. Shall we go dearest? It’s for ever. . . .⁹³¹

Thereby, *You* has created a life that is the simulation of the real world and now *You* has to follow Rosa’s world with her new body and soul. The players finish the game, but *You* knows that the game of Rosa will continue.

In the last part of the game, **YOU FOLLOW HER TO A STILL PLACE**, one day, a large stone throws itself into Rosa’s path and the stone and Rosa lie side by side for some hours, “Both were silent-. As they lay there Rosa, who had the countryside in her blood. Leaked a little of that blood on to the plantain leaves beneath her head as a primitive sacrifice.”⁹³² She breaks a small bone in her foot and wrist and joints are swollen and aching, so she lies on the ground. She “heard voices coming from the wood” and “A collie bounded up to her, stopped to sniff, and bounded on. She did not call out, and soon the voices faded away.” Her head bleeds again and she “noticed the red stain growing on the ground beside her” and she “became aware of another warmth” between her legs, that is, she began to menstruate.⁹³³ She closes her eyes again, “curled up as though lying on her downy quilt, hands between her thighs, slowly staining red. She slept.”⁹³⁴ *You* makes the game story open ended as the players or readers we are not sure if Rosa is dead because the story ends like this: “The next time she awoke, a

⁹³¹ Thomas, pp. 148-149.

⁹³² Thomas, p. 150.

⁹³³ Thomas, p. 152.

⁹³⁴ Thomas, p. 152.

hedgehog was snuffling at the spreading colour on the ground. Rosa smiled. Above her, in the hedge, the elderflower came into bloom and wafted its scent across to the little group of stone, animal and woman. Time passed.”⁹³⁵ A still place *You* sends Rosa is the cyber world in which she will always live through the players. Rosa ends with this game, but she prisons herself in the body of cyborg *You* as a virus.

At the end of the novel, after the last operation of *You*, “You have no memory of your own past any more, but you can still respond. You are newborn.” Maybe in the future, to erase our pain or some part of our memory will be possible with science and technology. If this improvement happens, by erasing bad memories, we can be newborn like the cyborg woman. Turning into a mechanic body without past memories, the cyborg woman clarifies from pain and all her past. In any case, *You* continues her new life by working together with Rosa in composing new stories. However, with the existence of a cyber-artificial intelligence mind (Rosa) in her new body form, Marie says that “you’ll be surprised when you see what you can build. Filtered through your consciousness, life will never seem the same again. You will multiply within us [terminal, cyber world], and we will become part of you as you become part of us.” The other change is that *You* can’t turn Rosa out of her mind now as she did in the past, that is *You* cannot turn off Rosa whenever she wants because Rosa inhabits as a virus in her cyborg body and because “you’ve followed her this far, and when Rosa speaks, she will be heard.”⁹³⁶ With her new full mechanic body that is full of no memory, Marie, the terminal, says that her cyber character, Rosa, will help her to find her way:

She’ll be there, living within you, when you taste dip your toes into a cold moorland stream; when you taste a strawberry; when you enter you lover’s secret places – Rosa will be looking through your eyes and reaching out through your fingertips. And all the while our input will be streaming through you. Rosa will show you Life as it should be lived.⁹³⁷

Then, finally, Marie speaks with the players as if the text speaks with its reader, “Oh, there’s no need to thank me, Mr Johnson. It’s my pleasure. All past of the service. I hope you’ll come back to us again next year. Please don’t forget to return your

⁹³⁵ Thomas, p. 152.

⁹³⁶ Thomas, p. 153.

⁹³⁷ Thomas, p. 153.

headsets to the locker before you leave.”⁹³⁸ Following Haraway’s cyborg figure, *You* continues her life as a human-machine hybrid as well as physical-non-physical hybrid organism thanks to non-physical virus Rosa within her body. She breaks down the boundary of physical and non-physical world through combining real and cyber/virtual reality in itself. Now, her machine consciousness is completed. Her cyber reality Rosa grows, flourishes and develops her own life in the world *You* has composed for her, but later announces her independency breaking the control of her creator and moving to a still place; to her creator’s body and mind. We can say that neither Rosa nor *You* is innocent and loyal to their own world, origin and creators. This time *You* starts a new life in this simulation world that she has previously created for Rosa and so for the players. Her new body is a kind of correspondence between cyber and cyborg hybridity, and between real and cyber/virtual worlds/spaces.

Consequently, the title of the novel *Correspondence* is not a kind of conversation by means of letters but by means of online communication that is, it is the correspondence of a cyborg woman between physical and non-physical reality, between human and AI machine consciousness, and between cyber and cyborg figurations. In an Interview with Sue Thomas, we asked how she came up with the title *Correspondence* and to what it refers, and whether the title is a kind of correspondence or conversation of a cyborg woman with a machine or with people in cyberspace or virtual realities. Or it is a kind of mutual correspondence between women and cyberspace, machine, the Internet, or the technology. In the novel, there is a direct correspondence between the reader and the writer; and Marie plays the role of the guide or mediator between the cyborg woman, compositor/writer and the players/readers. In real life, there cannot be a direct mutual correspondence/conversation/contact between a woman and a man, that is to say, men cannot understand and enter the world of women without a guide. Therefore, we also asked if there is any irony with the title like that: there cannot be any correspondence between men and women in real world, but only in cyberspace. Thomas said that the term correspondence “refers to what might be described as the phenomenological correspondences between our relationship with nature and our relationship with computer/programmed space. I didn’t realize it at the time but it is

⁹³⁸ Thomas, p. 153.

really about the experience of the sublime, online and offline, physical and virtual.”⁹³⁹ That is, in the light of Wajcman, we can say that the novel is a mutual correspondence between women and technology and we can add that it is a correspondence between TechnoFeminism and Science Fiction. Thomas, by using the second person narrative, questions the cyborg figure of woman who is regarded as weird because of her cyborg appearance. All women are cyborgs as they are regarded as both a machine and body: their hands become the part of machines/robots as well as their body works as incubator and sex machine/server. Are you pure human? Who is not a cyborg? We are all cyborgs as we have products of machine in our body, as a result of surgery, operation or at least our teeth are full of metals. And for women, after they give birth, they are not original, they lose their originality, and they become hybrid of human and other organism. Women are just sensible machines to whom men give orders and want them or act like that, but they miss one point a machine can be clever than you by using both its brain and senses.

3.3. TOWARDS TECHNOFEMINIST SCIENCE FICTION

By using Wajcman’s TechnoFeminist approach, we have handled the topic applying it to feminist science fiction, so there appeared TechnoFeminist Science Fiction term which is developed from Haraway’s cyborg manifesto and Plant’s cybernetics. TechnoFeminist Science Fiction is centrally concerned with social and political relations between women and technology. Besides, feminist politics play a crucial role in the ground of TechnoFeminist Science Fiction. Otherwise, the name might be techno-science fiction. That is, the notion of feminism and technology lies more in TechnoFeminism. Therefore, TechnoFeminist Science Fiction is a new approach to contemporary feminist science fiction. In short, we can say that Wajcman’s TechnoFeminism is concerned with the mutual relationship between women and technology, so TechnoFeminist Science Fiction is concerned with the relation between women and technology and science fiction.

⁹³⁹ Mukadder Erkan and Sümeyra Buran, “Interview with Sue Thomas on TechnoFeminist Approach and Correspondence”, *Journal of Research in Gender Studies*, 3(2), Addleton Academic Publishers, New York, 2013, pp. 140-146.

Mary Catherine Harper differentiates feminist cyborg writing from cyberpunk by a “set of cultural and technological transgressors whose politics may not be reduced to simple mind/body oppositions,” because they are so often interpreted as oppositional to humanist subjectivity.”⁹⁴⁰ She claims that “far more so than cyberpunk’s inventions, feminist cyborgs radically reconfigure humanness and expand the potential within humanist subjectivity.”⁹⁴¹ She asserts that Haraway’s cyborg offers more liberatory and expansive possibilities, thus “Haraway’s cyborg is a self-declared deconstructor of humanism while Gibson’s cyborgs deviate from, then reinstate, the humanist position” but nevertheless; they have a similarity: both offered an “imaginative bio-technological form which by its nature undermines the split between humanity and its technology.”⁹⁴² Moreover, Harper points out the most important feature of such “feminist-centered writers of cyborg literature” as the “knowledge that subjectivity is an interchangeable and mutable set of identities, powers, and strategies.”⁹⁴³ *The Cyborg Handbook* claims that technoscience fiction focused on cyberculture and cyborgology:

The complete cyborgologist must study science fiction as the anthropologist listens to myths and prophecies. Science fiction has often led the way in theorizing and examining cyborgs, showing their proliferation and suggesting some of the dilemmas and social implications they represent. And several important critics—Kaye Hayles, Scott Bukatman, Fredric Jameson, Anne Balsamo, and Donna Haraway [...] have used these fictional resources to explore the cyborg and the ways he/she/it affects our ideas of the human.⁹⁴⁴

Likewise, Wajcman’s TechnoFeminism, as a sociotechnical arena, is concerned with cyborg feminism. She outlines her TechnoFeminist approach as it:

[...] fuses the insights of cyborg feminism with those of a constructivist theory of technology. This position eschews both the lingering tendency to view technology as necessarily patriarchal and the temptation to essentialize gender. The theory of technofeminism builds on the insights of cyborg feminism, but grounds it firmly in a thoroughgoing in materialist approach to the social studies of technology, including its own role in those

⁹⁴⁰ Harper, p. 400

⁹⁴¹ Harper, p. 415.

⁹⁴² Harper, pp. 404-405.

⁹⁴³ Harper, p. 417.

⁹⁴⁴ Gray, Mentor and Figueroa-Sarriera, p. 8.

studies. In this way, technofeminism also offers a more thoroughgoing critique of mainstream science and technology studies.⁹⁴⁵

However, she stresses on the mutual relationship between society and technology; women and cybernetics by following the philosophies of Plant's cyberfeminism. Nevertheless, it is difficult to consider a cyborg text as a TechnoFeminist Science Fiction text if it lacks cyber and virtual realities and selves. Or in other words, we cannot name a texts as a TechnoFeminist Science Fiction just because it weaves Haraway's cyborg body images. There are some American cyborg writers such as Pat Cadigan, Misha (a Native American writer), Laura J. Mixon, Lisa Mason, Rebecca Ore, Marge Piercy and Elizabeth Vonarburg who demonstrate Haraway's cyborg figures but to find British TechnoFeminist Science Fiction writers or even feminist cyborg writers is a problematic one. The only TechnoFeminist Science Fiction writers we have found are Sue Thomas and Justina Robson who use Plant's cyber and Haraway's cyborg concepts. Female body is represented by cyber or cyborg figuration within technoscience in TechnoFeminist Science Fiction, which also redefines the relationship between women and technology as mutual. Melzer claims that in feminist science fiction there is an act of resistance to patriarchal context of technology and feminist identity and agency are described by the female cyborg.⁹⁴⁶ Likewise, TechnoFeminist Science Fiction weaves the mutual relationship of women and technology and techno-social relationships with both cyber and cyborg characters such as female hackers, cyber/virtual female selves, cyber/virtual bodies, artificial intelligence females as well as technologically enhanced cyborgs, techno-bodies, machine/women hybrids, animal/women hybrids and physical/nonphysical hybrids.

Both Robson and Thomas follow Wajcman's TechnoFeminist approach by concerning technology as constructivist and as a sociotechnical network. Technoscientific practice embodies social, material and discursive elements in itself and technologies are embedded within changing social relations that technologies may facilitate or constrain. Technologies are embedded in social networks, but feminist politics have led to change the character and identities of these social networks: "technological advances do open up new possibilities because some women are better

⁹⁴⁵ Wajcman, *TechnoFeminism*, p. 103.

⁹⁴⁶ Melzer, p. 21.

placed to occupy the new spaces, and are less likely to regard machinery as a male domain.”⁹⁴⁷ Both Robson’s and Thomas’s TechnoFeminist Science Fiction novels open up new possibilities of technology such as genetic engineering, biotechnology, nanotechnology, AIs, online gaming, artificial reality, and so on. Robson and Thomas place their women characters to occupy the new cyber and virtual spaces; the cyborg Isol in *Natural History* explores the Stuff high technology Moon and the cyborg character *You* in *Correspondence* creates cyber/virtual world for her cyber/virtual characters.

Wajcman asserts that women and girls have been encouraged by some international feminist networks like GASAT (Gender and Science and Technology) into scientific and technical education and works in the information and communication technologies as well as electronics sectors. Government policies or some special programmes have also been encouraging them into mathematics and technical subjects at school. Such kind of efforts is continuing. Like Wajcman, we can say that women still come up against a brick wall in some technoscientific jobs as professional or managerial although traditional male domination in technical, scientific, engineering jobs have declined. Wajcman therefore points out that:

Women are missing out on good jobs in the knowledge economy, thereby impeding their financial independence. While the labour market remains so strongly sex-segregated and marked by a gender pay gap, social justice in unemployment will continue to elude us [females]. [...] every aspect of our lives is touched by sociotechnical systems, and unless women are in the engine-rooms of technological production, we cannot get our hands on the levels of power. This is the insight that technofeminism brings to these debates. I believe that there is room for an effective politics around gaining access to technoscientific work and institutions. There are opportunities for disruption. The involvement of more women in scientific and technological work, in technology policy, education and so on may bring significant advances in redesigning technology. It would also both require and constitute a challenge to the male culture of technology.⁹⁴⁸

She claims that there is a traditional basis and concern that men have dominated scientific, engineering and technical institutions, so technology is seen as a culture that expresses male relations. To this traditional basis, feminine identity is seen as being ill-

⁹⁴⁷ Wajcman, *TechnoFeminism*, p. 109.

⁹⁴⁸ Wajcman, *TechnoFeminism*, p. 111.

suited to technological field. Thus, Wajcman says that “Feminist writing has long not only identified the ways in which gender-technology relations are manifest in gender structures and institutions, but also highlighted gender symbols and identities. Men’s affinity with technology is integral to the constitution of subject identity for both sexes.”⁹⁴⁹ Both Robson and Thomas weave feminist technoscience in their novels by giving their female protagonist the highest status jobs in the field of technology and science. In the same way, Plant challenges the notion and understanding of technoscience as patriarchal origins, so she tries to create a herstory of technoscience in her *Zeros and Ones* which is a kind of rewriting of herstory instead of history of the progress of technoscience with female networks, computers and female agents.

In *Natural History*, the technological progress of technoscience is neither in the hands of patriarchy nor the matriarchy, that is, we see male and female, human and cyborg scientists and technologists. Women can have the best jobs with the highest statuses. For example, the job of Isol Voyager is an elitist which puts her to the highest position to explore the deep space and Professor Zephyr is one of the most famous anthropologist and historian of Earth’s lost worlds who is chosen to voyage with Isol for that exploration work to determine whether the found planet is a habitable like Earth. Likewise, in *Correspondence, You* is also the best computer game composer in computer science field. Both novels portray the gender-technology relationship as mutual and constructivist by bringing women to technoscientific work and institutions. The involvement of those women protagonists in scientific and technological work, bring significant advances in redesigning technology. For example, in *Natural History*, Isol helps to explore a new habitable technology, the Stuff by which it is possible to redesign the highest technology. In *Correspondence, You* makes it possible to load human facilities and senses to artificial cyberselves by transforming her body into a cyborg inhabiting the computerized cyberself-artificial intelligence within her body as a virus, so *You* brings significant advance in redesigning cyber world and cyber virtual human figures in information communication technology sector.

Today, most countries have some egalitarian domestic amendments such as free nursing opportunities and free compulsory (except university) education, and a % 50 of women compulsory quota in politics, so in the future women will exist completely both

⁹⁴⁹ Wajcman, *TechnoFeminism*, p. 111.

in technoscientific work and politics. Until governments arrange positive opportunities to women by amendments, men will continue to fight not to leave their place and seat to women, only by positive amendments for women, society can enable full equal opportunities and encouragements to women. Politics lie under the ideology of any approach, discipline, or theory embracing feminism in itself. Women's participation in technoscience should be supported positively by the government policies and amendments so that there might be equal job opportunities and technoscientific education between women and men. Women publication companies should be supported by the authority power, the government, so that more women can freely engage in TechnoFeminist writing without hesitating in finding suitable presses to their feminist writings. This is the case for TechnoFeminist science fiction movie/theatre writers, scripters, directors and actresses as well.

Therefore, for Wajcman "in order to renegotiate the cultural equation between masculinity and technology, technofeminism insists that we must attend to women's and men's concrete sociotechnical practices."⁹⁵⁰ Masculine power related to physical strength, muscle, using tools and machinery was a central theme of early feminist writing on technology. However, the power of masculine norms and their physical capacity was socially acquired, not because of natural difference, but because of using their body to perform certain tasks. Because women were simultaneously excluded from technical work that was socially embedded to men as a masculine work, it was considered more difficult for women to acquire the practice and knowledge in those technical jobs. Therefore, Wajcman is interested in "the way, in which some men can effectively deploy their technical and bodily capital to control technology, and the way in which male bodily capital can become embodied in technology."⁹⁵¹ Hence, she states that sociotechnical relations are rarely considered as symbolizing masculine characters by men's studies. Thus, as a consequence of linking gender to technology, Wajcman's TechnoFeminism contributes a new perspective of gender-technology mutual relationship to "sociological analyses of gender difference and sexual inequality."⁹⁵²

⁹⁵⁰ Wajcman, *TechnoFeminism*, p. 115.

⁹⁵¹ Wajcman, *TechnoFeminism*, p. 116.

⁹⁵² Wajcman, *TechnoFeminism*, p. 116.

Robson and Thomas contribute a new perspective of mutual relationship between women and technology by weaving cyber feminism and cyborg feminism together. In other words, Wajcman's TechnoFeminism ties the relations of production and consumption together because it runs emancipatory politics as well as trying to give equal emphasis to both production and use of the technology.⁹⁵³ Women are increasingly concerned with technology's production and use, and they are an active presence in cyberspace and dynamic agents in networks that increase their participation in the production of scientific knowledge. Women in TechnoFeminist Science Fiction novels, like Isol, Zephyr, *You* and Rosa, use and produce technology and are active in cyberspace and network areas: Isol by finding high technology works in the process of the production of this new technology, Zephyr works on that technological planet, Zia Di Notte searching whether it is habitable or not. *You* while using computer technology produces online computer games creating virtual avatars for players and Rosa, though created by a real woman, produces a virus from her cyber being and loads herself into the body of the cyborg woman. Finally, Wajcman comments on the political agenda of feminist technoscience like that:

This is so, but not in the way that mainstream charges. For technofeminism, politics is an 'always-ready' feature of a network, and a feminist politics is a necessary extension of network analysis. Science and technology embody values, and have the potential to embody different values. The strength of feminism is that it is strongly attached to a rigorous social analysis-that is, one that meets certain evidence standards, yet always links research to a political practice of making a difference to the network and its effects. It is this relationship between social analysis and projects of social transformation that marks a fundamental difference between standard technoscience studies and technofeminism.⁹⁵⁴

By supporting feminist politics, TechnoFeminism does not seek for common identity, solidarity or collective action like the mission of second wave feminism because of having fractured multiple identities and diverse voices. In TechnoFeminism, there is no need to have new and appropriate identity while entering to social networks in which multiple relations shape and form those diverse identities. Feminist understanding of science and technology is social and political and feminist politics are

⁹⁵³ Wajcman, *TechnoFeminism*, p. 122.

⁹⁵⁴ Wajcman, *TechnoFeminism*, pp. 126-127.

good at linking the personal to political with smart practice of politics and shaping sociotechnical networks. Therefore, the promise of Wajcman's TechnoFeminist politics is "twofold. It offers a different way of understanding the nature of agency and change in a post-industrial world, as well as the means of making a difference."⁹⁵⁵ Likewise, the promise of TechnoFeminist Science Fiction is to understand the nature of women writers and their change in techno-digital world as well as their making difference means. Robson and Thomas make contributions to TechnoFeminist Science Fiction through opening a different techno-digital space of equal and mutual relationship between gender and technology with cyber and cyborg diverse metaphors.

Kristine L. Blair follows Wajcman's TechnoFeminism which brings together many diverse voices being modified in the process that influence one another. She analyzes the path from feminist to TechnoFeminist research and claims that "Not unlike feminist research, technofeminist research intertwines the personal and the political, situating technological literacy in a range of familial, educational, and professional contexts that have been marginalized women's voices."⁹⁵⁶ That is, both feminist and TechnoFeminist research give importance to diverse voices. Blair argues that the TechnoFeminist scholars try to make online space by both welcoming women and answering political, social and professional aims of them, so she considers Wajcman (Carole Stabile and Cheris Kramarae) as exploring "the ways in which technological spaces are gendered domains that have impacted access, equity, and empowerment for women across cultures."⁹⁵⁷ She asserts that in TechnoFeminist research, gender does not have an essentialist role but a materialist and cultural role; therefore, she suggests that TechnoFeminist researchers should question:

(1) how and why women access technology in their daily lives, (2) what larger material constraints impacts that access, and (3) what methods best enable opportunities for women to make their lived experiences with technology more visible.⁹⁵⁸

⁹⁵⁵ Wajcman, *TechnoFeminism*, p. 130.

⁹⁵⁶ Kristine L. Blair, "A Complicated Geometry: Triangulating Feminism, Activism, and Technological Literacy, in *Writing Studies Research in Practice: Methods and Methodologies*, (Ed.), by Lee Nickoson and Mary P Sheridan, Southern Illinois University, Illinois 2012, p. 64.

⁹⁵⁷ Blair, p. 65.

⁹⁵⁸ Blair, p. 65.

Thereby, we can assert that, despite all different feminist voices, women come together under the same umbrella, TechnoFeminist umbrella, trying to put an end to hierarchical divisions between two sexes by contesting inequality. The 21st century is not the end of feminist projects; instead, it continues its road with newly created spaces and new technologies to get rid of the embedded inequality in every field of life. Wajcman argues that the problem in earlier feminists and Cyberfeminists is their loading too much agency to new technology, but less to feminist politics (optimistic position of Cyberfeminists and pessimistic position of earlier feminists).⁹⁵⁹ In terms of Cyborg imagery, Higgins argues that:

While cyberpunk fictions do not openly address feminist concerns, the cyborg itself disrupts restrictive categories of identity in a way that can be friendly to feminist politics. If the cyborg blurs the boundaries between “human” and “machine” and calls into question the purity of such categories, cyborg (both in fiction and in reality) are conceptual tools that challenge the stability of many other conceptual categories (human/machine, human/animal, man/woman, heterosexual/homosexual, etc.).⁹⁶⁰

That is, Wajcman claims that Haraway does not give enough place to the politics and the agency as well, but the cyborg image has enough politics and agency. TechnoFeminist agency tries to reshape the networks of science and technology. Wajcman grounds her TechnoFeminism aiming to do this with the only mission of freeing ourselves because this freedom politics enables feminist politics possible as well as necessary. We can infer that thanks to feminist politics, there appeared a difference, so TechnoFeminism lays up a brick on that difference to continue the shape of the world that feminism has formed/given throughout its history.

In TechnoFeminist Science Fiction the traditional, physical, functional female body is not important for the cyborg embodiment because it is enough to possess female consciousness. As Claudia Springer says, “Instead of losing our consciousness and experiencing bodily pleasures, cyborg imagery in popular culture invites us to experience sexuality by losing our bodies and becoming pure consciousness.”⁹⁶¹ Thus, referring Haraway’s cyborg figuration, female cyborgs free women from the tyranny of

⁹⁵⁹ Wajcman, *TechnoFeminism*, pp. 127-128.

⁹⁶⁰ Higgins, p. 80.

⁹⁶¹ Claudia Springer, “The pleasure of the interface”, p. 306.

their bodies. Because TechnoFeminist Science Fiction blurs the boundaries between women and men, human and machine, human and animal, physical and nonphysical, body and mind, nature and culture, self and other, so on, it deals with multiple, unstable and fluid identities. The narratives of both novels challenge the idea that gender itself is a stable and unchanging by challenging all binary oppositions and divisions, especially gender.

In *Natural History*, cyborgs are unstable by not having a fixed body. That is, we see unstable boundary of the body; cyborgs can send out the parts of their bodies' far distance and communicate through their joined parts such as Hands, Arms and Fingers that exist separately from the body. In this way, cyborgs can be in many different places at the same time. The other way to be at several places at the same time is to use avatars in holographic projections and in any physical form. Isol is an animal/machine/human hybrid and Zephyr is a natural human. In *Correspondence*, the only protagonist *You* is a natural human, but day by day she transfers herself both into a cyborg body, hybrid of human and machine. These two narratives focus on the female body; while the first one breaks down the boundary and dualism between human and animal, natural human and evolved/forged ones, insider and outsider (Stuff), and the second novel breaks down the boundary between women compositor and male boss, human and cyborg, cyberspace and real world, insider (in the screen) and outsider (outside the screen). In both novels, we see instability of female identities between the real worlds and simulated ones (the Stuff world and computer game world) that enable creating multiple possibilities of reality and subjectivity, the narratives are open ended in such TechnoFeminist Science Fictions. In the first novel, the communication is achieved through the simulacra of network AIs (through Tupac) and in the second one it is also achieved through the network screen, the Internet, so the boundary between the real and simulated becomes unstable. Both Robson and Thomas are concerned with the instability of boundaries. Female cyborgs are fluid and break a stable boundary and that makes them unstable characters.

Besides, comparing the two novels in a religious sense, the idea of 'posthuman' comes to mind regarding the image of the God and its love. Only the Stuff presents the option of posthuman—*You* tries to become a machine, but remains human. On the other

side, the Stuff creates a false idol of God which would be sinning, or shirk, in the eyes of the great Abrahamic traditions.

Consequently, following Haraway, Plant and Wajcman, we can conclude that TechnoFeminism provides attractive and bewildering technoscientific politics in desire of feminists to be more included and involved in the heart of technoscientific process. TechnoFeminist Science Fiction provides technoscientific politics and TechnoFeminist politics in desire of women or feminist science fiction writers to be more active in creating female cyber and cyborg images in their technoscience fictions. In this study, both Thomas's *Correspondence* and Robson's *Natural History* can be read as indicative examples of TechnoFeminist Science Fiction novels that give voice to the mutual relationship between women and technology, technology and the body either cyber or cyborg by focusing attention on the issues of technological embodiment and emancipatory.

CONCLUSION

Our life is affected by the intimate presence of technology and both our way of life and even ourselves are defined by this technology. Wajcman with her *TechnoFeminism* draws the relationship between technoscience and feminism. Thus, she points out the cyberspace and cyborg images as the symbols of today's feminism like how technology (such as typewriting or automobile) was once the icon of modernity discourse and symbol of freedom in the first wave feminism. During the 20th century, we saw the shifting change in women's lives and in traditional roles of gender. Thus, she calls today's feminism as TechnoFeminism which holds a mutual relationship between women and technology. Hence, today's feminist science fiction is TechnoFeminist Science Fiction. Justina Robson's *Natural History* and Sue Thomas's *Correspondence* weave this mutual relationship with contemporary feminist images (cyber and cyborg).

Twentieth century science fiction, as mentioned up to now, is divided into four main periods. Science fiction from its first era of scientific romance, became famous by Shelley, Poe, Verne and Wells, moved into the second era of pulp and magazine stories in 1926 with the editor Gernsback and later into the Golden pulp and magazine period with the editor Campbell and then into the experimental writing of the British New Wave with the editor Michael Moorcock. The New Wave science fiction was a reaction against the Golden Age's style and sensibility that Campbell cultivated with his writers by applying modern and postmodern style of experimentalism and turning from outer to inner space. The New Wave science fiction witnessed the rise of writers of color, women writers, diverse voices by focusing on soft sciences of psychology, sociology, and anthropology on one hand and growing attitudes towards science and technology on the other. Science fiction has reached its peak point in the Fourth Wave. This new era synthesized the previous experimental approaches of the New Wave and the hard science fiction on Cyberpunk by combining cyber and punk culture. From 1980 to 2000, the new trend in science fiction was the New Space Opera or the New Weird. The 1980s self-reference to earlier science fiction and the 1980s and 1990s steampunk, post-Cyberpunk, retro-futurism or alternate history boom in science fiction. In short, in the new millennium we see the hybridity, mixture and combination of genres.

Within this brief history of science fiction, women/feminist science fiction has always played an active and crucial role from the proto- to the present techno-digital age. Women proto-science fiction writers inhabited the era with utopian scientific romances or utopian future novels, with science fictional ghost stories, with spiritual science fictions and with modernist experimental style. During the magazine era, pulp-fiction form continued with some proto-science fictions and adventure detective fictions. Pulp magazines regularly published the works of female authors under their own names with science fiction elements in their works, so women writers in the pulp era were called proto-feminist science fiction writers. Although the presence of women in pulp-fiction was neglected, there were very important women writers who contributed to the genre as well as women editors, cover designers and fans. Until the 1960s, during the magazine era, women writers dealt with various subjects such as socialist and feminist utopias as well as dystopian novels on death, depression, destruction because of the world wars under the theme of cooperation, solidarity, community and communication. However, unlike male authors, women authors created aliens as normal, sympathetic or empathetic through their feminine approach. Besides, the housewife heroine science fiction stories were famous in the 1950s in which women run their high-tech homes in galactic suburbia. That is, this proto-science fiction and magazine era were classified under the title of First Wave women science fiction. In short, during the magazine era, the contributions of women writers were not given enough attention.

In the Second Wave feminist science fiction, pulp science fiction was rejected by new generation writers because of its limited formulas, so they used avant-garde literary experiments focusing on soft sciences. These new generation writers challenged to the social norms and to the cultural stereotypes about sex, gender and race as well as focusing on the inner space and internal worlds of women. In the New Wave, we not only see women science fiction writers who were nominated to Awards, but also women anthology editors, coeditors of books and magazine editors. In short, in pulp-fictions women were portrayed as to be desired or rescued, but with the New Wave, they were portrayed as more realistic female figures. The Second Wave feminist movement affected the rise of feminist science fiction, which first began in science fiction magazines, fanzines and feminist journals by questioning the sexist limitations of

pulp science fiction formulas and struggling against male dominancy, authority and hegemony. Those writers emphasized alternative sciences, hard sciences and especially cultural and soft (social) sciences by exploring the relationship between women and technology and they weaved the experimental and avant-gardist aspects of the New Wave science fiction, and the issues of sex, gender, race, alienation, Otherness and social inequality. The era also witnessed important book editors, anthologists and feminist fanzine editors as Pamela Sargent, Vonda N. McIntyre, Susan Janice Anderson, Virginia Kidd, Alice Laurance, Katherine MacLean and Amanda Bankier. In short, thanks to the emergence of feminist science fiction, women issues, feminine perspectives, questioning sexuality as well as gay and lesbian studies gained importance.

The Third Wave feminist science fiction was the era for feminist criticism in science fiction and the Cyberpunk which began to be associated with postmodern theory. Postmodern and Cyberpunk feminist science fiction weaved the issues of ontological realities, fragmented cultural experiences of women, the technology and women interface, the female cyber and cyborg constructions, various hybrid species, virtual spaces, progressive and subversive feminist characters as well as the decentered, multiple, flexible and fluid selves. Unlike male Cyberpunk novels in which female characters played the secondary or standard roles, female Cyberpunk novels portray more active and powerful female protagonists. Besides cyber writing, cyborg writing was widely famous among women writers who used hybrid identities, companion species, cybernetic organisms, animal-human species, and cyborgs. During this decade, we see crucial anthologies edited by women writers and editors such as Robin Anne Reid, Sargent, Schawna McCarthy, Jen Green and Sarah Lefanu.

We can name the Fourth Wave feminist science fiction as the New Millennium science fiction or the technoscience fiction as it takes place at the turn of the 21st century that we call the techno-digital age. These New Millennium women writers have used powerful, empowered, technologically enhanced, and genetically engineered female protagonists who possess technological know-how. These new women types, either cyber or cyborg, challenge to conventional gender roles, traditional woman stereotypes and conventional ideas about sex, gender and race. In this techno-digital age, every genre has intermingled with each other, so it is really difficult to differentiate them into

separate genres. Nowadays, science fiction does not need any fan to be read because among the number books sold, science fiction holds its enormous popularity in its hand. Besides, feminist publishing lives its happiest life that has never been before thanks to independent specialist presses. The feminist academic journals, feminist online forums, websites, feminist Awards have reached their peak point. Since 1990s, we witness a number of women editors of novels, magazines and anthologies dealing with race and science fiction/fantasy. Queer theory, women of colour writers and editors and post-Cyberpunk began to impact feminist science fiction from the late 1990s.

British Boom science fiction has a complex and multi-generic nature, and writers have written genre bending fictions by combining related genres such as fantasy and horror, space opera and cyberpunk, or as Robson does in her novels by combining several genres/disciplines like fantasy, space opera, cyberpunk, cyborg feminism, cyberfeminism, and TechnoFeminism. Finally, it can be said that the techno-digital age we are living announces the full acceptance of women or feminist science fiction to the world. TechnoFeminist Science Fiction is a new trend in women or feminist science fiction by weaving the issues of cyber and cyborg, so new women perspectives and point of views without gender duality problem are the contributions of this new approach.

TechnoFeminism, the current approach of the new Millennium which was coined by Judy Wajcman, brings two different but related discourses together; cyberfeminism that Wajcman follows the philosophy of Sadie Plant and cyborg feminism that she follows the philosophy of Donna Haraway. Wajcman explains the notion of feminist technoscience studies as combining the philosophies of these two important key feminist analysts of technoscience. Wajcman points out the exclusion of women from technoscience because of sex and cultural stereotyping of some jobs and their restricted and limited access to scientific and technical institutions and careers because of patriarchal domination and hegemony. She asserts that women have always been good technologists since the earliest human times from inventing plant tools, and some important industrial machines as sewing and loom, and to their important roles in the development of the computers as computer programmers and operators. That is, there has been a great love between women and technology throughout history.

In addition, Wajcman underlines the diverse voices among early feminist groups in regarding technoscience. Those feminist groups' essentialist writings were fatalistically pessimist in concerning gender and technology by excluding women's technical skills and careers because technology was seen under the authority of male power and as the masculine character. For example, socialist and radical feminists focused on the social relations of technology and they embedded patriarchal structures as well as patriarchal norms in technology, which was considered as socially shaped by men. However, feminists now, TechnoFeminists, have a positive approach to technology and society debates. Rather than defending the common tendency of technological determinism that considers women as the passive victims of technology, TechnoFeminists have increasingly begun to regard information, communication and biotechnologies as transformative and revolutionary. Technology is never merely social or socially shaped, but it is a part of the social fabric and never finished socio-material product. The optimistic perspective of feminism creates a new generation of women, TechnoFeminist women, whose capacity and agency are suitable for empowerment and they now feel that they are very close to a more equal world.

In other words, unlike the earliest feminists who rejected scientific knowledge as patriarchal and called for a new science, feminists, day-by-day, explored the gendered character of technology itself. TechnoFeminists are more closely dealing with new media, mobile phones, cyber-cafes, science fiction and virtual worlds than the women in the past, that is, we see more wired women now. Like cyborgs in cyberspace, we are on the way of believing in the possibilities of reinventing a new self and a new body through biotechnologies providing prosthetic opportunities. That is why Wajcman conceptualizes TechnoFeminism on the mutual gender-technology relationship. In other words, she points out the mutually constitutive relation of society and technology and she creates a sociotechnical arena in which technology is reproduced as an outcome of gender relations and it becomes a source for those relations. Thus, the aim of her TechnoFeminism is to offer a way of understanding that gender and technology run together a mutually constitutive relationship.

Wajcman grounds her TechnoFeminism on more developed gender theories by Cyber and Cyborg theorists, Plant and Haraway who reject the patriarchal power of men on the field of technoscience. She brings together the insights of those theorists by

building her feminist politics on them. Plant announces that men have lost their power of control and their patriarchal authority in terms of technoscience after the 1990s, but the power of control has not shifted either of them. In techno-digital age, whoever tries to govern or take the control becomes suppressed by that power. The reason of this is our current digital age is based on the Net which is free from constraints as it is a self-organizing and self-controlled system. Thus, the digital world's decentralization of power and lack of hierarchical structure shape our techno-digital age as well. Thus, Plant claims that the zeros, considered as holes, absent and nothing to the Western world, now in the techno-digital age, have displaced the ones and secured their place in digital world. Wajcman, hence, applauding Plant's digital revolution, declares the decline of power based male hegemony and birth of a new techno-digital system in which both women and men stand together. Both Plant and Wajcman assert that the cyberspace (the Net, virtual reality and the matrix) is a nonlinear world that rewires people and frees them from the tyranny of physical boundaries to non-physical realms.

Unlike Plant, Wajcman believes that women were subordinated and used in typing tool and telephone exchange and claims that the Internet can lead new ways of exploitation of women, but this does not mean that it does not empower women. Wajcman's TechnoFeminism is in between utopian optimism and pessimistic fatalism. That is, Wajcman criticizes Plant's utopian consideration of technology as feminine because that kind of classification does not erase gender sexual difference within cyberspace and instead brings another technological determinism, so Wajcman considers technology as a mutual relationship. Nevertheless, although Plant's Cyber feminism is essentialist and deterministic by positively affirming women's feminine qualities, Wajcman supports Plant's ideas about the optimism of Cyberfeminism and applauds her for praising women's relationship to digital technologies. In addition, Wajcman affirms Plant for emphasizing the fractured identities of women, but criticizes her by not stressing on multiple identities, multiple bodies, and multiple lived experiences of women. Therefore, fragmented, scattered and incoherent selves have been replaced by multiple, flexible and fluid selves, so women, suffered from their brilliance and called hysterics, lunatics, madwomen, the Other, zeros and holes, are now fluid, decentralized, multiplicitous, flexible, wired, weird, emergent, cyber and cyborg through network experiences. Lastly, we can say that Wajcman is against the

exaggeration of the freedom issue for virtual communities; instead she believes that bodily cues can be removed by virtual interaction, but this cannot create new identities because we use the words in order to interact, so the avatars we change do not give us new identities, but we give our cyberselves new identities. That is, those cyber identities do not make us a new and different people. The thing we do is to socialize to that cyber identity role, otherwise we cannot create real communication. Thus, cyberself or cyber identity is a kind of mimicry.

Thereby, Wajcman brings out the cyborg embodiment by claiming that it is difficult to sustain full freedom and liberation by technology separated from the body. New technologies are appropriate for liberation of women, so Wajcman combines cyber with the cyborg embodiment in order for women to reach pleasure, freedom and liberation, and she rejects flying from the body but acknowledging embodiment. Wajcman considers Haraway as the leading figure in influencing feminist technoscience who embraces science and technology positively. Haraway celebrates the progressive and liberatory potential of science and technology by creating new hybrid entities. Haraway joins the imagination and the material reality and creates cybernetic organism; human/machine, human/animal and physical/non-physical hybrid organisms. Wajcman approves her cyborg meta-category of heterogeneous entities as the coyote, the OncoMouse™, the FemaleMan, and companion species. She suggests affinity politics, instead of a unitary identity politics, in order to struggle against domination and break down the binary oppositions. Wajcman, then, applauds Haraway's cyborg manifesto that provides emancipatory potential of cybertechnology as well as a hopeful and positive vision of science and technology. Wajcman also praises Haraway's objective and the truest science that can only be achieved by democratic equality through FemaleMan© modest witnesses for scientific observations.

Science fiction narratives have been using Haraway's notion of cyborg. Unlike male writers who portray female cyborgs as blondes carrying huge weapons, women writers portray more powerful figures carrying both dark and emancipatory sides in themselves. As Wajcman claims Haraway's hopeful vision of cyborg ideologies let the feminist imagination go further. On the other side, Wajcman criticizes Haraway's cyborg politics in terms of its usage in real world by questioning whether we are all cyborgs just because of our prosthesis on our body or body enhanced surgeries.

However, Wajcman probably knows that Haraway uses the cyborg metaphor ironically in order to subvert the dualism. Thanks to her hopeful vision of cyborg figures, there will be the end for binary oppositions and women would gain the equal power they wished for a long period of time. Hence, Wajcman applauds Haraway's emancipatory politics for women through her cyborg manifesto.

Consequently, by using Wajcman's TechnoFeminist approach, we have used the term TechnoFeminist Science Fiction whose concern is the political movement feminism, science and technologies. As the name suggests, TechnoFeminist Science Fiction is about the mutual relationship between women and technology, and science fiction. It deals with Wajcman's editions of Haraway's self-declared cyborgs that offer liberatory potentials for feminist politics and Plant's cyberself politics that offer the digitalization of women. Thus, in those fictions, we easily come across with female cyberselves and cyborg embodiments that redefine the relationship between women and technology as sociotechnical and mutual. We have grounded TechnoFeminist Science Fiction on the insights of cyborg feminism and cyberfeminism following the philosophies of Haraway, Plant and Wajcman. Both Robson's *Natural History* and Thomas's *Correspondence* can be called TechnoFeminist Science Fiction novels portraying mutual relationships between women and technology which is concerned as a constructivist and a sociotechnical network. By rejecting technological determinism, they occupy themselves with cyber and cyborg feminist politics. In short, it can be said that TechnoFeminist Science Fiction novels, as Robson's *Natural History* and Thomas's *Correspondence*, develop an image of the cyborg consistent with any of Haraway's cyborg metaphors depicting hybrid entities/beings that break down the binary oppositions and boundaries between human/machine, human/animal, and physical/non-physical organisms, and develop wired, wet, fluid, flexible, adaptable, mutable, multiple, ever-flowing, unstable, self-controlled, virtual cyberselves.

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