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Women of the Future:
Gender, Technology, and Cyborgs in Frank Herbert's *Dune*

Mémoire

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Résumé

Cette thèse défend les mérites d'une lecture cyborgienne de l'œuvre de science-fiction de Frank Herbert, *Dune*, où la vision particulière des sciences et technologies nous permet d'interpréter plusieurs personnages en tant que réitération Nouvelle Vague du cyborg. Publié en 1965, *Dune* introduit des personnages féminins atypiques pour cette époque compte tenu de leurs attributs tels qu'une capacité intellectuelle accrue, une imposante puissance de combat et une immunité manifeste contre la faiblesse émotionnelle. Cependant, le roman reste ambivalent en ce qui concerne ces femmes : en dépit de leurs qualités admirables, elles sont d'autre part caractérisées par des stéréotypes régressifs, exposants une sexualité instinctive, qui les confinent tout au mieux aux rôles de mère, maitresse ou épouse. Finalement, dans le roman, elles finissent par jouer le rôle du méchant. Cette caractérisation se rapproche beaucoup de celle du cyborg femelle qui est d'usage courant dans les productions de science fiction pour le grand public des décennies plus récentes. Par conséquent, cette thèse défend qu'une lecture cyborgienne de *Dune* complète et accroisse une analyse sexospécifique, car cette approche comporte une théorisation essentielle des réactions à l'égard de la technologie qui, selon Evans, sont entretissées dans la réaction patriarcale de ce roman à l'égard des femmes. Bien que ces créatures fictives ne soient pas encore communes à l'époque de la rédaction de *Dune*, Jessica et certains autres personnages du roman peuvent néanmoins être considérés comme exemples primitifs des cyborgs, parce qu'ils incarnent la science et la technologie de leur culture et qu'ils possèdent d'autres éléments typiques du cyborg. L'hypothèse propose que la représentation des femmes dans *Dune* ne découle pas seulement de l'attrait pour le chauvinisme ou la misogynie, mais qu'elle est en fait grandement influencée par la peur de la technologie qui est transposée sur la femme comme c'est couramment le cas dans la littérature cyborg subséquente. Ainsi, ce roman annonce le futur sous-genre cyborg de la science-fiction.

Abstract

Evans argues for the merits of a cyborgian reading of Frank Herbert's seminal science fiction novel, *Dune*, on the basis that the novel's particular conception of science and technology allows many of the characters to be understood as New Wave iterations of the cyborg. First published in 1965, *Dune* includes female characters uncharacteristic for the genre during this period due to the degree of their intelligence, formidable fighting powers, and seeming freedom from emotional weakness. However, the novel is ambivalent about its super-women: despite their admirable qualities, they are otherwise depicted in retrogressive stereotypes, representing the instinctual sex, naturally best limited to roles of mothers, lovers, and wives; by the novel's conclusion they are cast as villains. This particular characterization of women shares many qualities with the trope of the female cyborg that becomes common in mass media science fiction of later decades. Therefore, this thesis argues that a cyborgian reading of *Dune* complements and augments a gender analysis of the novel because this approach incorporates an essential theorization of the reactions to technology that, according to Evans, are interwoven into the novel's patriarchal response to women. Although these fictional creatures were not yet common at the time of *Dune*'s writing, Jessica and other characters in the novel can be read nonetheless as early examples of cyborgs because they physically embody their culture's science and technology, and are consistent with other important hallmarks of the figure. The argument is that Herbert's depiction of women in *Dune* does not just arise from an appeal to male chauvinism and misogyny, but is, in fact, strongly influenced by a fear of technology that is projected onto women, as is commonly seen in later cyborg literature. According to such a reading, the novel foreshadows the later cyborg sub-genre of science fiction.

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I would like to dedicate this thesis to my son, Merrick Evan Williams, who was very patient and good-natured in his mother's absence during this process. He was also very thoughtful in suggesting further examples of cyborgs for my consideration.

I would like to thank my advisor, Dr. Jean-Philippe Marcoux for providing excellent support and guidance through this entire process, even while on sabbatical leave. I could not have hoped for a more positive master's experience, in large part due to Dr. Marcoux's generosity of spirit. I am also very grateful to Harry Gorham, for being at all times supportive, affirming, and just generally wonderful overall. My parents, Dr. Craig A. Evans and Ginny Evans, also deserve mention for their ongoing support and enthusiasm for my career aspirations.

"[Self-assured men] are far more likely to recognize a woman as a counterpart; but even for them the myth of the Woman, of the Other, remains precious for many reasons; they can hardly be blamed for not wanting to light-heartedly sacrifice all the benefits they derive from the myth: they know what they lose by relinquishing the woman of their dreams, but they do not know what the woman of tomorrow will bring them."

Simone de Beauvoir, *The Second Sex*

"Woman is the symbol of that terrifying, secret power of the machine which rolls over anything that comes under its wheels ... And, vice versa, the machine, which coldly, cruelly and relentlessly sacrifices hecatombs of men as if they were nothing, is the symbol of the man-strangling Minotaur-like nature of woman."

Eduard Fuchs, 1906, famous art collector and art critic
(quoted in Andreas Huyssen's "The Vamp and the
Machine: Technology and Sexuality in Fritz Lang's
Metropolis")

Introduction

Context:

First published in 1965, Frank Herbert's seminal science fiction novel *Dune* includes a memorable example of one of the genre's early strong female characters, the Lady Jessica of House Atreides. She and her fellow sisters of the all-woman group, the Bene Gesserit, are robot-like in their mental acuity, formidable fighting powers, and seeming freedom from emotional weakness, which are unique qualities in female characters of this period. Since *Dune*'s writing, the strong, independent fighting woman of science fiction has become so prevalent as to be a stereotype today, but in the 1960s she was still uncommon. However, the novel is ambivalent about its super-women: despite their admirable qualities, they are otherwise depicted with retrogressive stereotypes, representing the instinctual sex, naturally best limited to roles of mothers, lovers, and wives; by the novel's conclusion they are cast as villains. Moreover, of all the major groups in the novel, the Bene Gesserit sisterhood is the one that misuses technology to the most disastrous degree, threatening the state of the human gene pool and putting the entire species at risk from the monster they create. This particular characterization of women shares many qualities with the figure of the female cyborg that becomes common in mass media science fiction of later decades. Therefore, this thesis will seek to show that a cyborgian reading of *Dune* complements and augments a gender analysis of the novel because this approach incorporates an essential theorization of the reactions to technology that I assert are interwoven into the novel's patriarchal response to women. Although these fictional creatures were not yet common at the time of *Dune*'s writing, Jessica and other characters in the novel can be read nonetheless as early examples of cyborgs because they physically embody their culture's science and technology, and are consistent with other important hallmarks of the trope. The argument is that Herbert's depiction of women in *Dune* does not just arise from an appeal to male chauvinism and misogyny, but is, in fact, strongly influenced by a fear of technology that is projected onto women, as is commonly seen in later cyborg literature. According to such a reading, the novel foreshadows the later cyborg sub-genre of science fiction.

My cyborgian evaluation of *Dune*'s female characters begins by taking into

consideration the novel's cultural context of America in the 1960s, especially with respect to men's traditional, patriarchal attitudes toward women, their responses to emerging feminism, and their sentiment toward the increasing role of technology in everyday life. Men had long held positions of power both in society and as patriarchs in the home, but the twentieth century saw an acceleration of the impacts of technology and feminism, working both separately and in tandem, to undermine male authority and destabilize the status quo. Both Caroline Basset and Steve Chibnall write that there developed a crisis in masculinity in mid-century America in response to the upheavals to the traditional family created by the substantial numbers of women entering the work force and the emergence of new reproductive technologies (Basset 86; Chibnall 61). Sarah Franklin adds that advances in biology contributed to women's independence at the time, not only by providing contraception, but also by generating data that supported critiques of biological determinism and uncovered sexism in science (40). However, the way in which science and technology supported feminism was only one of the elements contributing to the anti-technology sentiment of this period. The pivotal role of technological development in the mass destruction of the World Wars, the atomic bomb, and the Vietnam War were significant in creating a widespread sentiment of disillusionment and rejection of the once-held hope that science and technology might at last usher in an era of utopian ease. Instead, men in particular felt betrayed and under attack by the shifts in the status quo.

This thesis will seek to demonstrate a substantial link between these sentiments in Hebert's time and the nature of *Dune*'s depiction of women in relation to technology. In keeping with the anti-technology sensibilities, science fiction in the early 60s had begun to look less and less like the technophilic romances of earlier decades. This period saw the emergence of the New Wave movement, characterized by an introspective orientation more concerned with "inner" space than outer, which reflected its writers' refusal of "the shiny promise of technological modernity" (Luckhurst as qtd in Merrick 104). Considered as a reflection of the New Wave, *Dune* echoes this contemporary disillusionment in its themes and perspectives, but stops short of joining the ranks of the anti-technology dystopias or becoming as fatalistic

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and didactic as some of the other works of the movement. Herbert resists temptations to over-simplify the issues surrounding technology and prefers to incorporate nuance and complexity, expressing the view, in both his fiction and his essays, that "technology isn't bad in and of itself. Everything depends on how we use it" (qtd in Stone 22). Accordingly, *Dune* resists casting technology as either humanity's salvation or downfall, and maintains that the responsibility for humanity's fate lies with individuals and their decisions.

The novel projects an alternate evolutionary trajectory of technology, where the development of knowledge and technical expertise is directed away from the current emblematic capabilities, such as machines, computers, or communications, and toward advancements in the minds and bodies of people. One of *Dune*'s characters explains that, early in the novel's history, all computers and artificial intelligence were outlawed in order to negate the technologies' effects to make its users dependent and subjugated; schools for training human physical and mental talents were set up to fill the gap in proficiencies (Herbert, *Dune* 23). In effect, Herbert de-industrializes *Dune*'s technosciences and replaces them with social sciences based on personal practice, shifting the locus of knowledge and capability from centralized bureaucracies to loosely networked individuals. For this reason, O'Reilly dubs the novel's particular technoscientific paradigm *Dune*'s "science of the subjective" (*Frank* ch 4).[1] Herbert's prioritizing of the subjective dramatizes what Jonathan Benthall calls a "Recoil to the Body." Benthall writes that a common response to the perceived threat of technology is that it is cast in a symbolic dichotomy as the antagonistic opposite of all things natural. In this framework, the "affirmation of the human body" emerges as "the most powerful defence we have

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[1] Timothy O'Reilly's *Frank Herbert* is no longer in print, but is made available by O'Reilly on his website (http://www.oreilly.com/tim/herbert/). All references to O'Reilly are taken from this version. It does not include the page numbers from the original print version, but only chapters. Therefore, all citations will only include the chapter from which they are taken.

against industrialism and technocracy" (68).[2] From this perspective, Herbert posits the body as a site of restoration and the source of humanity's superior qualities.

Summary of Argument:

While often projected as an uneasiness toward women, the male anxiety that is worked through in science fiction frequently represents an underlying apprehension of technology's expanding role in everyday life. As Chibnall says of the genre, "[i]t was indeed the relationship between man and machine rather than between man and woman that was key" (57). Therefore, the female cyborg, arousing, tempting, and yet threatening, is a particularly potent symbol of man's anxiety as a combined response to the growing assertiveness of women and increasing technologization in their cultural milieu. *Dune*'s plot structure demonstrates a number of ways in which it is consistent with the major themes of the cyborg genre: fears over the disruption of human reproduction are central; the disruption is a consequence or effect of technology; woman is responsible for bringing about the crisis; and a man rectifies the situation by retaking control.

Moreover, *Dune*'s portrayal of its individual female characters is consistent with the female cyborg figure that becomes common in later mass media. Alex Goody writes of the "erotic female-machine" that, on the one hand, she enacts the dual aspect of "ideal sexual-domestic servant," as Jessica certainly does, but, on the other, she reflects a "fear of and desire for a powerful femininity" (159). The female cyborg also represents problematized reproduction, which frequently finds expression in imagery of the monstrous mother. This trope centres on the spectre of woman's fecundity gone-awry, manifesting variously as fears of the mother's power to smother or reabsorb her children, the threat of offspring in overwhelming numbers, and the

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[2] Benthall elaborates that such symbols of the natural can take a variety of forms, such as "the innocence of childhood … the Noble Savage … the myth of idyllic countryside, peasantry, the 'land' … these idealized images represent a pre-Fall innocence (Garden of Eden), whereas technology then represents a current state of corruption" (72-3). He contends that history shows a dialogic movement between "the Romance of Technology and the Recoil to the Body in preheated thesis and antithesis" (139).

hazard of disastrous births. The Bene Gesserit women, many of whom emulate the features of the erotic female machine, also embody these themes of the Mother of Nightmare, with their abilities to overwhelm the imperium with their pernicious influence. Moreover, Jessica's children, Alia and Paul, instantiate the realization of the threat of the disastrous birth.

Not only does *Dune* lay out the defining characteristics of the cyborg genre, it provides evidence that its particular portrayal of women is a masculine response to the combined threats of woman and technology to the patriarchal status quo. I will attempt to show that, in subverting "natural" reproductive processes through their eugenic techniques, the Bene Gesserit women can be understood as wielding technology in the most destructive manner possible and as levelling an attack on the very heart of humanity. Cyborg theorists argue that science and technology's potential to interfere with the processes of natural birth and change the roles of women in society are two of the important ways in which the spectre of technologization is shown to threaten the patriarchal status quo in cyborg narratives. This thesis will therefore attempt to demonstrate that these perceived threats are also at work in *Dune* and for the same reasons. Herbert places the responsibility for the stewardship of technology's power with individual characters so that the reader may evaluate the consequences of that power's use in the context of the motivations and struggles of each complex and imperfect person; yet, he suggests that the most serious threat from technology arises from misguided women's blunders.

Herbert's message about the danger of technology is that, regardless of humanity's best intentions, all sources of power have the potential to cause great harm because of humanity's hubris and destructive desire for absolutes. Susan McLean called it "Herbert's law of circular avoidance," which was his idea that "the human longing for absolutes … is doomed to failure because any tendency carried to an extreme will eventually lead to its opposite" ("Question" 145). This is what ultimately happens with *Dune*'s society's attempt to eradicate technology through the "Butlerian Jihad": their "Recoil to the Body" failed to defuse the dangers posed by technology because the latter just sprang up in different, non-mechanical forms.

Dune's people's "evolution" to cyborgs and sciences of the subjective is shown to be fraught with the same pitfalls as contemporary mechanical and digital technological developments. Although Herbert's warnings are aimed broadly at humanity, he depicts woman as being responsible for the fall; it is Eve who hands Adam the apple. When Herbert demonstrates the dangers of the misuse of technology, that misuse is manifested in images of frightening mothers and disastrous births. Therefore, Herbert's mistrust of technology intersects with his patriarchal misgivings of women, with the result that the women of his novel foreshadow the conventions of the later cyborg figure.

Outline of the Chapters:

Chapter 1: A Feminist and Gender Analysis of *Dune*

Chapter 1 will entail a feminist and gender analysis of *Dune*'s major characters and societal structure, which lays the important groundwork for analyzing Jessica and the Bene Gesserit in terms of cyborg theory in the next chapter. The first section of chapter one outlines the feminist theorizing of the rationale for the patriarchal perspective on women and its ramifications. It also addresses gender performance theory, which offers an explanation for how patriarchal society structures reinforce stereotypically gendered behaviour. The second section draws on this theory to demonstrate that *Dune*'s male-dominated, patriarchal society holds to traditional beliefs about biologically determined gender characteristics and the proper, domestic roles for women. It incorporates the existing literature on *Dune* by scholars who have previously covered this ground fairly extensively, in addition to new observations on further examples of gendering that can be found in the novel.

Chapter 2: A Cyborgian Analysis of *Dune*

Chapter 2 asserts that many of *Dune*'s most important characters, namely the Bene Gesserit and Jessica, emulate the conventions and themes of the cyborg figure, as outlined within much of the "cyborg industry of academia" that follows in later decades.[3] The first section of the chapter reviews the arguments of cyborg theorists Andreas Huyssen, Jennifer González, Donna Haraway, Christine Cornea, Claudia Springer, Mary Ann Doane, and Ann Balsamo, focusing on their analyses of the centuries-long history of portraying machines as people and threatening machines as women. Their cyborg theory, which draws heavily on feminism and gender theory, demonstrates that there are a number of conventions associated with the figure that derive from the combination of men's fears of both women and technological encroachment. The second section of the chapter begins by establishing the grounds for a cyborgian reading of *Dune*'s characters, developed both from a theorization of their bodies and minds as the technological artefacts of their culture as well as from a demonstration of their consistency with the cyborg figure and sub-genre. The section then focuses more specifically on Jessica and the Bene Gesserit women's distinct evocation of the trope of the female cyborg and her close relative, the Monstrous Mother, concluding that these Dunian women represent man's recoil from technology in addition to his rejection of the feminine Other.

Theoretical Framework:

The goal of this thesis is to demonstrate that putting Herbert's novel and context in conversation with the concepts of the later cyborg trope contributes productively to the analysis of *Dune*. Such decade-spanning interchanges are not uncommon in cyborgology, as this theoretical approach frequently involves looking backward in order to establish historical precedent for the depictions of gender and machines. Accordingly, this cyborg reading of *Dune* begins by drawing on feminist

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[3] This term is taken from David Bell. For more on this phenomenon, see his *Cyberculture Theorists: Routledge Critical Thinkers*, p. 111.

sources relevant and contemporary to Herbert's time in order to elucidate the dynamics and politics of gender in the novel. My primary feminist source is Simone de Beauvoir's *The Second Sex*, which provides a critical breakdown of the patriarchal perspectives on women. Beauvoir asserts that the imbalance between the sexes originates with the fact that man regards woman as his Other, enforces a hierarchical relationship with woman, and then maintains a dominant position by associating himself with reason and culture while she is connected, and thus devalued, with emotion, nature, and animals.[4] The patriarchal rationale is illuminated by anthropologist Claude Lévi-Strauss's *The Elementary Structures of Kinship* (1949), which reveals the woman's significance as a possession and a gift within patriarchal societies organized according to male kinship relations. Beauvoir and Deniz Kandiyoti demonstrate how women in these societies become implicit in reinforcing patriarchal subservience on subsequent generations. These factors are shown to be at work in *Dune*: the novel establishes a heroic, masculine norm against which all else is Othered and devalued; its male-dominated society is organized into large, patrilineal clans, who negotiate their relations with each other based, in part, on the trading of women as gifts or wives. Jessica's depiction is consistent with the image of woman as "naturally" maternal, obedient, driven by instinct rather than reason, most comfortable with domestic roles, and complicit in upholding these structures in the ways that these feminists outline.

Later works in feminism and gender studies that respond to the assertions of Beauvoir and Lévi-Strauss are also very relevant to cyborg analyses. Feminists Sherry Ortner, Londa Schiebinger, Carolyn Merchant, and Nancy Stepan expand on Beauvoir's work to assert that the exclusion of women from public life is at the root of their widespread denigration and disbarment from autonomous existence throughout history. Feminists Gayle Rubin, Luce Irigaray, Judith Butler, and Evelyn Reed have responded to and refuted Lévi-Strauss's conclusions, using his work instead to support their contentions that segregated patriarchal civil structures operate

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[4] Citatations of Simone de Beauvoir refer to her alternately as "de Beauvoir" or simply "Beauvoir." This thesis will refer to her as the latter.

to sustain the imbalance of power between genders through the commodification and trade of women. This theorization of the politics of women's roles in society buttresses the argumentation of cyborg theorists, such as Andreas Huyssen and Jennifer González, that technologized women of fiction are subject to the same pressures.

Gender performativity theory, as espoused by Ernest Goffman, Judith Butler, Candace West, Don Zimmerman, and Raewyn Connell, adds an additional, valuable perspective on the cause and significance of gender characteristics as they are enacted by individuals in specific contexts. These scholars argue that people are implicitly obligated to behave in ways consistent with the traditional, biologically determined gender norms sanctioned by their culture because failing to do so carries the threat of social censure. Both men and women are placed under enormous pressure to conform and thus, patriarchal notions of gender are reinforced. Connell's research identifies a phenomenon she terms "hegemonic masculinity," which is a cultural expression of ascendancy intended for "the maintenance of practices that institutionalize men's dominance" over subordinate groups, be they women or non-hegemonic men (*Gender*, 185). These theories, especially those of "emphasized femininity" and "hegemonic masculinity," offer a more thorough explanation for the gendered behaviour in *Dune*. The former theory explains the method by which Jessica's potentially intimidating strengths are counterbalanced by her feminine characteristics while the latter is particularly useful in delineating the behaviour of the men in *Dune* as they jockey for dominance and power. Feminist and gender studies theories contribute significantly to the underlying framework of cyborg theory; therefore, a cyborg reading of *Dune* begins by evaluating the dynamics and politics of gender in the novel.

A central pillar of this thesis is to argue that a number of *Dune*'s characters qualify as cyborgs despite their bodies' lack of mechanical or electronic hardware; to this end, it is of primary importance to trace the evolution of the figure so that essential characteristics can be identified and *Dune*'s particular iteration of the creature can be put into context. Research scientists Manfred E. Clynes and Nathan S.

Kline coined the term in 1960, in an article for *Astronautics* that proposed various ways that the human body could be altered by technology in order to withstand the hostile conditions of space exploration.[5] Shortly thereafter, science fiction adopted the idea, which led to a range of characters who find creative ways to extend their physical or mental functioning with the aid of technology.[6] This concept of a technologically-enhanced human, and its association with the term "cyborg," became a fixture of mainstream culture in the 1980s with the emergence of the cyberpunk sub-genre and the growing popularity of big-budget science fiction films. The most well-known cyborgs of these works, notably Molly Millions from William Gibson's *Neuromancer*, Arnold Schwarzenegger's Terminator character in the Terminator series, and the Borg Collective in *Star Trek Next Generation*, all feature the incorporation of mechanical and electronic hardware into their bodies, often creating dramatic visual effects. However, this is only one particular iteration of the figure, albeit perhaps the one most well-known, and emerges in part to cater to a visual

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[5] The term is a contraction of the words "cybernetic" and "organism." According to Clynes and Kline, "[t]he Cyborg deliberately incorporates exogenous components extending the self-regulatory control function of the organism in order to adapt it to new environments," hostile space environments in particular (Clynes and Kline 27). They proposed this adaptation through what they called participant evolution, which involved altering body systems, such as the autonomic nervous system or endocrine glands, through the use of slow-release drugs, in order to retune the body to be able to adapt to non-earth environments. In making these functions automated, the (male) astronaut could avoid becoming a "slave to the machine," leaving him "free to explore, to create, to think, and to feel" (27). Interestingly, Clynes considered the subsequent evolution of the fictional cyborg figure to be a "travesty," "a total distortion," and "a monsterification of something that [was originally intended as] a human enlargement of function" (Gray 47).

[6] Previous to this, machine-human hybrids in fiction tended to occur for the purpose of restoring or substituting a loss. One common theme was for mechanical parts to replace lost or damaged body parts, such as with the Tin Man in *The Wizard of Oz* (1900) by L. Frank Baum. Another common theme is of characters whose brains live on inside machines or robots after the rest of their bodies have been destroyed, such as in Anne McCaffrey's The Ship Series (1961-97). In the science fiction film *Metropolis* (1927), Maria was created to replace the woman that the scientist had been in love with, but had lost first to another man and finally to death. She was also intended as a prototype for a mechanical workforce that would replace the human worker. (A more detailed analysis of Maria appears in Chapter 2, section 1.2.)

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medium.[7] *The Cyborg Handbook* acknowledges that the cyborg is popularly thought of as a being that "meld[s] the organic and the mechanic," but argues for a broader, more inclusive definition, stating that "[t]here is no one kind of cyborg" (Grey et. al. 2). The defining characteristic that emerges is the existence of some element of symbiosis between the biological and technological whose purpose remains faithful to Clynes and Kline's rationale of human enhancement. It is important to note, however, that the technology need not be limited to physical artefacts.

I will attempt to show that *Dune*'s characters' incorporation of technology for personal enhancement makes them consistent with *The Cyborg Handbook*'s liberal definition of the figure. Technology is a broad term that denotes the various means by which humans extend the limits of their capacities through the application of their knowledge and techniques. Judy Wajcman breaks the term down into the basic categories of the technological artefacts themselves, the techniques people have to utilize them, and the overall practice in which they are used and produced (14-5).[8] Stephen J. Kline writes that, oftentimes, technological artefacts tend to be thought of as limited to "things made by humans that do not occur naturally on earth," such as refrigerators, aspirin, boots, and any number of items (210). Philosopher of technology, Arnold Gehlen, disagrees with such a narrow categorization of the technological as "non-natural;" he argues that it should not be seen as separate and distinct from the organic realm, but as a "large-scale biological process by which the

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[7] To date, *Neuromancer* has not been brought to film, but Molly's enhancements, such as the "mirrorshades" implanted in her face and the retractable razors in her fingertips, are central in creating her strikingly cyborgian appearance.

[8] Wajcman notes that the definition of technology is complex, problematic, and changes from one historical period to another, but that this reasonable definition emerges (14). Both Stephen J. Kline and Corlann Gee Bush define the concept very similarly. Kline argues that, in current popular understanding, technology tends to be restricted to denoting manufactured articles and overlooks the techniques and practice associated with their use and manufacture, as well as the sociotechnical systems that support them—all of which are integral components of what is included in the term (210-2). As for Bush, she concludes, "[t]echnology refers to the organized systems of interactions that utilize tools and involve techniques for the performance of tasks and the accomplishment of objectives" (155).

human organism's innate structures are impressed onto the human environment to an ever greater extent" (qtd in Staudenmaier 147). Herbert's stated perspectives on the subject correspond with the Gehlen's views; they both argue that technology is not the antithesis but rather an extension of organic processes. I aim to demonstrate that this more inclusive definition allows for a reading of *Dune*'s characters as embodied technological artefacts of their society.

Furthermore, Mark Oehlert's discussion of the "genetic cyborgs" of the superhero comic book genre presents a precedent for *Dune*'s characters to be classified as such. According to Oehlert, these cyborgs, who in fact "represent the most popular and populated classes of cyborgs in comics," enjoy enhanced abilities not because of a physical interface with mechanical or electronic hardware, but because of "purposeful alteration of their genetic code" (224-5). Oehlert writes that it is the "purposefulness and intent" of the genetic alterations that are the "critical and defining ideas for this group" and which clearly separates them from the many "mutant" superheroes in the comic book genre that result from genetic accidents (224). In this way, both the "genetic cyborgs" of superhero comics and the cyborgs of *Dune* remain true to the ethos of Clynes and Kline's original neoterism; the fact that their technologically-based alterations are not manifested as mechanical objects integrated into the organic body is irrelevant. Based on the incorporation of these sources, I argue that the highly trained, genetically enhanced people of *Dune* meet the criteria of cyborg.

This thesis assembles a number of critics writing on the figure of the feminized machine in order to delineate her common features. Their work draws heavily on feminist and gender studies to show how the characters' femaleness influences their reception in their contexts. Jennifer González's, Andreas Huyssen's, and Zbigniew Walaszewski's research includes the earliest examples, which point to the perceived parallels between women and machines as well as to man's habit of equating female sexuality with evil and destruction. The writings of Claudia Springer, Ann Balsamo, and Mary Anne Doane elucidate the contemporary form of the figure, noting that despite the potential of the cyborg to represent a liberating model of post-

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gendered subjectivity, such as the one championed by Donna Haraway, the cyborg imagery in mass media film and literature in the twentieth century continues to "cling to nineteenth-century notions about technology, sexual difference, and gender roles" and views female sexuality as a threat (Springer 100).[9] They contend that this attitude emerges as a form of male resistance to changing gender roles in society. Balsamo's and Doane's research shows the frequent connections made between the female cyborg and issues of (re)production and motherhood, which arise from the displacement of the fear of machines onto women and reflect "the depth of cultural anxiety about species reproduction" (Balsamo 148). In being associated with motherhood, the female cyborg frequently takes on the features of the monstrous mother. Doane, Lynda Bundtzen, and Barbara Creed write that this figure draws on imagery of the horrific archaic mother, whose reproductive capacity represents a threat to all of civilization and technological progress, positioning her as the Other who must be controlled in order to protect society (Bundtzen 107; Creed 134). Taken together, the works of these critics delineate the essential features of the female

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[9] Like Beauvoir, Haraway sees the belief in a binary system based on mutually exclusive concepts of male and female as reinforcing an injurious patriarchal status-quo. To address this issue, Haraway proposes the ideal of a non-binary, "post-gendered" paradigm, for which she sees the cyborg as a useful metaphor. In her famous essay "A Cyborg Manifesto," she writes, "[t]he cyborg is a kind of disassembled and reassembled, postmodern collective and personal self" (163). She contends that it is symbolic of a "post-gender world" because it embodies the disappearing boundaries between the human-animal and technology, the physical and non-physical, as well as the boundary between male and female (150, 152-3). The cyborg suggests "a way out of the maze of dualisms" by eluding all stable definitions and rendering the concept of categorical gender difference obsolete, thus freeing women from the ideologies of sexual reproduction and ultimately undermining the validity of patriarchal, masculinist society (162, 181). However, critics of Haraway's "utopian vision," such as Balsamo, argue that its value is diminished by the fact that the dominant representations of the cyborg, including most of what we see in popular science fiction, fall far short of its supposed emancipatory potential (Balsamo 153). González points out that, as a creation of the imagination, cyborg imagery represents an extension of the will and politics of the artist, meaning that it is susceptible to the same enculturation and social constraint which applies to humans and machines (González 270). This is why, she argues, "the conceptual redressors of the cyborg are firmly grounded in everyday social politics" and why the creatures, more often than not, merely reproduce the gender roles of traditional Euro-American culture (270).

cyborg in contemporary mass media to which Jessica and the Bene Gesserit can be fruitfully compared.

Review of the Literature:

The bulk of the critical responses to *Dune* address one or a combination of a handful of themes: Paul as a hero figure and the novel's construction of morality; Herbert's criticism of humanity's drive for absolutes and its negative consequences; and the novel's engagement with ecology, semantics, and language. Timothy O'Reilly's indispensable biocritical work on Herbert's oeuvre, published in 1988, significantly contributes to all of these primary areas. Drawing on his extensive interviews with Herbert, O'Reilly puts the novel in context with the author's beliefs about society, psychology, technology, religion, and power structures. He asserts that Herbert saw the potential for science fiction to provoke thought and a higher cultural awareness in its readers and wanted to counter what he felt was a blind trust in science that was present in much of the genre at the time. O'Reilly provides biographical explanations for Herbert's views that appear most frequently in his works, such as his beliefs about the importance of having a working knowledge of technology and of understanding humanity's relationship to the environment. O'Reilly also writes of how Herbert's pivotal relationship with the psychologist couple, Ralph and Irene Slattery, sparked his interest in concepts such as conditioning, semantics, and non-verbal forms of communication. He uses this material to support his biocritical analysis of Herbert's novels, devoting most of his attention to the *Dune* series. O'Reilly's insightful and thorough examination of Herbert is an essential source on the author that is cited in almost all of the later critical work on Herbert.

Juan Prieto-Pablos's 1991 article, "The Ambivalent Hero of Contemporary Fantasy and Science Fiction," argues that Paul's characterization as a flawed leader reflects the disillusionment with the romantic notions of unambiguous heroism felt in

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the United States during the 1960s. He contends that events such as the Vietnam War and the assassination of Kennedy contributed to the trend within fiction to depict rounder, more realistic characters who incorporate human weakness. He suggests that this influenced Herbert's decision to have his characters achieve their superpowers by the virtue of many years of hard work and eugenics, in contrast to the heroic fictional characters of earlier years who tend to be granted their extraordinary powers by a freak of nature or superior entity. In this sense, according to Prieto-Pablos, Paul's trajectory to power is a success story because it shows his ascendancy through the virtues of discipline and intelligence. Overall, however, he sees Paul and Leto as examples of the tragic hero of realism, "in whom the readers' fears are projected more intensely than their desires," because they are portrayed as humans with weaknesses; despite their immense power and best intentions, they cannot control the extensive consequences of their actions.[10]

Julia List, in her 2009 article "'Call Me a Protestant': Liberal Christianity, Individualism, and the Messiah in *Stranger in a Strange Land*, *Dune*, and *Lord of Light*," responds to Prieto-Pablos's article and expands on the connections he makes between *Dune* and its context, arguing that the novel's secular-Protestant mores reflect the upper-middle class Euro-Americans of the 1960s, who were becoming increasingly secularized and interested in notions of ecumenical "spiritualism" (26, 30). She writes that the novel "consistently manifest[s] the values of a Protestant heritage" in its individualistic, intellectual, relativistic, tolerant, and agnostic philosophical framework (22), while it also promotes a progressive and secular understanding of religion as "a social and psychological phenomenon" that rejects the presence of any divine power (36). List contends that the Bene Gesserit and Paul's cynicism in using religion as a tool to manipulate the masses is another way in which Herbert complicates Paul's performance as a messiah because it reveals the young hero's fallibility and inherent human tendency towards violence (28-9, 34, 38). She concludes that the societies of *Dune*, like that of mid-century America, have updated

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[10] This edition of Prieto-Pablos's article is from *The Literature Resource Center* online and does not include pagination.

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the individualistic values of their Protestant heritage with a contemporary, "radically secular" humanism based on the valuing of human life and love (42).

John Ower's 1974 article "Idea and Imagery in Herbert's *Dune*" explores, among other things, how Herbert establishes the novel's value system through a comparison of competing leadership strategies based on the ideals of either religion or technology, both of which position Paul and the Atreides clan as morally superior to their foils. According to Ower, the ideals of technology in *Dune* are represented both in the laudable goals of the planetologist Kynes and in the exploitive practices of the Imperium (131). It is therefore significant that in his rise to dominance, Paul rejects the approaches of both Kynes and the Emperor, signalling the superiority of his religious philosophy over the technological methods for leadership (131, 135). Additionally, Ower demonstrates how *Dune*'s moral norm is defined through contrast: the Atreides represent "good" and the Harkonnens "evil" in terms of early American Protestant standards regarding the prioritizing of hard work, self control, and a "stoic endurance" (133). For Ower, Paul and his clan's moral superiority and Herbert's rejection of technology are unambiguous in *Dune*.

Kevin Mulcahy's "The Prince on Arrakis: Frank Herbert's Dialogue with Machiavelli" published in 1996, elaborates on the theme of the flawed hero, suggesting that Herbert may have intentionally modelled the Atreides and the Harkonnens after Machiavelli's famous work. He asserts that the Harkonnens closely resemble the version of the Prince whose villainy was greatly exaggerated in the popular imagination of the Elizabethans and Jacobeans, whereas the Atreides remain true to the spirit of the original work. According to Mulcahy, "[t]he Harkonnens … are poor Machiavellians, allowing sadistic pleasures to interfere with the business of ruling," whereas the Atreides are "the genuine followers of Machiavelli" and "the ones really to fear."[11] Mulcahy points to the Atreides' analogies with the Prince in both their belief that they are inherently more valuable than the common people and in their willingness to use their followers for the sake of their vision of a better

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[11] This edition of Mulcahy's article is from *The Literature Resource Center* online and does not include pagination.

society.

Susan McLean's "A Question of Balance: Death and Immortality in Frank Herbert's *Dune* Series" and Leonard Scigaj's "*Prana* and the Presbyterian Fixation: Ecology and Technology in Frank Herbert's *Dune* Tetralogy," from 1985 and 1983 respectively, concentrate on Herbert's theme of humanity's destructive desire for absolutes. Uncovering this focus in a number of the author's works, McLean terms it "Herbert's Circular Law of Avoidance," which is the notion that "the human longing for absolutes—whether in terms of power, reason, goodness, or security—is doomed to failure because any tendency carried to an extreme will eventually lead to its opposite" (145). In *Dune*, this manifests most significantly in the evolutionary phenomenon that safety produces weakness. McLean concludes that, taken collectively, Herbert's works consistently imply that a prolonged or eternal life is incompatible with morality, because "[t]o be moral … a being must be willing to die, and to be good a god must be prepared to abdicate" (150). Therefore, for Herbert, morality is equated with the wisdom to rise above humanity's baser instinct to thoughtlessly pursue safety at the expense of stagnation.

Scigaj is unique in his criticism of Paul as the character most guilty of being blind to his own weak pursuit of absolutes. According to Scigaj, Paul's prescience causes him to "[become] rigid and fixated on the future jihad," rather than using his premonitions to change the course of the events (341). He argues that Paul's "misguided heroism and misuse of prescient visions" are representative of precisely the problems Herbert points to with Western culture's obsession with simple answers, stability, and linear notions of technological progress (340).

William Touponce's critical study of Herbert's *Dune* series and other science fiction, published in 1988, addresses the question of Paul's heroism briefly, focusing on Herbert's narrative style and engagement with his concept of ecological semantics. The latter is Herbert's idea that evolution and ecological systems function through dialogic relationships similar to those that can be studied in semantics or music (2, 13). Touponce shows how Herbert uses ecological semantics to support his larger theme of a rejection of absolutes and finite systems. He also looks extensively at how

Herbert employs narrative style to continue this theme, presenting characters in such a way that they themselves defy finite, absolute representations, but remain open to interpretation by the reader (14-26). Touponce argues that Paul's ambiguous heroism is presented dialogically, forcing the reader's participation in forming any conclusions about morality in *Dune* (29).

Other critics, such as Susan Stratton, Timothy Morton, and Astrid Schmitt-v.Mühlenfels, discuss Herbert's overt ecological themes. Critics such as Ronny Parkerson, Robert Mack, John Grigsby, look exclusively at *Dune*'s engagement with language, semantics, and psychology. Parkerson's 2010 article, "Semantics, General Semantics, and Ecology in Frank Herbert's *Dune*," analyzes Herbert's concept of ecological semantics and his methods for demonstrating the power of language in his novel, with a focus on the mechanics of the phenomenon of Voice.[12] Mack's article from the following year, "Voice Lessons: The Seductive Appeal of Vocal Control in Frank Herbert's *Dune*," also examines Voice in *Dune* using Barthe's theory of the vocal grain and demonstrates its connection to traditional notions of femininity. Grigsby, in "Asimov's Foundation Trilogy and Herbert's *Dune* Trilogy: A Vision Reversed" from 1981, asserts that Herbert's books are written as a critique of Asimov's vision of the potential for the future development of the "technology" of psychology. Andrew Hoberek's "The New Frontier: *Dune*, the Middle Class, and Post-1960 U.S. Foreign Policy" (2012) and Lorenzo DiTommaso's "The Articulation of Imperial Decadence and Decline in Epic Science Fiction" (2007) analyze *Dune*'s politics: Hoberek argues that it presents an analogy for Kennedy's foreign policy strategy in Africa while DiTommaso contends it is a critique of imperialism.

Of significant importance to my project are the critiques of *Dune* that address the novel's treatment of science, technology, and gender in the novel. In addition to Ower's examination of the depiction of technology to construct the novel's system of morality, as previously discussed, DiTommaso's 1992 article, "History and Historical Effect in Frank Herbert's *Dune*," further develops O'Reilly's characterization of

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[12] The capitalized "Voice" refers to the name of the Bene Gesserit technique for forcing a target's compliance through a spoken command specially inflected to compel immediate obedience.

Dune's "sciences of the subjective" as individual practices based in the social sciences (O'Reilly, *Frank* ch 4; DiTommaso 317). O'Reilly and DiTommaso's understanding of the role and significance of science and technology in *Dune* provide the framework for the same in my project. There are but a handful of articles that analyze depictions of gender in *Dune*, most notably those by Miriam Youngerman Miller, Adam Roberts, and Jack Hand, who dismiss the novel fairly quickly as representing simplistic and retrograde notions of gender. Susan McLean's 1982 article "A Psychological Approach to Fantasy in the *Dune* Series" applies gender analysis to contend that Herbert's use of familiar masculine archetypes, such as the heroic code of sexual chivalry, is intended to appeal to the values, anxieties, and aspirations of its largely adolescent male readership and reflects their sense of intimidation when confronted with femininity.

It is not surprising that *Dune* reflects the patriarchal views of women so common in mid-century America, nor is it surprising that critics have felt less need to elaborate on a aspect of the novel that seems relatively self-evident. Therefore, this thesis is unique in suggesting that *Dune*'s portrayal of women is, in fact, a more complex response to a masculine sense of threat in the face of the technological advancements of the day, and not simply an appeal to male chauvinism and misogyny. It then becomes necessary to explore the question of *Dune*'s treatment of technology more deeply than previous critics, seeking the reasons for Herbert's artistic decisions regarding the technology's connection to the depictions of gender.

Methodology:

The methodology of this thesis takes three major approaches in forming its argument: socio-critical, definitional, and close reading. The socio-critical approach relies primarily on feminist and gender studies to provide a theoretical framework within which to interpret Dunian society's structuring of power along gender lines and its implicit beliefs about women. Dunian beliefs and norms can then be compared to those in Herbert's setting to reveal the correspondence of Dunian society to the

patriarchal, Euro-American upper class who also presented the strongest resistance to the women's liberation movements that were threatening to cause major social change in the roles of women in society. Moreover, misogyny towards women was exacerbated by fears of technology that were prevalent at the time. My socio-critical approach is also informed by biographical data, as Herbert's views on technology's role in society are well-documented in the interviews he gave and in the many articles and opinion pieces he authored. He does not comment on women's issues, but his concerns over the negative consequences of technology are very similar to those pointed to by critics who link fears of technology with fears of women.

This thesis establishes the defining characteristics of the mass media cyborg through an integration of critical works on the fictional figure. The characters within Herbert's novel are then compared to this definition, so that it can be shown that the similarities are extensive enough to warrant claims that these Dunians, most notably the Bene Gesserit women, the Mentats, and the Guild Navigators, are *Dune*'s iteration of the New Wave cyborg. This approach also reveals that, in addition to the parallels in characters, *Dune* is consistent with the cyborg sub-genre in its themes and plot structure.

Both the socio-critical and definitional analyses are supported by a close reading of the novel. This is a necessary approach to Herbert's work, which often tends to reveal information about characters and settings indirectly through the course of the novel's action or the characters' interaction. Herbert's oblique style acts to reinforce the sense that his adherence to patriarchal assumptions about gender and social structures goes unexamined and their validity taken for granted. Most important to this thesis, however, is that it is through a close reading that the most compelling evidence for a cyborgian interpretation can be found, as Herbert's linguistic choices in his descriptions of the characters make their similarities to the cyborg figure specific, exact, and compelling.

Chapter One: A Feminist and Gender Analysis of *Dune*

Adam Roberts characterizes *Dune* as "a novel built around a sense of stepping backwards" (40). He writes that Herbert creates familiarity, despite the novel's setting in the distant future, through its "old-fashionness," "nostalgic cast," and "medieval Arabian paradigm" (40). Herbert achieves this effect by creating a setting that emphasizes elements from humanity's past more frequently than from an imagined future, such as with its inclusion of cold stone castles, gladiatorial fighting spectacles, and medieval court banquets with wine "flagons," heavy wooden chairs, linen, and even a troubadour (Herbert, *Dune* 151). More importantly, however, Herbert amplifies the old-fashionness and familiarity of the novel's setting through its traditional, patriarchal societal structures and attitudes. Accordingly, it should come as no surprise that women in the Dune universe are viewed in equally traditionally patriarchal terms. Those critics who do address the treatment of gender in *Dune*, notably Jack Hand, Miriam Youngerman Miller, Susan McLean, and Adam Roberts, are quick to point this out. In order to map more fully the various ways in which the novel demonstrates a perspective consistent with patriarchal aims and beliefs, this chapter will draw principally on the theories of Simone de Beauvoir to analyze how *Dune* constructs a sense of norm and other, establishes biological determinism as an empirical reality affecting the characteristics and limitations of each gender, organizes and regulates its society, and ultimately exhibits the consequences for women in these circumstances.

Part I: Analyzing Gender

1.1 Feminist Theory: Man and His Other

In her pivotal work *The Second Sex*, published in 1949, French philosopher and writer Simone de Beauvoir was among the first to identify, analyze, and criticize what would become two important premises of Second Wave Feminism: the idea that men have made of women their ultimate "Other" and that femininity is a cultural construction rather than a biological fact. This notion that women play the passive Other to man's assertive subjectivity is a theory expounded by earlier (male) philosophers beginning with Georg Wilhelm Friedrich Hegel (Tidd 16). Hegel argued that the conception of self is made possible through an awareness of the differentiation from all that is not-self: the subject's form is defined through contrast to the other, the "alien being," to which it is compared; it is able to affirm its existence through their mutual recognition of each other.[13] He writes that simultaneous with the positive realization of "being-for-self" is the negative: one experiences a fearful response to the inherent threat presented by the Other, meaning that a situation of conflict is created whenever two self-awarenesses come into contact (Hegel 118). The conflict cannot be resolved by eliminating the other because this would mean destroying the possibility of recognizing oneself and thus destroying "the consciousness of itself as essential being" (Hegel 119). Instead, according to Hegel, the conflict must be defused through the development of a hierarchical relationship. His use of the terms "lord" as subject and "bondsman" as object reveals how fundamental this hierarchical arrangement is to his conception of the identification of self. For him, the drive toward conflict and domination is the *sine qua non* for the self-awareness of human beings.

This model of subjectivity and hierarchy easily lends itself to describe gender relations in which woman acquiesces to man. Beauvoir gives an example of Hegel's

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[13] In Hegel's (translated) words: "[t]he [subject's] negative relation to the object becomes its *form* and something *permanent* … In the lord, the being-for-self is an 'other' for the bondsman, or is only *for* him (i.e. is not his own); in fear, the being-for-self is present in the bondsman himself; in fashioning the thing, he becomes aware that being-for self belongs to *him*, that he himself exists essentially and actually in his own right" (Hegel 118, italics in original).

concept of the Other being put to that purpose, quoting philosopher Julien Benda in a work he published only three years before her *The Second Sex*: "[woman] is determined and differentiated in relation to man, while he is not in relation to her; she is the inessential in front of the essential. He is the Subject; he is the Absolute. She is the Other" (qtd in Beauvoir 6). Benda's assertion demonstrates that Hegel's concept of the Other can and is used to justify and normalize the devaluing of women. For her part, Beauvoir agrees that "Otherness is a fundamental category of human thought," pointing out that the duality of the Self and Other is a formulation that can be traced across cultural contexts reaching back to "the most ancient mythologies" (6). Yet, she argues that its ancient roots do nothing to recommend the application of this perspective to gender because, in its original form, it was a conception used to describe mythic archetypes, not sex division, and "it was not dependent upon any empirical facts" (6). Moreover, Hegel's model falls short of accurately reflecting the asymmetrical, hierarchical division of the sexes because his "other consciousness, the other ego, sets up a reciprocal claim … individuals and groups are forced to realize the reciprocity of their relations," whereas this reciprocity is lacking between men and women; man claims to be the sole essential subjectivity and denies the relativity of his position (Beauvoir 7). Therefore, Beauvoir finds men's use of this argument for their superiority indefensible and women's acquiescence to this view as troubling and in need of further interrogation. She questions society's assumption that men's rightful place is at the top of the hierarchy, which would give essential fuel to subsequent feminist thought.

The Man and Other model is a framework that allows for the invention and elaboration of a variety of ways in which woman's position can be justified as being both separate from and subordinate to man's. Two of the most significant of those is first, the argument that woman is more closely associated with nature and second, that woman is suited to dependent and subservient positions on the basis of her biologically determined character.

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1.2 Feminist Theory: "Natural" Woman

Feminists such as Sherry Ortner, Londa Schiebinger, Carolyn Merchant, and Nancy Stepan have made the case that a fundamental plank of the argument for defining the female as the inferior sex is the idea that "women belong to nature in ways that men do not," which is a "well established Western conception" going all the way back to Plato (Schiebinger 16).[14] In her article, "Is Female to Male as Nature Is to Culture?" Sherry Ortner surveys a broad range of cultural traditions and philosophies, seeking the reason for what she considers to be a universal condition that leads every culture to place a lower value on women. According to her research, the association of women with nature is the most important factor that leads to both their devaluation as individuals and their subordination in society (72). The former proceeds from the view that all human activity, or culture, is, in a general sense, an effort to transcend natural existence and assert control over nature; she writes that culture's "sense of distinctiveness and superiority rests precisely on the ability to transform—to 'socialize' and 'culturalize'—nature" (73). In being perceived as more closely affiliated with the natural world, women are in turn "seen as representing a lower order of being, as being less transcendental of nature than men are" (73). This view creates the conditions for men to be able to claim the project of culture as exclusively their own and exclude women as much as possible from public life.

Ortner then demonstrates how women are further disempowered through their isolation in the home. The biological fact that women are the ones to give birth and breastfeed children has been used as a reason to assign them the role as primary caregiver, keeping them too busy in the home to allow them participation in public life.[15] Men, on the other hand, being free of the biological obligations after

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[14] The relationship goes both ways: women are seen as being close to nature and nature is seen as female. Carolyn Merchant writes that the earth itself was believed to be "alive and considered to be a beneficent, receptive, nurturing female," from the time of the ancient Romans and Greeks up to the Renaissance (105). This included making analogies between features and functions of the natural landscape with features and functions of the woman's body (104).

[15] In her socialist feminist manifesto, *The Dialectic of Sex*, Shulamith Firestone similarly argues that the institutionalized disenfranchisement and oppression of women originates in "the tyranny of their

conception, define their sphere of activity outside of the home, making themselves "the 'natural' proprietors of religion, ritual, politics, and other realms of cultural thought and action in which universalistic statements of spiritual and social synthesis are made" (Ortner 78). The masculine public sphere is considered to be the domain of "the finer and higher aspects of human thought," while the domestic sphere, and the children specifically, are considered as part of nature rather than culture; as such, the domestic unit remains at a level lower than the community unit (Ortner 78). Therefore, in both ideology and practice, women's association with nature has been crucial in establishing their inferiority and relegation to the home.

Scheibinger, Nancy Leys Stepan, and Judy Wajcman have brought to light ways in which the male scientific community has attempted to shore up these beliefs about women by claiming they have an objective basis in biology. Schiebinger's research points to evidence that the developing sciences of natural history and anatomy during the seventeenth and eighteenth centuries "provid[ed] a justification, and prescription, for the exclusion of women from the social and intellectual practices of Western technoscience on the grounds of 'natural' gender differences," thereby "entrenching unacknowledged sexism" (Kirkup 5). In one particularly persuasive example, Schiebinger examines how Carolus Linnaeus, in his decision to classify mammals by their practice of suckling their young, broke from tradition, ignored a handful of other, gender neutral, classificatory criteria available, and deliberately privileged the characteristic that emphasized women's similarity to animals (Schiebinger 16).[16] She asserts that this decision was influenced by the fact that women's ability to suckle their young "had long been considered less than human" (16). Conversely, when he named *homo sapiens* (literally "man of wisdom") to distinguish humans from other primates, he emphasized the rational qualities believed to elevate men above animals (16). Schiebinger makes a compelling case that these

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reproductive biology" as well as the family unit (192, 206). She felt that liberating women from housework and distributing childrearing tasks evenly throughout the community would eliminate the need for traditional, monogamous, heterosexual family models, thus eroding the basis for the oppression of women (10-11).

[16] Mammal derives from mammalia, Latin for breast.

choices reveal Linnaeus' sexism and negative view of women. By drawing attention to this one quality that only women share with animals and ignoring the many other qualities that men share with them, Linnaeus essentially created a new justification for identifying women as closer to nature and further from culture than men, one cloaked in the legitimacy afforded by the sciences.

Stepan provides evidence for how literal scientists' perception of women's inferiority was as late as the nineteenth century. During this period, physiological evidence, such as "narrow, childlike" skulls and "low brain weights and deficient brain structures," were cited as evidence for women's "deficient intelligence" and "animalistic impulses" (Stepan 39). Evolutionary principles were employed to lend further scientific credence to these findings. According to Stepan, it was suggested that women's conservative natures, as opposed to men's progressive ones, explained their tendency to preserve primitive traits; women, it was argued, were less evolved than men (39). Strains of this argument have even survived into the twentieth century, such as the purported biological differences in the visual-spatial skills of men and women used to demonstrate that women are "naturally incapable of carrying out scientific work" (Wajcman 3). Unfortunately, the association of women with nature is a pervasive and obdurate view that is deeply and almost universally entrenched across cultural and class lines, often in spite of attempts to exercise scientific objectivity. Its detrimental consequences have been to justify the belief in men's intellectual superiority and legitimize the relegation of women to domestic roles, all on the basis of the perceived biological difference between the sexes.

1.3 Feminist Theory: Gender Performance

Following Beauvoir, many Second Wave feminists have asserted that traditional conceptions of gender characteristics and aptitudes are artificially defined by unsubstantiated ideology and that femininity and masculinity are merely cultural constructs. Theorists such as Ernest Goffman, Judith Butler, Candace West and Don Zimmerman, and Raewyn Connell further develop this concept in arguing that gender

is constructed through performance. Writing in 1967, Goffman explains that the belief in essentialized gender characteristics arises from "a very deep belief in our society" that people's outward presentation is an expression of a fixed, innate character and that gender is considered to be one of the most deeply seated and significant of character traits (74-5). Central to Goffman's thesis is the assertion that there is no essential gender identity; rather than expressing their "nature," people's outward presentations instead indicate how they wish to be perceived according to their respective contexts of culturally constructed expectations and beliefs (75). He argues, "[w]hat the human nature of males and females really consists of, then, is a capacity to learn to provide and to read depictions of masculinity and femininity and a willingness to adhere to a schedule for presenting these pictures, and this capacity they have by virtue of being persons, not females or males" (76).[17] By focusing on the individual's complicity in replicating cultural norms, Goffman is able to reconcile the denial of the validity of biologically determined characteristics with the pervasiveness of seemingly natural and instinctive performances of traditional gender.

West and Zimmerman agree with Goffman that gender is, in their words, a "socially organized achievement … constituted through interaction," but they contend that he under-represents the social importance of aligning one's gender display to the accepted norms (West and Zimmerman 14-7). On that account, they

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[17] As Judith Butler argues in *Gender Trouble*, this also means that people are able to intentionally subvert traditional depictions of gender, such as is seen in the drag community. Like Goffman, Butler rejects essentialism and argues that gender expressions are superficial replications of social constructs, defining them as "the repeated stylization of the body, a set of repeated acts within a highly rigid regulatory frame that congeal over time to produce the appearance of a substance, of a natural sort of being … bodily gestures, movements and styles constitute the illusion of an abiding gendered self" (33, 139). Critics of Butler, such as Sara L. Crawley, Lara J. Foley, Constance L. Shehan and Chris Bricknell, have argued that Butler's theory is problematic to the extent to which it downplays the existence of an a priori self. See especially Bricknell's "Masculinities, Performativity, and Subversion: A Sociological Reappraisal," in which he productively applies Goffman's concepts from "Gender Display" to suggest a means of resolving Butler's inconsistency in acknowledging and locating the subject behind the performance.

introduce what they term gender accountability, on the grounds that the need for an either-or gender classification is mandatory, "omnirelevent," and enforced in our culture, making "doing gender … unavoidable" (23-4). They reaffirm Goffman's assertion that gender differences are not "natural, essential, or biological," but are learned at a young age (24). The collective consistency within a society to perform so-called essential female and male natures allows these characteristics to "achieve the status of objective facts … rendered normal, natural features of persons," which then "simultaneously sustain, reproduce, and render legitimate, the institutional arrangements that are based on sex category" (West and Zimmerman 29, 33). The theorizing of gender performance has usefully developed our understanding of the establishment of identity in two important ways: first, because it persuasively supports the claim that gender is constructed rather than intrinsic, and second, because it underlines the extent to which consistency with a recognizable, "correct" performance is enormously socially important yet often passes without critical notice.

Gender theorists such as Raewyn Connell, Crawley, Foley, and Shehan observe that while the specific parameters of a required gender performance vary greatly across cultures and eras, a constant feature in Western culture is the subordinated position of women in relation to men. According to Connell, this has the effect of shaping the pattern of feminine performance as an adaptation to men's dominating role; this model of behaviour, which she terms "emphasized femininity," stresses "compliance, nurturance and empathy as womanly virtues" (*Gender*, 188).[18] As such, idealized feminine characteristics include "displays of sociability rather than technical competence, facility in mating scenes, compliance with men's desire for titillation and ego-stroking in office relationships, [and] acceptance of marriage and childcare as a response to labour-market discrimination against women" (*Gender*, 187).[19] Moreover, Connell stipulates that the ideals set forth in emphasized femininity reflect ideological representations, rather than the lived reality of most, or even many,

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[18] Connell is the originator of these ideas; Crawley, Foley, and Shehan affirm and elaborate on them.

[19] Connell's book includes some references to data collected in studies outside of Western countries, such as the Soviet Union, but the bulk of her analysis refers to the cultural milieu of the United States in the twentieth century.

women (*Gender*, 186). The image of the perfect woman is vitalized within the cultural imagination; it is held as common knowledge that her traits of passivity and dependence are matters of natural, biological fact. The women living in such societies come under enormous pressure to conform, both from outside influences such as their family and community, as well as from their own desire to be perceived as normal.

The aforementioned theorists also analyze patterns of masculine performance to determine how these ideals are formed and maintained within society. Concepts of masculinity are defined in terms of independence and self-reliance, and are organized around attributes that sustain dominance over the so-called feminine traits of compliance and weakness, (Crawley, Foley, and Shehan 45). Along these lines, West and Zimmerman add that they typically include a competitive spirit and the physical qualities of endurance and strength (24). Connell's analysis of the patterns of men's performance leads her to a dynamic model she terms "hegemonic masculinity" (*Gender*, 183). Rather than representing a static or unitary understanding of what essential characteristics are typically "male," the hegemonic model instead identifies the process by which a culture comes to agree upon which masculine qualities are normative and desirable. Connell and James W. Messerschmidt write that "an idealized definition of masculinity is constituted in social process," such as through the circulation of examples of admired masculine conduct that cultivates a society-wide sense of consensus and endorsement for the certain qualities that are deemed exemplary (Connell and Messerschmidt 837). In addition to promoting certain characteristics, hegemonic masculinity provides models for men's relations with women as well as methods for addressing problems of gender relations (Connell and Messerschmidt 837). Although the specifics may take different shapes from one cultural context to another, Connell finds that hegemonic masculinity is essentially a cultural expression of ascendancy, concerned with "the maintenance of practices that institutionalize men's dominance" over subordinate groups (*Gender*, 185). The latter include all women as well as men whose masculinity is nonhegemonic, in that it is either subordinate, like that of homosexuals, or compliant, like that of men who are not able to emulate the ideal but nonetheless are complicit in contributing to its

embracing by society. The ascendancy of particular forms of masculinity is attained by fostering the popular support, consent, and participation of the subordinate groups, but it has to continually expend effort to maintain its foremost position (Connell and Messerschmidt 841, 844). In a sense, hegemonic masculinity operates as propaganda. Rather than providing a stable model for desired gender performance, it instead reveals masculinity to be an arena for the contest, triumph, and precarious dominance of certain attributes and patterns of behaviour.

The concept of gender performance also creates a framework for the analysis of the social consequences of one's failure to conform. West and Zimmerman point out that, should one's performance depart from the norm, it would not bring into question the integrity of the institution but of the individual, usually on the basis of his or her character, motives, and predispositions (33). In the case of men, failure to adequately manifest the appropriate displays of masculinity places one within a subordinated group, a position that is actively marginalized and delegitimated in comparison to the central hegemonic model (Connell and Messerschmidt 846). In the case of women who take on roles falling outside the traditional feminine sphere, thus engaging in what Goffman terms "role conflict," they come under special pressure to counterbalance the inconsistency by emphasizing displays of other gender-appropriate attitudes and activities in order to prove that they are still an "essentially" feminine being (West and Zimmerman 26).[20] According to Crawley, Foley, and Shehan, this response, ever more common in both practice and in sociological literature, has come to be referred to as the "feminine apologetic" (63).[21] What is clear is that people's identities and positions in society rely on interpreting and

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[20] West and Zimmerman reference Goffman's term from his article "The Arrangement of the Sexes" (West and Zimmerman 26).

[21] Crawley, Foley, and Shehan explain that the origin of the term is unclear: "Clasen (2001) [Clasen, Patricia R.W. "The Female Athlete: Dualisms and Paradoxes in Practice" *Women and Language* 24: 36-41] cites Felshin in Gerber et al. (1974) [Gerber E.W., J. Felshin, P. Berlin, and W. Wyrick. *The American Woman in Sport*. Reading, MA: Addison-Wesley]; Messner (1988) [Messner, Michael A. "Sports and Male Domination: The Female Athlete as Contested Ideological Terrain." *Sociology of Sport Journal* 5: 197-211] cites Rohrbaugh (1979) [Rohrbaugh, J.B. "Femininity on the Line." *Psychology Today* August, 31-33]. We are unclear about who actually invented the term" (79).

enacting gender in an acceptable manner; one ignores these requirements at the risk of one's reputation.

In summary, gender theorists, such as Goffman, West, Zimmerman, Crawley, Foley, Shehan, and Connell, have effectively demonstrated that gender identities are not biologically determined, but rather present themselves in manners supporting arguments for the essentialized characteristics of men and women due to enculturation and societal pressures. However, even though it can be convincingly argued that gender identity is merely a performance rather than a biological determination, this is not to suggest that it is wide open to interpretation and personal expression. Instead, normative gender performances are relatively inflexible and limited, with participation obligatory rather than optional. Those people behaving consistently with expectation are rewarded with society's approval and, in turn, act to bolster the apparent truth of biological gender's effect in shaping personality. The ramifications of the sanctioning of traditional, binary gender roles extend beyond corralling expressions of personality; it also creates the conditions to justify the division of societies into a male public sphere and female domestic sphere, which does further damage to women.

1.4 Feminist Theory: Structures of Patriarchal Society

In the decades following Beauvoir's bold assertion that the exclusion of women from public life is at the root of their widespread denigration and disbarment from autonomous existence throughout history, feminist theorists such as Butler, Luce Irigaray, and Gayle Rubin have further studied how segregated patriarchal civil structures operate to sustain the imbalance of power between genders through the commodification and trade of women.[22] In *The Elementary Structures of Kinship*

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[22] Rubin argues that the term "patriarchy" is often over-used to broadly reference the sex/gender system within a particular culture or society when it actually refers to "a specific form of male dominance," such as "the Old Testament-type pastoral nomads [such as Abraham] from whom the terms comes … one old man whose absolute power over wives, children, herds, and dependents was an

(1949), an anthropological work that was widely recognized and influential in its time, Claude Lévi-Strauss provides a thorough description of this system, going so far as to justify the trafficking of women as vital and fundamental to the organization of society. According to him, the inception of culture in pre-historic times arose from what he considers the most foundational law in all history: the incest taboo. Exogamy, the custom of marrying the clan's women to men of a different clan, is purported to be the universal practice to avoid incest. The system that developed for the exchange of women, and the inter-clan bonds that formed as a result, became the basis of the structures of human kinship and, ultimately, of culture itself (Lévi-Strauss 25, 68). Lévi-Strauss claims that the trade and trafficking of women is an arrangement that is essential to the social formations of all culture, one that is a universal practice, and normalized as of the time of his writing *The Elementary Structures of Kinship*. Throughout the monograph, which purports to identify the natural state of human behaviour, he refers to women as scarce products and valuables (32), merchandise and commodities (36), gifts or for purchase (63), most important assets (479), goods exchanged (480), and valuables "*par excellence*" (481, emphasis his). Similarly, he asserts that women are essential signifiers: their "*raison d'être*" is to be communicated such that it is a "*misuse*" if they are not exchanged (496, emphasis his). Lévi-Strauss's language distinctively frames women as currency and his work displays a marked absence of the possibility for women to have any other role within society.

It is striking that nowhere in this work does Lévi-Strauss pause to consider the ethics or validity of treating women as chattel, nor does he feel the need to defend the

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aspect of the institution of fatherhood" (168). On the other hand, Michelle Meagher's definition of "patriarchy," written thirty-six years later in *The Concise Encyclopedia of Sociology*, notes the acceptance of the expansion of the term to refer to "a more general system in which power is secured in the hands of adult men," wherein "[d]espite significant political, legal, and cultural gains, there remains a near total domination of women by men at both the micro level of intimate relationships and the macro level of government, law, and religion" (441). Meagher adds that contemporary scholars acknowledge that patriarchy is a system that favours only some, and not all, men: "In this context … an understanding of patriarchy contributes not just to an understanding of women's lives but to the ways in which power is distributed to all members of a family, group, organization, or society" (442).

activity. Notably, in evaluating Lévi-Strauss's logic, it is clear that he adheres to a number of the assumptions that Beauvoir identifies as problematic: that man must dominate his Other, that culture represents man's triumph over an inferior nature, and that woman, associated with animals and children, is inherently suited to dependency upon men. Therefore, Lévi-Strauss's own conclusions about the rightful role of women in the world support Beauvoir's contention that the division of societies into a male public sphere and female domestic sphere is a major impetus for the widespread subordination of women. The fact of *The Elementary Structures of Kinship*'s positive reception speaks to the ubiquity of these assumptions within the rest of society at the time of its publication.[23]

As Butler, Irigaray, and Rubin each point out, a woman in these exchange cultures has no intrinsic value as a human being, nor does she have any control over her fate; her value and her place are defined only in relation to men. Butler explains that the bride represents the relationship between two groups of men: "she does not *have* an identity, and neither does she exchange one identity for another. She *reflects* masculine identity precisely through being the site of its absence" (39, emphasis hers). The bride's value is in her abstract representation of the kinship between

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[23] Aside from the issues it poses to feminist thought specifically, subsequent analysis of *The Elementary Structures of Kinship* has suggested that Lévi-Strauss's work is rife with problems that arise from his dubious methods for the collection and analysis of data, his over-reliance on speculation and extrapolation, and his failure to recognize his significant patriarchal and capitalistic bias. See Evelyn Reed's chapter "The Misconceptions of Claude Lévi-Strauss On *The Elementary Structures of Kinship*" in her book, *Sexism and Science*, for a detailed criticism of Lévi-Strauss's work and a survey of the negative response from the scientific community in the decades that followed (127-160). The most obvious cause for criticism is that the basis for his analysis is his study of so-called "primitive" societies existing during his time, with the assumption that their societies would naturally be very similar to pre-historic societies. Reed acknowledges, however, that he was writing during a brief period when an antihistorical approach in anthropology was popular, this premise being justified by the assumption that "invariant mental structures [gave] rise to social structures, not the other way around" (129-30). See Butler's *Gender Trouble* for her critique of *The Elementary Structures of Kinship*, questioning Lévi-Strauss's assumption of incestuous heterosexuality as the instinctual and pre-artificial matrix for desire (42-3). Also see Gayle Rubin, "The Traffic in Women: Notes on the 'Political Economy' of Sex," for her analysis and criticism (176).

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groups, rather than in herself; the value of the transaction is located in the men. Irigaray too argues that a woman's worth is an abstract concept, in that it only exists to the extent that she can be exchanged (176). Because the bride forms a component of her husband or family's private property, her value does not arise from some aspect of her physicality or ability, but is instead a relative estimation measured against how she compares to other women and other commodities (Irigaray 176). Rubin makes the distinction that even though the kinship exchange systems that Lévi-Strauss describes do not necessarily involve the objectification of women in the modern sense of the word, he nonetheless "constructs an implicit theory of sex oppression" precisely because the women in these societies have no control, nor the opportunity to enjoy any benefit from their own circulation (171, 174).[24] These three feminists identify that in kinship exchange systems, a woman can never take ownership of her value; what value she may have is relative and relies on her connection to the patriarch of her clan.

As Rubin argues, *The Elementary Structures of Kinship* and other such works, for example Freud's theory of female Oedipal experience, are valuable for those concerned about the politics of gender because "[w]e [feminist theorists] cannot dismantle something that we underestimate or do not understand" (Rubin 198).[25] According to her, structural anthropology and psychoanalysis are "in one sense, the

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[24] Rubin also critiques Lévi-Strauss's economic evaluation of sex and marriage practices as being far too limited in scope because he ignores the mechanisms by which the conventions of exchange are produced and maintained: "[t]he economic oppression of women is derivative and secondary" to their subordination, which is "a product of the relationships by which sex and gender are organized and produced … what we need is a political economy of sexual systems" (177).

[25] Freud's theory of the female Oedipal experience describes a girl's process of turning away from the mother to the father when she recognizes that she cannot have the masculine power or rights in the world that she desires, resulting in her passive nature ascending to eclipse her younger, aggressive nature. Rubin writes that the "psychoanalytic theory of femininity is one that sees female development based largely on pain and humiliation," with the suggestion that it is women's biology that makes them naturally masochistic, finding joy in the pain of childbirth and intercourse (197). She concludes that Freud's essays on femininity can be read "as descriptions of how a group is prepared psychologically, at a tender age, to live with its oppression" (196).

most sophisticated ideologies of sexism around" (200).[26] Lévi-Strauss's and Freud's analyses "provide preliminary charts of the social machinery we must rearrange" in that they are sophisticated descriptions of the process by which the subordination of women is maintained and rationalized in society and of the subsequent psychological impacts (Rubin 198). Despite the pre-modern character of the societies that Lévi-Strauss studies, the exchange system he identifies are still, to a large extent, shaping contemporary society's organization based on the family unit and the genders' respective segregation into domestic and public life; this is further supported by the fact that Freud's theories affirm and correspond so closely to Lévi-Strauss's, while being based on a more modern sample (Rubin 198). These theories also provide us with the tools to understand the process by which women come to internalize their position and act in a manner complicit with patriarchy. This is an important issue to address, for women are also engaged in actively supporting and replicating patriarchal cultural norms. Exposing patriarchy's *modus operandi* is a necessary step to identifying oppression in all its subtle forms and enabling positive change.

1.5 Feminist Theory: Women's Complicity with Patriarchy as a Survival Strategy

Throughout history, women have found ways to adapt to life within male-dominated societies because, as Beauvoir observes, they often have little choice: "[e]ither she finds [her place] but is enslaved, or she is enfranchised but can do nothing else with herself" (Beauvoir 149). A woman's refusal to conform is discouraged through her financial dependence on her husband as well as by the social isolation that threatens to be the result of avoiding marriage and motherhood. On the other hand, her compliance is encouraged through emotional rewards. Beauvoir

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[26] The term "structural anthropology" indicates the anthropological school of thought in which the assumption is that, in Lévi-Strauss's words, "certain fundamental structures of the human mind" are universal and immutable (84). These predispositions, determined in part by biological factors such as gender, are believed to give rise to social structures, such that cultural practices become evidence of the mental structures.

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writes that a woman's connection to her oppressor is unique among asymmetrical power relationships because, whether as wife or daughter, she is attached through love and the practical conditions of their shared life (9). The social structures that develop in patriarchal cultures encourage a woman to strive ardently to please men because of the latter's economic privilege and social value, the perceived prestige of marriage, and the usefulness of masculine support (Beauvoir 156). It follows that the woman most successful in gaining masculine recognition and approval is the one who most successfully models herself on men's ideals and desires for femininity, rather than on ideals and desires she might devise for herself (Beauvoir 156). Taking Beauvoir's approach allows one to map out how emotional and pragmatic concerns operate in concert to create a powerful motivation for women not only to cooperate with the all-encompassing male-dominated society, but also to devote themselves sincerely to the aspiration of becoming the best woman her man wants her to be.

In her study of what she terms "classical patriarchy," Deniz Kandiyoti analyses how the structuring of the patrilineal clans fosters women's internalization of the values of patriarchy.[27] According to her, should a woman be ambitious, her best option is often to work within the dictates of established patriarchal structures in order to position herself optimally in one of the sanctioned female roles. She finds that a woman in these societies enter her husband's household "as an effectively dispossessed individual" because, in owning nothing and performing work that is without pay or recognition, she has no viable means of sustaining herself outside of the patrilineal clan (108). Her place within the family is secured only by producing male offspring. Moreover, her sons represent the promise of eventual status within the family's hierarchy of women, in that she will be able one day to rule over her future daughters-in-law. As a result, Kandiyoti argues, the anticipation of someday inheriting power "encourages a thorough internalization of this form of patriarchy by the women themselves" (108). In effect, this is the best she can do when breaking out

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[27] Kandyoti's "classical patriarchy" follows the same model as the patrilineal kinship relations based on the trafficking of women as described by Lévi-Strauss, only she uses the term specifically with reference to modern societies such as those in North Africa, Turkey, Pakistan, Iran, India, and China (107).

of sanctioned female roles is not an option. Because all other means for women to provide for themselves or participate in society are closed off, they are coerced into becoming complicit in bolstering the very structure that oppresses them.

1.6 Feminist Theory: Conclusion

Man has a long history of believing in his exclusive right to subjectivity and of casting women as the inferior Other. Men have maintained dominance through the assertion that women are by their natures inferior to men and therefore only equipped for domestic and childrearing tasks. This has allowed patriarchal societies to organized themselves into two distinct spheres, restricting women to the home and allowing only men access to the public sphere where the more significant business of culture and society is conducted. Women can become more attached to their oppressors through close familial ties than they are to other women, which is a circumstance that may prevent them from developing a sense of solidarity with each other, while, at the same time, strengthening their sense of loyalty and dependency on the men. When left with few other options, women tend to internalize their culture's beliefs and expectations for femininity and then strive to perform those to the best of their abilities. Patriarchal society generates the conditions to perpetuate itself, both in the structure and organization of society and in the psyches of its citizenry. It is therefore not surprising that patriarchal structures and ideologies are also frequently reflected in fictional works, as they are in *Dune*: its deep unexamined assumptions about gender remain very consistent with the assertions contained in the feminist analysis discussed in this chapter.

Part II: Analyzing Gender in *Dune*

2.1 The Construction of the Masculine Norm in *Dune*

Gender theory provides useful criteria and models for mapping out how ideas about gender are formed and enacted within various cultural milieux. In applying these rubrics to *Dune*, it is possible to unearth the novel's assertions about gender to reveal its traditional, patriarchal view. This can be seen in the way that *Dune* establishes its heroic norm for strong male characters, who exhibit many of the masculine qualities, Protestant values, and rugged individuality highly valued in American culture. The women of *Dune* also conform to traditional gender expectations. Their behaviour and so-called instincts, along with the novel's presentation of certain biological "facts" that govern gender aptitudes, reveal *Dune*'s adherence to the belief in the biological determination of gender. In addition, the Imperial society of *Dune* is structured around patrilineal families that utilize the exchange of women for establishing inter-clan relations in ways very similar to those described by Lévi-Strauss. Consequently, the women of these societies are affected in precisely the ways one would expect, following the same patterns of internalization and compliance as discussed in part one of this chapter.

The concept of hierarchical gender binaries is rooted in the distinction of the self from the Other and the valourizing of the masculine subjectivity as primary. Accordingly, for pursuing a gender analysis of *Dune*, it is necessary first to establish the novel's definition of the masculine norm and how Others are distinguished by contrast. Unsurprisingly, the novel reflects the values and assumptions of mid-century America. There is little doubt that Herbert cast *Dune*'s cultural norms in such a manner as to be readily accessible to the young white, Western, Protestant, and heterosexual males that made up *Dune*'s expected readership at this time. Predictably, it was an effective strategy, as the novel's popularity is often attributed to Herbert's use of simple and familiar archetypes and his ability to appeal to the values, anxieties, and aspirations of its largely adolescent male readership (McLean 150). In *Dune*, these values are reflected in the relative moral simplicity of the contrast between the protagonist and his entourage versus his adversaries, in the message the novel sends about what constitutes an admirable model of chivalrous sexuality, and in the general

sense of anxiety it shows about women.

On the surface, *Dune* maintains a morally simple and familiar pulp fiction plot, wherein the virtuous hero triumphs over his evil nemesis, popular in the swashbuckling adventure stories that in fact represent the genre of Herbert's earliest forays into fiction writing (Stone 19).[28] Following in this tradition, Paul, and by extension his family and his associates, are established as the heroic norm at the centre of the story. For example, Paul's father, the Duke Leto, is a paragon of a strong, effective leader, who commands an impressive force of personality in the presence of his troops, employees, and even his son (Herbert, *Dune* 57). Although he only appears in a handful of scenes before being assassinated, his every interaction reveals a superior intelligence, aptitude for complex political intrigue, and embodiment of the ideal characteristics for both military commander and father figure. When Leto chooses enormous financial loss in order to save the lives of some of his men, Kynes, who, as the leader who inspires the Fremen is another heroic character, finds himself admiring Leto "[a]gainst his own will and all previous judgements" because a man "*such as that* would command fanatic loyalty" (150). Herbert exaggerates the effect of Leto's heroic qualities by exalting them from the perspective of another man who is an impressive leader in his own right, making Leto an exemplar of idealized masculinity.

All of the Atreides and their associates exhibit laudable qualities. The Duke's closest lieutenants are no exception, such as Duncan Idaho, a proud and ruthless soldier who is also recognized for his truthfulness and morality; Gurney Halleck, the "valorous" Renaissance Man/assassin; and Thufir Hawat, "one of the most formidable Mentats [human computers] in all history" and a fiercely loyal servant of the family (Herbert, *Dune*, 60, 101, 272). Most important is Paul, the protagonist, who expresses the best qualities of the traditional hero. At the beginning of the novel,

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[28] Kevin Mulcahy, Julia List (28), DiTommaso ("History" 321), Touponce (64-65), and Prieto-Pablos all suggest that on closer analysis, the Atreides' morality is not as simple or unsullied as it first seems, either because of their failure to treat their subjects as equals or because of the eventual destruction caused by Paul's jihad that occurs in the subsequent novels of the series.

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he is a precocious and talented young man devoted to the study of every discipline his parents put in front of him and, by the novel's conclusion, he vanquishes the evil Emperor and his father's enemies on the strength of his superior intelligence, aptitude for strategy, and effective leadership qualities. Herbert conveys that these characters are strong and successful on the basis of their own hard work, determination, and competence—qualities that are often promoted as central to men pursuing the American Dream.

The virtues of hard work and self-reliance were important elements of the idealized American character in the 1960s, due to a lingering Protestant influence on the culture (List 22). The Protestant credo also promotes a "strong ethical centre" that allows one "to overcome baser drives," such as those related to the sexual impulse (List 21). Similarly, the Atreides and their allies the Fremen value this Protestant aspiration to control sexual impulse. According to John Ower, the Fremen rite of passage into manhood, the riding of the sandworm, is representative of Protestant attitudes because it is symbolic of "the harnessing of the sexual drive [which] is fundamental to the attainment of personal and social maturity" in *Dune* (133). Notably, Paul is encouraged to accomplish the feat "simply and directly—nothing fancy," reinforcing Ower's assertion that the focus of the ritual is on a stoic control of the passions, rather than on a brash domination of the creature (Herbert, *Dune* 448). Paul is successful in riding the worm; more importantly, he gains the respect of the Fremen because he is able to match their challenging level of asceticism and self-control that is made necessary by their environment and is the hallmark of their culture. In so doing, he also displays the self-restraint prized by the Protestant ethic.

With regard to sexual practice, the self-restraint of *Dune*'s heroes is mostly apparent by contrast with the hedonistic and debauched habits of the novel's villains. Not only do both the Baron Harkonnen and his nephew "Beast" Rabban overeat to the point of morbid obesity, but the family also indulges in their sexual appetites just as recklessly (Herbert, *Dune* 273). In almost every one of the Baron's scenes, he comments that he is hungry and makes reference to the family's sex slaves or

harems.[29] The Baron's appetites are so extreme and debased that he is not above rape, which is revealed when he gives his guard an order to "[b]ring me that young fellow we bought on Gamont … Drug him well. I don't feel like wrestling" (219). Through these characterizations, Herbert is able to emphasize the Harkonnens' deviation from the heroic norm. Their taste for excess is a theme frequently returned to, whereas the omission of any description of the sexual activities or eating habits of the Atreides implies their moderation. Instead, both Leto and Paul are depicted as being faithful to their respective one true loves, despite the fact that their fidelity is not actually required due to the women's status as concubines. While the Atreides' chivalrous attitudes and uncomplicated romances, combined with their capacity for restraint and self-control, may make their morality seem somewhat simplistic, they also make the Atreides and their men very palatable as heroes in white, Protestant, mid-twentieth century America.

For critics Susan S. McLean and Scott Sanders, Herbert's heroic code of sexual chivalry reflects the adolescent boy's sense of intimidation when confronted with femininity. McLean writes that an important part of *Dune*'s emotional appeal is in its sense of anxiety about women, fear of sex, and Oedipal conflict that it shares with many of its readers (150).[30] Notably, Paul's first dangerous encounter is at the hands of the intimidating crone, the Reverend Mother Helen Gaius Mohiam, who threatens to kill him if he fails to pass her test (Herbert, *Dune* 19). She is not the only

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[29] See especially *Dune* pp. 219, 430.

[30] Sanders discusses this phenomenon within the wider context of both science and science fiction from the mid-century, referencing Abraham Maslow's *The Psychology of Science* from 1966. Maslow argues that, in coming of age, the adolescent boy must "tear himself loose … from his love for his mother" because he perceives it as "a force pulling him backward" and preventing him from being an autonomous man of the world (qtd in Sanders 43). Sanders goes on to explain that, for the adolescent boy, not only does his mother appear as an obstacle, but so too does sex, as it can "dull the sharp edge of reason [and] subvert the rationalist, disembodied stance" necessary for participation in the rational world of grown men (44). Sanders argues that this is "one source of the taboo against sex that marked the [science fiction] genre until the early 60s" (44). *Dune* certainly remains consistent here, in its depiction of chastity as "a source of strength" and sexuality as "a dangerous source of vulnerability" (McLean 153).

woman capable of killing, however; most of the women who appear in *Dune*'s pages, such as Jessica, Chani, the Lady Fenring, and Irulan all plot the murder of others at one point or another in the novel. Later, Paul decides that his mother is in fact dangerous: "[m]y mother is my enemy … She is bringing the jihad" (Herbert, *Dune* 370).[31] These women are depicted not only as highly intelligent, capable, beautiful and deadly, but also poised, confident, and aloof—a combination of qualities that young men may very well find intimidating. Moreover, *Dune*'s plot speaks specifically to the Oedipal conflict, in that it follows the course of an adolescent boy in his development away from the control and confines of his powerful mother and toward independence and dominance in the masculine sphere of war and politics. It is quite clear that in *Dune*, the few female characters are consistently positioned as the potentially threatening Other in relation to the central, heroic males.

In sum, the heroic centre in *Dune* is comprised of the idealized masculine traits valued in mid-twentieth century America, which for all its increasing secularism, was still heavily influenced by its Protestant past. According to the expectations of this cultural milieu, important heroic qualities included displays of strength and stoicism, self-restraint, and a conservative ethics with regard to sexuality. Herbert's interest in appealing to young male readers more than likely influenced his depiction of women as simultaneously desirable, remote, and potentially dangerous. It is also true, however, that these characterization choices were consistent with the genre conventions of the sixties. Herbert remains further consistent with traditional, patriarchal depictions of gender concepts in the way that he portrays his characters' qualities as "naturally," or instinctively, arising from some aspect of the biological facts of their sex.

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[31] The "jihad" refers to the brutal and bloody war, spanning the known universe and killing millions, that Paul sees in premonitions. His predictions do come to fruition, as the jihad is underway by the second book in the *Dune* series and it is as devastating as Paul feared it would be.

2.2 Gender in *Dune*: Nature vs. Nurture

Patriarchy relies to a large degree on the belief in biological determinism to maintain the rationale for male dominance. *Dune*'s characters enact masculine and feminine traits that correspond to notions of biologically determined gender, exhibiting the novel's consistency with traditional patriarchal beliefs. The extent of the essentialist assumptions is evident in the fact that every character corresponds to a gender stereotype. Only villains behave in ways that run counter to the prescribed gender norms, such as the feminized Count Fenring and Shaddam, and the homosexual Baron Harkonnen, suggesting that "unnatural" gender expressions are indicative of moral decay. In addition to this, Herbert offers more specific examples of biological determinism, such as in the way that the Kwisazt Haderach gains his power from his special ability to operate outside of supposed gender limitations and in the way that Jessica's inner monologues and motivations correspond to traditional notions of the feminine psyche. Therefore, while it would be possible to argue that characters' personalities and actions merely arise from performances of gender as theorized earlier,[32] *Dune* ultimately defends the patriarchal belief in biologically determined gender as the reality shaping its universe.

As I have suggested, Leto, Paul, and the Atreides' entourage all embody variations of masculinity, as idealized by traditional patriarchy. In other words, they excel at masculine performance. As Goffman proposes, gender expression is not an instinctive representation of an immutable inner reality, but instead reflects people's desire and ability to live up to their society's expectations for masculinity and femininity (Goffman 75-6). Crawely, Foley, and Shehan elaborate further, stating that "characteristics for femininity often refer to dependence on men … characteristics for masculinity often refer to self-reliance" (45). The Atreides men certainly demonstrate a high degree of self-reliance and its related qualities, such as independence, bravery, and self-assurance. As Connell and Messerschmidt argue, socially dominant forms of masculinity maintain hegemony to a great extent by the delegitimation of alternatives,

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[32] I am referring to Goffman, Connell, West and Zimmerman, and Crawley, Foley, and Shehan from section 1.3 of this chapter.

which includes any behaviours not deemed masculine enough or as effeminate (841, 844). The hegemonic struggle for dominance among competing masculinities is present in *Dune*. It can be seen in the novel's constant questioning of what characteristics make an effective leader and in the consistency with which the answer is purported to be in exhibiting the masculine qualities of absolute strength and confidence, asserting one's dominance over women, and abstaining from any characteristics deemed feminine and weak.

In one example, Jessica, after a display of incredible power to control another man with her Voice and psychological manipulation skills, explains to Hawat that the reason she is not "out destroying the Duke's enemies" is because that would "make a weakling of [the] Duke [and] have him forever leaning on [her]" (Herbert, *Dune* 185). Jessica presumes that the Duke's use of a woman's help would be so powerfully emasculating that, despite his well-established reputation for strength of character, he "could be destroyed as quickly by his friends as by his enemies" (185). Hawat, the brilliant Mentat and political strategist, understands this logic and agrees. Leto's legitimacy as a leader rests not only on his own strengths, but on the fact that his power is not seen to be overshadowed by a woman, even a very skilled one, such as Jessica.

This pattern can be seen again with Stilgar, the leader of the Fremen tribe. When Jessica bests him in combat on their first meeting, some significant action is immediately required to restore the normal balance of power between men and women in order to return peace and stability to the tribe. Stilgar helps Jessica to understand that this can be achieved if she takes on a traditional, nonthreatening female role within the tribe, either as one of his wives or as the group's new Reverend Mother, so that "female [is] properly aligned with male" (337-8). Jessica opts for the latter; Stilgar manages to save face, and thus his position as leader, allowing the tribe to recover from this temporary, but apparently extremely serious, upset. Later, when Stilgar comes to worship Paul as a prophet, as the masses are encouraged to do, Paul is saddened because "it was a lessening of the man," inasmuch as he had become "a receptacle for awe and obedience" (540). The characteristics of being a receptacle,

being in awe of another man, and being obedient are all the province of women; in taking them on, Stilgar is in danger of losing his status as a man. Initially, Stilgar is a leader who shows impressive foresight, stature, and reasoning and he is able to maintain his dominance (Herbert, *Dune* 338). However, the nature of hegemonic masculinity is such that it must always be in competition with other forms in its proximity; for Stilgar, his masculinity is ultimately subdued and eclipsed by Paul's.

Nonhegemonic masculinity is a significant way in which Herbert differentiates male villainy from the heroic norm in *Dune*. Connell writes that the "most important feature of contemporary hegemonic masculinity is that it is heterosexual" and that "the exclusion and subordination of homosexual men [and] the policing of heterosexuality [are] central issues" (*Gender* 186; Connell and Messerschmidt 837). *Dune* follows suit, in that "[m]ost of the major enemies of Paul and Leto that are not female are feminized in some way" (McLean 155). Their feminization signals difference, if not sexual pathology, and indicates immorality. The most literally feminized, although minor, villain is the sly and sinister Count Fenring: a "genetic-eunuch," he is described as a small, "weak-looking" man, who has the "manners of a rabbit" and speaks with an unusual verbal tick that is reminiscent of the stereotyped gay lisp (Herbert, *Dune* 544, 372).[33] DiTommaso contends that the Emperor Shaddam is another feminized villain, because his fatal weakness is that his decadence has made him grow soft and ineffective as a ruler ("Articulation" 273). Shaddam is described as a "slim [and] elegant" monarch who will not even go to war without his "women and their companions—hairdressers, designers … all the fringe parasites of the Court" (Herbert, *Dune* 525). Moreover, Irulan's accounts of court life imply that her family's imperial palace cloisters a large number of female family members, concubines, and sex slaves, creating the impression that Shaddam is not only decadent, but also perpetually in the company of women (Herbert, *Dune* 302-3). Shaddam's association with "the weaker sex," especially in contrast with the hyper-masculine, ascetic Fremen, makes him appear effeminate.

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[33] Herbert does not define the term "genetic-eunuch," but allows it to be self-explanatory.

The Baron Harkonnen is the primary villain of the novel and his deviance from the hegemonic masculine norm is the most extreme and varied. In addition to being generally wicked, as signalled by his corruption, ruthlessness, disloyalty, and penchant for rape, the Baron is identified as a villain specifically through his difference from idealized, male heterosexual qualities. According to Roberts, Herbert accomplishes this through a combination of the character's physical, sexual, and racial traits (42). Like Shaddam, the Baron is decadent, but to an even greater degree than the Emperor, having "given himself over completely to the pleasures of the flesh" (DiTommaso, "Articulation" 274). His morbid obesity signifies a "physical repulsiveness that is most consistently dwelt upon" throughout the novel (Roberts 42), representing the inverse of the masculine ideal of muscular physical fitness. More repugnant than the Baron's corpulence is the depiction of his violent homosexuality, which Roberts suggests reflects the "crudely worked-through homophobia" of Herbert and his cultural milieu (42). Writing in 2000, Roberts recognizes that at the time of *Dune*'s first publication, homosexuality itself was sometimes enough to brand a person as a sexual deviant, an "Other," and perhaps even a villain, and that the same could be said about the effect of the Baron's unmistakably Russian-sounding name (42). Both Roberts and O'Reilly assert that these features are intended to appeal to the readers' presumed prejudices (O'Reilly, *Frank* ch 3). As Roberts attests, "right is clearcut and wrong signals its presence by being repulsive or effeminate or, indeed, both" (43). Herbert's simple moral schema reinforces an underlying assumption of the superiority of white, heterosexual, Protestant values, even if it is sometimes sophomoric. Judging by the book's popularity, it was effective in creating the appropriate emotional response in his intended audience.

An analysis of Jessica, by far the most significant female character in the novel, demonstrates how gender stereotypes about women are at work in *Dune*. Jessica is a formidable person who expresses some qualities traditionally considered masculine; yet, in a demonstration of the concept of the feminine apologetic, she compensates for these with a strong emphasis on her many feminine features. According to Crawley, Foley, and Shehan's explanation of the feminine apologetic, a

woman who participates in non-feminine activities or displays assertive "masculine" characteristics may counterbalance this role conflict through the exaggeration of her other qualities that are consistent with traditional notions of femininity (63).[34] These embellishments often include the woman's appearance, as this works to communicate the emphasized femininity very quickly and nonverbally. Herbert employs the strategy of the feminine apologetic to reassure his reader that, despite Jessica's ability to fight and outthink many of the men, she is first and foremost very much a woman. For example, she is frequently described as graceful, with a "good but scant" figure, and as a "regal beauty" (Herbert, *Dune* 65). McLean goes as far as to write that "Jessica is so lovely and desirable that she overshadows every other woman in the book" (151). This is made apparent in the dinner party scene, when she effortlessly outshines a roomful of beauties, women who have been chosen for their appearance and are "precisely turned out" to create an effect of "untouchable sensuousness" (Herbert, *Dune* 153). Despite her simpler dress, Jessica "dominate[s] the group" with her natural beauty (153). Later, when she encounters Stilgar's tribe, her few days stranded in the desert has done nothing to diminish her attractiveness; Stilgar is immediately interested in making her one of his wives and alerts her that "[s]ome [in the tribe] are already jealous that my hands tasted your loveliness" (336). Demurely, she opts instead for the celibate position as the tribe's nun-like Reverend Mother. In almost every encounter, Jessica's beauty and its powerful affect on the men are mentioned. Her appearance of effortless beauty and grace is in accordance with her restrained mannerisms and educated style of speech, projecting the character of an upper-class lady that recalls stereotypes of European nobility—stereotypes that centre on patriarchal notions of idealized feminine behaviour.

Jessica's feminine apologetic extends beyond her physical performance of her gender, and is strengthened by her enthusiastic adoption of her subservient, traditional roles as a concubine/spouse and mother. Usually, the official title of wife carries a higher rank and indicates a greater emotional tie to the man than that of a

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[34] West and Zimmerman also discuss and affirm the feminine apologetic response to "role conflict," a term that originates with Goffman (West and Zimmerman 26).

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concubine—in *Dune* as it is in our world—but Jessica is completely devoted to her Duke despite his failure to marry her and bestow upon her this additional honour and respect. The role of the concubine is lesser than wife, and this is clearly not lost on Jessica, but she is unwavering in her devotion to her love nonetheless. Hand remarks on her uncanny "confiden[ce] in her own natural and Bene Gesserit abilities to insure her a constant place in [Leto's] life," despite the fact that he remains free to marry or stray (27). Instead, consistent with the almost naive, chivalrous style of love among the Atreides, Leto and Jessica remain loyal and in love to the bitter end.[35] According to Beauvoir, this recourse to love and devotion is the typical response of a woman who has no other prospects in life (Beauvoir 683). She writes that a woman will revere her spouse because, since she is "condemned to dependence, she would rather serve a god than obey tyrants—parents, husband, protector; she chooses to want her enslavement so ardently that it will seem to her to be the expression of her freedom; she will try to overcome her situation as inessential object by radically assuming it" (684). As Jessica counsels Chani, who is also destined never to rise above the status of concubine, as long as they receive "tenderness from the [men] to whom [they're] bound," they have attained a reward more valuable than the title of "wife" (Herbert, *Dune* 562). Not only does Jessica respond with enthusiasm to her role as the subservient, "bound" partner of Leto, but she is also content with the lower status that this partnership offers her. The degree of her zeal in her display of love and obedience emphasizes the femininity of her character, working to counterbalance her other, arguably masculine, qualities.

In demonstrating such a propensity for obedience, Jessica and her order exhibit a characteristic critical to the traditional notion of femininity. The Bene Gesserit sisters, as Hand observes, are conditioned to servitude "similar to that of topflight geishas or courtesans," roles associated with extreme subservience and

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[35] This is especially evident when Paul and Jessica have escaped into the desert and Paul delivers his father's message that the latter "always loved [her] and cherished [her]," to which Jessica cries, "Leto, my Leto" (226). In this scene, the mourning of the lost exemplary father figure by the loving mother and son, and their near-perfect family dynamic untouched by internal strife, create the image of an idealized nuclear family, so frequently lauded in American culture.

obedience to men (26). One of their many mantras is repeated by Jessica as a defence against the suggestion that she has not entirely complied with her orders: "I am Bene Gesserit: I exist only to serve" (Herbert, *Dune* 36). For the most part, she appears to have no desire for anything other than to obey her order's assignment to fulfil the roles of ever-dutiful concubine and nurturing mother for which she was purchased. However, in a different display of obedience, Jessica's eventual betrayal of her sisterhood reveals that her allegiance to her man comes before all other considerations. As Hand points out, despite being conditioned to absolute dutifulness, Jessica acts as an "even more traditional woman than the Bene Gesserit had anticipated," by falling in love with Leto and defying their instructions by bearing him a son (27).[36] She tells the Reverend Mother Helen Gaius Mohiam that she had to do disobey them because "it meant so much to him" (Herbert, *Dune* 35). Even Jessica's demeanour with Leto indicates a servile attitude. Regardless of the purportedly close nature of their relationship, Jessica is clearly Leto's subordinate, even in decisions over minor household matters. For example, she consistently calls him only "my Lord" even when they speak in private (65).[37] Obedience is a trait patriarchy considers to be naturally present in women and a wife's submission to her husband is the preferred expression of this characteristic. Therefore, while Herbert is able to make Jessica an exciting and unconventional female character the science fiction of the 1960s by endowing her with atypical strength and intelligence, he is careful to offset her masculine performance by employing strategies of the female

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[36] In considering the extent of her loyalty to Leto above all other interests and obligations, Jessica thinks, "I accepted [my Duke's] life and his values even to defying my Bene Gesserit orders" (Herbert, *Dune* 239).

[37] According to West and Zimmerman, another pattern in traditional gender display is "assortative mating practices" wherein, despite the considerable overlap between men and women in size, strength, and age, couples are paired so that the man of the particular couple is the one who is older, wiser, stronger, etc. than the woman, so that the man will be "ever ready to display [his dominance in the required category] and girls and women [will be ready] to appreciate its display" (25). Therefore, it is significant that in relation to Leto, Jessica remains firmly in the subordinate position. While she may have a strength and intellect that is threatening to some men, these are not qualities that pose any danger of disrupting the hierarchical relation between these two characters.

apologetic, thereby reassuring his readership that Jessica is not really such an unconventional woman after all. She never forgets her place as subordinate to the men in charge and, therefore, is never truly threatening to the central, heroic masculinity around which the novel revolves.

Jessica's many inner monologues provide further evidence of the acceptance of biological determinism as fact because they demonstrate a rationale and motivation that exemplify the stereotype of women's maternal instincts. In a scene immediately following the assassination of Leto, Jessica "followed [Paul] automatically noting how she now lived in her son's orbit," and thinks, *"[t]his world has emptied me of all but the oldest purpose: tomorrow's life. I live now for my young Duke [Paul] and the daughter yet to be"* (Herbert, *Dune* 241). This statement suggests that Jessica is reflecting on behaviour and attitudes occurring in her unconsciously or "naturally," specifically orbiting her son and acting only to serve as a mother. She has internalized the belief that her role and value extends no further than motherhood, now that she is no longer a spouse, and it is suggested that she instinctively behaves in compliance with these beliefs. This "natural" tendency is reinforced on the various occasions she examines her motives to become pregnant a second time and admits to herself that she had conceived this daughter "out of instinct," in that she, "succumbed to that profound drive shared by all creatures who are faced with death—the drive to seek immortality through progeny. The fertility drive of the species had overpowered [her]" (222, 337). Beauvoir writes that, according to patriarchal thought, "[i]t is through motherhood that woman fully achieves her physiological destiny; that is her 'natural' vocation, since her whole organism is directed toward the perpetuation of the species" (524). Herbert's depiction of Jessica's inner thoughts could not be more consistent with this view, as she appears to agree that her destiny is realized in motherhood. Jessica's thoughts about her maternal instinct are further supported by her actions, such as a number of instances when she is overcome by sudden, urgent impulses to see her son at every whiff of danger.[38] After Chani becomes a mother, she

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[38] Examples of these urges can be found throughout the novel; for notable cases, see p. 73 and p. 496. On this latter occasion, Jessica is swept by a "sudden longing to see her grandson" that is so acute she must use a calming ritual to still her emotion and clarify her mind.

too begins to undergo similar urges (Hebert, *Dune* 507). Herbert clearly indicates a confirmation of the patriarchal notion that women are, in their natural state, maternal, and suggests that Jessica's decisions are largely influenced by her biologically induced "instincts" rather than by rational thought.

The special significance of the messianic Kwisazt Haderach of the Bene Gesserit is another indication of *Dune*'s assertion of the reality of biological determinism. The supernatural power of the Kwisazt Haderach specifically relates to gender roles and the assumption that man's capabilities naturally surpass woman's. All roles and affiliations in the Dune universe are gender prescribed, with almost no positions, vocational or domestic, available to either gender. The Bene Gesserit order is exclusive to women, with the exception of their Kwisazt Haderach, the supernaturally gifted man they work to produce through their millenia-long breeding program. The Kwisazt Haderach is predicted to gain his power through the same ritual that initiates and empowers the Reverend Mothers, making him essentially the order's only male Reverend. Mohaim explains to Paul that when the typical novitiate takes the ritual drug, "she can look many places in her memory—in her body's memory. We look down so many avenues of the past … but only feminine avenues" (Herbert, *Dune* 24). This same ability is denied to all men except the Kwisazt Haderach, for while many have tried, they have all died in the attempt (24). This in itself suggests that there is a biological basis for the Bene Gesserit order to be only open to women—some aspect of their biological difference allows women, but not men, to have the potential for this mystical skill.

The Kwisazt Haderach's unique power is his ability to survive the ritual drug and, according to Mohaim, to receive the shared memories of "both feminine and masculine pasts" (Herbert, *Dune* 24). She explains that no woman is able to face this masculine path because "[w]e are repelled by it, terrorized" (24). As Roberts observes, "potent though the female purchase on these mystical abilities is, there is something a woman lacks that this man has, something that will empower him to do things that a woman cannot do" (46). Mohaim's comment reveals an adherence to stereotypes of essentialized gender: namely, that women inherently lack fortitude or

bravery and are instead naturally weaker and more fearful than men. The Kwisazt Haderach is "naturally" more powerful to begin with because he is a man. Once he gains the mystical powers of the Bene Gesserit, he surpasses them all to gain the superhuman abilities of prescience and truth detection.

After Paul is successful in going through the ritual, he provides further description of the inborn qualities of men and women, which conform to traditional notions of how each gender is "naturally" differentiated. He says, "[t]here is in each of us an ancient force that takes and an ancient force that gives. A man finds little difficulty facing that place within himself where the taking force dwells, but it's almost impossible for him to see into the giving force without changing into something other than man" (Herbert, *Dune* 512). In associating men with a "taking force" and women with a "giving force," Paul echoes long-standing essentialist arguments about "natural" gender characteristics evoked by Lévi-Strauss: "[n]ature by itself already moves to the double rhythm of receiving and giving, which finds expression in the opposition of marriage" (30). Paul makes an even stronger assertion of the fundamental differences between the sexes when he says that, for the average man, taking on the feminine qualities is next to impossible, if not tantamount to eradicating his masculinity. Paul continues by explaining that these forces "are so ancient with us … that they're ground into each separate cell of our bodies" (Herbert, *Dune* 512). By referencing biological terminology, it is suggested that, in *Dune*, gender difference is a measurable reality on the cellular level that dictates the characteristics and limitations of men and women. These differences can be overcome only by a figure as unique as the Kwisazt Haderach, a person who is, we are to believe, more than human, almost godlike, and certainly not "natural."

There is much evidence to suggest that gender in *Dune* arises from performance, consistent with the theories expounded by Goffman, West and Zimmerman, and Connell, especially where it relates to men in leadership roles, women's achievement of beauty, and the counterbalancing effect of the feminine apologetic. However, evidence can be found in the novel pointing to biological determinism and patriarchy's traditional ideas about the sexes, such as how Jessica's

inner monologues reveal her "natural" tendency for obedience and a maternal instinct and in the explanation of the origin of the Kwisazt Haderach's powers. Patriarchy has historically used this belief in "naturally" distinct and essentialized gender characteristics to justify a social structure that relegates women to limited, domestic roles, and that prevents them from full participation in public life; this is a strategy that is working equally effectively in the society of *Dune*.

2.3 Structures of Patriarchal Society in *Dune*

Jack Hand points out that in *Dune*, Herbert creates an interplanetary society which derives from past or present cultures that exist in our own world (24). As such, the societal structure in the Dunian Imperium that Herbert names "fraufreluche" is modelled on medieval European feudalism. For instance, the major political houses rule planets and profit from the inhabitants, much like feudal nobility owned vast domains and profited from the resident serfs.[39] As in feudal systems, in *Dune* there are no concepts similar to our modern idea of equal rights or the inherent value of human life. The fraufreluche system enforces rigid class distinctions that make vertical social movement next to impossible and create an environment that fosters substantial inequality (DiTommaso, "History" 314-5). It is not surprising, therefore, that it is the women of *Dune* that bear the brunt of the inequality of this "past-as-future effect" (Hand 24); they are unable to enjoy a social status equal to men anywhere in the Dunian Imperium. Moreover, the patrilineal clans that form the basis of the social structure follow a political economy of kinship relations similar to those Lévi-Strauss describes.[40] Not only do the extraordinarily intelligent and capable women function as little more than currency traded between the noble houses, but their roles are also limited to the few that patriarchy has traditionally found acceptable for women.

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[39] *Dune*'s glossary of terminology of the Imperium defines "Houses Major" as "holders of planetary fiefs" (593).

[40] See section 1.4 of this chapter.

In *Dune*, the ruling class is comprised of familial dynasties, called Noble Houses, that are headed by a patriarch and operate according to kinship systems, much like the patrilineal clans described in *The Elementary Structures of Kinship*. Rubin explains that within the field of anthropology, kinship is not limited to blood relatives, but "is a system of categories and statuses" covering a broad range of social interactions, which structures economic, political, ceremonial, and sexual activity by defining who has duties, responsibilities, privileges, and loyalties to whom (169). What Herbert calls faufreluche, "the rigid rule of class distinction enforced by the Imperium," is essentially the name for *Dune*'s kinship system (Herbert, *Dune* 590). Each political house is organized around a ruling family, called the "ruling Clan" in *Dune*'s glossary, which is headed by the family's patriarch and includes important non-family members of the household, such as the Atreides' Duncan Idaho, Thufir Hawat, and Gurney Halleck (593). House Atreides is ruled by Duke Leto and he represents the twentieth generation of his family to rule Caladan, according to the Almanak en-Ashraf detailing the noble blood lines of *Dune* in Appendix IV, with power being handed down from father to son (584). Shaddam IV of House Corrino represents the eighty-first generation of his family's rule as emperors, a title also handed down patrilineally (584). Because Shaddam only has daughters, he has no apparent heir, putting Paul on the emperor's throne above Irulan as a result of the latter two's marriage. The Harkonnens, who rule the planet "Giedi Prime," are also headed by their family's alpha male, the Baron Vladimir. He has no known children; therefore, his nephews, Rabban and Feyd-Rautha, are in competition to inherit the position as effectual "patriarch" of the family. Both in their structures and in the way that the houses relate to each other—such as in the trading of goods or services for power or favours and through the cementing of inter-clan bonds through marriage— the societies of *Dune* function according to kinship systems similar to those in *The Elementary Structures of Kinship*.

The novel includes examples of the trafficking of women for the purpose of establishing inter-clan relations, such as marriage arrangements, the giving of sex-slaves, and the selling of women as brides, that are consistent with the economies of the exchange of women described by Lévi-Strauss. The anthropologist argues that

women function in society as the possessions of men, to be exchanged among men for the purpose of establishing the ties between them that form the basis of society: "the value of exchange is not simply that of the goods [women] exchanged. Exchange … has in itself a social value. It provides the means of binding men together" (Lévi-Strauss 480). He sees these "natural links" of kinship as providing the necessary groundwork for subsequent "artificial links," by which he means government and law (Lévi-Strauss 480). In *Dune*, this practice does not appear to be confined within any particular class stratum, but is pervasive throughout. As an example, the emperor receives a slave-concubine as a gift from a political friend and ally, but decides that her physical perfection and sexual skills make her better suited to be kept as a gift for another, rather than added to his harem (Herbert, *Dune* 302-3). The lower class Fremen also treat their women as possessions, practicing polygamy and the conveyance of wives as the spoils of battle, as we learn when Paul defeats Jamis and inherits the deceased's wife Harah along with the rest of his chattel (395).[41] Another, perhaps more subtle indicator is that, throughout the novel, both low-born Chani and high-brow Lady Jessica are continually referred to as simply "woman" or "your/my woman," further emphasizing their status as possessions. In being bluntly bought, sold, traded, and inherited, the women of *Dune* are used as exchangeable goods in precisely the same ways that Lévi-Strauss observes and writes about.

Among the noble classes of *Dune*, marriage is seen as a purely political institution. Jessica herself was purchased to be a concubine for Duke Leto, a man she had thus far never met, but that was primarily for breeding purposes, as she was unattached to any family with political power (Herbert, *Dune* 64). The significance of her title as royal concubine, rather than that of the much higher status of wife, is a point discussed a number of times throughout the novel. The Duke tells Paul he loves Jessica, but that "my unwedded state gives some Houses hope they may yet ally with

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[41] Alia calls Harah Paul's "ghanima," which in Fremen means "something acquired in battle … with the added overtone that the something no longer was used for its original purpose" (454-5). Such a thing could be, for example, "[a]n ornament, a spearhead used as a curtain weight" (455). The term is intended to be mildly insulting and teasing, but its use also highlights the Fremen attitude that Harah is a possession made all the less valuable because she is no longer functioning as a wife or breeder.

me through their marriageable daughters" (126). Perhaps Leto does love Jessica as much as she believes he does, but he refuses to marry her because that would make it possible for him to marry someone else who brings political sway. Moreover, simply by remaining single, Leto enjoys enhanced political opportunity with the other Great Houses. Judging by the prominence of the theme in the novel, the trading of women is one of the most important methods by which the clans form strong political alliances in *Dune*.

The most significant demonstration of the role that the exchange of women plays in *Dune*'s politics occurs when Paul cements his right to the imperial throne through a loveless, political match to Shaddam's eldest daughter Irulan. When the moment comes to negotiate the terms of the marriage, the throne, and the other details of the emperor's defeat and exile, Shaddam asks Paul, "[w]ho will negotiate for you, kinsman," specifically recalling Lévi-Strauss both in terminology and in practice (Herbert, *Dune* 561). Irulan remains unfazed at the prospect of being an item in the transaction, reminding her father that "[f]or this I was trained" (561). Despite the marriage, Paul keeps his common-law Fremen wife as a concubine, a position she also accepts with dutiful stoicism (561). This is in accordance with his mother's evaluation of his marriage needs, for she thinks, "[o]ne of these desert women would not do as a wife to a Duke. As concubine, yes, but not as wife … [w]hat can his desert woman do for a Duke except serve him coffee? … She brings him no power, no family" (358, 495). Clearly marriage has nothing to do with love and everything to do with power and politics, which is a reality perfectly understood by all involved. Recalling Butler and Irigaray, the perceived value of women in *Dune* is in their abstract representation of the kinship between groups, rather than in themselves; the value of the transaction is located in the men (Butler 39; Irigaray 176). The women of *Dune* are not partners, but are valuables *par excellence*, spent for the moulding and casting of men's relationships amongst themselves. The incredible abilities that certain women possess merely make them more valuable as commodities in the eyes of their families or patriarchs.

In restricting its women to the few, traditionally feminine roles of wife,

concubine, and mother, the Dunian Imperium displays another common feature of patriarchal society structures. As Irigaray states, "[m]other, virgin, prostitute: These are the social roles imposed on women," roles defined by the perception of their gender limitations (186). This is true for the fierce Fremen women who are relegated to low status, polygamy, and drudgery roles in the Fremen society, as well as for main characters such as Jessica and Chani, who have no options beyond their positions as concubines and mothers (Miller 187). The novel's narrow scope for the roles of women is evident in the dinner party scene that occurs shortly after the Atreides' arrival on Arrakis.[42] At the party, Jessica plays hostess, wife, and even thinks of her role in these social functions as "surrogate mother" over the family's domain (Herbert, *Dune* 157). Most of the women present "seem cast from a specific type—decorative," and are mere silent companions of the important male guests (153). The one autonomous woman present at the party, who is a recognized member of the business community, is a "thin and hard-faced woman [who owns an] escort service" (153). She is apparently there to provide women for entertainment and does not participate in any of the conversations pertaining to the planet's business and politics. The remaining women in the scene are either "consorts" (prostitutes), wives, or social-climbing daughters (153, 156-7). The women are not only largely irrelevant to the business at hand, but the roles that they occupy as wives, prostitutes, and debutantes are also all dependent and parasitical to varying degrees, leeching off the wealth and prestige of the party's male guests.

Other than the women available for sex, the mothers, and the wives, the remaining females in *Dune* tend to be aged, devious crones, such as the Shadout Mapes and Reverend Mother Gaius Helen Mohiam. These archetypal identities seem to be all that is available to the women of *Dune,* which is an idea embedded in the very fabric of Bene Gesserit ideology. For instance, in one of Irulan's excerpts, Bene Gesserit sisters are instructed to understand that they "must combine the seductive wiles of a courtesan with the untouchable majesty of a virgin goddess," but that

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[42] This scene also happens to be the only one to include women other than the few major female characters, which reinforces the sense that in *Dune*, women are not visible and do not have significance in public life.

"when youth and beauty have gone, [they] will … become a wellspring of cunning and resourcefulness" (34). Beauvoir writes that these polarized concepts of the woman as either young virgin-prostitute or old, scheming harridan arise out of the fact that man "projects onto her what he desires and fears, what he loves and what he hates" (213). The definition of woman remains confused, inessential, and contradictory because she is not defined positively, for what she is. Instead, she is defined negatively by how she appears to man (Beauvoir 162). With regard to the younger incarnation, Beauvoir explains that woman is at the same time "everything he craves and everything he does not attain … She is the carnal embodiment of all moral values and their opposites," i.e. virgin and prostitute (213). As for the crone, "[d]isabled, ugly, or old, the woman repels," because, from the man's point of view, her body is meant for his pleasure; an aged body forces on him an awareness of "the flesh's deterioration" (Beauvoir 179). In identifying themselves as either virgin-courtesan or cunning old woman, the Bene Gesserits adopt the man's perspective, measuring themselves only in the ways that they have significance for a man.

The Bene Gesserit is allowed a surprising degree of autonomy for an all-woman group within a male-dominated society. Within its ranks, the sisters gain substantial personal advantage in fighting skills, intellect, and mystical powers, meaning that they may at first appear to be the exception to the patriarchal rule about acceptable women's roles. However, as Hand points out, Western history contains a long tradition of allowing positions of authority for women within the religious sphere (25). Rather than indicating some break from the usual patriarchal limitations placed on women, the Bene Gesserit fall safely within them: their titles, functions, and even their occasional resemblance to habit-wearing nuns suggest that they are modelled after the female clerical hierarchy in the Catholic Church, who hold long-established positions condoned by patriarchy.[43] Beauvoir argues that patriarchy finds women well suited to the roles of priestess and prophetess because they are positions on the periphery of society: "because they are marginal to the world, men will look to

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[43] Reverend Mother Gaius Helen Mohaim is always seen wearing a long, black robe, sometimes with "a hood drawn down over her forehead" that is similar to the Roman Catholic nun's habit and cowl (Herbert, *Dune* 525).

them when they strive, through culture, to bridge the limits of their universe and reach what is other" (151). In being kept in the margins, they retain the status of Other and are prevented from entering the central, masculine sphere that retains all real public power. This is true of the Bene Gesserit in *Dune* as well. Their power is limited to a "traditional hidden kind of influence" so that they remain as "shadowy (though specially trained) counsellors at best" (Hand 26). As Jessica explains to Hawat, the order must keep their full range of abilities and influence in check and under wraps, or else they will lose all trust and be persecuted: she tells him "we do not wish to destroy ourselves" through such an exposure, therefore "we truly exist only to serve" (Herbert, *Dune* 185). It is difficult to imagine that such circumstances would not directly undermine most of the advantages the Bene Gesserit might gain from their skills.

Even though the women of *Dune* often exhibit characteristics that may be considered atypical of women in mid-century science fiction, such as great intelligence, confidence, and physical strength, they appear only in the traditional roles recognized by patriarchy and in subservient social positions that leave power in the hands of men. In addition to this, they form the commodities in a system of exchange that makes them mere representatives of the relationships the men hold with each other. It is no surprise that in these circumstances, the women of *Dune* have little recourse but to develop coping mechanisms.

2.4 Survival Strategies for Women in *Dune*

Patriarchal social structures create conditions that put considerable pressure on women to conform to men's expectations, often leading them beyond behavioural compliance to an internalization and adoption of those values, and there is ample evidence of this effect in *Dune*. In fact, complicity with patriarchy is a common

strategy for ambitious women within male-dominated societies because they must either cooperate with the establishment or be ostracized (Beauvoir 149). Accordingly, we see both the Bene Gesserit as a group, and Jessica as an individual, using what methods are effective in the existing system and circumscribing their goals such that they be attainable within the limits of their patriarchal universe. For example, the Bene Gesserit use their resources to support and continue the status quo and the ultimate goal of their breeding efforts is to produce a superior male. For Jessica, compliance is encouraged through the emotional and social rewards offered through her association with Leto and by the status she is expected to gain eventually from being Paul's mother.

As stated earlier, the Bene Gesserit enjoy certain benefits that are not available to many women in male-dominated societies, such as the group's autonomy to conduct its own affairs and its significant role in influencing humanity's progression and evolution. Despite this, their presence in the Dune universe does not reflect a positive development in the treatment of women or a modernization of the conception of gender because most of their undertakings in fact actively support the patriarchal status quo and, as Hand points out, their "method of operation amounts to an acquiescence in the dominant male value system to the point of approving a kind of female servitude" (26). Hand is ethically correct to criticize the Bene Gesserit for their treatment of their own members, for certainly it is objectionable that they train their young acolytes for obedience and sexual slavery. Yet, this is arguably the most effective method for them to acquire the level of influence that they attain in the context of the Dunian Imperium. Beauvoir explains that because patriarchal society bars women from being active players in the public, masculine sphere, the aspiring woman can, at best, "insinuate herself into masculine enterprises by indirect means," which is expressly what the order works to do (Beauvoir 150). The Bene Gesserit place one of their own, conditioned to total obedience to the order, within the houses of each of the noble families, either as a wife or companion, such as Jessica and Lady Fenring, or as a trainer of the families' daughters, such as with the emperor's daughter Irulan. These positions give the women direct access to political information as well as opportunities for influence upon the those families. However, they work to

keep their powers a secret and thus preserve their position in the margins, ever the great woman behind the greater man. In falling short of posing a real threat to the existing power structure, the Bene Gesserit are able to maintain their advantageous placement as spies and continue their efforts to produce the Kwisazt Haderach.

The Bene Gesserit's breeding program, with the Kwisazt Haderach as its ultimate goal, exemplifies how the women confine their ambitions to correspond to the existing patriarchal system. This is because, although the program's ultimate purpose is to wrest control from the existing power structure, they would only hold that power through the Kwisazt Haderach as their proxy. This demonstrates the Bene Gesserits' assumption that the person with supreme power will be male and they will continue in their position, attempting to exert a vaguely defined influence on events from behind the seat of power. Moreover, this future that they will control by proxy does not include changing anything about existing gender roles. Perhaps this should come as no surprise considering that their rationale for the Kwisatz Haderach is predicated on the belief that man is biologically superior. The Bene Gesserit accept biological determinism and the subsequent beliefs about woman's "natural" aptitudes, and in turn see themselves in the future filling roles that perfectly correspond to those deemed appropriate in the existing patriarchal setting, as subordinate advisors to their male counterparts and overseers of humanity's procreation (Hand 26). In effect, they circumscribe their goals to fit within the patriarchal limitations that they have internalized and never contemplate putting the male dominated system itself in any real jeopardy.

Jessica also evinces a complete internalization of patriarchal expectations of female behaviour and character in her performance as devoted spouse and mother. Beauvoir and Deniz Kandiyoti argue that this is a common phenomenon for women in male-dominated societies who are socially and economically dependent upon men as a consequence of being segregated into feminine domestic spheres. In such societies, women's labour and progeny are appropriated by their clan and their contribution to production rendered invisible (Kandiyoti 108). Because they own nothing, they can neither sustain themselves outside of the family nor refuse

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complicity with the system, because "that would mean renouncing all the advantages an alliance with the superior caste confers on them" (Beauvoir 10). As a result, women internalize their need for a spouse "out of dependence, hope, or fear" as a coping strategy (Beauvoir 9). This effect is no doubt at work in Jessica. On the one hand she professes a passionate and loving devotion to Leto, yet on the other hand, the nature of their interaction appears distant and formal, affectionate in words alone. The extent of her subservience is evident in one scene in particular, as she constantly bows her head, acquiesces, and sighs "[y]es, my Lord," while he tells her how to decorate and when her presence will and will not be required at formal dinners (Herbert, *Dune* 65-6). Jessica has no other alternative than to accept what kindness she may be offered. If she were to abandon her position she would give up all means of providing for herself, her lifestyle, her status in the clan, her companionship with Leto, and access to her son. Furthermore, even if there were situations that allowed women in the Dune universe to live independently, Jessica would not have access to these, as she is owned by the Atreides household.[44] As independence is not available, it is reasonable to suspect that Jessica's expression of love for Leto and her complicity with her patriarchal society are, at least in part, motivated by the internalization processes that Beauvoir and Kandiyoti describe.

Women are coerced into long-term obedience through the promise of certain future rewards, most important of which is an eventual status in the family's female hierarchy (Kandiyoti 108). This is first as a mother and finally as mother-in-law, meaning that having sons is made more valuable than having daughters. Kandiyoti explains that the only access women have to long-term security within the clan is through a married son; therefore, "[s]ince sons are a woman's most critical resource, ensuring their life-long loyalty is an enduring preoccupation" (109). Certainly Jessica's fate is defined by her son's status: she goes from nobility to renegade to

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[44] While one could argue that the sisters of the Bene Gesserit live independently of men, it remains true that they are effectively slaves of their order: their obedience is demanded and their lives utterly subject to their superiors' decisions. In this case, Beauvoir's argument for the master-slave relation that results in the slave's internalization of her need for her master can be demonstrated to be expressed in the Bene Gesserit acolyte's conditioned obedience and devotion to her order (Beauvoir 9).

royalty as Paul does and his promotion is the only way she can secure her own. It is also true that she considers her life as solely devoted to his concerns, living in his orbit and following in his footsteps (Herbert, *Dune* 241). While it could be argued that this attitude arises simply from parental love, her promotion of Paul's future prospects at the risk of her unborn daughter's life is significant evidence of the effect of coerced obedience. As Hand observes, when Jessica takes the ritual drug/poison in the ceremony to become the Fremen's new Reverend Mother, and thus secure Paul's position within the tribe, "she does it knowing she endangers not only herself, but also her unborn girl child," which is an "acting out [of] the values of the male-dominated society in which she lives" (Hand 27). I would argue that this decision, more specifically, demonstrates the phenomenon Kandiyoti points to: Jessica consciously chooses to value Paul over his sister because it is the best decision for protecting their future in the context of the values of their patriarchal society. Herbert writes, "Jessica felt herself torn between duty to her unborn child and duty to Paul. For Paul, she knew, she should take that spout and drink" (*Dune* 407). Jessica pauses momentarily to think of her duty to Alia, but she moves on just as quickly. Her society places very little value on the girl child's life but great value on Paul's. Paul's position in society can raise both Jessica's and Alia's lot, but Alia by herself can offer nothing. Therefore, out of Jessica's pragmatism and at the possibility of future rewards, she is willing to put Alia's life at risk. The fact that she never appears to second guess the decision, or feel any sense of guilt for the considerable alienation and agony her daughter experiences as a result of the action, suggests that she has completely internalized this value system.

2.5 Gender in *Dune*: Conclusion

Dune's patriarchal biases are abundantly clear. The novel sets up the white, Protestant male and the mid-century American value system as normative and it accepts biological determinism as the reality that defines and limits the personalities and aptitudes of its characters. Moreover, *Dune*'s male-dominated society is organized into rigidly class-based patrilineal clans that only offer women

opportunities to take on traditional roles in the domestic or religious spheres. As Hand aptly observes, regardless of whether the women of *Dune* express themselves as wives, mothers, sisters, or literary women, they remain limited to defining themselves by male standards with the result that "one finds a male-dominated society where even the most ambitious females' responses are traditional in means and in effect" (28). Thus, Jessica and the women of the Bene Gesserit find themselves in much the same predicament as women in other male-dominated societies: they cannot (short of revolution) overturn the entire patriarchal social structure of which they find themselves a part, but rather, must play by the men's rules if they are to play at all. To this end, the sisters turn their talents to maximizing their opportunities within their environment, with the result that their endeavours support and reinforce the status quo and encourage them to internalize the patriarchal values as their own.

Chapter Two: A Cyborgian Analysis of *Dune*

There is more at work in *Dune* than quotidian misogyny, as the discrimination and mistrust expressed towards various women does not simply represent a masculine desire to dominate women, but also indicates a reaction to the threat of technology. Herbert wrote at a time when feelings of ambivalence and caution with regard to the increasing influence of technology in people's lives were prevalent. He wanted his novel to interact with those concerns and explore possible alternatives for technology's role in society. For example, the Butlerian Jihad of *Dune*'s history attempted to eliminate computers and artificial intelligence in order to prevent them from making people vulnerable in their dependence on technology. However, the people of *Dune* did not eradicate all scientific and technological pursuits, but instead continued to develop knowledge differently, shifting their focus from the hard sciences like chemistry, engineering, and physics to the social sciences, like psychology, sociology, and eugenics, in order to push the limits of human performance. In this different approach, the bodies and minds of the highly trained human beings become, in essence, the technological artifacts of their society, giving these individuals the semiotic significance of cyborgs. It is then crucial to note that the deleterious effects of technology that emerge are mostly caused by the cyborgian women. It becomes clear over the course of the novel that it is they who pose the biggest threat to humanity and it is their actions in particular that present the most dangerous potential pitfalls of technology's misuse. In this way, the novel is consistent with the trope of the female cyborg in mass media science fiction. Critics such as Huyssen, González, Balsamo, Springer, and Doane have argued that this trend reflects man's conflation of his fear of technology with his fear of women. Moreover, as is common in depictions of female cyborgs in mass media, Herbert's novel portrays these women in terms of limited gender stereotypes and as the familiar dichotomous and conflicted figures invented by patriarchal ideology. Furthermore, *Dune* is thematically consistent with the cyborg genre in the attention paid to the politics of the control of human reproduction and lineage and in the inclusion of the dual spectres of monstrous mothers and disastrous births as arising from ill-advised uses of technology.

Part I: A Context for Cyborgs

1.1 Cyborgs in American Culture: Herbert's Context

In *Dune*, Herbert reveals an ambivalent stance towards the potential power of technology, an attitude indicative of broader public opinion in America during the 1960s. On the one hand, there was great optimism arising from the many positive advancements in medicine, transportation, manufacture, and computing that had developed over the first half of the century (Turney 117). On the other hand, the aftermath of the Second World War gave rise to a sense of disillusionment. The terrifying destruction caused by modern, nuclear warfare and an increased attention to a growing number of environmental concerns meant that technology was no longer seen as simply "better things for better living" (Hughes 443-4). There was ambivalence specifically with regard to the biological sciences. The 1960s ushered in the era of the Biological Revolution with the discovery of the role of deoxyribonucleic acid (DNA) in genetic heredity, making molecular biologists optimistic that they finally had the tools to discover the secrets of organic life that had thus far eluded them (Turney 143). According to Turney, many among the media and public were confident that the "New Biology" was "cracking the code of life" and bringing about a "profound transformation in the relation of man and nature and the beginning of a new era in human history" (144). Even so, many viewed the new discoveries with concern and called for a national discussion on the ethical dilemmas presented by the advent of genetic manipulation (Turney 147). Ambivalence towards technoscientific development continued into the 60s and 70s, when views were as polarized and emphatic as the advancements were prolific and impressive.

There was also opposition to the increasingly technologized systemization of America, which some believed "posed a deadly threat to individual freedom and to emotional and spiritual life" (Hughes 445). During the latter half of the 60s and into the early 70s a number of academics, in philosophy, sociology, history, and economics, published books that examined the foundations of the new, technological society.[45] Their writings share the fear that modern, bureaucratically administered,

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[45] See Hughes, chapter 9 "Counterculture and Momentum," for a more detailed look at the following authors and their specific critiques of the technological society: sociologist and philosopher Jacques

industrial-scaled projects had grown to the extent that the United States had become a "technocracy," in which authority was increasingly centred in the system, rather than with the people, and that the system's needs had begun to supersede those of individuals (Hughes 445-6). For instance, historian and sociologist Lewis Mumford characterized his society's technological systems as massive and hostile "megamachines;" philosopher Jacques Ellul opined that the "[a]ll-embracing technological systems are a far greater threat to our freedom of action than authoritarian politics" (qtd in Hughes 449-50). They were concerned that the accelerating pace of both scientific discovery and the development of technological infrastructure would progressively reduce the autonomy of the average citizen. During this period, many people, including Herbert, appreciated technology's significant potential to improve aspects of life alongside the threat posed by consequences that often could neither be predicted nor directed.

Science fiction has always been a medium well suited to testing ideas and exploring concerns about contemporary technoscientific developments. According to Susan McLean, because the genre is able to "[suspend] the limitations governing ordinary existence," it is able to give greater scope "to the fears and longings that lurk in the unconscious" ("Question" 145). This is evident in the science fiction of the 1950s: at the height of the post-WWII technophobia, the two most prevalent themes of stories during this period were near-future dystopia and apocalypse (Latham 86). Rob Latham's research indicates that these works were "thinly-veiled commentaries on the contemporary scene," responding to fears of widespread global destruction and other man-made dangers, such as ecological catastrophe, pollution, overpopulation, and runaway consumerism (86). The New Wave science fiction writers of the 1960s continue in this function as social commentators, demonstrating an interest in

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Ellul's *The Technological Society* (1964), sociologist and philosopher Herbert Marcuse's *One-Dimensional Man* (1964), historian and scholar Theodore Roszak's *The Making of a Counter Culture: Reflections on the Technocratic Society and Its Youthful Opposition* (1969), legal and social scholar Charles Reich's *The Greening of America* (1970), historian and sociologist Lewis Mumford's *The Myth of the Machine* (1970), and economist and academic E. F. Schumacher's *Small Is Beautiful* (1973).

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attacking previously taboo social subjects as well as "sacred cows," like the assumption of human progress through technology (King 107). Herbert's *Dune* is one of the many important science fiction works of the era that focuses on the social issues stemming from developments in science and technology, rather than on the workings of the technologies themselves (List 21). In *Dune*, Herbert not only follows the pattern of portraying the technosciences as suspect elements within society, he also associates their most problematic uses and manifestations with the feminine, which is, interestingly, a common pattern found among depictions of machines since the Industrial Revolution.

1.2 Cyborgs in American Culture: A History of Female Machines

As Mary Ann Doane observes, despite scholars' and historians' emphasis on the link between machine and production in the masculine sphere of industry, "it is striking to note how often it is the woman who becomes the model of the perfect machine" (182). Many critics, such as Doane, Mark Dery, Marshall McLuhan, Huyssen, González, and Balsamo have noted that the depiction of personified machines as feminine and sexualized is commonplace, long-standing imagery that reflects male projections. Both Dery and McLuhan argue that this is due to the fact that men have always seen technology as having the potential to "service … male fantasies" (Dery 237).[46] The theme's prevalence and longevity is buttressed by the number of parallels drawn between women and machines, perceived or actual, that serve to reinforce their apparent similarity. For instance, to the extent that they are each perceived as both possessions and Others, women and machines occupy similar positions in their relationships to man. They also function for his benefit in comparable ways, in that they each stand as symbols of his status and provide the

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[46] McLuhan writes, that "one of the most peculiar features of our world [is] the interfusion of sex and technology [which] seems rather to be born of a hungry curiosity to explore and enlarge the domain of sex by mechanical technique, on one hand, and, on the other, to possess machines in a sexually gratifying way" (94). He points to the "dominant pattern" of linking of sex and technology in the pictorial reportage in the mid-century popular press and magazines (98). Similarly, Dery writes that "mass culture [has an] undying fascination with sex machines and machine sex" (225).

services of (re)production. While women and machines are perceived as threatening, due to their potential to create havoc should they get out of control, this threat also contributes to the machine-woman's allure. These fantasies and fears find expression in creative depictions of female machines ranging from the earliest examples up to the late twentieth century cyborg women of science fiction and beyond.

In some of the first depictions of female machine-human hybrids, the parallels drawn concern their common roles as the playthings and possessions of men. González writes that "a decided majority" of eighteenth century artists creating fantasy images of mechanized humans "represent female bodies providing some form of entertainment" (269). In looking at a particular example of an upper-class woman with the body of an elaborate clock, González observes that "she is meant to play as the objectification of cultural sophistication and sexuality …. Her gender is consistent with the property status of an eighteenth-century decorative artefact," for they share the qualities of being "complex, mechanical, serviceable, decorative" (269).[47] This proto-cyborg is a "servant and toy" (269). Rather than being an individual with needs of her own or rights to agency and autonomy, she exists for man's amusement and convenience.

When woman is defined as man's property, her similarity to machines extends to their shared role of reflecting their owner's status in society. Huyssen writes that the analogy is further strengthened in patriarchal societies because, like a technological artefact, woman is "socially invented and constructed by man" in ways meant to facilitate her role to fulfill "man's needs and to serve her master" (227). Lévi-Strauss's taxonomy of exchange systems utilizing women as currency reveals that, historically, women have been considered to be men's possessions in a very literal sense (32). Irigaray expands on his research to argue that in patriarchal society, a woman has no status of her own but is instead a symbolic representation of her man's status and value within his group (177). González shows that the same is true of technology. During the Industrial Revolution, the enormous expense associated with machinery was prohibitive to most people, meaning that access to it was

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[47] "L'Horlogère" or "The Mistress of Horology."

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privilege, much like marriage to the most beautiful and upper class women was also a sign of status (González 269). Conversely, women and factory workers who were subservient to the privileged held similar positions in society as machines (269). In this arrangement, the privileged man, as owner and master, sees himself in the dominant position within a hierarchical relationship to all others.

Women and machines are also similar in the services they are expected to perform. Machines produce goods, thereby creating wealth; women produce children and thus secure the continuation of men's bloodlines, a crucial patriarchal concern. As discussed in Chapter 1, man's control over the procreative process is of enormous importance in ensuring the existence of a verified heir to whom the father's possessions can be properly passed down. As Doane characterizes it, the succession of generations through human biological reproduction is man's "guarantee of history" (188). Because paternity may be subject to doubt, "the mother is thus the figure who guarantees, at one level, the possibility of certitude in historical knowledge" (189). As important as the mother is, however, her role in the process is that of a passive tool. Huyssen explains, "just as the technological artefact is considered to be the quasi-natural extension of man's natural abilities … so woman, in male perspective, is considered to be the natural vessel of man's reproductive capacity, a mere bodily extension of the male's procreative powers" (227-8). Both woman and machines are seen as the instruments that make possible the fruition of man's effort; their role is to receive his input and their contributions go without recognition.

Although they are indispensable to society, women and machines are perceived by patriarchal man as bearing an inherent threat to his subjectivity. For many, the ongoing technological advancement of modern society creates a sense of encroachment that challenges one's self-determination. According to Doane, men often allay these concerns about technology through "a displacement of this anxiety onto the figure of the woman" (182). González's and Huyssen's research supports this assertion. González writes that nineteenth century "artists' images of automatons [are] central metaphors for the dreams and nightmares of societies under-going rapid technological change" (269). Similarly, Huyssen finds that artistic representations of

female machines began to be depicted as threatening and out of control in the nineteenth century, around the same time when actual machines, such as those in the relentless factory and railroad industries, began to be recognized as dangerous and deadly to the men that laboured in them (226). He contends that the underlying misogyny that is habitually expressed towards both women and their mechanical representatives arises from a perceived "threat of otherness which causes male anxiety and reinforces the urge to control and dominate that which is other," concluding that "in every respect, it is male domination and control which are at stake" (227-8). The fact that there is a pattern throughout history of correspondence between surges in technological advancement and an increase in the prevalence of these negative images of women makes a persuasive case for the two being causally linked.

Instead of just representing man's conventional concerns over his control of woman, the technological aspect of the machine-woman introduces an additional source of anxiety at the same time as it suggests new ways for how woman might be enhanced for his benefit. Beauvoir argues that the common representation of woman as embodying contradictory dualisms, such as the virgin-whore or the nurturing mother/threatening witch, is a result of her being evaluated only in terms of male perception: "[h]e projects onto her what he desires and fears, what he loves and what he hates" (213). The woman-machine metaphor, in being a male creation that reflects male projections, similarly evinces these dualities, most notably that of fantasy/nightmare and obedience/loss of control. As such, the image of the threatening machine-woman is not complete without the alluring and overtly sexual dimension of the dichotomy.

Technological woman often acquires the power associated with machines, which is expanded to suggest that her sexual impulses are similarly super-charged. Patriarchy asserts that women are naturally passive and weak, such that assertive sexuality is a sign of pathology. Powerful women are seen as similarly unnatural, a view that contributes to the conventional stereotype of defining powerful females as evil (Pearson 12). Therefore, from the patriarchal point of view, the power and active

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sexuality of the machine-woman represent further evidence that she is inherently dangerous, both to herself and those around her. The 1927 film *Metropolis*, now considered to be one of the greatest and most important of the early science fiction movies, demonstrates this conflation of the anxiety over the destructive potential of technology with the potent allure of sexual assertiveness in the character of Maria, a female android.[48] The city of the movie's title is powered by enormous underground machines manned by a workforce that is frequently injured or killed in on-the-job industrial accidents. The *Maschinenmensch* Maria uses seduction along with rhetorical persuasion to undermine the domination of the ruling men and incite the working classes to rebellion. She provokes the workers to a frenzy, causing considerable destruction to the city and its machines, and resulting in the accidental death of many of the workers' children. She is finally chased down and burnt at the stake.

According to Zbigniew Walaszewski, *Metropolis* reflects an early twentieth century view of machines as "terrifying and fascinating … either as a wonderful gift for man or as a threat to humanity—nothing in between" (108). The movie's response to Maria's sexuality is equally polarized: "unrestrained [and] unyielding to male domination," it is seen as "tempting and disturbing, attractive and terrifying" (108). He argues that this polarity "manifest[s] in an expressive manner the ambivalent reaction to technology, especially fear combined with admiration" (108). Huyssen writes that when Maria, and by extension her wicked sexuality, are destroyed, "[i]t is as if the destructive potential of modern technology … had to be displaced and projected onto the machine-woman so that it could be metaphorically purged" (236). The tempting evil of Maria's sexuality is confused and intertwined with the analogously diabolical power offered by technology, so much so that one cannot be destroyed independently of the other. In order to defend himself from all potential threats, man reasserts his domination over woman. Maria is but one example of this common figure of the dangerous yet alluring female machine, who embodies all of

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[48] This is an evaluation expressed by *The British Film Institute*, Roger Ebert, *Empire Magazine*, and online ratings website, *Rotten Tomatoes*. To the science fiction aficionado, the term "android" technically only refers to robots built to appear indistinguishable from humans.

technology's potential both for production and sexual gratification, along with the threat entailed in man's loss of control over his creation.

1.3 Cyborgs in American Culture: The Twentieth Century Cyborg

The retrogressive characteristics of science fiction's machine-woman remain largely consistent even by the end of the twentieth century. As the genre grew in popularity and quantity into the middle of the century, so too did the prevalence of the female machine-human hybrid, or what would eventually come to be called a cyborg. The majority of the female examples continue in the tradition of *Metropolis*'s Maria, as representatives of the worst stereotypes of women and female sexuality. This despite the significant inroads into the workplace and meaningful improvements in the protection of their rights that women continued to gain in society. According to Springer, cyborg imagery in mass media film and literature as late as the 1990s continued to "cling to nineteenth-century notions about technology, sexual difference, and gender roles" as a strategy to "resist the transformation brought about by the new postmodern social order" (100). Therefore, the female cyborg is emblematic of the men of this period rather than of the women; she represents a masculine defiance of the elements in society that would challenge male control.

The social context and the demographics of science fiction's readership explain in large part the prevalence of misogyny and the Othering of women that exists in the genre. In a sense, science fiction has been about gender from the time that it was beginning to coalesce as a genre, precisely because of its preoccupation with its status as a distinctly "male" form of entertainment. Steve Chibnall writes that this is in part due to the fact that its writers and audience were, especially at its conception, overwhelmingly male, and also because of its "emphasis on male-coded technology—space ships, robots, time machines and all the other 'boys' toys' which distanced the genre from the domestic and feminised sphere" (57).[49] According to

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[49] Jacqueline Pearson writes that the Othering of woman in science fiction explains the trend to cast aliens as female, because "to be human is male" (Judith Fetterly as qtd in Pearson 17). Scott Sanders

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Jacqueline Pearson, even when the rare female science fiction writer of the 40s and 50s wanted to enter the male-dominated market, it was necessary for her to "[assume] the protective coloration of misogynist convention" in order to do so (13). The pulp tradition of the early post-war years often presented themes of female monstrosity and Otherness through a male erotic gaze, combining the "fear of female sexuality with excitement about its possibilities" (Chibnall 57). The broadening of acceptable social roles for women during this period exacerbated these fears. Chibnall explains that after the Second World War, women's presence in the work force continued to expand despite strong cultural pressures for them to stay in the home and this caused a "deepening crisis of masculinity" (61). He argues that the attempt "to remake women as compliant love objects" in this era's science fiction arises from men's anxiety about the increasing assertiveness and expectations of women as well as from an interest in technology's potential as a solution to male sexual frustration and intimidation (58).

This antagonistic view of women leads to both organic and cyborgian females being depicted in the familiar way: as dichotomous figures who embody the virginal, domestic servant as well as the enticing but threatening vamp (Goody 159). Siegfried Mandel and Peter Fingesten, in their rather disparaging critique of the young genre in 1955, focus on examples of women in science fiction that exemplify the former stereotype. They write that the female characters in science fiction, filling minor roles as wives or love interests, represent man's obligation to the sober responsibilities and complexities of life from which he dreams of escape (8). The domestic realm forms a contrast to the space flight, aliens, and adventure, which represent "what the science-fiction cult believes to be the more significant reality" (8). They conclude that women in science fiction are "like the earth, form[ing] the fixed substrate of society," which in fact belies man's tragic inability to escape either (8). According to Mandel and Fingesten, woman, for mid-century science fiction readers, is the old ball and chain

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goes as far as to say that science fiction routinely "excludes and belittles women, and repudiates those qualities culturally defined as 'feminine,'" to the extent that when women do appear in the genre, they are often "figures of menace, threatening the heroes' 'castle of reason'" (quoting Joseph Campbell, 57).

on a cosmic scale. Walaszewski and Chibnall, on the other hand, identify the trend of the "unconstrained woman" in mid-century science fiction along the lines of the vamp, who represents not only "a challenge to masculine control," but also "the object of sexual interest" (Chibnall 61). They write that 1950s science fiction expresses a particularly masculine perspective on sexuality and become "a repository for male imaginings which [go] well beyond technological speculations to sexual fantasy of the most exotic kind" (Chibnall 57, Walaszewksi 103).[50] As men's entertainment, it is not surprising that mid-century science fiction functions as an outlet for both male fantasies and fears.

Cyborgs continued to infiltrate mainstream culture in the 1970s, in popular books, movies, and television shows such as *The Million Dollar Man*, *Doctor Who*, and *Star Wars*. According to González, the concurrent social upheavals, especially women's changing roles at home and in the work place, and the technologization of daily life, directly contributed to the cyborg's popularity. She writes that

> the image of the cyborg has historically recurred at moments of radical social and cultural change … when the current ontological model of human being does not fit a new paradigm, a hybrid model of existence is required to encompass a new, complex and contradictory lived experience. The cyborg thus becomes the historical record of changes in human perception. (270)

The very qualities of fluidity and instability that make the cyborg an appealing symbol to a society attempting to grapple with the disruption of its norms are the features that prevent it from suggesting any clear course for resolving the disorder. Accordingly, there has grown up around it divergent and conflicting opinions as to its nature and value as a symbol, with some suggesting it can offer a vision of a utopian, feminist future, and others protesting that it appears doomed ever to look backward.

Donna Haraway and Christine Cornea are two critics that see in the cyborg a promising model for the resolution of patriarchy's historically harmful system of

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[50] This quote is taken from Chibnall, but is also affirmed and referenced by Walaszewski.

dichotomies. For Haraway, the cyborg's transgression of the boundaries between flesh/self and technological/not-self challenges the traditional notion of the antagonistic relationship between self and Other; its "post-gendered" status overwrites the hierarchical relationship between male and female (Haraway 181). Similarly, Cornea writes that the cyborg replaces the oppositional relationship between man and the Other with an exploration of different models of subjectivity that are often fragmented or contradictory, revealing an attempt "to either recuperate and/or to reconfigure a sense of human selfhood in a rapidly changing, technologic world" (Cornea 276). Both critics see the cyborg's ambiguity as its strength; defying prior axioms about mutually exclusive, essential gender qualities, it prefigures a future where such notions will be obsolete.

Other critics, such as Balsamo, Doane, and Springer, point out that, despite the potential of such optimistic views of the cyborg, the dominant cultural representations continue to "reproduce limiting, not liberating, gender stereotypes" (Balsamo 153). As Doane points out, cyborgs in the science fiction literature and film of the late seventies, early eighties, and later frequently function to fortify, "sometimes desperately," traditional patriarchal gender stereotypes (182). Many of the cyborgs' technological augmentations function to enhance traditional gender qualities: for example, the males tend to be hulking, muscular, aggressive fighting machines and the females tend to be overtly sexual and eroticized "cult objects of the male imagination."[51] Springer suggests that this imagery arises as an act of patriarchal resistance to any behaviour that would defy traditional stereotypes and, by extension, threaten to undermine the validity of a male-dominated hierarchy (Springer 104). The patriarchal man who is made to feel uneasy by his culture's increasingly complex understanding of gender seeks solace in the fictional renderings of the cyborg that strongly affirm his version of the "truth" about essential gender characteristics. Regardless of its potential, in practice the cyborg's capacity for gender ambiguity functions not as a strength, but rather to make it the target of male aggression and suppression. In this context, the cyborg becomes susceptible to the same social constraints as women.

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[51] I borrow the phrase from Huyssen (229).

Science fiction has always been a genre that has explored how new technology impacts and is adopted by society. One mode of expression for the development of these themes has been the personification of machines. Ever since the Industrial Revolution, personified machines, when expressing negativity toward technology, have tended to be female. As with Maria of *Metropolis*, the negative depictions of female cyborgs arise from a patriarchal perception of threat posed by both women and technology and indicate men's attempt to reassert dominance and assuage an identity crisis. Additionally, a connection is implied between the females' hypersexuality and their propensity for violence and treachery, such that the cyborg woman instantiates many of the same old myths of feminine duality as already discussed. Despite being written before cyborgs became common characters in science fiction, *Dune* portrays its female characters in ways consistent with the figure of the threatening female cyborg because Herbert is responding to the same masculine experience of confrontation with technology that influences the construction of cyborgs in later science fiction.

Part II: Cyborgs in *Dune*

2.1 Cyborgs in *Dune*: Science and Technology in the Dune universe

Doane writes that "[s]cience fiction, a genre specific to the era of rapid technological development, frequently envisages a new, revised body as a direct outcome of the advance of science" (182). Despite *Dune*'s grounding in the context of science fiction's relatively technology-free sub-genre of the New Wave, Herbert similarly constructs the novel's futurism through a visionary extension of its characters' physical limitations. Although characters are not fitted with mechanical or electrical enhancements, they do nonetheless take advantage of the scientific developments of their society in order to extend their physical and mental capabilities beyond what is possible at this time. In other words, due to the unique way that science and technology are conceived in *Dune*, the physically and mentally enhanced characters, such as the Mentats, the Guild Navigators, and especially Jessica and the Bene Gesserit, can be considered early examples of mass media cyborgs. Strengthening the argument for reading them as such are the additional ways that Jessica and the Bene Gesserit display other traits common to this figure, such as hyperstereotypical femininity and the dual aspect of sexual appeal and threat, all of which work to support patriarchal notions about gender and the status quo. Additionally, the novel is thematically consistent with the cyborg genre due to its preoccupation with motherhood and its exploration of the impact of technology on issues of reproduction and lineage.

Like computers and techno-gadgetry, the hard sciences are conspicuously absent from *Dune*. Instead, the most advanced, diligently researched, and studied bodies of knowledge in the novel are social sciences, such as psychology, sociology, politics, and warfare, as well as quasi-scientific practices, such as eugenics, the refinement of mystical capabilities, and yoga-like physical training regimes.[52] In

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[52] I use quasi-scientific because, while eugenics may be argued to be based on biology and genetics—hard sciences—its application in the *Dune* universe does not appear to be very scientific. For example, there are no laboratories to identify or alter genetic information. Instead, the Bene Gesserit act as a sort of match-making service, estimating the best pairing of breeding partners based on observable physical or personality traits. How the success or failure of these pairings is measured we can never be sure. The fact that their Kwisazt Hadarach arrived a generation earlier than expected is further evidence that

Herbert's mid-twentieth century America, the social sciences were considered to be at the exciting, cutting edge frontier of study. For example, there was much enthusiasm about the promise of social engineering to bring about a new era of civilization, scientifically designed to maximize the efficiency of each member of society (Haraway 56). At that time, according to science historian Donna Haraway, it was thought that the new fields of psychology, anthropology, and sociology would be able to generate scientifically rigorous tools for analyzing people, such as the intelligence test, motivational research, and sexual psychobiology (56). From this, scientists expected to be able to map individuals' personalities and attributes to determine where they would be best suited in industry; it was thought that "science, not class conflict, could provide for further human adaptive evolution" (Haraway 56-7). Herbert constructs his vision of a range of social sciences as operating in a similar manner in *Dune* society.

In *Dune,* civilization does not appear to include practice of the hard sciences, such as chemistry, physics, or computer science, but instead develops what O'Reilly terms "a new science of the subjective" (*Frank* ch 4).[53] *Dune*'s unorthodox definition of science is revealed in the few references to it made throughout the novel. One of these is when the Reverend Mother Gaius Helen Mohiam advises Paul to "make [the art of ruling] the science of [his] tradition" (Herbert, *Dune* 44). Another occurs when Count Fenring cryptically comments that mankind's only science is the "science of discontent" and elaborates on this idea with the explanation that "[p]eople need hard times and oppression to develop psychic muscles" (Herbert, *Dune* 379, 191). In the context of the internal logic of the novel, Fenring's comment means that with enough data regarding a population's responses to sources of discontent, it would be possible

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the Bene Gesserit's breeding program is largely guesswork. With regard to the mystical capabilities which would seem utterly unscientific, in the case of the Guild Navigators, they are able to accurately maneuver enormous vessels through space by a set of highly refined and practiced mystical acts of "seeing." Further coding this practice as a science, according to "Appendix II," the Guild believes that "all phenomena," including those that govern their mysticism, "could be reduced to mechanical explanations," and for good reason, if we are to judge by their success (Herbert, *Dune* 573).

[53] See Introduction, footnote 1.

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for a leader to engineer desired results through the precise application of certain stimuli on the people. In fact, Paul attempts an equivalent strategy, using the scientific methodology of ecology to form a "basis of [his] philosophy" for understanding social dynamics and, ultimately, for leading (O'Reilly, *Frank* ch 4). This is first evident in his astute comment that "the worst potential competition for any young organism can come from its own kind," to which the planet's ecologist replies, "[i]t's a rule of ecology … that the young Master appears to understand quite well. The struggle between life elements is the struggle for the free energy of a system" (Herbert, *Dune* 163). Paul continues to interpret aspects of society through ecological metaphors over the course of the novel, such as when he sees a predatory desert bird as emblematic of "the way of the desert [peoples]" (312). Another example is the symbolism of "Muad'dib," the name used for Paul in reference to his leadership of the Fremen. Paul chooses it as his Fremen "name of manhood," calling himself after the small mouse that is "wise in the ways of the desert" (354-5). These natural images are not only metaphors, but also help to inform him about how best to manage and motivate the people he wishes to rule. This "science of ruling" combines ideas from ecology, behavioural psychology, sociology, and social engineering.[54] As these examples indicate, the social sciences have replaced the hard sciences in *Dune*, both in the way they are applied and in the precision of their outcomes.

Herbert provides the Dune universe with a history that accounts for this particular trajectory of the sciences. As Mohiam explains to Paul in the first chapter,

> Once men turned their thinking over to machines in the hope that this would set them free. But that only permitted other men with machines to enslave them … The Great Revolt took away a crutch … It forced *human* minds to develop. Schools were started to train *human* talents. (Herbert, *Dune* 23, italics in original)

She is referring to the Butlerian Jihad, a great civil war long in *Dune*'s past (but not

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[54] Along the same lines, in his article "The Sparks Have Flown," Herbert asserts that humanity needs to develop a "science of wisdom" for the better management of our technological and natural resources (104).

far in our future) which brings about the outlawing of all computers and artificial intelligence in the Dune universe (594).[55] Mohiam's comments suggest that the important accomplishment of the Butlerian Jihad was the return of both information and technical ability to individuals, whereas previously, only the powerful elites of society had access to their creation and use.[56] O'Reilly characterizes *Dune*'s sciences as subjective precisely because they are developed within the individual and avoid blind reliances on external devices (*Frank* ch 4). Purportedly, their subjective nature allows these sciences to be more nimble, adaptable, even more rational in the extent to which they incorporate common sense, in contrast to the inflexibility, finiteness, and impercipience associated with bureaucratic, industrial-scale technosciences. O'Reilly's term is therefore quite pertinent, for it encapsulates *Dune*'s move away from the sciences of the laboratory in favour of the social sciences and personal practice. Ultimately, the Butlerian Jihad did not halt all continued study and advancements of a technoscientific nature; it just diverted them down a different path.

In addition to Paul's "science of ruling" and social engineering, one of the most important sciences of *Dune* is eugenics, which incorporates the principles of genetics, advanced training of the body and mind, and the fostering of superior traits through sociocultural conditions. Most of the major power groups utilize at least one of these aspects of eugenics in their quest to advance the baseline of human potential.

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[55] Although he makes no explanation for his naming of the jihad in the novel or elsewhere, it is possible that Herbert drew his inspiration from the anti-science Butler Act that had not yet been repealed at the time of *Dune*'s writing (Tennessee Evolution Statutes, chapter 27 bill 185; enacted 1925, repealed 1967). Like the "Great Revolt" of *Dune*'s history, which spelled out its new laws in the subsequently compiled "Orange Catholic Bible," the Butler Act was boldly hostile to science in favour of religious doctrine, decreeing it unlawful to teach human evolution or deny the Biblical origin story in any state-funded school. If this is in fact from where Herbert drew his inspiration, it suggests he may have been more critical of anti-science sentiments than is otherwise evident. A closer investigation of the nature of Herbert's attitudes toward science, technology, and Western notions of progress follows in the conclusion.

[56] The role of technology during *Dune*'s pre-Bulterian period is not elaborated in much more detail than what Mohiam communicates here. In *Dune*'s "Appendix II," which recounts the universe's religious history, it states that the Butlerian Jihad overthrew "the god of machine-logic" (574).

The Bene Gesserit use their Selective Breeding Program, which operates on the principles of genetic inheritance, along with intensive training regimens, in order both to populate their ranks with highly capable women and to work toward their ultimate goal, the Kwisazt Haderach. Mohaim explains that one of their methods to capitalize on genetic endowment is to "breed [someone] to a close relative to set up a dominant in some genetic trait" (Herbert, *Dune* 24). This is in fact what they had intended to do with Jessica's first child: "a natural daughter of the Baron Vladimir Harkonnen," Jessica "carried gene-markers whose supreme importance to the breeding programme was known [to the Bene Gesserit] for almost two thousand years .... The plan was to inbreed [Jessica's] daughter with Feyd-Rautha Harkonnen, a nephew of the Baron Vladimir, with a high probability of a Kwisatz Haderach from that union" (581-2).[57] Although this application of genetics is arguably neither scientific nor very sophisticated, their plan is ultimately successful in that it does produce a Kwisazt Haderach; their methods are at least effective, if not especially precise, in arriving at their goal.

As for the Bene Gesserit training, it begins at a very early age and covers subjects that range from advanced muscle control and fighting to politics, medicine, history, languages, and psychology, as well as fantastical abilities like sexual "neuro-enticement," heightened perception, and "Voice;" that is, the mind-control of others through command statements (Herbert, *Dune* 303, 603).[58] Their training also includes the sinister gom jabbar test, the sisterhood's method for finding superior humans. Mohiam explains to Paul,

> Ever sift sand through a screen? … we sift people to

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[57] This plan reflects the sisterhood's assumption that Jessica would comply with her orders to produce a daughter as her first child. She disobeyed and had a boy; therefore, when Paul becomes the Kwisazt Haderach himself, their program achieves their objective a generation earlier than expected.

[58] In Robert L. Mack's fascinating analysis of the Bene Gesserit's "physiological trick," entitled "Voice Lessons: The Seductive Appeal of Vocal Control in Frank Herbert's *Dune*," he describes Voice as "a frighteningly irresistible mental suggestion" made by "the meticulous adjustment of personal vocal tones to mirror a target's own," allowing the sister to "almost unnoticeably bend the willpower of other characters in the novel by merely speaking to them" (39-40).

find the humans … You've heard of animals chewing off a leg to escape a trap? There's an animal kind of trick. A human would remain in the trap, endure the pain, feigning death that he might kill the trapper and remove a threat to his kind. (20-1)

By weeding out those with so-called animal instincts, the Bene Gesserit believe that they improve the quality of their ranks. Essentially, they see themselves as the stewards of the human race and their methods as a constructive (if not Machiavellian) contribution to that project. Identifying a "need of a thread of continuity in human affairs," they long ago decided that "there could be no such continuity without separating human stock from animal stock [inferior people]—for breeding purposes" (23). While the improvement of the human race may sound like a positive goal, the Bene Gesserit's eugenic efforts are as ethically compromised as any other example of such endeavours throughout human history, the most obvious evidence being that those who "fail" the gom jabbar test are instantly killed.

The Guild Navigators, Mentats ("human computers"), and famed Sardaukar "soldier fanatics" use intensive training strategies similar to the Bene Gesserit's (Herbert, *Dune* 595, 600). In all three groups, initiates begin training at very young ages and are immersed in specialized instructional environments for their entire lives to maximize the acquisition of skills and knowledge. The Sardauker, who are "taught from infancy to use cruelty as a standard weapon, weakening opponents with terror," serve as an example of how extreme the methods can be (600). In the case of the Bene Gesserit, the Guild Navigators, and the Mentats, their training is critically augmented through the use of certain drugs that help to facilitate both learning and practice. The Bene Gesserit, as described in Chapter 1, use an "awareness spectrum narcotic" during the initiation of their Reverend Mothers (604). Learning to conquer the drug permits the novitiate to access the sisterhood's shared memories and reach a new level of her abilities. The Guild Navigators ingest large quantities of melange from a young age and on throughout their lives, without which they would not be able to achieve their "prophetic" space navigation abilities (595).[59] The Mentats rely on

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[59] Otherwise known as "spice," melange is an addictive, life-extending drug that is a biological byproduct of the sandworm's lifecycle. The ingestion of large doses brings on a "high" that includes

drugs to a lesser degree, commonly drinking a "high-energy liquid" believed to amplify their mental powers—a sort of human computer's coffee (600). Through these training regimens and various assistive practices, the most highly skilled people of the Dune universe are able to carry human abilities to their limits.

The Houses Corrino and Atreides in particular make use of specific sociocultural environments in order to drive groups of people toward more advanced abilities than would otherwise be possible. These controlled settings are advantageous both in the way that they create the specialized instructional milieux that foster the intensified training as well as in the way that they bring about undirected, selective breeding through survival-of-the-fittest conditions. This is the secret to House Corrino's Sardaukar's enduring military superiority. As Sandy Field explains, "[t]he Padishah Emperor enhances his selective ability by using oppression and harsh conditions to generate competition on Salusa Secundus and thus creates a gene pool from which to choose his army of Sardaukar fighters" (69). It is through a combination of all three eugenic methods—selective breeding, intensive and early training, and a controlled sociocultural environment—that the Sardaukar are able to achieve their position as an unrivalled elite army. Paul, like his father before him, sees the harsh conditions of Arrakis as working to hone the Fremen population into better, tougher, and more resilient fighters in precisely the same way that Salusa Secundus has worked on the Sardaukar. Indeed, Leto calculates the Fremen's as-yet untested skills on the basis of the hostility of their environment alone, which he asserts is "every bit as terrible a place as Salusa Secundus" (Herbert, *Dune* 60). The Mentat Hawat describes the concept in ecological terms, explaining that violence "weed[s] out [the] less successful specimens, leaving the strong to grow stronger" (433). Field remarks that it is a particularly ruthless strategy for the selection of survival genes (69), but such brutality is consistent with the unforgiving ethos of eugenics generally. *Dune*'s eugenic methods, which combine genetic selection,

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prophetic visions, which is what both Paul and the Navigators rely on for their exceptional abilities. See *Dune* p. 341 for Paul's description of his first experience. The Bene Gesserit's spectrum awareness narcotic, or "The Water of Life," as the Fremen call it, is a raw form of melange occurring at an earlier point in the sand worm lifecycle (604).

training, and environmental control, are fundamental tools for the ruling classes to maintain power, placing this ethically compromised science at the heart of the structuring of their society.

According to Field, "genetics and the role of [DNA] in the genetic basis of heredity were the hot topics of the day," when Herbert was writing *Dune* (68). In looking at the various eugenic methods pursued in the novel, she concludes that Herbert had an accurate, scientifically informed understanding of evolution, random mutation, and natural selection (69).[60] Herbert's perception contributed to his belief that people are not created equal and "do not have equal abilities" (Herbert, "Dangers" 99). He explains that this view came out of his realization that "no society has ever achieved an absolute pinnacle" because "evolution or devolution never ends" (99). In other words, the pinnacle is the only point at which our evolution (or devolution) would cease and all people would be born with equal ability. Because this is impossible, and because human genetic change continues endlessly, Herbert concludes that people at any given point in time will embody slightly different stages of evolutionary development. The eugenic strategies practiced in *Dune* seize upon and exploit the inherent potential in these differences. Dunian attempts at guided human evolution include methods aimed at developmental influences stemming from both nature and nurture. Techniques that pertain to "nature" address genetic make-up, seeking ways to produce advanced, more evolved humans through the pursuit of beneficial genes that are selected either intentionally, like in the Bene Gesserit's breeding program, or incidentally, like on Salusa Secundus. The techniques that pertain to "nurture" include such methods as the intense training programs and the fortifying effects of harsh conditions on survivors. Consequently, in being *Dune*'s primary "science" for the creation of the most advanced humans, eugenics is one of the most important and avidly pursued sciences of *Dune*.

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[60] This is in contrast to many popular misconceptions about the survival-of-the-fittest model among nonscientists, many of whom imagine evolution to be a "battle between individuals to survive in their environment and to reproduce at any cost" (Field 68). According to Field, this idea incorrectly reverses the chronological order of mutation and selection; in actuality, "[n]atural selection of the resulting genetic attributes by the environment occurs after the organism has already been 'adapted'" (69).

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Just as Herbert reimagines the sciences of the *Dune* universe, technology in the novel also experiences a transfiguration. In kind with the views expressed by technology philosophers Stephen J. Kline and Arnold Gehlen, Herbert rejects the premise of the culture-nature dichotomy that creates a false distinction between people and the rest of organic life. In his essay "The Sparks Have Flown," Herbert writes that Western man's fallacy is his perception of himself as separate from his environment, "think[ing] that [he] can overcome nature by mechanical means," when instead "he is still a part of this [ecological] system" (103).[61] Both Gehlen and Herbert argue that all human activities, including those that are related to technology, fall within the sphere of biological processes.[62] As such, and in light of *Dune*'s particular cultural context, I propose that what functions as Dunian society's most important technological artefacts—according to the definition of technology as set out by Wajcman and corroborated by S. Kline and Bush—are the highly skilled people themselves.[63] Rather than occurring "naturally" (without significant intervention), each is the embodiment of the culmination of the application of eugenic sciences. Specifically, each is produced through the society's sociotechnical system of creation, functions within the society's sociotechnical system of practice, and successfully extends human capability beyond its regular limits. In understanding these characters, namely the Guild Navigators, the Mentats, and the Bene Gesserit, as *Dune*'s technological artefacts, it becomes possible to read them as cyborgs.

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[61] See also his interview in *Mother Earth News*, in which he asserts that "all of man's intrusions into the environment are totally natural phenomena" (Stone 20).

[62] See John M. Staudenmaier's discussion and summary of Gehlen's views on this topic p. 147.

[63] Technology's definition is explained in further detail in the Introduction: Theoretical Framework, where I state: "Judy Wajcman breaks the term down into the basic categories of the technological artifacts themselves, the techniques people have to utilize them, and the overall practice in which they are used and reproduced" (14-5).

2.2 Cyborgs in *Dune*: Defining Criteria

As I discussed in the Introduction: Theoretical Framework, the defining characteristic of the cyborg is the existence of an element of symbiosis between the biological and technological for the purpose of mental and/or physical enhancement. Although the popular conception of the cyborg is of a being that "meld[s] the organic and the mechanic," influenced largely by the hardware-studded examples commonly seen in film, the technological aspect is not limited to physical artefacts (Gray et. al. 2). I have argued that in *Dune*, the characters' embodiment of their society's scientific efforts is sufficient to represent that symbiosis.[64] As was also mentioned in the Introduction, the "genetic cyborg" popular in the superhero comic genre serves as a valuable precedent here. Like the characters in *Dune*, these characters' enhancement through symbiosis with technology takes the form of the alteration of their genes combined with intensive training regimens. Captain America, created in 1941, is an early example.[65] His transition from normally-endowed human to genetic cyborg is an experience that mirrors those of *Dune*'s ultra-skilled characters. The product of a World War II-era military program, the Captain attains super strength and intelligence through medical interventions, drugs, and exercise (Oehlert 224-5). Another significant example is the character Supreme, who resembles Paul in important ways.[66] This genetic cyborg was created through experimental drugs and exercise, as well as intentional exposure to radiation, that combine to increase his strength, mass, and intelligence (225). Similar to Paul, Supreme becomes a "genius

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[64] It should be noted that the Sardaukar frequently do have hardware embedded into their bodies, such as "a false toenail or two that can be combined with other items secreted about their bodies to make an effective transmitter" (Herbert, *Dune* 485). Ironically, however, these items do not make a Sardaukar cyborgian because they are incorporated into his body only for the purpose of concealment; they are for use after removal and do not actually function in conjunction with or as augmentation to his body. Furthermore, these bits of hardware, such as radio parts and garroting wire, do not represent anything technologically advanced (486). This further emphasizes the idea that the truly advanced tech of the Dune universe is in the peoples' application of the subjective sciences and not in the gadgetry that occasionally makes an appearance in the text.

[65] Marvel Comics, created by Joe Simon and Jack Kirby.

[66] Created by Rob Liefeld, first published by Image Comics in 1992.

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ten-fold," who has the ability to "alter his own biological structure" and believes he has been "divinely selected for omnipotence" (225). Oehlert asserts that this kind of cyborg is the most common and popular class of cyborg in this genre (224), clearly demonstrating that, while the fusion of mechanical hardware with the organic body is a well-known trait of some cyborgs, it is not a defining characteristic. In addition to the argumentative force of this precedent, however, Herbert endows his characters with deliberately robotic and computer-like qualities.

Herbert depicts the advanced abilities of the Navigators, Mentats, and Bene Gesserit as functioning in ways that intentionally liken the characters to computers and machines. Mathematical computation is the basis for the powers of both the Mentats, the "human computers" who generate probability calculations, as well as the Navigators, whose guild "emphasizes almost pure mathematics" (Herbert, *Dune* 595, 23). The description of Paul's Mentat experience elaborates on this analogy by using language that is normally associated with the operation of a computer: "[h]e saw with sharpened clarity every circumstance and occurrence around him. He felt unable to stop the inflow of data or the cold precision with which each new item was added to his knowledge and the computation was centred in his awareness" (220). A few pages later, Paul's Mentat state is further elevated, endowing him with a "chilling precision" that, while giving him the ability to see many possible paths into the future, leaves him also feeling an "emptiness within" that prevents him from being able to mourn the death of his father (226). In this "hollow place," his mind continues "on in its steady pace—dealing with data, evaluating, computing," like "a clockwork control of a bomb" that he is powerless to stop (228). This imagery reinforces the conventional dichotomy of logic and emotion: human beings can either benefit from the advantages of computer-like behaviour and abilities or they can experience emotions, but they cannot do both. For Paul, they are mutually exclusive states. The well-worn trope of the coldly objective robot as the antithesis of humanity is one of the devices Herbert utilizes to demonstrate the extent of these people's technological advancement and their similarity to machines.

The Bene Gesserit also demonstrate a similar emotionless quality. Throughout

the novel, the sisters are depicted as having a mastery of self-control that is imperturbable even when under enormous duress. The Lady Fenring is typical of the women of her order, usually thought of by others as reserved, aloof, quiet, and watchful. As Feyd-Rautha observes, she has about her a "serene repose" to such a degree "that the young man [finds it] subtly disturbing" (Herbert, *Dune* 372). Depictions of Irulan in the final climactic conflict are similar. In contrast to her Emperor father who displays outrage and distress during the negotiation of her sale to Paul, she remains calm and twice speaks with a "silky soft" demonstration of the Voice intended to sooth the despairing man (550, 561). The Bene Gesserit are often maligned as witches for precisely this kind of unsettling calm, but as Robert Mack points out, "all of their supposed 'powers' extend from an intense, scientific regimen of physical and mental exercises that grant them complete control over physiological processes," rather than any actual mysticism (43). Herbert reveals a few telling details about these exercises when Paul practices their methods:

> Paul sensed his own tensions, decided to practice one of the mind-body lessons his mother had taught him. Three quick breaths triggered the responses: he fell into the floating awareness … focusing the consciousness … aortal dilation … animal consciousness does not extend beyond the given moment. (Herbert, *Dune* 15, ellipses in original)

In this state of self-hypnosis, Paul maintains his tranquility by repeating a mix of fragments of Bene Gesserit maxims and physiological directives. The exercise both Paul and Jessica repeat most frequently is the order's "Litany against Fear," which begins with the assertion that "[f]ear is the mind-killer" (19). Bene Gesserit philosophy centres around this dichotomy of emotion and reason, where uncontrolled emotions are considered animalistic or subhuman, and logic and restraint are held up as human ideals. Ironically, in aiming for these ideals, the women instead come across as inhumanly robotic, serene to the point of disturbing, with a "seeming relaxation" that can be "terrifying" (70).

Another way that Herbert strengthens the implied correspondence between his characters and robots is through their use of psychological conditioning and hypnosis

techniques. There are frequent examples of these methods being used to override some aspect of an individual's will, which evokes the way a program is installed onto a computer to control its functioning.[67] One particularly explicit example is during the scene in which Feyd-Rautha uses psychological conditioning to fix his advantage in gladiatorial hand-to-hand combat through the use of "a key word [that] had been drummed into [his opponent's] unconscious to immobilize his muscles at a critical instant" (Herbert, *Dune* 382). When the moment does come, Feyd utters the word and "the gladiator's muscles [obey]," leading the young villain to his expected victory (386). The implanted word functions to interrupt the gladiator's movements like a line of code or a virus that, spliced into a program, suddenly alters or debilitates its operations. It is apparent that Feyd has used his cheating strategy regularly and with consistent success, for he had killed one hundred slave-gladiators by his seventeenth birthday and, as with those, "[t]here was not a doubt of the outcome in this fight" (371, 381). Like computer code, Feyd's conditioned directives are very specific and their effects narrowly prescribed.

A similar example of this technique occurs only a few pages later, when the Lady Fenring alludes to her plans to condition Feyd for her own manipulative purposes. She tells her husband, "I'll plant deep in his deepest self the necessary prana-bindu phrases to bend him," by a method she calls "hypno-ligation of that Feyd-Rautha's psyche" (390-1). Presumably, her phrases would operate in a manner very similar to Feyd's, only their aims would be directed at altering his emotional responses rather than his movements. In addition to these specific plots that are more narrow in scope, imperial institutions, such as the Bene Gesserit and the Suk doctor

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[67] Herbert may have taken inspiration from a contemporary counter culture organization called "the Human Potential Movement" that started in the early 60s. According to Mark Dery, this group "conceive[d] of the mind as a 'biometric computer,' capable of being reprogrammed with the right commands" (232). This "Neuro-Linguistic Programming (NLP)" was in fact invented by a linguist and a computer programmer and is "based on the theory that success-oriented behavioral patterns can be 'installed' in the subconscious, through self-hypnosis, in much the same way that programs are installed in a computer." (232). NLP considers the brain quite literally "the most incredible computer on the planet" and uses its techniques or "technology" to "reroute self-defeating neural connections" and "rewire yourself" (232).

school, utilize psychological conditioning more broadly to compel absolute loyalty in their members. In the case of the doctors, these effects are believed to be so absolute (and irreversible) that they "cannot be removed without killing the subject" (Herbert, *Dune* 32). The reader is given to understand that this science of psychological conditioning has been perfected to the point where its results are assured and its application extensive, operating with extremely precise commands and outcomes like a computer program of today.

In addition to the mental skills, Jessica and the Bene Gesserit have control over their physiological processes, which makes their bodies machine-like. For example, when Jessica is buried under a sand-slide, she "compose[s] herself in bindu suspension to reduce her oxygen needs," temporarily eliminating the need to breathe until she can be rescued (Herbert, *Dune* 289). This tactic is wholly successful, as Jessica is able to shut down her bodily functions without harm for a period much longer than a normal human would survive. The fact that she can turn herself off, as well as the way in which she is turned back on—quite suddenly, in response to a command word—likens her body to that of a machine (290). In another instance, after waking from a drug-induced coma, Jessica is able to access an internal clock to calculate the precise amount of time she has been unconscious (192). This directly contrasts Leto's experience only a few pages later, when after being drugged in a similar fashion, "[h]e was aware there had been a passage of time, but its length escaped him" (211). The comparison emphasizes the fact that Jessica's Bene Gesserit training is responsible for giving her abilities normally associated with machines. Jessica and her sisters, as well as the Guild Navigators and Mentats, are endowed with computer-like brains capable of elevating logic and suppressing emotion, similar to robots; likewise, these women have bodies they can control like machines. These abilities, being technologically enhanced beyond the capacity of normal humans, are thus cyborgian.

Another characteristic frequently exhibited by the cyborg is its refusal to conform to relatively simple ethical dichotomies of right and wrong. Oehlert claims that it is very common for cyborgian characters in the superhero genre to demonstrate

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ambiguous moral codes, switch between roles as heroes and villains, and remain stubbornly beyond anyone's control (226). He contends that the often dangerous unpredictability of these cyborgs suggests "our unease with these creations" and expresses a warning or a fear of technology (226). Cyborgian characters are similarly ambiguous in *Dune*. For instance, the Mentat Thufir Hawat transfers from the Atreides' to the Harkonnen's employ after Leto's assassination. Although the Baron compels Hawat's service with the threat of poison, the Mentat shifts his allegiance and performs his duties more diligently than mere duress would require, as evidenced by the fact that he gives the Baron a warning that saves his life (Herbert, *Dune* 427).[68] Befittingly, the most distinctively cyborgian characters of the novel, the Bene Gesserit, are also the most ethically ambiguous. At the beginning of *Dune*, the women appear to be aligned with the goals of the novel's protagonist, whether that be Paul or Jessica. However, by the conclusion, Paul has emerged as the protagonist and the Bene Gesserit, Mohiam especially, but even Jessica to a degree, have taken up allegiance with the antagonists and are cast as villains. In these ways, *Dune*'s cyborgs are similar to Oehlert's examples from the superhero comics: their loyalty is defined according to their own personal logic rather than by broader, simpler ethical expectations, reflecting our inherent distrust of such beings and, by extension, of technology.

Cyborgs can be identified by the fact that they have been somehow altered by technological means for the purpose of enhancing human function and there are many in *Dune* who meet this defining criteria. Furthermore, Hebert describes the way these characters think, speak, and act in such a way as to suggest an intended correspondence between their behaviour and computers or machines. These characters also remain consistent with the cyborgian trope in the way that they embrace ambiguous moral imperatives, the effect of which is to imply the negative and dehumanizing potential of technology. More than this, however, Jessica and the Bene Gesserit instantiate the trope of the hypergendered female cyborg who is

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[68] Hawat alerts the Baron to an assassination attempt by the latter's nephew. Hawat's warnings are based on conjecture, therefore, had he remained silent, the plot would likely have succeeded and there would have been no evidence to suggest Hawat was complicit by omission.

seductive yet dangerous in her propensity to threaten the patriarchal system of reproduction and lineage.

2.3 Cyborgs in *Dune*: Figure of the Female Cyborg

The most markedly cyborgian group featured in this first of Herbert's six book series is the Bene Gesserit. According to DiTommaso, it is they "who attempt to shatter the limits of the question 'What is it to be human?'" by "lift[ing] Homo sapiens from animal awareness to people, to humans, and then to trained humans and perhaps beyond" ("History" 317). *Dune*'s treatment of these women, and of Jessica in particular, supports a cyborgian reading in that it follows the figure of the female mass media cyborg very closely. It is no longer unusual for a science fiction novel or film to feature a strong, confident, and assertive female cyborg, like *Dune*'s Jessica. However, as Christine Cornea argues, in most cases they act as the love-interest of the main character "within a narrative that strongly upholds patriarchal values," meaning that "the mere 'borrowing,' by a female character, of what are understood as masculine traits does not necessarily lead to a representation of 'equality' between the sexes" (283). Instead, the cyborgs of mass media usually "reproduce limiting, not liberating, gender stereotypes" as an attempt to buttress the patriarchal status quo "by reaffirming bourgeois notions of human, machine and femininity" (Balsamo 153). As was discussed in Chapter 1, the Bene Gesserit women are defined through their relations to men and they certainly do act to reinforce old gender stereotypes, regardless of certain women's individual strengths. More specifically, they reproduce the conventions of the female cyborg in the way that their threatening and alluring eroticism is interrelated with the dual appeal and menace that arises as a result of their intersection with technology.

Jessica and the Bene Gesserit possess the usual sex/threat duality and these qualities are linked to their technology, aligning them with the cyborg trope. For instance, one of the few technological nova in the novel is Mohiam's deadly dark box

of the Gom Jabbar test.[69] It is a small green metal cube, hidden within the "folds of her gown," with one side open that is "black and oddly frightening," and an interior that is cold and "slick" (Herbert, *Dune* 18). According to McLean, this box "can be seen as a *vagina dentata* and the test itself as an image of castration anxiety" ("Psychological" 154). McLean is no doubt correct that much of the novel's emotional appeal lies in its underlying themes of "Oedipal conflict, fear of sex, and fear of women" ("Psychological" 150), but as this particular example highlights, such fear is projected onto technology. Mohiam may possess this primal emblem of terrifying femaleness under her skirts, but it takes the form of a metal technological artefact; its power, to cause "[p]ain by nerve induction," is a science-based technique (Herbert, *Dune* 21).

McLean is also correct in her characterization of Bene Gesserit sexuality as "a weapon" against men that forms an important part of their "arsenal" ("Psychological" 153). The scene in which Jessica overcomes the men in the helicopter is a prime example of how that sexuality is weaponized; again, that power is based in her technology of Voice. In the scene, Jessica and Paul have been captured and are being airlifted to be marooned in the desert where they are expected to die of exposure. So great is the reputation of the Bene Gesserits' powers, that the Baron takes a number of precautions against Jessica's escape or counterattack. For instance, he uses at least two soldiers at all times to handle her, binds her with extra-strength rope in addition to strapping her down, gags her to prevent her from using Voice, and enlists a deaf soldier as further insurance against the power of her Voice commands (Herbert, *Dune* 196-8). Regardless of all these efforts, Jessica is able to overcome the men through a combination of her sex appeal, Bene Gesserit techniques of Voice, and psychological manipulation. As soon as Jessica and Paul are alone with their guards, the two Harkonnen soldiers contemplate raping her because she is attractive (198). Capitalizing on their interest, and being now free of the gag, Jessica uses Voice

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[69] Pioneering science fiction critic Darko Suvin coined the term "novum," Latin for "new" or "new thing," to refer to those items or aspects that differentiate a science fiction world from the so-called real world (Roberts 6). Nova is the plural form of novum.

commands, in addition to "writh[ing] sinuously for [the soldier's] benefit," in order to plant in the captors' minds the notion that they must fight each other for her: "[b]y uttering the words, by being there, she made herself infinitely worth their fighting" (200).[70] She continues to use a combination of body language and Voice directives, such as suggestive comments like "[y]ou could find yourself well rewarded" and commands such as "[y]ou mustn't disagree," to manoeuvre the men into a disadvantaged position that finally gives Paul the opportunity he needs to overcome them physically and break free (200-1). The encounter makes clear how powerful the Bene Gesserit techniques are to magnify the effects of Jessica's sexual appeal to the extent that male will and reason are rendered completely impotent.

Despite Jessica's success in this scene, her use of Voice reveals a sinister and hostile undercurrent lurking beneath the serene and beautiful surface, and these negative qualities derive from her femininity. Springer writes that "[m]asculine and feminine stereotypes have long been used as metaphors for technology" (104). Because women are "associated with the interior spaces of the body, with the hidden, fluid, and fluctuation internal system," these qualities, Springer contends, also extend to representations of the female cyborg's powers (103). Jessica's powers are likewise hidden within her and are related to her internal, sexual potential. The Baron's precautions to restrain her physically fail because her victory does not arise from a physical dominance, coded as masculine, but from an invisible, intangible dominance, inescapably coded as feminine. Men's and women's different styles of conquest are not valued equally. As McLean argues, Herbert consistently associates masculine dominance with "directness, honesty, and integrity," whereas feminine power, such as with the Voice, is associated with "deceit and treachery" ("Psychological" 156). In this scene, even though Jessica shares the protagonist position with her son and her victory is a triumph, her feminine tactics are suggested to be inferior to masculine methods of conquest.

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[70] Jessica is at this point free of the gag thanks to Paul's use of the Voice in conjunction with her seduction of the soldier. Although Paul is the one to utter the command, it is a skill he learned from his mother, meaning that its power still originates with her.

Another example that highlights the different valuations of the mother's and son's stratagems is Paul's climactic knife fight with the villain Feyd Rautha Harkonnen. Jessica tries to give Paul a secret word that will render Feyd momentarily compromised during combat, giving Paul a victory by the same means as the young Harkonnen in his earlier fight with the gladiator (Herbert, *Dune* 553). In this way, Jessica's methods are equated with the novel's villains and implied to be ignoble. McLean explains that Paul's ultimate rejection of the Bene Gesserit's devious style "is meant to be a clear sign of his moral superiority" and shows Herbert's "preference for the masculine over the feminine" ("Psychological" 156). Jessica's victories are achieved by sidestepping the masculine rules of physical combat and utilizing tactics that are mysterious, covert, and cunning—tactics which are suggested to be inherently feminine, unsportsmanlike, and inferior.

Mack's analysis identifies another way in which the Bene Gesserit's Voice mind-control is a specifically feminine attack on masculine will and subjectivity: the power's unique association with motherhood. Mack notes that, according to scholars such as Mladen Dolar and Kaja Silverman, the voice has a powerful audible quality, or "grain," that communicates information independent from the meaning of the words themselves (47). This describes a very important element of *Dune*'s Voice, which gains its power from a precise manipulation of tonal inflection, calculated to have an effect tailored to its victim that is distinct from the meaning of the uttered command.[71] In encompassing both words/meaning/signifier and grain/sound/expression, the voice is divided into a dichotomy of reason and emotion. O'Reilly describes the power of Voice as arising from the Bene Gesserit's exploitation of the fact that people "make choices for reasons of the flesh and feelings, as well as of the mind" (*Frank* ch 3). In other words, because a human decision is influenced by both a (masculine) rational half and a (feminine) emotional half, the female practitioner of Voice is able to override her male victim's rationality by means of confusing him with an appeal to his emotions. Dolar and Silverman argue that in historical literary

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[71] The method of this technique is made more clear when Jessica and Paul first meet the Fremen in the desert. Jessica learns how to pitch her voice for maximum effect on the men, through acquiring "a register on [their] culture and weaknesses" by listening to them speak (Herbert, *Dune* 322-23).

accounts, the grain of the voice is equated with threatening features of femininity due to its "seductive and intoxicating" qualities and its association with motherhood (Mack 47). Silverman and Julia Kristeva elaborate on the maternal aspect of the voice, theorizing that the "sonorous envelope … figures the oneness of mother and child" because the sound of the mother's voice forms much of the infant's experience before a sense of self has developed; in this way, the seductive and soothing quality of the female voice is threatening in its enticement to regress to infancy and thereby forego independent, masculine subjectivity (Silverman in Mack 47).

This theorization of the voice's grain indicates another way in which the Bene Gesserit Voice poses a threat that is uniquely feminine, for, as Mack points out, it is a technique available only to women in *Dune* (48). Moreover, while theoretically the technique could work equally well on women, the novel only includes instances of it being used on men. Mack writes that the Voice gives its practitioner "direct access to another character's subconscious" by altering her speech in such a way that the victim confuses her directive with his own voice, like "a twisted form of persuasive self-talk" (44). Therefore, the threat posed by the Voice is "to wreck the willpower" of its (male) targets (Mack 47). Hawat's encounter with Jessica's use of the Voice illuminates how the technique overrides the victim's will. He is deeply shaken by the fact that her command, "uttered in a tone and manner he [finds] completely irresistible," makes "[h]is body [obey] her before he [can] think about it" (Herbert, *Dune* 184). The Voice is one of the most powerful and intimidating weapons of the Bene Gesserit's arsenal. Mack considers it to be the feature that has the most resonance and lasting appeal with readers (40). Yet, it is cast as a malevolent, specifically feminine technique with a threat particularly potent against men.

Clearly Jessica and the women of the Bene Gesserit share many fundamental qualities with the female cyborgs that become more commonplace in the decades following the novel's first publication. However, in addition to these characters, *Dune* contains many narrative elements that make the novel consistent with the cyborg sub-genre of science fiction, such as its development of maternal and reproductive themes, in which a fear of technology is expressed as a fear of women and is

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manifested in images of monstrous mothers and spectres of disastrous births.

2.4 Cyborgs in *Dune*: Themes in Cyborg Narratives

Another prominent theme in narratives featuring female cyborgs is a preoccupation with the politics of heredity and the control of reproduction. The perfect-wife-in-the-kitchen/whore-in-the-bedroom trope is hardly surprising or new; the reason for her popularity in science fiction and her dual aspect of attraction and threat need hardly be explained further. The recurrent and persistent focus on the sub-themes related to mothers and the politics of reproduction are also present and deserve further scrutiny.

As mentioned before, from the patriarchal perspective, women and machines share certain affinities, one of which being that they do the bulk of the work of society's (re)production. Patriarchal culture is organized around the principle of inheritance from father to son. Man must therefore maintain control over the production of his heirs in order to ensure that his lineage is accurately traced, meaning anything that might disrupt or put into question the all-important reproductive process is perceived as a serious threat to patriarchy's status quo (Fuchs 290). Technology supporting natural birth in a manner that men are able to oversee is of course welcome and interpreted as man's extended mastery over his environment. On the other hand, when technology works against man, either by throwing doubt on the outcome or by reducing the extent of their control, it is perceived as a direct challenge to their dominion and must be eliminated.[72] This threat of uncertain outcomes, according to Wajcman, is the reason the relationship between gender and

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[72] F. Allan Hanson contends that technologies that interfere with pregnancy or birth become especially culturally problematic because hetero-sex between married couples resulting in conception is "the central symbol of kinship in American culture" and is a potent and fundamental metaphor for human creativity generally (11, 35). For example, biological conception in the laboratory leaves "no room for symbolic extension … [because it] replace[s] the rich and creative sexual relationship between man and a woman with the prosaic fusion of sperm and egg" (Hanson 35). The disruption of this important metaphor, therefore, threatens the most fundamental and seemingly "natural" law of our existence and our society.

technology is "nowhere … more vigorously contested than in the sphere of human reproduction" (54). For Cynthia Fuchs, the perception of this threat explains why the expression of science fiction's technological fetishism is so frequently "an obsession with the maternal, reproduction, representation, and history" (290). The female cyborg is a creative embodiment of the troubling duality of technology, incorporating both the potential for man's success (his expanded control over reproduction) or failure (his loss of control). Taken further, the fears of failure, as brought to life through cyborgian imagery, may take shape as monstrous mothers and disastrous births.

The promise of the female cyborg is her potential to represent man's ultimate technological achievement: the god-like creation of life. Sexual reproduction has traditionally been seen as one of the greatest "unknowns" of science and biology: humbling in its ability to remind one of all that is "beyond human understanding and control," it represents, in effect, the final frontier of the sciences (Hanson 34). Huyssen writes that creating life through the building of a *Machinenmensch* meets man's "desire to perform this ultimate task which has always eluded technological man [in his] drive toward ever greater technological domination of nature" (227). As Huyssen phrases it, man's ultimate technological fantasy is "Creation Without Mother" (226); Doane calls it "a kind of womb envy on the part of the male … the result of a desire to appropriate the maternal function" (184). Huyssen explains that, because woman is thought to belong to nature, man, in creating a female *Machinenmensch*, not only "fulfills the male phantasm of a creation without mother," but he also creates "the epitome of nature;" he thus dominates this realm to an even greater degree (227). Moreover, a man who could attain autonomy in the process of procreation would have the utmost control over his lineage and legacy, finally removing human woman, a troubling variable never entirely subdued, from the equation. The female cyborg is therefore a culmination of all these achievements; she is a grand expression of man's absolute domination, intellectual mastery, and final autonomy. In turn, she flatters her creator's ego, for in her mechanical state of having no human will, she offers her services to meet any and all of her master's needs, while remaining utterly obedient and without desires of her own.

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In cyborg narratives, and in *Dune*, the focus on reproductive themes extends beyond the mother's body to abstract representations of the maternal. Doane writes that "[a]s technologies of reproduction seem to become a more immediate possibility … the impact of the associate link between technology and the feminine on narrative representation becomes less localized—that is, no longer embodied solely in the figure of the female robot [or cyborg]" (185). Even in stories that do not centre around a "transgression and conflict with the father" or on problems presented by a female body technologically subverted from its natural function, nevertheless, "the technological is insistently linked to the maternal" (185). The threat, according to Doane, expands to become "an overwhelming extension of the category of the maternal, now assuming monstrous proportions" (185). This broader, more generalized conflict with the maternal and the exploration of themes of the subversion of reproduction by technology are seen at work in *Dune*. Herbert's plot revolves around the subjects of family lines, heredity, and how humanity might be shaped into the future through the management of genetic distribution. Also, the major tension of the novel arises between Paul's and the Bene Gesserit's conflicting views over how to regulate and control the gene pool. Finally, as it will be further explained in Part III, the Bene Gesserit, and Jessica in particular, reproduce the related cyborgian trope of the monstrous mother whose fecundity represents a terrifying danger to the patriarchal status quo.

In the Dune universe, one's status within a family clan dictates one's place in the static social class structure, making heredity and family lines a major point of concern. This is evident in the fact that most characters are described in terms of their inherited traits. For example, when Mohiam is first introduced to Paul, she analyzes "in one gestalten flicker" his genealogy as expressed through his appearance, noting which features come from his mother, his maternal grandfather, and his father (Herbert, *Dune* 17). Shortly after, the Baron notes his nephew's full lips, which are the Harkonnen family's "genetic marker" (30). Later, by observing "certain gene traces in [Jessica's] facial structure," Paul is able to deduce his own secret Harkonnen heritage (231). Physical features can also indicate social class, such as when Paul infers that a Sardaukar prisoner is an officer because the soldier is of the "blonde

chisel-featured caste … that seemed synonymous with rank among the Sardaukar" (538). Moreover, a character's appearance often reflects his or her natural habitat, as it does with the distinctive-looking Fremen of Arrakis. In addition to the whites of their eyes turning blue from melange consumption, their lifetime of restricted access to water gives them all a leathery, desiccated, and "prune-dry" appearance, in contrast to "off-world" characters who are, by comparison, "water-fat" (68, 71). The people of the Dune universe are attentive to the features of others because they are consistent and reliable clues that reveal much personal information; more importantly, this theme emphasizes the novel's preoccupation with family lineage and genetics.

Paul and the Bene Gesserit's concern with genetic lines is on a much grander scale than most of the novel's other characters. The decline of the human gene pool is presented as a serious threat to humanity in *Dune*. As Mohaim explains to the young Paul, "the race knows its own mortality and fears stagnation of its heredity" (35). This is a situation that both Paul and the sisters are acutely aware of and feel a responsibility for rectifying. Paul experiences this first as a vague sense of "terrible purpose," but later comes to define it as his "race consciousness" (233). While Paul and the Bene Gesserit agree that the gene pool is in need of rescue, they have sharply opposing views about what actions would be most beneficial. This disagreement reflects the larger tension Herbert creates in the novel—what DiTommaso has termed Herbert's central "Vitality Struggle"—between humanity's desire for control and stasis set against nature's need to maintain vitality through chaos ("History" 315-6).

The Bene Gesserit strive for stability through predictability, believing that the answer to the needs of the race is their breeding program. They see humanity's instinct "to mingle genetic strains without plan" as a destructive urge that must be channelled (Herbert, *Dune* 35). As such, they seek to improve the bloodlines through their own secretive methods of control, preserving and promoting certain valued traits and testing for superior qualities. DiTommaso points out that the sisters' plan to find the "best" humans is faulty because, in attempting to weed out the supposedly weak genes, they work against the natural order and in fact bring about the opposite of their intention ("History" 318). Only Paul sees the irony that the methods in place for the

maintenance of the population, such as the rigid faufreluches system of organization and segregation, have in fact led the gene pool to dangerous compartmentalization. Although he understands the temptation to follow a "clear, safe course," he believes this path will "lead ever downward into stagnation" (Herbert, *Dune* 543). Paul thus concludes it is crucial to disrupt the segregation and selection and allow the genes to mix randomly, saying that "the need of their race [is] to renew its scattered inheritance, to cross and mingle and infuse their bloodlines in a great new pooling of genes" (233). Where the Bene Gesserit want to prevent an "erupt[ion] into [the] conflagration" of war because it will kill too many people and damage their careful work, Paul sees war ("jihad") as the ultimate solution because it is "the ancient way—the tried and certain way" to reintroduce a healthy dose of chaos into the system (36, 233). In believing that war fosters the environments needed to accelerate the positive effects of natural selection—similar to the impacts of Salusa Secundus on the Sardaukar and of Arrakis on the Fremen—Paul is willing to weigh the death of many individuals against the overall benefit to the race.

Every major aspect of Dune's plot and its central themes focus on issues affecting reproduction and inheritance, although their scope extends to the grand scale of the entire human race, rather than focusing on the lineage of a single clan or patriarch. In addition to this, *Dune* develops the theme of motherhood in a manner consistent with cyborgian imagery.

Part III: Monstrous Motherhood

3.1 Monstrous Mothers and Disastrous Births

It is notable that, despite reproduction conventionally being considered as part of the woman's domain, in *Dune* it is the sisters who have dangerously mishandled the task and it takes an individualistic young man to set things right. Patriarchy asserts that the conflation of the logical masculine realm of science and technology with the irrational feminine realm is a perversion of the natural order that represents not only a condemned endeavour but also one that is inherently unsettling. As Lykke explains, "[w]hen gender and science are linked, the boundaries … are challenged and the monstrous, invoked" (78). The intersection of women with science and technology, such as in the figure of the female cyborg, is depicted as destructive and the women themselves as monstrous. Furthermore, because imagery of the female cyborg is so consistently linked to maternity and questions of (re)production, she inevitably monsterizes motherhood and birth. This manifests itself in the figure of the mother herself as well as in the figure of uncontrollable, unnatural proliferation and the spectre of horrific offspring, all of which are in evidence in *Dune*.

For all of the dazzling technological promise the female cyborg offers, her complicated connection to the maternal frequently transforms her into a horrific figure. This monsterification arises from her status as an unresolvable paradox, from a perceived threat of rampant proliferation, and from men's generalized fear of maternity, which views pregnancy as a disturbing condition of harbouring an unseen Other. The female cyborg is in her essence paradoxical: mechanical and organic, she is sexual nevertheless not entirely biological, female yet associated with the masculine sphere of the technological. For Lykke, challenging the human/non-human distinction is sufficient to invoke the monstrous (78). Yet, the female cyborg presents further disturbing sources of paradox with regard to reproduction. Doane writes that, in a sense, she is "born" of the male scientist, "[h]erself the product of a desire to reproduce," therefore invoking the terror of motherless reproduction (Doane 183). Fuchs identifies a different paradox with regard to her origins, suggesting that, as a machine made by machines, the female cyborg is self-generating, yet has "a body that

is self-reproducing but not reproductive" (283).[73] Motherless reproduction therefore simultaneously suggests both the potential to seize control over one's lineage and to lose it to biological sterility. As such, she invokes "an anxiety about the ensuing loss of history" (Doane 186). Embodying all of these contradictions, she appears wholly unnatural, paradoxical, and utterly frightful.

Despite the cyborg's mechanical nature, her representation as an object of terror is often an opportunity for the exploration of fears associated with biological pregnancy, such as the supposed hazard of unrestrained over-proliferation. As Lynda Bundtzen observes, a prominent aspect of monstrous motherhood in science fiction is the expression of primal anxieties about out of control fecundity, which indicates a concern that "[w]oman's reproductive capacity is a potential threat, not only to woman herself … but also, it is implied, to civilization, technological progress, the futuristic world" (107). Again, this fear is centred on man's discomfort with anything less than total domination of woman. Doane writes that by the late 70s, as real world reproductive technologies became more effective and common, the threat posed by the maternal figure in science fiction, while still linked with the technological, grew to encompass abstract representations of motherhood and progeny (185). No longer limited to the body of the female cyborg or robot, this category of the threatening maternal "now assum[ed] monstrous proportions" (Doane 185), and took on a wider range of representation, such as in imagery of hostile environments or engulfing hoards. The mother of nightmares proliferates unceasingly—smothering, devouring, terrorizing, and invoking claustrophobia.[74]

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[73] "Heterosexual matrix" is a term coined by Butler, who uses it to connote societal systems built around the nuclear, heterosexual family unit, where family and reproduction is asserted as the "telos of sexuality" (122). She argues that this system acts to enforce compulsory heterosexuality and the belief in essentialized gender characteristics.

[74] This concept of a terrifying mother that reabsorbs her offspring is an ancient one. Beauvoir refers to folk traditions representing Mother Earth as "engulf[ing] the bones of its children within it" (166). She writes that in these traditions, "[d]eath is woman, and the women mourn the dead because death is their work" (166). Barbara Creed, in analyzing the trope of monstrous mothers in horror and science fiction, points to the mythological "archaic mother," the parthenogenetic origin of all life (123). She writes that "within patriarchal signifying practices," particularly the science fiction horror film, the archaic

Another common fear associated with biological pregnancy, and explored through the cyborg trope, is that of the concealment of a submerged, alien menace. The condition of pregnancy quite literally entails the envelopment of another within the mother's body. The Other is already a figure of latent threat, so the unborn's hidden quality heightens the effect of its mysteriousness, casting pregnancy as all the more ominous and deceptive in character. Doane writes that science fiction's dread of "that which harbours an otherness within" can take an abstract form, such as something awful buried within the mother's personality, or the literal form of giving birth to the monstrous (186). Springer refers to the "Eve 8" character from the film *Eve of Destruction* (1991), who, in concealing a nuclear bomb in the position of her womb, suggests the threatening potential of the secret hidden deep within women's bodies (114). Springer writes that Eve 8 "continues a misogynistic tradition, exemplified by *Metropolis*, of associating technology with women's bodies to represent the threat of unleashed female sexuality … [and] evok[ing] patriarchal fascination with and fear of that which is concealed and mysterious" (115-6). The resolution to *Eve of Destruction*, like with most depictions of monstrous mothers, is the utter annihilation of the offending female. Man must rid himself of her suffocating, ever-encroaching envelopment or risk being subsumed within her.

Straddling yet another feminine binary, the cyborg mother "manifest[s] both a nostalgia for and a terror of the maternal function" (Doane 189), which reflects a male hope for and fear of the outcomes of technologized human reproduction. Man's tendency to cleave to "nineteenth-century notions about technology, sexual difference, and gender roles" is a patriarchal response specifically to the threat of a future thrown into doubt by the loss of control of both technology and women

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mother is "reconstructed and represented as a negative figure, one associated with the dread of the generative mother seen only in the abyss, the monstrous vagina, the origin of all life threatening to reabsorb what it once birthed" (129-30). In these examples, the emphasis is not on a fear of castration, but "rather it is the gestating, all-devouring womb of the archaic mother which generates the horror," acting as an "ideological project [which] attempt[s] to shore up the symbolic order by constructing the feminine as an imaginary 'other' which must be repressed and controlled in order to secure and protect and social order" (130, 134).

(Springer 100). It reflects a desire to retreat to a time when the ideology of total male dominance was secure and went relatively unquestioned.

3.2 Monstrous Mothers and Disastrous Births in *Dune*

In *Dune,* motherhood does not bestow any of the traditional positive maternal qualities, such as the promise of safety and nurturance, but instead conveys negative characteristics associated with the role. Bundtzen writes that the "mother of nightmare" trope found in horror and science fiction plays on adolescent anxieties to gain independence from the parent and establish a distinct identity (104). McLean points out that the most dangerous women in the novel, Jessica and Mohiam, "are seen not in their roles as wives or lovers but as mothers," suggesting that this role heightens the degree of their menace ("Psychological" 154). Paul identifies his mother as his enemy because she tries to control the direction of his life, a view she reaffirms when she in turn realizes that she "manipulated [him] to set [him] on a course of [her] choosing" (Herbert, *Dune* 499). In robbing Paul of his agency, she also thwarts his efforts to prevent the coming violence of his predicted jihad, extending the reach of her threat to all of humanity.

Mohaim, Jessica's surrogate mother, is more directly threatening to Paul's life. She admits that she wished him to fail the lethal Gom Jabbar test and continues to plot his death throughout following novels (McLean "Psychological" 155). Herbert emphasizes Mohiam's malevolence by constructing her appearance in a way clearly intended to evoke the traditional witch's guise, warty nose, cackling laugh, black robes, and all (Herbert, *Dune* 525-26).[75] Paul's life is mired in the women's dangerous aims until he confronts them and proclaims that, despite being the product of their reproductive schemes, he "will never do [their] bidding" (549). This marks the climax of the novel and indicates that Paul has matured enough finally to separate himself from the threatening mothers, assert his independence, and thus establish his

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[75] By contrast, Irulan shares the qualities of the witch and the threatening, sexualized female, yet she is powerless—a result, McLean argues, of the fact that she is not a mother ("Psychological" 155).

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status as a man.

The theme of the monstrous mother also extends to the metaphorically feminized natural bodies of the Dune planet and deep space. Analogous to the designation of Earth as "mother," McLean suggests that Arrakis can be attributed a maternal aspect. Looked at in this way, Arrakis corresponds to the image of the frightening mother, "not only in that it denies its 'children' the moisture that they need to survive but also in that it actively tries to destroy them" ("Psychological" 157). Deep space is similarly personified as a threatening female. Its characterization appears in *Dune*'s "Appendix II," which discusses the impact of space travel on religious beliefs and creation myths in the history of the Dune universe. The "anarchy" of the "outer dark" is constructed as a feminized force actively conflicting with the masculine order of traditional, patriarchal culture and religion:

> It was as though Jupiter in all his descendant forms
> retreated into the maternal darkness to be superseded
> by a female immanence filled with ambiguity and with
> a face of many terrors … It was a time of struggle
> between beast-demons on the one side and the old
> prayers and invocations on the other. (574)

In being characterized as a mysterious mother with a terrifying face, harbouring monsters and threatening to consume masculine subjectivity within her black depths, deep space is described in terms that align it very closely with Creed's description of the archaic mother. "The old prayers and invocations," alluding to the patriarchal religions of Christianity, Judaism, and Islam, represent the masculine forces of reason that opposite the feminine chaos of the universe. Although they have not remained unchanged, these faiths have managed to persist over the millennia. The appendix explains that the conflict between the old religions and the threatening evil of dark space was never resolved, meaning that by the time of the novel's action, the rivalry is ongoing between the masculine forces of traditional, ordered culture and the chaotic, mysterious, and sinister forces of the feminine.

Dune's faithful rendering of the monstrous mother trope includes the feature of her propensity for excessive proliferation. This can take the form of either endless

progeny or an interminable extension of the mother figure herself and her influence; in *Dune*, it is the latter. Attempts to remedy the genetic stock through the control of reproduction dominate and permeate the politics of the Dune universe, which certainly demonstrates, in Doane's words, an "overwhelming extension" of concerns related to the maternal, "now assuming monstrous proportions" (185). More specifically, the activities and character of the Bene Gesserit's subtle but pervasive operation encompass two features in particular that demonstrate these qualities. The first is the phenomenon of the Reverend Mothers' shared memories, in which the multiple Reverend Mother consciousnesses that emerge during the initiation rite represent a form of reproduction that is arguably cyborgian. During the rite, in response to the Truthsayer drug, the initiate gains full access to the detailed memories of the Reverend Mothers coming before her, stretching back "until there seemed no end to them" (Herbert, *Dune* 412). The women's consciousnesses, reproduced through chemical methods, live on in this memory network, endlessly replicated over time in a limitless number of successive women. This is analogous to Fuchs' description of cyborgian reproduction as a parthenogenetic self-reiteration distinct from traditional biological methods (282);[76] it is also the epitome of endless proliferation. Doane writes that "[r]eproduction is the guarantee of history—both human biological reproduction (through the succession of generations) and mechanical reproduction (through the succession of memories)" (188). The scope of Bene Gesserit control encompasses both, wresting these "guarantees of history" out of masculine hands and thus making the women doubly threatening.

Furthermore, the Bene Gesserit extend their matriarchal influence to the deepest reaches of space through their secret Missionaria Protectiva program. When Jessica becomes acquainted with the Fremen culture, she is amazed that the program reached as far as Arrakis and the extent to which it was successful, thinking, "[s]he must've been good, that Bene Gesserit of the Missionaria Protectiva. These Fremen are beautifully prepared to believe in us" (Herbert, *Dune* 329). The purpose of the

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[76] A parthenogenetic conception is one that is self-generated by a single organism, without the contribution or fertilization of another.

program is to promulgate superstitious (false) beliefs for the sole purpose of making a population predisposed to aid subsequent sisters in their activities to further Bene Gesserit goals, such as the breeding program. On Arrakis, the religious ideas and practices established by the early Bene Gesserit missionary continue to heavily influence Fremen culture, which is why they create Reverend Mothers through the same Bene Gesserit rite at the time of Jessica and Paul's arrival. As per the Missionaria Protectiva design, Jessica is able to take full advantage of her secret knowledge of their beliefs in order to make herself and her son appear to be the persons foretold in Fremen prophesy, gaining them power, prestige, and security within the tribe. Assuming that the many, many other cultures exposed to the Missionaria Protectiva are affected to the same degree as the Fremen, this program represents the sisters' enormous yet largely unseen power to shape perspectives and the course of history in their favour. It is this extensive reach that makes it possible for them to take on the project of managing the gene pool of the entire race, for nowhere in the Dune universe is free of the sisters' covert influence. Likewise, by remaining secret, their power remains entirely in female hands. In these ways, the Bene Gesserit correspond to Bundtzen's description of the female cyborg as an object of terror in science fiction, in that they have the potential to threaten the entire civilization through their propensity for unrestrained over-proliferation and the concealment of a mysterious and sinister menace (107), all of which the Bene Gesserit use for the purpose of controlling the course of human reproduction.

The fecundity of the monstrous mother is threatening even in cases where the number of her children is limited, such as with Jessica. Both her children, Paul and Alia, can be seen as disastrous births that embody the realization of the threat of "giving birth to the monstrous" (Doane 186). Although Paul occupies the position as the novel's hero-protagonist, there is an implicit criticism of his heroism (Touponce 29). According to DiTommaso, Mulcahy, and Prieto-Pablos, Paul is not a virtuous antithesis to the novel's villains; he differs from the Harkonnens and the Emperor only by the degree to which he is willing to use his resources and in his ultimate

success (DiTommaso, "History" 321; Mulcahy; Prieto-Pablos).[77] List describes Paul's motivation as a "mixture of moral sincerity and self-interest," which includes his lust for power and need for revenge, and as an inherent human tendency to engage in violence (28, 38). For Mulcahy, these qualities make Paul a Machiavellian figure (Mulcahy). For Prieto-Pablos, Paul's ambiguity makes him "at the same time a hero and a monster—hence, like the villain, demonic—doing good and evil and subverting the distinction between these two categories" (Prieto-Pablos). Prieto-Pablos compares the relationship between the Bene Gesserit and Paul to that of Dr. Frankenstein and his monster because, like the mad scientist, "[t]hey created something they disliked and could not control, and made no attempt at understanding the monster's inner conflict" (Prieto-Pablos). Even Paul is ambivalent about his attributes, referring to himself as a "freak" and dreading the mass violence he feels will be the inevitable consequence of his actions (Herbert, *Dune* 255).[78] In giving birth to the Bene Gesserit's Kwisatz Haderach, a creature of enormous power destined to be tyrant of the known universe, Jessica can certainly be characterized as a mother of disastrous offspring.

Alia is also presented as a monstrosity. In fact, the text establishes her as the most frighteningly alien among a cast of fiendish Others. As with all of the Bene Gesserit, her distance from the approved norms of "natural" femaleness is measured in terms of her status as a witch with mysterious and sinister powers; what sets her apart as uniquely "unnatural" and monstrous is her problematic age. When Alia underwent the influence of the Truthsayer drug in utero, during her mother's initiation rite, she too received access to the Reverend Mothers' shared memories, giving her an adult awareness and intelligence that others find abnormal and disturbing in a very young girl. The Fremen in her community struggle to accept her: Harah confides to Jessica that the women call her "a demon [and] other children refuse to play with her;" Chani adds that some in the tribe demand Alia's exorcism

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[77] No page numbers available, see Chapter 1, note 14.

[78] Herbert makes clear, in his subsequent interviews and articles, that he intended Paul to be a compromised leader and for his story to warn against people's natural tendency to (mis)place their trust in charismatic leaders. See especially "Dangers of the Superhero" p. 98.

for they see the girl as a witch such as their scriptures proscribe (Herbert, *Dune* 456, 446). Even the Bene Gesserit call Alia an "abomination," despite being the ones who should understand her condition best (531). Mohaim goes so far as to advocate for the destruction of both mother and daughter: "[Alia's] mother deserves a punishment greater than anything in history. Death! It cannot come too quickly for that *child* or for the one who spawned her!" (531, italics in original).[79] When Alia's monstrousness is discussed, it is always raised in connection with the problem of her dichotomized age. Harah observes that "Alia only pretends to be a little girl, [but] she has never been a little girl;" Chani tells Paul, "[t]he women are fearful because a child little more than an infant talks of things only an adult should know;" and Mohiam says "this *child* who is not a child must be destroyed" (457, 446, 531, italics in original). Kathleen Woodward writes that, for many people, the disruption of what is understood to be the "natural" biological sequence of generations is seen as "grotesque" and as one of the worrisome concerns new reproductive biological techniques pose (290). Alia does not merely disrupt the sequence of generations, she represents a horrific confusion of all the generations in one disordered jumble. She combines the worst of all the elements working against the Bene Gesserit, embodying at once the mysterious and threatening power of a witch, the repellent and frightening age of an old woman, and a disturbing perversion of innocence.[80] Because her condition is a direct result of the interference of Bene Gesserit techniques intended to alter the functioning of the woman's body, she substantiates the fear that such interference will bring about the dreaded consequence of the disastrous birth.

The novel's final scene offers evidence to support the hearsay that Alia harbours some evil within her personality. In the midst of the chaos of the raging

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[79] As Hand points out, this unfortunately imitates attitudes in the real world, "where women of intelligence and talent often find themselves attacked more viciously by members of their own sex than by men" (27).

[80] Beauvoir explains that, from the perspective of patriarchal man, the old woman is not only superfluous but repellent in ways that old men are not (178). She writes, "[o]ld and ugly women not only are objects without assets but also provoke hatred mixed with fear. They embody the disturbing figure of Mother, while the charms of the Wife have faded away" (179).

battle and deadly sandstorm, Alia keeps her cool, taunting the Emperor and the Baron until the moment presents itself for her to slay the latter with a poisoned needle. She does so with a cold efficiency, saying simply, "I'm sorry Grandfather … You've met the Atreides' gom jabbar" (Herbert, *Dune* 533). Although the Baron is a villainous man and the family's foe, Alia's act is nonetheless especially chilling due to its premeditation, her unhesitant demeanour, their familial connection, and her tender age of four years. The deed suggests that there is merit to the Fremen and Bene Gesserit's identification of the girl as a dangerous monster. Her selection of the gom jabbar as her weapon of choice solidifies the connection between her evil and her Bene Gesserit roots. Alia is the Bene Gesserit extraordinaire: not only does she share all of her sisters' fantastical (yet terrible and witch-like) qualities, she exhibits them to a greater, more destructive degree. In a sense, the sisters inadvertently produce a more extreme version of themselves and bring forth the dreaded monster-offspring. As such, the Bene Gesserit display essential aspects of both the tropes of the archaic mother of horror and the self-reproducing cyborg.

Doane writes that cyborg narratives "contemplate the impact of drastic changes in reproductive processes on ideas of origins, narratives and histories" (185). Similarly, *Dune* contemplates the ramifications of two warring powers attempting to take control of the reproductive future of the entire species. Consistent with other works that engage in questions about reproduction and technology, the novel predictably casts women as the source of disaster. Jessica and the Bene Gesserit demonstrate all the usual characteristics of these demonized women: sexual yet dangerous, obedient yet secretive, witchlike, emotional, pregnant, angry, and terrifying. Moreover, the nightmarish outcomes that are feared to ensue from the monstrous mother, such as her endless self-reiteration and her inescapable influence, are fulfilled, including Paul and Alia as her horrific offspring. In this way, *Dune* is in fact consistent with much of the science fiction genre, which, according to Creed, presents a "constant repudiation of the maternal figure" and frequently implies that repressing and controlling the female Other will "secure and protect and social order;" all of which is evidence of the genre's participation in the ideological project to reinforce patriarchal norms (134). Indeed, by *Dune*'s conclusion, Paul has gained

the ultimate seat of political power and deposed the Bene Gesserit as steward of the human gene pool. The novel's resolution is to de-claw the female threat, thus securing both the permanence of the patriarchal status quo and men's domination women.

3.3 Cyborgs in *Dune*: Conclusion

Although he may have never heard the term "cyborg," Herbert nonetheless populates his seminal novel with characters who act and think like computers and machines and who employ a combination of advanced techniques for the enhancement of human ability to its utmost potential. In so doing, Herbert creates, I argue, the New Wave cyborg: essentially, what a hypertechnologized being would be like in a context where the hard sciences have been replaced by the social sciences. Moreover, whether he intended to or not, Herbert anticipates the figure of the female cyborg as it later took form: assertive, sexually dominant women whose tech-assisted enhancements work to heighten their power to tantalize and terrify their male readership. *Dune* also explores other prominent themes of the cyborg sub-genre related to the fears associated with technology's interference in human reproduction through its exploration of eugenic techniques and its warnings of dire negative consequences. Herbert reproduces many of the common tropes that appear in cyborg works of subsequent decades because he is responding to the same patriarchal concerns that inform the later genre, in effect foreshadowing them.

Conclusion

This thesis sought to demonstrate that a cyborgian reading of Frank Herbert's *Dune* reveals additional significance in the novel's portrayal of women because, while its adherence to patriarchal beliefs about gender norms is predictable and unsurprising, the substantial contribution of a fear of technology to its misogyny is an aspect thus far under-explored. My analysis attempted to put the novel in the context of the United States of the 1960s with attention to the most relevant aspects of the era, such as men's traditional, patriarchal attitudes toward women, their responses to emerging feminism, and their sentiment toward the increasing role of technology in everyday life. It began by examining the long-standing, yet problematic, belief in essentialized gender characteristics that continued to shape the opinions and assumptions held at the time. My research showed that patriarchy has long asserted that women have personalities and attributes that are determined within narrow parameters by their biological gender, making them unfit for any contributions to society outside of domestic and child-rearing work. Feminists have worked to expose and invalidate the biologically-based definitions of gender that legitimize man's right to the top of the social hierarchy.

Simone de Beauvoir, writing in the late 1940s, is one of the prominent feminists who identified early on that biological determinism is a strategy for maintaining the masculine domination of the public sphere and keeping women at home with the children. She notes that the opposition to early feminists took on new intensity as the consequences of the Industrial Revolution propelled the argument from the realm of the theoretical to that of the practical and economical (Beauvoir 11). As women's emancipation gained ground, due to their entrance into the new, industrialized work force, men tried all the more fiercely to thwart their liberation because they saw them "becoming dangerous competitors" (12). Patriarchal dominance was under threat anew in the 1960s as America experienced further social upheavals due to the substantial number of women entering the work force and the changes to the family posed by new reproductive technologies, such as the pill (Bassett 86). Advances in biology were contributing to women's independence not only by providing contraception, but also by generating data that supported critiques of biological determinism and uncovered sexism in science (Franklin 40). According

to Chibnall, these dramatic changes in gender relations contributed to a masculine confusion and "crisis in masculinity" (61). Feminism was seen to be launching an attack on the status quo by invalidating patriarchy's claims to dominance and by promoting women as financially and sexually autonomous members of society who no longer required husbands for survival. Science and technology's potential to interfere with the processes of natural birth and to change the roles of women in society were two of the important ways in which the spectre of technologization threatened the patriarchal status quo.

During this time, science fiction was considered to be very much a masculine genre, with characters, themes, and story lines that pandered to its predominantly male readership (Chibnall 57). As such, its female characters often did not venture beyond some of the most basic stereotypes of women as emotional, weak, and best limited to roles of mothers, lovers, and wives. *Dune* also includes stereotypes common to the pulp fiction genres, such as the aggressive, sexy, and smart woman of male fantasy and the frightening, malevolent old witch. These archetypes utilize exaggerated, essentialized gender traits in order to maximize the emotional response of the expected (male) readership. In his survey of British and American science fiction from the fifties and sixties, Chibnall suggests that the strong female characters of the genre often embody "sexual fantasy of the most exotic kind" and include all manor of female monstrosity and/or Otherness in the service of "male erotic spectatorship," representing a "mix fear of female sexuality with excitement about its possibilities" (57). Moreover, Christine Cornea observes that the trend within science fiction for a female character to "borrow" traditionally masculine traits often does not lead to gender equality because the stories otherwise tend to uphold patriarchal values (283). Such examples demonstrate how a show of strength does not necessarily lead to an experience of equality, as is the case with Jessica in *Dune*, a novel that ultimately defends a patriarchal societal structure and moral schema. As has been outlined by critics such as Jack Hand, Miriam Youngerman Miller, Susan McLean, and Adam Roberts, feminist evaluations of Jessica and her religious order, the Bene Gesserit sisterhood, demonstrate fairly easily the extent to which the prevailing beliefs of the Dune universe are pre-feminist or patriarchal.

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Although the alluring yet alarming vamp character can be found in other science fiction and pulp novels of the era, Jessica's great significance in *Dune* makes her unique. Not only does she have an unusually prominent role as one of the novel's main characters, but more importantly, her embodiment of *Dune*'s conception of technology makes her representative of the novel's foray into the contemporary cultural debates concerning technology's impact on society. In this way, she becomes more than the straightforward, exotic alien conquest so familiar in science fiction and pulp, and takes on the somewhat sinister, ambiguous qualities that form the hallmarks of the later cyborg figure. Critics such as Springer, Balsamo, and Doane have argued that cyborg women in mass media entertainment usually represent nineteenth-century attitudes about gender and female sexuality because they emerge as a form of male resistance to women's increasing presence in society's public sphere (Springer 100). Echoing Huyssen, Walaszewski, and González, these critics argue that the cyborg trope also incorporates man's apprehension about technology's increasing role in every day life. By placing the responsibility for all of technology's negative consequences on her, man can conceptualize the female cyborg as a convenient scapegoat and propose her destruction as the solution to his fears. Additionally, cyborg narratives frequently feature concerns over reproduction of the species, meaning that female cyborgs often share qualities with the monstrous mother of the horror genre and primitive iconography, whose fecundity poses a threat to all of civilization and progress. Jessica and the Bene Gesserit in *Dune* embody many of these significant and distinctive qualities of the mass media cyborg. They incorporate the dual positions of woman's sexual objectification as either the obedient domestic servant and wife or the seductive and dangerous temptress. In addition to Jessica's depiction as a threatening mother figure, her large and powerful women's order conducts an enormous project to shepherd humanity's reproduction on through history and in this way, they act as the surrogate mothers for the species. Herbert then reveals that the women's breeding program is so misguided as to make them the largest existential threat to humanity, requiring a man's intervention to set things right again. With these themes and plot developments, *Dune* is consistent with the common cyborg narrative structure.

Herbert has stated that he intended *Dune* to contain messages about what he perceived as the real threats to society posed by technology. He repeatedly stated his belief that technology is value-neutral, but that problems arise as a result of human weakness and that the increased power leant by technology amplifies the potential severity of the problems.[81] Herbert saw the tendency toward hubris and the longing for absolutes as two of the most serious human weaknesses contributing to the potential for technology to be misused. In his article "The Sparks Have Flown," he states the importance of the fact "that the planet kill[s] the ecologist" in *Dune* (103). He explains that the scientist's hubris leads him to see himself as separate from the planetary system and, in thinking himself somehow above it, makes the mistake of believing he is invulnerable. In this way, Kynes fails to exercise his own science properly because in truth, ecology, according to Herbert, is "the science of understanding consequences" ("Sparks" 104). Paul, on the other hand, does not succumb to this mistake because he knows that the limits of his power dictate he must work within the system—although he wishes it were possible to find an eternally safe and stable future for mankind, he knows the futility of this future because stability and safety inevitably lead to stagnation and death. Herbert himself states that his novel is "an exercise in showing up the fallacy of absolutism" ("Sparks" 104).[82]

Another problem the author associates with absolutism is what McLean calls "Herbert's law of circular avoidance," meaning that any time something is pursued to its extreme, out of a desire to reach the absolute, it is doomed to produce the opposite of its intended effect (145).[83] This phenomenon is evident in *Dune* both in the various eugenic efforts and in the Bulterian Jihad. In the case of the former, it is shown that

[81] See especially O'Reilly's account of this subject in his interviews with Herbert in *Maker of Dune* (155) and Stone's interview in *Mother Earth News* (20-2).

[82] O'Reilly believes that *Dune* is clearly meant as a response to such notable science fiction works as Asimov's *Foundation* trilogy and as a rejection of these works' implicit message "that science can produce a surprise-free future for humankind" (*Frank* ch 5). More of Herbert's warnings against absolutism can be found in his articles "Listening to the Left Hand" (O'Reilly, *Maker* 8-9), "Men on Other Planets" (O'Reilly, *Maker* 79) and "Doll Factory, Gun Factory" (O'Reilly, *Maker* 208).

[83] This is an issue he also discussed in his interviews with O'Reilly, who explains that "[e]xtremism, in Frank's view, always tends to create what it opposes" (*Maker* 156).

the efforts to strengthen the gene pool by micro-managing gene selection in fact backfires and, ultimately, weakens human stock. In the case of the latter, the Bulterian Jihad demonstrates Herbert's law of circular avoidance because it fails both to stop the dangerous levels of reliance on the abilities made possible by technology and to overcome the problem of the elite's monopoly on technological ability. Touponce asserts that Herbert's central question is, "[w]hat does it mean to be human?" arriving, through his work, at the answer that "being truly human means facing up to an infinite universe" (11)—one that cannot be controlled or made safe through any manner of human genius, technological or otherwise. In the author's view, ecology is the most important science in *Dune*; his message about technology concerns the importance of applying the wisdom to recognize one's actions as a part of a natural system, and his warning is about the dangers posed by human weakness.

These are clearly very important and evident themes in the novel, but my contention is that Herbert fails to recognize the other significant messages about science and technology that his novel communicates—namely, that science and power are still best kept out of the hands of women. This idea is conveyed through the novel's presentation of the all-woman Bene Gesserit sisterhood, which, of all the major groups in the novel, is indicted as posing the broadest and most serious threat to the survival of the species. The women's use of technological enhancements amplifies the worst of their so-called feminine traits, such as the tendency to engage in covert manipulation and exploitation, and enables them to increase the extent and impact of their detrimental breeding program. The culmination of their eugenic tinkering is not only to weaken the gene pool, but to produce a dangerous monster operating beyond their control, threatening universal war and the overthrow of the status quo. In other words, Herbert's empowered machine-women run amok, resulting in a novel that offers a warning against what happens if the "natural" order, among man and woman, man and machines, or man and nature, is disturbed. Herbert's warnings about the inevitable, unintended consequences arising from the disruption of natural ecosystems are analogous to the novel's warnings about the "unnatural" desegregation of women from the disempowered, de-technologized domestic sphere, suggesting that the perversion of "natural" gender roles will lead to

unforeseen and ruinous results like terrifying mothers with catastrophic offspring.

In O'Reilly's interviews with him, Herbert expressed the view that "the function of science fiction is not always to predict the future but sometimes to prevent it" (*Frank* ch 1). He believed culture was problematic in that its implicit lessons "bid us to cling to old ideas even when we have intellectually embraced the new" and that science fiction is in a unique position to expose those assumptions and encourage its readers to gain an improved, more enlightened awareness (ch 1). According to Herbert, "[n]either *Brave New World* nor *1984* will prevent our becoming a planet under Big Brother's thumb, but they make it a bit less likely [if we have] been sensitized to the possibility" (ch 1). Is it therefore likely that in a similar manner *Dune*'s readers in the 1960s were prompted to a new level of cultural awareness of gender issues and became sensitized to cartoonish vilifications of women? It seems more likely that the novel instead presented a familiar formula that contributed, through its very commonness, additional supposed evidence supporting the assumed truth about the essential differences between men and women. Gender and cyborg theories from the 1980s onward provide a framework and vocabulary for deconstructing this interlocking imagery of women, nature, and technology. If not on its own, then perhaps in conjunction with adequate analysis, *Dune*'s retrogressive depictions of women can be employed to expose cultural assumptions, promote a critical review of society's beliefs, and, one would hope, work to reduce the apparent veracity of similar images in the future.

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