

BUG-EYED MONSTERS AND THE ENCOUNTER WITH THE POSTCOLONIAL
OTHER: AN ANALYSIS OF THE COMMON POSTCOLONIAL
THEMES AND CHARACTERISTICS IN
SCIENCE FICTION

by

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ABSTRACT

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Recently, a number of non-Western Postcolonial authors have begun to use science fiction to express some of the common concerns of non-Western cultures such as hybridity, alterity and subalternity, as well as other issues like those concerning the body and community/hybridity, the future of former colonies extrapolated from colonial history, and encounters with the Other. This trend has also been common for Western writers from the beginning of science fiction as a distinct genre, and many Western authors have used it to highlight the superiority of Western empires, while others have used it as a tool to emphasize their negative characteristics. These Western authors have all written pieces either extolling or condemning both technology and its use to

control subaltern cultures and to manipulate their societies for political and economic gain.

Each of these authors (from both flavors of sf) has also found a means for expressing these concerns by taking advantage of some of the unique characteristics of science fiction; consequently, this text explores these characteristics of science fiction and their intersection with those of postcolonial fiction. Specifically, the special role of sf as a means of appropriation and decentering is addressed in Chapter 1. In Chapter 2, a more systematic definition of sf is explored, and the role of cognitive estrangement in an inclusive definition of both flavors is posited as a solution to the problem of defining sf. Chapters 3 and 4 address the Other, myth, science, landscape and extrapolation as some of the other most important overlapping characteristics of the genre. Chapter 5 further tightens the focus on sf characteristics by focusing primarily on the different approaches to technology: Western industrial/inorganic versus postcolonial organic. Finally, Chapter 6 explores the political/social implications of postcolonial/neocolonial thought and their representations in Western and postcolonial science fiction.

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CHAPTER 1

POSTCOLONIAL SF AS APPROPRIATION AND DE-CENTERING OF WESTERN CODES

A number of non-Western and non-European postcolonial authors have begun to use science fiction to express some of the common concerns of former colonies such as hybridity, alterity and subalternity. Some recent examples of non-Western postcolonial authors – ones who may have Eurocentric influences but consider themselves part of non-European traditions – include Nisi Shawl and Andrea Hairston who have written short pieces concerning the body and community/hybridity, as well as Nnedi Okorafor-Mbachu and Vandana Singh who have extrapolated the future of former colonies from the events of colonial history. Karin Lowachee, Celu Amberstone, Ven Begamudre also have written short pieces about encounters with the alien or the Other, and Opal Palmer Adisa, Maya Kankhoje and Tobias Buckell have written stories re-imagining the past in terms of colonialism. Although exactly when the genre known as science fiction began is highly contentious, one can argue that the tendency to use sf as a mode of expression for colonial and postcolonial concerns has been common in Western writers from the beginning of science fiction as a distinct genre. And, the current trend toward postcolonial science fiction also highlights its aptness for expressing specific postcolonial issues like identity, mimicry and liminal mindsets.

In fact, many Western authors used sf originally to highlight the superiority of Western empires, while others have used it as a tool to emphasize the negative consequences of Western imperialism, technology and science. These Western authors include people

like Jules Verne, H.G. Wells and Edward Bellamy who have all written pieces either extolling or condemning both technology and the use of it to control subaltern cultures and maintain hegemony. More recent Western/Eurocentric authors like Kim Stanley Robinson and Jonathan Lethem also use the genre to express colonial/postcolonial consequences both on humans and on the natural world. Both of these authors explore the consequences of Western colonial expansion and appropriation through characters that colonize other worlds, most often to the detriment of those worlds and the creatures that are on those worlds. So, in Western texts there is an ambivalence; on one hand the texts often criticize imperialism and the exploitation of other cultures and lands, but at the same time these texts are written from a European colonial mind-set, one that emphasizes Western sensibilities and treats them as superior, as the yardstick by which other cultures are judged.

For example, Kim Stanley Robinson's *Mars Trilogy* explores the cultural and environmental consequences of colonizing Mars. Through the three books the author transposes concerns of invading and exploiting nature onto the blank slate of Mars. Although the Mars of his trilogy is lifeless, some groups are opposed to terraforming (or "areoforming" in the parlance of the text) the planet because altering the landscape is intrusive and anthropocentric. However open Robinson's attitude is to non-Western ideals, this particular trilogy still comes from a Western perspective on power influences and an exploitative interaction with nature. In fact, even the "Reds," the characters who are adamantly against areoforming Mars, still come from a capitalistic mindset of trading basic Martian substances (like carbon dioxide and iron) as commodities that can be used to live a self-contained life on the planet. And their attitude toward the planet itself

is that while it shouldn't be altered it's perfectly okay to alter themselves so they can exploit its resources and treat it as a new homeland. It is as if these characters have essentially "turned native," much like characters from a Kipling story. So, the characters show very little true understanding (or desire to understand) the world that they now inhabit; instead, they see their interaction with this world as a matter of economics, even while they argue that they respect this world.

And this ambivalent attitude toward imperialism/control/subalterns is common in Western science fiction. Throughout the genre, authors, seemingly attempting to expose the social, cultural, political and ideological implications of technological change, social change and various forms of colonization, tend to instead explore them from a Western perspective that often fails to fully express these consequences or even misinterprets or downplays them in many cases. Most Western authors, consequently, tend to (in many cases inadvertently) perpetuate the Western belief that change is good, that colonizing and developing new worlds is positive and that raising the natives in these worlds above their modest means is noble.

The history of science fiction, in fact, is rife with stories about colonial conquest and the resulting interaction between cultures. While again it is debatable when science fiction began, many critics equate the early development of the genre with the development of imperial mindsets and the concomitant physical empires themselves. And in fact, most of the earliest examples of what many would recognize as science fiction are, indeed, found early on in the development of empires, so it would appear that science fiction's genesis may have been heavily influenced by imperial projects.

Some critics, among them Dominic Alessio, for instance, refer to *The Great Romance* as one of the earliest examples of science fiction as we would define it today (one related to science, technology, space travel, and/or encounters with aliens), particularly a type of science fiction that addresses the concerns related to empire. There are earlier examples, including Edward Bulwer-Lytton's *Vril: The Power of the Coming Race* (1871); however, many portrayed aliens in particular, and the Other in general, as something inferior, even when it refers to creatures that have superior technology. Bulwer-Lytton's text, for instance, is primarily about a subterranean master race that wields an enormous amount of power due to a substance known as "vril." These creatures are far more powerful than humans and are treated as aggressive imperialists, planning to conquer and colonize the surface of Earth. So, at the same time they are culturally and technologically superior to humans but are aggressive much like humans, even though they are figuratively viewed as inferiors as they live in their subterranean holes.

However, *The Great Romance* has a much more sympathetic perspective on the aliens and the Other. It was written by an unknown author under the pseudonym "The Inhabitant" in 1881 in New Zealand, which means that the author to some degree was probably influenced by the interaction between the British and the native Maoris because his name seems to attest to the fact that he inhabited the area. So, the text may be largely about the effects of the interactions between real imperialist powers and the subalterns that they conquer, making it less of a speculative text and more of an imaginative look at a real situation.

The Great Romance begins with the main character, John Brenton Hope, who develops a romantic relationship with a young woman named Edith Weir and follows her on a trip to Venus to analyze the planet's ability to sustain a future human settlement. After an initial investigation of the world, Hope meets the indigenous inhabitants of the planet. Unlike many early Western sf texts, the aliens aren't portrayed as malevolent ugly creatures, but rather in a very sympathetic light, which makes it rather unique compared to other texts that tend to emphasize the ugliness of anything alien and Other. Alessio, in fact, says that this piece is "one of the first works in the history of science fiction to provide a non-didactic depiction of an overtly alien species" (16).

As Hope interacts with this species, for example, he tends to see it in a positive and sympathetic way that is unique at the time because most aliens, most examples of the Other, were portrayed quite negatively, some even as bug-eyed monsters. Hope's attitude, however, is unique, and it leads the two species to a period of cooperation that isn't seen in typical science fiction of this period or for many decades after it. The fact that the aliens are based on the Maori people makes this text even more incredible, since according to Alessio fiction pieces tended to "displace the Other [and...] the attitude toward aliens and colonization presented in the text serves not only to illustrate a complicated late nineteenth century British imperialist, racist, and militarist zeitgeist, but simultaneously to underline the unique attitude of Pakeha (European) settlers toward the Maori people of New Zealand" (16). So, very early pieces like this were heavily enmeshed in the dialectic and thematic sensibilities of imperial thought, most of which resulted in negative portrayal of other cultures. However, even in this early period of science fiction there was at least one example of a text directly related to real racial and imperial relations, even though this tendency wasn't yet typical; one important element of

these early texts, though, is that they portend the later postcolonial influences on science fiction because they hint at science fiction's ability to portray alien interactions in a more positive way and also to see the world from the perspectives from the perspectives of the aliens.

Edward Bellamy, particularly in his book *Looking Backward*, also expresses deep concerns about the future of Western society if it continues to foster inequalities, particularly those related to economics. This text, while not directly focused on colonialism, is a critique of capitalism and its related attitudes toward growth. As Bellamy's main character, Julian West, explores the world of 2000, one hundred and twenty years in the future, a negative critique emerges of the inequalities and waste associated with capitalism. West says, for instance, "My friends, if you would see men again the beasts of prey they seemed in the nineteenth century, all you have to do is to restore the old social and industrial system, which taught them to view their natural prey in their fellow men, and to find their gain in the loss of others" (387). So, while the text, again, doesn't specifically address colonial/imperial thinking, it does attack the political and economic system that gave rise to and allowed this thinking to develop. John Rieder says of this criticism that "Bellamy's *Looking Backward* [...] employ[s] the device of the mutual incomprehensibility of the narrator and his future utopian interlocutors, and [...] this is a strategy for exposing the artificiality of contemporary social arrangements" (77).

In the early twentieth century Edgar Rice Burroughs' stories, while formulaic and simplistic, also express some of the common fears of the time. His work typically had a "prettified violence and a tantalizing threat of sex," and the typical settings of his stories –

Mars and Venus – allowed him to use “monstrous variations of humanoid and animal creation,” all of which parallel the same fears of the colonized Other in Western culture, particularly the common themes of rape and violence that colonists believed were committed by “savage” natives (Scholes and Rabkin 178).

Burroughs' *The Chessmen of Mars* is the most apt, however, for an analysis of science fiction; it also explores the very real social and political situation occurring at the time but uses a science fiction setting in the process. In this text the Rykors develop humanoid bodies but lack heads, and the Kaldanes develop strong minds but lack bodies. While seemingly simple on the surface, it shows the exploitation of one race over the other and a symbiotic relationship that has developed between them because the Rykors are bred to be an attachment that the Kaldanes can use as pack-mule type slaves, able to carry them around and do their bidding. The text is very strongly reminiscent of the breeding of slaves for specific jobs in homes or in the fields, and it expresses some of the concerns about the most deplorable results of colonial conquest.

H.G. Wells is probably one of the most famous and influential science fiction authors from the late nineteenth century, and his most famous novel *The War of the Worlds* is an exceptionally strong condemnation of the British colonial enterprise. It begins with the sudden invasion of the British countryside by Martians. The first reaction to this invasion is extreme terror when faced with these alien and powerful creatures. The creatures are similar to the British because their main objective is to use both the Earth and its inhabitants as they begin “harvesting” the land and people to produce materials for their own planet. The results of their exploitation are destructive, as well,

and are eerily reminiscent to the environmental damage that colonialism continues to do around the world.

In fact, an apocryphal account of a conversation between Wells and his brother tends to support his disdain for the destructiveness of British imperialism. In the conversation Wells discusses the destruction of Tasmania by the British and likens it to an invasion of Martians (and also states it in *The War of the Worlds*): “Are we such apostles of mercy as to complain if the Martians warred in the same spirit?” (2). This attitude toward the people of Earth and its results has another dramatic effect that is very similar to the effects of British exploitation of people, resources and land in the colonies: something Wells calls “the great disillusionment” in *War of the Worlds* (18). With the discovery of alien and “other” creatures that are not only completely foreign to them, but are also far superior in technology, the inhabitants of England quickly develop a sense of disillusionment and their society breaks down into chaos, much like the real cultures that the British empire conquered. Just like the environmental exploitation leads to destruction of ecosystems, the very presence and seeming superiority of the aliens leads to a cultural breakdown and loss of British identity.

Consequently, Wells’ portrayal of the monsters from Mars closely parallels what he saw in British imperialism. First, these aliens were highly dependent on their powerful technology (much like the imperial powers mentioned above). In fact, their technology becomes a source of their own identity; the aliens are barely separable from the technology that surrounds them and enhances them and aren’t even visible to humans until late in the text when they begin to die. Second, their technology gives them an advantage over the “natives” and makes the conquered peoples seem

extremely primitive, so essentially the British themselves become the Other and are little more than vermin. These close parallels to the British activities in their colonies make Wells' book a relevant reflection of the attitudes that many science fiction writers had toward imperialism at the time.

Later science fiction also has a strong colonial/anti-colonial element. The co-development of imperialism and science fiction continues even with these later forms of the genre. For instance, beginning in the 1960's, "New Wave" science fiction began to appear. It was partly influenced by Marxism, so it had a strong tendency to criticize imperialism in general and American cultural hegemony in particular, and many of its writers include the same anti-colonial themes that earlier (and later) authors use. Samuel Delany, for example, focuses on American culture as corrupt, depraved, and essentially bankrupt. His stories include various critiques of capitalism and its tendency toward cultural homogeneity. This criticism overlaps cleanly with the criticism of cultural hegemony that occurs in the colonizer/colonized relationship. These authors, while portraying a different kind of colonial rule than that of traditional colonialism, though – that of cultural influence and economic hegemony – also express many of the same postcolonial concerns as other science fiction authors.

While not considered a mainstream science fiction writer, even Salman Rushdie has dabbled in the genre, and he used his already familiar knack of paving the way for a "quantum leap' of the imagination" to create a work of science fiction that highlighted many postcolonial concerns and themes (Leggatt 115). His first published novel, *Grimus*, is a blend of science fiction and fantasy that explored the theme of transplantation, immigration and loss of identity and the resulting disorientation.

Katherine Cundy says the main character, Flapping Eagle, "is at one and the same time the hero of a nascent and tentative study of migrant identity, and a chaotic fantasy with no immediately discernible arguments of any import" ("Rehearsing Voices" 131).

In the text *Flapping Eagle* exhibits a wandering tendency and a resulting sense of homelessness and exile, which is a common theme in Rushdie's fiction. The plot begins with the main character drinking a magical elixir that makes him immortal. After about a century of wandering, he grows tired and moves into another dimension where other immortals have decided to live. *Grimus* is also filled with other trans-dimensional travel and aliens, all of which tend to parallel the real-world issues of exile and homelessness that Rushdie himself has experienced as an immigrant. Again, while not quite mainstream science fiction (some critics place it in the fantasy genre), it does contain several science fiction characteristics like extrapolation and the use of the fantastic to defamiliarize common objects and themes. Rushdie's novel is yet another example of the potential of science fiction as means through which postcolonial authors can express themes of alienation and alterity.

On the other hand, recently there are a number of authors who can be considered both postcolonial authors and science fiction authors because they are non-Western or identify with non-Western, post-colonial cultures and show typical postcolonial concerns with cultural identity, but there are more who have also begun specifically writing science fiction pieces to express common postcolonial themes. The anthology *So Long Been Dreaming: Postcolonial Science Fiction and Fantasy*, co-edited by Nalo Hopkinson, Uppinder Mehan and Samuel Delaney, in fact, groups the short stories of several of these kinds of authors into categories such as "The Body," "Future

Earth,” “Allegory,” “Encounters with the Alien,” and “Re-Imagining the Past.” Each of these sections focuses on things like traditional native customs, extrapolations of the present colonization situation, alteration of identity by powerful hegemonic influences, encounters between alien cultures, and other themes that allow authors to express non-Western perspectives of imperialism. Overall, this book shows a tendency for authors to use science fiction to express these concerns in new, unique ways.

Into the Western attitude of “change is good” and technology has come these postcolonial authors who often will turn these attitudes on their heads. Many of these authors quite literally turn traditional Western sf upside down by exploring these same issues from a completely new perspective. For instance, the postcolonial perspective on technology is often radically different because rather than being an intrusive capitalist/industrialist-based construct, it is often organically based and commonly blends in with the lives of the characters and the cultures in which they live. And, often even the invasion/colonization trope is unique because it explores the consequences of colonization from the perspective and mindset of those who are actually colonized, rather than from the perspective of the colonizers who are imagining their potential invasion and colonization. This new perspective leads to unique stories about the consequences of colonization and of the science and technology that allows that colonization and of the interaction between the colonizers and the colonized.

Because science fiction is so well suited to themes of colonialism/Postcolonialism and because it’s becoming so popular with writers from former colonies, it’s important to understand exactly what makes it so apt for postcolonial concerns. This aptness is largely a result of the ability of science fiction to overlap very well thematically with

postcolonial fiction in general. The intersection of postcolonial fiction and science fiction is primarily in the thematic concerns that both typically express. Postcolonial fiction, for the purposes of an argument about science fiction, is a type of fiction that is written by members of former colonies or immigrants from those colonies. Consequently, texts that are considered postcolonial in nature tend to be written from a non-Western, non-Eurocentric perspective. Postcolonial fiction also often deals with issues of decolonization, identity (re)formation (on both personal and national levels), hybridity, mimicry, liminality and other issues related to the interaction between Western culture and the subaltern traditional societies that Western powers conquered.

Science fiction, while more difficult to define, includes some obvious elements that most people would recognize, including technological marvels, dramatic cultural and governmental changes and encounters with aliens, artificial life and dramatically altered humans. These most common elements make the genre almost instantly recognizable; however, again exactly what makes something science fiction, though, is a little more difficult to determine. Some of the most common definitions are ones that explain what science fiction does rather than what science fiction is or the elements that it contains. These include arguments that it is a form of modern myth that expresses contemporary concerns, that it is a narrative of the future, which tends to emphasize its extrapolative function, and finally that it's a fiction of "cognitive estrangement" in the words of Darko Suvin.

And, it's many of these elements that allow science fiction to overlap so well with postcolonial fiction. For instance, Bo Fowler's definition of science fiction as a kind of modern myth is a particularly interesting point of contact between sf in general and

postcolonial fiction in particular because often postcolonial sf authors will include mythical elements. These mythical elements are often an attempt to appropriate the genre for themselves and undermine one of the most common elements of science fiction: its scientific/technological basis. And, Suvin's element of cognitive estrangement also allows postcolonial authors to create a sense of detachment in the reader, a thematic element that is very similar to the detachment and sense of alienation that mainstream postcolonial authors invoke in their readers (with things like native languages and emphasis of cultural difference, for instance).

However, since science fiction is so difficult to define, it's also important to review what it is and the elements that it commonly has, particularly in an analysis of its suitability for postcolonial themes. Again, for instance, one of the most obvious elements that sf usually has is dramatic advances in science and technology. There are very few examples of sf that don't have these things, so they form a major feature of the genre. And, in fact, this is one of the most important elements of postcolonial sf because many of these authors tend to reject Western forms of science and technology in favor of alternatives. Science fiction also commonly has some form of "Other." This may include aliens, artificial life or dramatically altered human beings. This is also an important element of science fiction because it allows so many thematic possibilities for postcolonial authors, particularly the possibility to explore issues of difference and issues of hybridity and alterity.

However, since some define science fiction not in terms of what it does or what it has, but as a body of texts that have a relationship to one another because of the things above, it's important to keep in mind that sf can overlap with postcolonial fiction because

of the way that individual texts fit into both genres. Some critics call this relationship that the texts have to one another a “megatext,” meaning that all sf texts have points of contact with one another through common tropes, memes, themes, and so on. And, while this perspective on science fiction is much less precise than some of the more specific definitions of what it does or what it usually contains, it does account for one of the most important things we notice when we think of the genre: the fact that one will immediately recognize a particular text as sf, even postcolonial ones that are often alien to the reader of mainstream science fiction. And, in the same way that Western sf texts have points of contact, creating a megatext, postcolonial versions of the genre also take a place in this megatext, at the same time enhancing it as they undermine it and displace it from the center. Thus, these non-Western texts create a new dynamic for the megatext, diluting some of the Western ideas of conquest, imperialism and colonialism that many of the examples above express.

And, while it’s not so simple to define exactly what sf is, what it does, and so forth, it’s often very easy to say that a particular text is science fiction, even when that text is often alien and exotic compared to the common Western fare. Paul Kincaid recognizes this characteristic of sf and consequently describes the genre as a “web of resemblances” that allows some texts to be firmly entrenched in the genre while others have only a tertiary membership and may be further out on the edge of the web (50). This perspective on science fiction is a rather interesting one because it allows interstices into which postcolonial texts can fit, and it also allows postcolonial authors to mimic some elements of Western sf and discard others, making the genre uniquely their own while still maintaining a membership in it. And again, it allows them to find a new,

non-Western perspective that questions the assumptions of Western texts that Western society is superior and imperialism is a (questionable) necessity.

Overall, all of these elements, including its common characteristics, its common thematic elements and so on, tend to make it well-suited to express postcolonial concern because, again, there is quite a bit of overlap between postcolonial concerns and common elements in science fiction. For instance, because of the loss of identity that occurred in the interaction between their native cultures and modern Western culture, as well as the search for identity in the period during and following decolonization, the exploration of the alien Other, again, becomes a useful tool in science fiction. Many postcolonial authors will take advantage of this overlap by exploring the negative consequences of alien contact and even the loss of one's body as an analogue to the loss of identity. The overlap of western hegemonic influence in postcolonial fiction and technology in science fiction is also an interesting one because it allows postcolonial authors to explore the use of technology to gain that hegemony.

To accomplish these new perspectives, each of these authors has taken advantage of some of these unique thematic characteristics of science fiction and goes much further than just including surface elements like aliens or technology. For example, a common characteristic of science fiction is the use of one contemporary *trend* of technology or society to extrapolate a possible future based on that one particular trend -- in other words, the extrapolative function. Authors who are using the genre to express imperialism either from a Western or non-Western perspective can use the extrapolative characteristic of science fiction to project current concerns of alterity, for example, into the future and can express possible future problems of difference.

However, postcolonial sf authors often will have a unique approach to this extrapolative function, similar to the way that they explore the discourse that shaped other forms of Western literature and they find new forms of discourse to re-shape those forms of literature.

For example, typical Western sf texts often portray the relationships with aliens in terms of exchanges of power. In most cases, either the humans or the aliens are in a position of power and often subjugate the other group. This power relationship comes from what authors John Reider consider a colonial discourse of power because they argue that science fiction developed and came of age during the colonial period and is consequently largely a product of colonial thinking.

However, postcolonial sf authors tend to re-think the power relationship and its effect on alterity. A number of texts eliminate the power relationship completely and replace it with symbiotic relationships between the characters and aliens. The result is often stories that challenge and undermine Western attitudes of superiority and the effects of those attitudes on characters that are in relationships with other cultures. This characteristic can be a useful way to highlight fears of the Other that are a common concern in the interaction between Western and non-Western cultures, but with non-Western authors, the goal is often to express either the detrimental changes that occurred in their own cultures as they experienced that interaction with the Western Other, or unique, peaceful possibilities of embracing that Other while eliminating its more nefarious effects.

Of course, writers from the so-called periphery aren't the only ones who have used distinctive characteristics of science fiction to highlight colonial/postcolonial themes

in their works, although they tend to find unique perspectives on these characteristics. Again, many Western writers also have written works that address concerns about encounters with the alien and fears of invasion and assimilation. During the late nineteenth and early twentieth centuries when colonialism still had a strong influence on both Western and on non-Western societies, in fact, science fiction stories by Western writers increasingly had themes concerning alien invasions, brain-eating aliens and apocalypse. In fact, again, many critics place science fiction's beginnings in the colonial period because this period was uniquely favorable for the development of stories that extolled the use of technology for exploitation of nature and of other cultures, and for stories that expressed the loss of confidence in one's own culture in the face of other, very different ones that challenged many deeply-held beliefs.

Even in the last few decades, since colonies have become independent and have begun to develop identities on their own, Western science fiction writers have addressed these fears and have also delved into the theme of syncretism or non-interference in other cultures. While these themes of non-interference or conversely, syncretism, in science fiction haven't been explored widely at this point by academics, many science fiction works actually do have academic value because they express the same concerns of loss of identity, cultural syncretism and invasion, whether they are from the perspective of the imperial center or of the non-Western periphery. At the same time, since those pieces written by Western writers are especially influential in popular culture, they tend also to express the fears and concerns of the cultures in which they were written because their themes tend to ring true to many of the readers who read these texts, and the growing interest in sf in the academic community also expresses this understanding of that sf is worthy of serious study.

However, even though there is growing interest in academic study of science fiction, at this point there is a lack of academic inquiry into these significant postcolonial characteristics in the genre. Although there is a growing number of writers who are using science fiction to address the concerns of former colonies, as well as a number of Western texts that seem to express their own concerns as metropolitan insiders who are challenged by the alien nature of the culture of non-Westerners, the number of postcolonial authors who write science fiction pieces, perhaps, hasn't reached a critical mass that generates the attention necessary for this kind of attention. This could be because the genre (as many others that are called collectively genre fiction) has been discredited as a serious form of literature and seen as lowbrow and unworthy of serious academic inquiry, while members of the science fiction community sometimes see Postcolonial theory as extremely academic and sterile, so there is a slippage between the two areas academically.

On the other hand, even though the academic discourse is rather limited at this point, there are a number of academics who have expressed an interest in the colonial/postcolonial elements of science fiction. Nancy Batty and Robert Markley, for example, say that

Whether we begin with Mary Shelley's *Frankenstein*, Jules Verne's *20,000 Leagues Under the Sea* or H.G. Wells' *War of the Worlds*, or go further back to ancient epics or renaissance utopias as precursors of contemporary speculative fiction, stories of travel to and "discovery" of "new" worlds; encounters with aliens; depictions of contacts with cultural, racial, and biological difference; and the costs and consequences of

territorial expansion have provided striking parables of European and American imperialism. (6)

As they indicate, much of speculative fiction, from ancient times through the nineteenth century and even today, expressed and expresses concerns associated with encounters with the Other and consequences of difference. They also emphasize the importance of science fiction as a means to express postcolonial concerns and say, “What has changed in the last decades of the twentieth century is that speculative fiction has become an important vehicle for writers from outside the metropolitan centres of Europe and North America” (7). This new trend, in fact, tends to underscore the fact that speculative fiction in general and science fiction in particular are both well suited to exploring themes like hybridity, alterity, and subalternity, and in fact many third-world writers like those above have used this genre to explore them.

Istvan Csicsery-Ronay also sees the significance of science fiction as a means to express typical colonial/postcolonial concerns. In his essay “Science Fiction and Empire,” in fact, he makes the claim that “the conditions for the emergence of [science fiction] as a genre are made possible by three factors: the technological expansion that drove real imperialism, the need felt by national audiences for literary-cultural mediation as their societies were transformed from historical nations into hegemons, and the fantastic model of achieved technoscientific Empire” (231). So, for Csicsery-Ronay, the very existence of science fiction is to a large extent dependent on the development of empires, and its deepest characteristics are closely intertwined with the characteristics that make up those empires.

Csicsery-Ronay goes on to say that “it stands to reason that sf, a genre that extols and problematizes technology’s effects, would emerge in those highly modernized societies where technology had become established as a system for dominating the environment and social life” (Ibid). In other words, the often-optimistic view of technology in empires (because of its ability to control nature, control people and maintain order) and its ability to solve problems and to make life better for people, according to Csicsery-Ronay, is one very important reason why science fiction developed. It was through this mostly optimistic (though occasionally pessimistic) attitude to both technology and its results that science fiction arose as a kind of commentary to put these things in perspective, to extol them, and sometimes to criticize them.

Csicsery-Ronay also mentions the attitudes that colonial powers adopted in relation to other subject cultures that they conquered: “Colonial territories were treated as free zones, where new techniques and instruments could be tried out by companies and bureaucracies far from the constraints of conservative national populations [...and] the exponential growth of mechanical production and the production of mechanism continually widened the gaps between imperial agents and their subject peoples [... so] supremacy became a function of the technological regime” (233). In this atmosphere of technological innovation, territorial aggression and expansion, as well as the consequent rise in prosperity in the metropolises, science fiction writers were a means through which to

construct stories about why this Empire is desired, how it is achieved, how it is managed, how it corrupts (for corrupt it must), how it declines

and falls, how it deals with competing claims to imperial sovereignty, or how it is resisted. The history of sf reflects the changing positions of different national audiences as they imagine themselves in a developing world-system constructed out of technology's second nature. (236)

Ultimately, he believes that for Western authors and their readers, science fiction becomes a means through which they can imagine an ultimately positive future for both the empire – because of its superior technology – and other peoples because of the empire's ability to unify all peoples under its hegemony.

Of course, science fiction is not only written in service of the empire; again, its characteristics make it very amenable to do just the opposite. In fact, Csicsery-Ronay says “most serious writers of sf are skeptical of entrenched power, sometimes because of its tyranny, sometimes because it hobbles technological innovation” (241). They include not just Western authors who criticize the imperial powers in which they write, but also writers from outside the metropolitan centers, those who are affected by the corruption and exploitation by these powers. For example, he mentions the fact that some Marxist critics consider the genre to be inherently critical in nature, a fact which allows it to be a useful medium for Western writers who want to expose the negative consequences of imperial technology and its tendency to limit freedom and difference, and non-Western writers who want to explore the effects of imperial hegemony on their own cultures.

So, it's rather easy to see the reasons for the recent interest in Postcolonialism through the eyes of science fiction. Nancy Batty and Robert Markley, for instance, also discuss this trend in their article “Writing Back: Speculative Fiction and the Politics of

Postcolonialism.” In this text they discuss the growing academic interest in this field and the new academic interest in Western authors in particular like H.G. Wells, Jules Verne, and later Robert Heinlein, Samuel Delaney and Nalo Hopkinson. They also mention that, “even as postcolonial approaches have made inroads in the criticism of speculative fiction, there has been comparatively little attention paid by postcolonial critics to the ways in which contemporary literature from Africa, South America, Asia, and the Pacific aligns itself with, borrows from, and reshapes the traditions of science fiction” (8).

The recent anthology *So Long Been Dreaming: Postcolonial Science Fiction & Fantasy* also highlights the very fact that many authors are using these traditions from science fiction. Its writers explore issues of the body and the encounter with the alien, and they also attempt to re-imagine the past in terms of colonial hegemony as well as explore what the colonial/postcolonial future might be like. So, the short stories in this text are first attempts at just what Markley and Batty discuss: they are already re-shaping the traditions of science fiction by reimagining its most common and traditional elements and at the same time they are creating new traditions within the genre. The result is still what anyone would recognize as science fiction on first inspection, but what one would see as texts that also are subversive to the traditional forms of the genre.

The most common and most important elements in most science fiction pieces are, again, the encounter with the alien (the Other) and extremely advanced technology. In addition to the encounter with the alien and advanced technology, however, there are a number of other characteristics that especially qualify science fiction as a means to explore common concerns related to colonialism and Postcolonialism. Again, many science fiction writers from the last century have expressed concerns about

colonialism/imperialism as well as characteristics that were very similar to modern postcolonial fiction. But the characteristics of more recent science fiction now make it an even better medium from which to express problems of alterity, subalternity, and even a hope for seeing things in a new way that might help to address these problems.

Other examples of the use of sf in non-Western and former colonial societies include stories written by immigrants who have experienced the same kind of subjugation and identity crises experienced by former colonial subjects. Nalo Hopkinson, originally from Jamaica, for example, now lives in Canada and writes from the perspective of a person of color who is surrounded by a foreign culture. Her speculative fiction reflects the deep racial separation that exists in Canada, but it also reflects the cultural separation that immigrants feel there as they struggle to find new identities in this society. And again even Salman Rushdie's experiment with science fiction serves as an example of this theme. *Grimus* explores the rootless sense of existence that immigrants experience when they are displaced from their homelands and are forced to assimilate into a foreign culture.

In addition to the Other, advanced technology and extrapolation, another common characteristic of science fiction is its fantastic elements. While considered separate from the fantasy genre because science fiction is generally rooted in realism (even things that seem strange, like aliens and technology, are usually explained scientifically, while fantasy usually makes no such attempt), which is most often associated with the fantastic, science fiction itself can be considered fantastic in some ways because of the often dramatic deviation from reality that these texts take.

However, most science fiction authors eschew the fantastic because it detracts from their goal of developing texts that have some basis in reality, hence they are not speculative in nature and therefore based in the possible. But, their very tendency to shy away from elements that are unexplainable is one opportunity for postcolonial authors to undermine the Western ownership of the genre and appropriate it as their own because often postcolonial authors will blend science fiction with elements of the fantastic (much like magical realists) and will simultaneously undermine some of the most elemental characteristics of the genre while at the same time expanding the definition the genre. And, it is this element of the fantastic that also makes it especially useful for the expression of postcolonial concerns because in addition to appropriating it for themselves, it allows them to morph it into something new that beautifully represents the real-life hybridity that these authors experience and want to portray.

In Western science fiction, however, there are still some examples of the fantastic. Jules Verne is a particularly interesting example of the fantastic elements of science fiction because even though his stories are rooted in scientific possibility, they still tend to leave one with a feeling of the fantastic nature of the things that one experiences in his stories. Robert Scholes and Eric Rabkin use Verne's *20,000 Leagues Under the Sea* as an example of these fantastic elements, in fact, because in this book "Verne even made his readers believe the real submarine was unreal so that he could thrill them by making the presumptively unreal become real" (169). The submarine, in fact, while plausible even at the time, became a kind of fantastic object that was the focus of political, scientific and technological change. It became a kind of commentary on contemporary situations at the time, as well.

In other words, even though something may be possible in the real world, Verne and many other science fiction writers will alter it to make it seem unreal, to produce a sense of detachment from the particular object or technology that allows it be seen in a new way. This is, again, the cognitive estrangement that Darko Suvin discusses. It allows the authors to establish a situation where the setting and plot are different enough that the reader feels a sense of estrangement from the text; however, it is still familiar enough that the reader feels that the situation is at least plausible. Cognitive estrangement allows authors to speculate on future events and to find situations that may actually occur while at the same time creating in the reader a sense of the alien and a contact with the Other. As they do this, they can also make powerful statements about the real world and its possibilities.

This is a useful characteristic by postcolonial standards because it allows authors to defamiliarize readers from subjects and allows authors to put them in a similar situation to the characters themselves. Verne recontextualizes the familiar submarine into an object that allows the main character, Captain Nemo, effectively to isolate himself from the world of imperialism and exploitation. In the original text, in fact, Verne portrayed Nemo as a descendant of Tipu Sultan, a leader of the 1857 India Mutiny, so Nemo may have himself been the cynical outcome of colonialism. In fact, Verne may have been a precursor to the use of science fiction to protest the ravages of colonial rule; it's certainly true postcolonial authors portray technology in very similar ways, either using it as a means to better the world or vilifying it as a tool that aids in the oppression of the subaltern.

Tamai Kobayashi is a more contemporary (and postcolonial) example of how postcolonial sf authors use technology and science fiction in general to express these concerns. Kobayashi, like Jules Verne, manages to defamiliarize familiar and common objects to give them unique and symbolic meaning in her story “Panopte’s Eye.” The text is set in a post-apocalyptic future where people live in small city-states enclosed in gargantuan towers. At the top of these towers are large “eyes” that look out for potential threats in the surrounding countryside. These towers and the large “eyes” at the top are as possible today as they would be in this future world, but they seem somehow different from anything conceivable in our world. The strangeness that they take on when used as defenses in this world makes them Other, and it highlights the brutal nature of the world in which they live, as well as the foreign nature of this world itself both for the reader and for the slave characters.

Overall, the fantastic nature of the towers also helps to underscore Kobayashi’s theme of a world where the tendency toward brutality leads to warlords and slave traders. It also helps to highlight the sense of alienation that many writers from non-Western areas especially feel, and the goal is very similar to those of magical realists in that the sense of the magical being made “real” and plausible helps to highlight this alienation. And, probably most importantly, since the panoptic towers represent the distant empire that built them, they become a representation of the ability of the empire to exert control over and even have knowledge of the very distant edges of its realm. In fact, the characters seem to be consistently aware of the hegemonic influence of the empire, even when they are inside the towers and unable to see the panoptic eye at the top of the tower.

In addition to fantastic elements, science fiction also typically has utopian elements. Of course, even many of the utopian stories are ultimately negative. Often the negativity is the realization that perfect societies come at the price of freedom and a sense of identity. Aldous Huxley's *Brave New World* is a good example of technology leading to this loss of identity. While his novel at first seems to be utopian, it quickly degrades into a dystopian nightmare because of the characters' lack of individuality, free choice, and even mental clarity (drugs keep the "alphas" happy, for example, while the "gammas" are purposely brain damaged so they perform manual labor more efficiently).

The lack of these three elements eventually leads the characters to exile, and the main character John, to suicide, because there can be no true freedom in this so-called "free" and "utopian" society. Huxley's exploration and extrapolation of modern industrial/capitalist society is mostly accusatory. He sees deeply disruptive and negative consequences associated with capitalism and colonialism in this text. In fact, the colonial mindset of these characters creates a very distinct sense of us versus the Other because the characters are very afraid of anything and anyone that is outside their cities.

However, while Huxley's portrayal of this culture is largely a negative perspective on Western capitalism, he is still exploring it through the perspective of a Western man, one who is still ensconced in a Western mindset. So, in the case of Huxley's text once again we have a story that comes from (and in some senses still is a confirmation of) the Western or Eurocentric sense of superiority and the Western attitude toward technology. In fact, while Huxley does criticize technology and its use as a means of control, he doesn't seem to admit that an alternative is necessary because he appears to be so ingrained in the paradigm of constant progress and technological advancement, one that

leads him to have what Sanford Marovitz refers to as a detached attitude that leads to complicity and compliance. Marovitz examines, for example, Huxley's statement that "Even when considering the impact of 'technology and scientific invention, we shall find that . . . there is a very small part of history which is felt subjectively to be of supreme importance'" (124). Marovitz's point is that Huxley, "in discussing humanity as a single personal being...observes that in the midst of social upheaval and tumult even on a colossal scale, the individual is not much engaged with them." Consequently, that single person, according to Huxley, *is* so deeply embedded in the paradigms of his society that he will barely notice or even care about the nefarious influences that they incur. And, it appears that this is ultimately Huxley's own attitude in his own case; he criticizes technology but at the same time seems to admit that resign himself to its more subtle and transparent influences.

On the other hand, postcolonial science fiction authors explore some of the same issues, and they have an interesting non-Western perspective on a traditionally Western concept. In fact, many postcolonial authors also tend to view technology from outside the Western paradigm of constant progress, so they often are more thoroughly critical of it and seek more radical alternatives. Some postcolonial authors like Kobayashi use the same kinds of utopian/dystopian elements that people like Huxley use, for instance, to highlight the results of influences by monolithic Western cultures on those of non-Western colonies, as well as the destructive influence of inorganic/industrial technology that usually is included in a colonial mindset. In most of their own stories, what seems at first as bright futures quickly degrades into nightmares of lost cultural identities and uniqueness.

More recent postcolonial science fiction, for instance, has examples of utopian futures that seem like common sense to the characters but at the same time seem to be somehow wrong. Vandana Singh's "Delhi" (2002) expresses this tendency. The main character is living in contemporary Delhi with all of its problems of poverty and political corruption, but he sometimes sees people from the future. The people from the future at first seem to give him hope that the future will be better because many of them look almost angelic. He also catches glimpses of the city itself, and it also gives him hope because of its jeweled buildings reaching to the sky. As he speaks to a young lady from the future, though, he realizes that the city is actually a terrible place that has an even stronger split between rich and poor than early twenty-first century India – the rich live in the beautiful jeweled city above while the poor live underground in a place not much different from a dungeon. He quickly realizes that the present world where the rich who adopt Western habits and the poor who maintain tradition will be drawn into a dismal future where nobody has hope if they haven't adapted to the modern and Western paradigm of technology and consumption. Through this emphasis on technology and consumption, "Delhi" also helps to highlight the differences between the West and the rest of the world, the difference between poverty and plenty, and it helps to express the fear that the Western emphasis on materialism will likewise corrupt those in India and lead to the large cultural and economic gaps prevalent in the West.

Ultimately, though, probably one of the most important elements of science fiction in terms of Postcolonialism is the encounter with imaginary beings like aliens or other dramatically advanced creatures (even humans) because it allows postcolonial authors to explore the important theme of the Other. Scholes and Rabkin help to highlight this importance as they describe these imaginary beings as constructs, which is

an important distinction to make when analyzing postcolonial science fiction because in many senses the postcolonial authors themselves are constructs, pieced together psychologically from the bits and pieces of their traditional cultures and the Western cultures that conquered them. And, in the mirror-worlds of science fiction, worlds that reflect the worlds of the authors in many important ways, these imaginary beings can be both creatures from other worlds and even creatures that are created and built, patchworks of different ideas and beliefs that highlight difference. And ultimately, they tend to highlight common problems like the encounter with something totally different and out of the range of normal human experience or the problem of defining who we are. Consequently, since they are out of this normal range, they can often highlight problems of identity because they exaggerate these problems, making science fiction particularly apt for an exploration of postcolonial concerns.

The latter problem of identity, for instance, is probably best exemplified by Philip K. Dick, particularly his book *Do Androids Dream of Electric Sheep?*, even though he is a Western author. According to Scholes and Rabkin, this book raises questions like “If androids dream of electric sheep, aren’t they really human? And if they’re human, and we’ve created them, then are we gods? Or meddling fools?” (183). So, a problem begins to appear in this dualistic relationship between creator and creature, particularly when it’s not clear what the creator itself really is. The relationship exposes the problem of just what makes us human and if our own androids possess those same characteristics, is there anything anymore that makes us unique. And, it can lead to a more granular exploration of not what makes us human, but what allies us to a particular group of humans, what makes us part of a particular culture and how our identities are shaped by that culture.

These questions raised by critics of science fiction generally tend to be quite similar to those that postcolonial science fiction authors ask as their characters face by new realities and begin to question who they are. And again, they typically highlight that granular exploration of what makes a person part of a particular family of humans. For example, Andrea Hairston's "Griots of the Galaxy" raises questions about the place of the individual in the larger society, and it explores the meaning of individuality itself as the main character jumps from body to body. In the text the main character is the literal, physical embodiment of the griots, the storytellers of West Africa who maintain the memory of the cultures in which they reside. Rather than simply being a storyteller, the main character actually lives the stories of individuals through history by jumping into their bodies and experiencing the world through their eyes. Of course, she begins to realize, though, that she is the alien, the "Other" and as her future self criticizes her, she realizes that her experiences have never been genuine because they are not her own: "How long can we run around with dead miracles and do nothing? Amnesiacs – most of who we are, we don't even know. What good is the story behind all the stories if you never really get to live fully?" (32). At the end of the text, this realization leads her to ultimately sacrifice herself and the other griots because she feels that she and they are living a lie as they inhabit the bodies of others.

Unlike many Western authors who realize that technology causes them to call their identities into question but often then use that very same technology to try to find their identities, Hairston portrays characters that seem to realize that, in the face of impossibility, their only option is to destroy themselves. In other words, rather than forcing a false identity on others, an identity that they're not sure of in the first place, these authors choose to give up any hope of identity at all. They realize that their

situation is hopeless and don't feel that the technology that allows them to find false identities in the bodies of others will ever help. This is a very different perspective from the common Western one that technology is consistently advancing and can solve any problem, and it further highlights Dick's exploration of the creator/creature problem that consistently confronts both Western societies that have created colonies in their image, and the non-Western colonies that have to contend with that image.

This question of identity meshes closely with one of the most important elements that science fiction texts commonly have, according to Scholes and Rabkin: the exploration of race. While themes of race are very similar to and even overlap with the use of aliens and the Other in science fiction texts, racial themes are actually separate and distinct because they often take a very different direction in science fiction. While science fiction tends to explore the alien and the Other as a symbolic representation of race, the genre also deals with race head-on in some interesting ways. For example, much of sf has traditionally lacked people of color, largely because many authors have imagined color-blind futures. Of course, people of color both write sf and are present as characters in the genre, but it has traditionally been a genre dominated and peopled by white males. However, what it often lacks in terms of humans of color it usually makes up in terms of aliens who act as surrogate races, representing not just cultural differences but racial differences.

Scholes and Rabkin, for instance, mention that the genre has been "a bit advanced in its treatment of race and relations [...because] the xenophobia that created alien races in the image of Bug-Eyed Monsters had already begun to yield in the thirties to more hospitable notions of foreignness" (187). Many science fiction stories, including

Isaac Asimov's *I, Robot*, tend to highlight very real racial problems, so again while the author doesn't specifically and directly address racial issues, the robots themselves act as stand-ins for the racial minorities. One of the most racially important features of the text, for example, is the fact that "a number of characters who have to deal with intelligent robots indicate their own inherent sense of superiority by calling the machines 'boys'" (Scholes and Rabkin 188). This idea of racial difference and racial superiority is an important one because these very clear differences between humans and robots and humans and aliens can often exaggerate the sometimes more subtle ones between Western and non-Western culture and make the resulting problems more obvious. So, this exploration of racial themes is another one of its elements that makes science fiction an important medium for the exploration of postcolonial concerns.

In fact, these racial tensions are also apparent in the postcolonial stories that have been written recently. Science fiction's ability to deeply explore the theme of difference makes these postcolonial science fiction stories very effective because, again, they simplify these differences and at the same time they exaggerate them to make them more obvious and to extrapolate the consequences of their existence. As they perform this double action, they tend to reify problems and solutions that are often too complex and too abstract in other situations, and they tend to recreate the same double-action that occurs in the world outside the text – the tendency to both simplify (through stereotyping) race and at the same time to over-complicate racial difference (through complex eugenic descriptions of racial differences).

Ven Begamudre's short story "Out of Sync," for example, is eerily similar to the real situations that colonists encountered when taking the lands of natives, and it tends

to highlight the encounter with something extremely foreign that both the colonists and the natives experienced. It also exemplifies this double simplifying/complicating tendency in race as well as the exploration of foreignness of the encounter with the other. This foreignness leads to some of the same kinds of problems of resentment and racism that occur in other science fiction and postcolonial fiction. In the text, the colonists feel a very palpable sense of foreboding because they realize that the mysterious natives of the planet do not want them there. Harun, a unique character because he is part human and part Khond (the natives of the planet) explains the changes that came over the Khond after humans arrived: "By bringing us the concept of time, you brought us the realization we were not the only beings in the galaxy. It was a hard lesson to learn" (220). This experience of the settlers is, again, similar to the experience of European settlers when they interacted more closely with non-Western cultures. Through forced interaction (but usually unequal relations) both sides tend to suffer and lose very important elements of their identities.

This change is also reminiscent of the powerful changes that natives underwent when faced with the Western/Eurocentric world-view, and it is also accompanied by a change in their status as they become subservient to humans. They maintain a level of detachment and a sense of superiority over humans, especially when they are forced to interact with them. The exchange between the narrator and a Khond shows this attitude:

"Might you have on your esteemed person a modicum of divine tobacco?"

"I'm sorry," I said, as politely as I could. "I don't smoke."

“Look,” I finally said. The Khond stopped in mid-soliloquy. “I’ll make you a deal. Let me up to the lounge, and you can come by later and help yourself to anything in my pantry.”

The Khond snorted. After it looked left and right, up and down to ensure there were no Khonds within hearing, it said, “If any of my kind inquires, however, pray insist you exchanged a gram of tobacco in return for my humble service. Irreparable would be the harm to my reputation, such as it is, should rumours begin to the effect that I bestowed my favour on a human.” (227)

In this exchange, the Khond shows both an outward subservience toward the human narrator but at the same time a sense of disdain and contempt for humans in general. Interactions like these between alien subalterns and human colonizers highlight science fiction’s ability to imaginatively express these same feelings of racism and resentment that occur in real life colonial/postcolonial situations. In fact, the Khond’s attitude toward the human narrator is very similar to the attitudes that characters have toward their colonial rulers in more mainstream forms of postcolonialism. Again, though, more simplistic, reified situations can occur in interactions between humans and aliens and can highlight the complexity of the underlying problems.

Ultimately, science fiction becomes a very powerful means to express some of the most common postcolonial concerns. With its emphasis on alien interactions, high technology (and its use to control aliens and environments), cultural advances and bodily transformation, it is ready-made to express these concerns. However, the genre becomes an even more powerful expression of Postcolonialism when postcolonial

authors make it their own through combining it with elements of their own traditional stories. And, with the growing interest in using science fiction as a framework for expressing these concerns, it becomes a valuable and important area worthy of academic study.

CHAPTER 2

TOWARD A USEFUL DEFINITION OF SCIENCE FICTION: APPROPRIATION AND RE-CENTERING OF THE MEANING OF THE GENRE

Because of science fiction's ability to highlight cultural differences, its capability of exaggerating encounters with the Other, and its tendency to focus on themes of conquest and colonization, a number of non-Western postcolonial authors have begun to use science fiction to express some of the common postcolonial concerns of their cultures. Themes like hybridity, alterity and subalternity can be readily expressed through science fiction because of these common characteristics in science fiction, and its ability to allow authors to extrapolate from current or past technological and cultural trends makes it uniquely suited to thought experiments that examine the effects of colonialism.

Science fiction also allows a synthetic blending of hypothetical cultures that isn't always plausible in other types of fiction because of their tendency toward realism. While science fiction also has a tendency toward realism (particularly in hard sf which is an attempt to stay faithful to scientific principles), its focus on extrapolation and on the fantastic allows authors in this genre to explore ideas that wouldn't be possible in more realistic writing. This blending can be useful for postcolonial authors because it allows them to explore the implications of cultural blending in their own experiences, and it allows them to reject the hegemony of Western culture in favor of a culture uniquely their own.

For example, the syncretic tendency in postcolonial experience, according to Bill Ashcroft et al., allows a refutation of “the privileged position of a standard code in the language and any monocentric view of human experience” (41). In the case of science fiction, the texts allow postcolonial authors – through a syncretic blending of traditional science fiction tropes with their own indigenous stories -- to refute the privileged position of Western science fiction authors and their tendency to focus on the superiority of Western notions like technology, environmental/native exploitation and the value of Western society over alien cultures. It also allows them to explore themes of alterity through unique perspectives on encounters with the alien, and experiences from the alien perspective and gives them the ability to use that alien perspective to explore the implications of the subaltern experience.

Some recent examples of these emerging postcolonial authors include Nisi Shawl and Andrea Hairston who have written short pieces concerning the body and community/hybridity, as well as Nnedi Okorafor-Mbachu and Vandana Singh who have extrapolated possible futures of former colonies using colonial history. Karin Lowachee, Celu Amberstone and Ven Begamudre also have written short pieces about encounters with the alien or the Other, and Opal Palmer Adisa, Maya Kankhoje and Tobias Buckell have written stories re-imagining the past in terms of colonialism. These authors have used science fiction quite effectively to express typical postcolonial concerns, and they highlight the growing tendency for postcolonial authors to appropriate science fiction as a means to express encounters with the Other, as well as the consequences of cultural/geographical displacement and imperialism.

While these authors are becoming more popular and are also becoming more influential on postcolonial fiction as a whole, and more postcolonial science fiction authors are appearing all the time, science fiction is typically a Western phenomenon based on Western ideals, political perspectives and racial identities. Western authors have often explored themes of conquest and colonization through science fiction because of its ability to portray Western values of manipulation and exploitation of resources and Western beliefs in the appropriation of land and people. So, for most of science fiction's history it has been mostly a mode of Western ideas and political/cultural beliefs, particularly those relating to colonialism and exploration/exploitation of nature and natives.

This tendency to use science fiction as a mode for imperialistic thought has been common for Western sf writers from the beginning of science fiction as a distinct genre (no matter where one places that beginning), and many Western authors have used it to highlight the superiority of Western empires, while others have used it as a tool to emphasize these Empires' negative characteristics. These Western authors include people like Jules Verne, H.G. Wells and Edward Bellamy who have all written pieces either extolling or condemning both technology and the use of it to control subaltern cultures and maintain cultural superiority. Whether these authors were in favor of or against typical Western concepts of appropriation and exploitation, their use of the genre tended to focus only on Western perspectives, leaving out the perspectives of those who were being conquered and exploited, as these writers were still writing from the imperial centers and were usually only focused on the impact of colonialism on their own ethnic and political groups. In fact, in many cases a tinge of racism affects even the most sympathetic texts.

Again, however, there have been a number of authors from former colonies or with colonial backgrounds who have begun to use science fiction to express a non-Western perspective on the issue of colonialism. Often these texts will specifically address racial concerns through the exploration of the body and identity; they often explore other issues like hybridity and mimicry. As they explore these issues, most of these texts adopt characteristics that are commonly associated with science fiction: aliens, advanced technology, and so forth. However, they tend to go beyond just satisfying a simplistic definition of science fiction. Most also include thematic elements, social concerns, and literary approaches that place them firmly within the somewhat fuzzy (and difficult to define) boundaries of science fiction.

At the same time that they follow the typical conventions of science fiction, however, they also have a tendency to undermine some of those conventions in the same way that other types of postcolonial fiction undermine other Western fiction. Their approaches to topics that are typically considered “science fictional” are often quite different as, again, they tend to broach issues like racism and identity much differently. Consequently, their use of aliens and the Other is often quite different from typical Western sf. Their use of technology is often very different for the same reason; because many of these authors have a somewhat dim view of Western science and technology considering its use in conquering and controlling former colonies, they tend to explore alternatives to empirical science and industrial technology.

Science fiction is actually quite a bit more complex than it seems at first. When one reads these pieces one will still usually identify them as science fiction because sf is usually readily identifiable. In fact, because they are easy to identify as sf it’s tempting to

quickly define the genre itself, although the genre's complexity also means that various examples of texts within the genre can often have very different kinds of subject matter and literary devices, and the authors' goals and purposes for the pieces can be very different. And it's this complexity that, again, most likely attracts postcolonial authors, and the common sf themes that overlap well with those of postcolonial fiction so these authors usually find sf well suited to their own purposes. So the definition of sf, while difficult to pin down, becomes an important aspect of understanding the intersection of science fiction and postcolonial fiction.

2.1 Toward a Useful Definition

Before exploring the common characteristics of science fiction and some of the postcolonial authors who are using these characteristics to express postcolonial concerns, as well as the more important reasons why they are using it, a definition of the genre is necessary to differentiate it from other types of speculative fiction and to build a boundary around it so we can pin down exactly what we mean when we call something "science fiction." A definition also helps to establish why it is an effective means to convey these postcolonial concerns because obviously many authors already consider it a useful genre for their purposes and goals, and a definition might help to explain exactly why they may feel that way. Finally, a strong definition will help to highlight some of the important differences between traditional Western science fiction and postcolonial science fiction because, again, some of the boundaries of traditional science fiction are being stretched dramatically by this new form of the genre, often in ways that stretches the definition of sf itself.

Unfortunately, however, a definition of science fiction is problematic, and debate over an adequate definition has been occurring for decades. Bo Fowler, for instance, explains that some definitions of science fiction are “flippant and most miss something crucial,” and he isn’t far off the mark in his critique of this attempt because most of the contenders in the debate tend to fall short of just exactly what makes something science fiction (Fowler 25). His attitude, though, is common among science fiction scholars because science fiction is such an amorphous body of texts that it becomes difficult to pin down exactly which texts are within the borders of the genre and which ones are not. And, the texts that often are considered part of this genre can vary in so many ways that sometimes the only way that an individual text seems to be sf is not because it fits a precise definition, but simply because it may include one or two elements that what we often consider science fiction should have or at least will recognize as those that make something “science fiction.”

This ambiguity leads to a rather heteroglot definition of sf that is an especially appropriate perspective from which to view sf in terms of postcolonial fiction. Various voices and multiple views of sf mesh quite well with the broad pluralism of postcolonial fiction. In this sense, both bodies of texts are quite similar. And, the heteroglot definition of sf also allows broad interstices through which postcolonial authors can appropriate various characteristics of the genre and appropriate them for their own, allowing these authors to use the genre as a powerful means of exploring common postcolonial concerns.

Hard science fiction is, perhaps, one of the most relevant examples of the difficulty to pin down exactly what science fiction *is*. Hard science fiction generally is the

most scientifically sound; it tends to focus on technology and “hard” sciences like physics and engineering, and the authors of these types of texts will generally go to great lengths to provide sound scientific explanations for the technology and other elements in this form of text. And, it’s one of the most obvious examples of what most think of when the word “science fiction” is mentioned, and is probably the most immediately recognizable form of science fiction, as well. However, even in this form of strictly scientific fiction, it can be difficult to find common elements that link it to other forms of science fiction and aid in a definition of the larger body of the genre. This difficulty becomes even more obvious when comparing it to other sub-genres of science fiction.

Kim Stanley Robinson’s books, particularly his *Mars Trilogy*, are good examples of this strict adherence to science, and they can highlight the widely varying definitions of sf and the allowances they make for a postcolonial perspective on science fiction. Robinson takes great pains throughout these texts to explain the engineering, biological, technological and other scientific areas of the exploration, conquest and colonization of Mars. In fact, even some of the more difficult concepts to believe, like the “areoforming” of Mars are explained closely using geology, chemistry and biology. Robinson’s efforts tend to make the entire story seem plausible and become an excellent example of one of the things that differentiates sf from other forms like fantasy.

On the other hand, however, another form of sf called soft science fiction tends to focus more on the “soft” sciences like psychology, sociology and so on. Its main focus is usually on the social changes that occur over time and because of various influences, and again the authors often will attempt to explain these changes to enhance their

plausibility (this appears, in fact, to be the nod to realism that this genre has, even though it's mostly based on things that don't exist). This type of sf, however, is often complementary to hard sf, and in many cases a particular text can straddle the boundary between the two. For instance, Robinson's trilogy tends to have elements of soft sf because as Robinson explains the science involved in colonizing Mars in great detail, he also provides extremely detailed explanations of the social, political and psychological situations of the characters. His exploration of this element of exploring Mars adds even more plausibility to the story and lends a kind of thought experiment quality to it rather than just an imaginative adventure quality that one might see in, say, fantasy.

Most of the postcolonial sf that has been written up to this point doesn't often have the qualities of hard sf. Perhaps this is because of the desire to instill a bit of distrust of the same kind of technology and science that allowed Western powers to overwhelm the people in the colonies that they established. In fact, in most examples of postcolonial sf, technology still plays a role, giving this form of sf a "science fictional" quality; however, technology often retreats into the background where it becomes not much more than a literary device that allows authors to explore issues of subjugation or identity.

On the other hand, however, postcolonial science fiction does tend to fit the soft sf pattern. There is often a strong emphasis on the social and psychological effects of the situations in which the characters are placed. For instance, in a number of texts the authors explore the consequences, for instance, of characters that are forced to relinquish their bodies for alien bodies. However, even in the case of soft sf there is often a strong contrast between Western science fiction and the postcolonial flavor. In

most cases there isn't a detailed, in-depth analysis of the scientific basis of such problems; instead, often the symbolic qualities of these issues are discussed which lends them a metaphorical feel.

Whether sf is either soft or hard, it further breaks down into sub-genres which themselves can fall onto this continuum of scientific fidelity or social science emphasis. And, highlighting these various types of sf can further emphasize the way that science fiction is useful to authors of postcolonial fiction. In fact, most forms of sf are useful in different ways because they emphasize various common themes that are present in postcolonial fiction. For instance, alien invasion flavors of sf are obviously well suited to a kind of fiction that explores the consequences of invasion by the West.

Cyberpunk is also useful as a means to criticize Western culture and technology. Cyberpunk is a form of science fiction that often focuses on the near future and explores negative, dystopian societies that are the result of the misuse of technology or unfortunate evolutions in social or political institutions. This form of sf is also recognizable as science fiction because the technology is advanced and pervasive. It's particularly noticeable in texts like those of William Gibson where the technology is often even built into the bodies of the characters themselves, allowing them to instantly plug into cyberspace. It's also a fairly common feature of postcolonial sf; authors like Nalo Hopkinson explore contemporary (but slightly alternate universe) topics in places like Toronto, where people of color, for instance, are cordoned off from the rest of society and are essentially quarantined socially and economically from the rest of society.

In *Brown Girl in the Ring*, for example, the black citizens of Toronto – particularly those with Caribbean backgrounds – are literally fenced into their neighborhood where

they have to become self-sufficient. Postcolonial authors' exploration of a world that is slightly different, particularly in the case of Hopkinson's ghettoization of Caribbean characters, usually will highlight differences that emphasize the treatment of immigrants and other groups that are outside the white, middle-class "norm."

Another form of science fiction is apocalyptic/post apocalyptic fiction. Apocalyptic/post apocalyptic science fiction focuses on major disasters like pandemics or strikes by comets; like other forms of sf the authors tend to explain these events as scientifically and as realistically as possible. This type is recognizable as science fiction because of the extreme circumstances in which the characters are placed. Often, in these situations the characters will tend to use extreme forms of technology to solve their problems, or because of the disasters technology will be completely non-existent and the characters will be attempting to rebuild society and learning to live without the technology they formerly had, so again technology plays an important role in this form of sf.

Postcolonial apocalyptic sf often follows this same formula; however, the cause of the apocalypse rarely is natural. Instead, the apocalypse is often the result of cultural/species collisions that have far-reaching social consequences. For instance, in postcolonial sf this sub-genre will often overlap with alien invasion tales because the characters will often be suffering the collapse of their civilization because of imperial colonial action. The responses to the actions and the effects of the actions on the characters is usually very similar to what occurred during the colonial period as Western powers destroyed native cultures and appropriated the natural resources of those groups. Tamai Kobayashi's story "Panopte's Eye," for instance, is a story about an

Earth that is ruined by corporations, and humans that are barely able to exist because of the environment that is destroyed by industrialism and science. The short story is a harsh criticism of Western materialism and environmental exploitation, as well as the science that allows this situation to occur.

Alternate universe is another sub-genre of science fiction that asks “what if?” It is a kind of sf that explores the changes that might occur if something different happened in the past. For instance, the author Joanna Russ’ *The Female Man* explores several versions of the world where women take varying levels of control over their universes. In one alternate universe women are in a war with men; in another men do not exist at all.

This form of sf is particularly well adapted to postcolonial fiction because it allows these authors to essentially re-imagine the current postcolonial situation in favor of one that is either free from colonial influence altogether or conversely is even more firmly entrenched in a colonial paradigm. Several postcolonial authors use this method to explore alternatives to the current situation. The final section of *So Long Been Dreaming*, an anthology of postcolonial science fiction, for instance, is called “Re-Imagining the Past.” In this section of the book there are a number of stories that feature the past rather than the future, but in doing so create alternate universes where issues like slavery and colonization take extreme turns. Tobias Buckell’s “Necahual,” for instance, explores an interstellar version of the concept of the white man’s burden as planets are colonized to “save” them from alien influence. While this story appears to be set in the future, it is actually a re-imagining of the actions of the West in the past as the characters transpose those actions onto whole species. The ultimate point of the story,

in fact, is the emphasis on the loss of identity and self-determination that the colonized cultures experience as they are “saved” from the aggressive actions of aliens.

Finally, alien invasion or alien contact sf is based on various types of encounters with aliens and the consequences of those interactions. Obviously this form is also a particularly useful one for postcolonial authors because these encounters with the alien are parallel to the encounter of the native with the colonial powers. The form allows postcolonial authors also to explore various forms of Othering, like the exclusion of aliens which could represent members of the colonial powers or the native populations, or deeper implications of Othering, like the loss of identity and the subsequent re-establishment of hybridity. An interesting postcolonial example of alien invasion is Greg van Eekhout’s “Native Aliens” which explores the invasion of aliens from the perspective of the aliens themselves. The story is about a people who live most of their lives in a place they or their ancestors are not originally from but has become home to them. The text is interspersed with a story about future descendants of humans, returning to a “home” that they have never known, and to which their experience and even evolution has no longer suited them. In fact, they are so unsuited to the environment there and are so alien to it that they must have surgeries to allow them to adapt to it. So, “Native Aliens” explores the Other and the alien from the viewpoint of the aliens themselves, and pushes the boundaries of identity loss to the alteration of the body itself.

While there are other types of science fiction (including things like steampunk and space opera), the ones outlined here are the forms that postcolonial authors will most typically use. Perhaps this is because some of these sub-genres are particularly well suited for postcolonial science fiction because of their subject matter. For instance,

again alien invasion sf obviously serves as a strong analogue to the invasions of Western colonial powers, and cyberpunk allows authors to explore social problems that arise as a result of postcolonial cultural hybridity.

Amitav Ghosh's novel *Calcutta Chromosome* is a particularly interesting example of hybridity because it allows a re-imagining of postcolonial identities. In fact, Jorge Luis Andrade Fernandes says that "The political power of works like *The Calcutta Chromosome* is not that they offer a beyond, but that they fragment postcolonial and imperial identities" (131). This fragmenting that occurs in Ghosh's novel highlights the cultural fragmenting that occurs in more mainstream examples of postcolonial fiction. The characters often find themselves lost in their surroundings, unable to find their place in the world, and unable to even discover who they are.

Even with these extreme variations most scholars have attempted to define science fiction, however, using the same methods that are used to define other genres; for instance, many of the common characteristics of sf are considered in many definitions, or the social action (its purpose and its effects on society or critique of society) of science fiction are considered. However, even these common definitions and outcomes of sf can become contentious rather than aiding in finding a useful definition of the genre, and they don't often work very well in the case of science fiction because, again, it can take so many different forms. Instead, one attempts to find a particular set of characteristics that places a text (or group of texts) within the boundaries of sf, and another text outside of those boundaries, the boundaries themselves become extremely fuzzy and difficult to define. This occurs not just with the characteristics that we generally agree that sf has, but also with science fiction's purpose or effect.

For instance, the novel is generally a middle-class construction; it formed under certain cultural and political circumstances and can actually become a powerful tool in many cases. Science fiction, on the other hand, does have some of the same political and social influence, but even that influence doesn't quite fit a pattern, and often its use as a tool is very different from mainstream forms like novels in general. So, even in the case of what sf *does*, it is still difficult to define it.

However, when one goes back to just the characteristics of sf, one especially finds difficulty in pinning it down. For example, when some scholars focus on the common characteristics in the genre, like the use of aliens and technology and the implications of these things within each text and how these typical characteristics separate it from other literary forms, there is often debate about which of these elements should be present for a text to be considered sf, and just how many of them can be absent without placing a text outside the genre. And, in the case of the social action of particular texts there is even more widespread debate because the implications of science fiction range from cognitive estrangement all the way to modern myths. While some of the common characteristics and even some of the social implications of the genre may seem the obvious ways to differentiate it and define it, these approaches have proven problematic.

Paul Kincaid, in fact, says that "the more comprehensively a definition seeks to encompass science fiction, the more unsatisfactory it seems" (43). Actually, typical definitions of the genre, like the one in *The Oxford Companion to English Literature*, while seemingly comprehensive, tend to be extremely vague and only tend to highlight the amorphous nature of what is called science fiction:

The label “science fiction” suggests a hybrid form, not quite ordinary fiction, not quite science, yet partaking of both. Beneath this label, we find a variety of wares, some of which trail off from a hypothetical central point into utopianism or dystopianism, heroic fantasy, horror, and books on UFOs and the paranormal. Yet its statements are normally based on a suspicion that the world is not as it is commonly represented. What follows one of the unacknowledged pleasures of reading science fiction is that it challenges readers to decide whether what they are reading is within the bounds of the possible. (906)

This definition tends to include so many types of texts, however – even horror and fantasy – that it is ineffective at truly differentiating the texts that could be considered science fiction – texts like those, say, of Samuel R. Delaney or of Isaac Asimov. And this can be particularly problematic in an analysis of postcolonial sf because the postcolonial approach is in many cases so much different from traditional Western sf, particularly in the way that it often deals with science.

In fact, this definition uses qualifiers like “normally based” that indicate that science fiction may not necessarily even consist of the further descriptions that follow in the definition, so the boundaries of the genre are uselessly fuzzy in this definition, especially when one considers non-Western sf that uses, for instance, organic technology like computers that are grown. Once one begins to explore postcolonial sf, even though it may seem obvious as science fiction, one’s analysis of its effectiveness as a postcolonial text quickly breaks down when analyzing what may (or may not) be the elements of a typical sf text.

For instance, in the case of organic technology, there is a bit of difficulty in including some texts that have this technology within sf. Some of these texts leave one with the impression of fantasy rather than science fiction because of the similarity of the technology sometimes to the mythical creatures that fill the worlds of fantasy. Rather than the often-scientific explanations that one will see in other forms of sf, these strange creatures will tend to form a kind of mythological element in the texts. Their presence will often place the reader outside the realm of science in a world that resembles fantasy more than sf, leaving one a little confused. However, this genre-bending tendency in postcolonial sf often has an interesting result. Just as mainstream postcolonial fiction often appropriates Western literary conventions and alters them in a way that essentially takes them away from the West, these tendencies in postcolonial sf tend to create yet another, new form of sf that is decidedly non-Western.

For instance, again in a number of postcolonial sf texts the authors eschew industrial technology for something that is organic. Postcolonial sf often will explore this alternative to the typical Western industrial technology to propose an alternative to the aggressive, appropriative tendencies in Western sf, like Nnedi Okorafor's use of computers that can be literally grown from seeds. This kind of technology takes a central place in many of these texts and allows the authors to mimic the very important technological aspect of science fiction; however, it also allows them to take a critical stance on the use of industrial technology that has allowed the West to conquer and exploit. Instead, the authors are using an organically grown technology that is an extension and extrapolation of the lifestyles and methods of traditional agricultural pre-colonial societies; again, Okorafor's text is an important example because the characters in her story live very traditional African lifestyles, but they still routinely use high

technology. And in the case of aliens, often the main characters in the stories are themselves the aliens, and they often feel their own alien-ness; this important distinction (as opposed to humans that are invaded by aliens or are the conquerors themselves) tends to express the feeling of Otherness that often pervades most of postcolonial fiction. So, again postcolonial sf tends to stretch the boundaries of the definition above, making it a very difficult tool for explaining exactly what science fiction is.

Adding to the confusion of just what is science fiction are other definitions that attempt to explain what science fiction is *not*. Bo Fowler says, for example, that, “one cannot say that SF is realism because it is not limited to the methods of realistic description; for the same reason SF cannot be classed as naturalism” (33). His explanation of what sf isn’t is important because it also exposes the fuzziness of the genre, a fuzziness that makes the genre difficult to pin down, difficult to differentiate from other forms of speculative fiction. The difficulty only grows because some forms of sf can indeed be considered naturalistic and consequently can be very realistic at the same time, even when they have exotic technology (Ronald D. Moore, the creator of the more recent *Battlestar Galactica* series, for instance, considers his series naturalistic because of the focus on drama and character development rather than just on adventure).

So, often sf can be considered realistic; Darko Suvin discusses the use of realism that is blended with unreal elements or distorted to cause “cognitive estrangement,” in fact. This technique is very similar to the technique of magical realism in that the plots are based in reality but commonly deviate from that realistic basis. Of course, however, there are some major differences between the two; magical realism has events that defy logic and are not rationally explained; sf often rationally and

scientifically explains any events that are out of the ordinary. However, both base their stories in real worlds that (except for the elements of the fantastic) we will generally recognize. This element of sf is important because it highlights the fact that it can even bend attempts at defining what sf is not. The fact that sf even resembles more mainline realism in some cases (think cyberpunk, for instance), is a strong signal that it can even cross into other genres.

So, in many ways science fiction actually *can* be considered realism because while it's imaginative, its plots usually function within the bounds of what we consider reality, as opposed to something like fantasy. In fact, most science fiction authors go to great lengths to scientifically explain even the most outrageous examples of technology or alien life. For example, the plots of the *Star Trek* franchise are often extremely imaginative; they include strange (but oddly enough always humanoid) creatures, amazing technology and unimaginable cultural differences. However, throughout the franchise authors have taken great care to carefully explain elements like the warp drive (which is based on space/time components of relativistic physics), for instance, or the lack of money (replicator technology eliminates that need because anything one needs can be replicated), even though *Star Trek* is less of a scientifically-based hard sf example and more of a space opera one. So, again, it seems that it's especially difficult to explain what sf is by describing what it's not.

On the other hand, the most common definition and understanding (both of academics and of the general public) of science fiction is that it is a kind of narrative of the future. While there are brands of sf – like space opera, again, for instance – that tend to focus just on an adventure/technology narrative, this is another rather simplistic

explanation of the genre because sf usually includes so much more. In fact, Philip K. Dick says that, “To define SF as ‘narratives of the future’ is also mistaken” because science fiction’s job isn’t to predict but rather to extrapolate and to present possibilities (55). The primary focus in most sf texts is on the effects of technological, social and political changes, an extrapolative “what if?” that emphasizes those changes rather than just being a showcase for amazing gadgets. And, perhaps this is one of the important elements to consider when analyzing postcolonial science fiction because it certainly explores the often-negative effects of current social and technological circumstances through extrapolating their future iterations.

Likewise, science fiction also isn’t really primarily focused on advanced technologies, because as Fowler says it mainly deals with “non-technologies – namely social and institutional extrapolations: living arrangements, norms of sexual behaviour, religious cults, even future art forms and board games” (34). Again, usually its main focus is on the effects of these technological artifacts, in other words, rather than on their showcase. Even when technology comes to the forefront of specific stories, it tends to become an agent of social, political and psychological change in the worlds of the text. Asimov’s *Robot* series, for example, is about much more than just the amazing android technology that fills its pages; it exposes insecurities about what makes us human, it expresses shortcomings in institutions that are commonly considered “civilized,” and it introduces a “what if?” about what could happen when humans are no longer the alpha species.

And in fact, this aspect of Fowler’s definition may be one of the most important elements of a study of postcolonial science fiction because postcolonial sf authors tend

to focus so closely on the social and institutional extrapolations that he mentions. In most postcolonial sf, actually, technology usually takes a back seat to the social and political issues that the stories explore. If technology plays a role at all, it's usually, again, to emphasize the nefarious role that technology plays in colonial relationships. This element of postcolonial sf is particularly noticeable, again, when texts have organically-grown technology. In these texts, the technology tends to be a complement to the traditional native cultures where it develops, rather than a force that is driving the society to dramatically change. And, in these instances, rather than being an intrusive influence, the technology is a helpful addition to the society, much like the livestock in traditional cultures.

On the other hand, one can perhaps argue that a lot of examples of science fiction do exactly these two things -- they use a narrative of the future and high technology -- in a synergistic combination to obviously explain our current situations and to explain the consequences of our present actions. So, yes, science fiction does deal with technology and it is focused on it (rather than simply using it as a literary device to explain social and institutional extrapolations), but it combines it with these social issues to show how they are affected by and affect technology, but ultimately the technology itself isn't the center of most sf pieces. And, this important distinction is relevant to a study of postcolonial sf because, again, this form of science fiction takes such a dramatically different perspective on technology and on social and institutional concerns.

In fact, again, one of the most common motifs of postcolonial sf is that the technology of the West (or of the alien equivalents) is in itself a damaging influence, and Western society itself is a damaging influence on colonial societies. The technology of

these particular texts is often of a radically different type from the industrial/inorganic technology of typical Western science fiction, particularly when it includes organic technology like that explained above.

Okorafor-Mbachu's *Zahrah the Windseeker*, for instance, explores the idea of difference in the so-called Northern Culture where the main character lives. In this society "a large part of the culture [...] is to look 'civilized'" or stylish. The definition of style for the culture is the ability to use organic technology to alter one's body; this emphasis on organic technology comes from a respect for the planet on which they live – a planet that is a "world of vegetation" (xi). The characters here seem to be in a world that is perfectly balanced between the needs and technology of the society and the needs of the natural world that surrounds them. In fact, pervading the text is a healthy respect for nature, a desire to avoid upsetting this perfect balance, and a kind of distrust of inorganic technology or industrialism.

Again, all of these definitions so far tend to focus more on what is missing in sf, or what kinds of superficial elements it commonly contains, so although some of these attempts can get one a little closer to the uniqueness of postcolonial science fiction, they don't quite help to define the border that places these texts (and sf texts in general) firmly in what we know as sf. Even though there are a number of different approaches to the definition of science fiction, most attempts, in fact, seem to explain, again, what it is not rather than what it is, leaving a definitive explanation of science fiction still out of reach. But, perhaps this isn't completely discouraging, however, because these interstices in the definition are often the places where postcolonial authors insert their own stories and undermine Western conceptions of the genre. In fact, many

postcolonial authors take advantage of this fuzziness and the gaps in the definitions; their ability to place their texts within these gaps allows them to further undermine Western conceptions of what sf is and appropriate the genre for their own uses.

This definition is particularly important in the case of postcolonial sf because a more specific definition can help one to better understand how it uses these elements to create texts that are written from a new center rather than the metropolitan West. So, another important element of science fiction, and one that might get closer to what it *is* rather than what it isn't, is the mythological element that some see in the genre. Some, like science fiction authors Ben Bova and Damien Broderick, in an attempt to try to explain the role of science fiction rather than its characteristics, feel that the genre is a kind of fiction that deals with modern myths. This definition, however, can be problematic and somewhat simplistic because it tends to ignore or displace the empirical focus of the genre – at least in its Western flavor – as well the tendency of its authors to attempt to find new ways of exploring problems and new alternatives to attempt to solve them, even though it may help to explain the potential for sf to explain postcolonial concerns.

In other words, myth tends to focus on the idea that the universe is in some way fixed, static and explainable, and most myth claims an immutable understanding of the world, while science fiction tends to look at the world and the problems in it in new and unique ways and with an understanding that the universe is subject to change. This can create a problem in some types of science fiction when one tries to explain it as a type of modern myth. Instead of using grand, timeless explanations for the world, sf tends to use precise scientific ones, so in many cases it cannot fill the role of a modern myth.

For instance, mythology typically is an attempt to explain the unexplainable, the grand meaning of the universe or of life, often using supernatural means to achieve those explanations. Mythology most certainly plays an important role even today; Joseph Campbell's well-known exploration of this topic comes to mind, for instance. His statement that "the logic, the heroes and the deeds of myth survive into modern times," in fact, is a simple explanation of how, even now, mythology resonates in our society (253). And, indeed, it still plays an important role in the way that we see the world and our place in it, although this role is greatly diminished and mythology is in many cases invisible in our daily lives. This is particularly true of difficult situations like our understanding of how we can maintain a high quality of life even when under the pressure of modern societies, especially when bodies of knowledge like psychology and sociology are increasingly used to solve these problems. And, it's quite possible that in some ways science fiction also plays a role in this explanation of our world, particularly when many sf authors tend to do such a great job of exploring many of those problems and even extrapolating them into possible futures, along with proposing possible solutions to those problems.

Indeed, there are many instances in science fiction of myth and its use as a coping mechanism for the pressures that the characters endure. So, science fiction does, in fact, touch on myth and include it in many cases, and it's often a reflection of the same concerns in the world outside of the sf universe; however, it's probably a bit extreme to consider science fiction itself a kind of modern myth or even say that it deals with modern myths because it doesn't exactly play an important (or even noticeable) role as the kind of mythology that Campbell discusses. And in most cases the stories and their characters actually seem hopelessly enmeshed in situations that are dramatically

changing; these same characters most likely will find creative and technological means to solve these problems and the plots of a majority of these stories won't necessarily deal with modern myths per se, but instead explore social and scientific issues, so again they don't necessarily provide that mythic response to the world. And ultimately the lesson in most science fiction texts is that scientific approaches and technology can solve problems rather than traditional mythological approaches.

For example, Campbell again says that myth still plays an (sometimes) important role in modern society, particularly in some of the most important traditions, like marriages, births, deaths, and even political changes like inaugurations. According to Campbell it is still vitally important, even with our emphasis on materialism and technology, but even though it's important, it is consistently ignored or becomes transparent, except in a few cases like marriages, and so forth. And, there are often alternatives to myth, again like psychology, for example, and science, as well as in our social interactions (think gangs, for example, in the case of youths who find a replacement for the lack of morals and cultural grounding that mythology provides).

Science fiction is very similar; again, it does have some of the same elements of mythology and does in some limited manner play that role, but its tendency to deal with modern myths that attempt to deal with these important changes in life or seemingly insurmountable cultural problems is fairly limited. So, while a definition of science fiction as a genre that deals with modern myths may be a bit too ambitious, perhaps a better understanding of science fiction is that in some ways it reflects the way that we now approach and interact with mythology.

Some authors like Arthur C. Clarke do have strong mythological elements in their stories, however. For instance, Clarke's *Rama* (the eponymous title of a Hindu god) explores the implications of contact with an extremely advanced and enigmatic race simply called the Ramans, ones who fulfill a very deep need in the characters to experience something bigger than themselves, something mysterious and unexplainable. However, although it has these mythological elements, it's questionable whether the story, as a whole, is a modern myth because at the same time the characters are engaged in a scientific mission to understand the technology of the Ramans, and there is very little overt exploration of the mythological significance of these aliens. So, mythology is trumped in this case by technology, and even Clarke's tendency to explain the Raman ship scientifically diverts the reader's attention from its mythological qualities to their importance as a source of advanced technology and scientific knowledge.

And although Clarke is just one single example (there are many others), it seems that in Western sf, mythology is commonly downplayed by science; technology seems to play the role of protector, educator, explainer, and so forth, and mythology flees to the background or again becomes transparent. Again, it seems that Campbell's assertion that science is replacing mythology in our society is reflected in science fiction. The characters seem to have deep faith in the abilities of technology to solve problems, to provide needs and to conquer the universe around them. So, ultimately, if there is an importance to this particular definition of sf, perhaps it's in the fact that the approach to mythology is very different in Western sf than it is in postcolonial sf.

For instance, in the case of postcolonial science fiction myth does take a much bigger, more important role. And, perhaps this is one of the most noticeable (if not the most important) differences between Western sf and postcolonial sf. In fact, the vast majority of postcolonial sf tends to include mythology and tends to give it a deeper significance in the lives of the characters. Rather than a deep faith in technology, many of the characters either have an antagonistic relationship with technology or tend to think of technology just as it was meant to be: a tool. So, most characters in postcolonial sf eschew the technology in favor of traditional and mythological approaches to life; in fact, the stories themselves take on mythic qualities that sometimes make them even more difficult to classify as sf because they sometimes have a tendency to cross the border into fantasy.

This is perhaps one of the most significant differences between the two forms of sf because in the postcolonial version the use of mythology is central to the genre. It becomes a major element in the attempt to discover a unique identity apart from Western influence through an extrapolative exploration of non-Western myth. So, for instance, rather than the characters finding technology more useful and pertinent to problems that they face, they tend to see mythology as a means to “ground” themselves in their universe, to find a sense of place and to form new identities. And, when searching for those identities they often will look into their pasts, back to their cultural roots before they were affected by Western colonial activities.

Because of this important difference, it might be more accurate and useful to say that Western science fiction cannot in general be dealing with modern myths but rather must be an attempt to see the world and the means to explore it, to understand it and to

solve its problems in a more dynamic and creative manner. It seems much too ingrained with an enthusiasm for the power of science and technology. On the other hand, while sometimes even shifting into fantasy territory, postcolonial sf authors do often attempt to imbue their texts and characters with a mythical perspective on their worlds. So, while this attempt at a definition may not be a way to pin down what science fiction is, it certainly exposes an important component of science fiction, whether it's a part that is largely ignored as in Western sf, or a part that is emphasized as in non-Western sf. And, it's one of the important points where one can sometimes see a dramatic difference between Western sf and postcolonial sf.

But, again even this definition doesn't encompass what sf really is or even help to highlight the most important differences between Western and postcolonial sf. So, with the mythological approach and its seeming failure to define sf, it may yet again seem that a precise definition of science fiction is impossible because of the amorphous nature of the genre. However, Paul Kincaid has a unique way of determining how particular texts might fit into what we call "science fiction." He suggests that because what we call "science fiction" is mostly in the eye of the beholder, so to speak, we should think of it as a kind of web that consists of some texts that have elements that would place them in the center of the web, while other texts may only have a few elements that would place them at the margins of the web. He calls this a "web of resemblances" – much like family resemblances. These can help one to think of science fiction as "not just one thing [...] rather it is any number of things – a future setting, a marvelous device, an ideal society, an alien creature, a twist in time [...] whatever we may be looking for when we look for science fiction" (Kincaid 50).

This is a particularly interesting perspective on science fiction because it places texts in the same kind of relationship to one another that Bill Ashcroft, in *The Empire Writes Back*, describes of postcolonial writing in general. In that situation, writers in former colonies typically write texts that follow Western conventions; for instance, many will follow the typical novel form, but in most cases will deviate from that format in significant ways, appropriating the form and transforming it into something that becomes a hybrid of Western and non-Western texts. According to Ashcroft, a text that becomes hybridized like this tends to take its place in a kind of web-like structure where Western texts are placed in the center, and other, less Western texts form the periphery and are placed at various distances from the center, based on their level of mimicry.

The similarity between Kincaid's description of sf and the structure that postcolonial texts tend to form is striking because it suggests that, just like postcolonial texts, authors choose to blend Western and non-Western elements in various proportions and even alter some of these Western elements to make texts uniquely non-Western, and sf has the same kind of possibilities. In other words, sf is also flexible enough to allow the same kind of blending of styles and alteration of traditional elements but still remain what most would recognize as science fiction. So, it would seem that even this perspective of science fiction would suggest that it is well suited to postcolonial concerns and themes. In fact, perhaps this is one of the reasons why postcolonial authors have begun to use sf to express themselves.

Although this perspective on science fiction, though, still tends to be imprecise, this web-like structure is intriguing, and it seems to be a particularly interesting way to explore the ways in which postcolonial texts fit into the genre. It can be very useful for

an understanding of how science fiction can easily be adapted to postcolonial concerns by postcolonial authors, in fact, as well as how those postcolonial texts can be placed under the seemingly amorphous heading of science fiction. It's very useful in this case because when one reads postcolonial sf one can usually readily see that it's an sf text. Postcolonial sf typically contains all of the elements of Western sf: aliens, advanced technology, alternative social norms, altered histories and futures, and so on. And, when it combines those elements with themes that typically make up postcolonial fiction in general, some unique and interesting texts appear, with very strong political and social statements that make these texts powerful additions to the body of postcolonial texts. However, in most (if not all) cases postcolonial sf will take very different approaches to these typical sf elements, combining them in different ways, portraying them in different ways, expressing different consequences of their use, misuse or lack of use, and so on.

For instance, one common element in postcolonial sf is the use, again, of organic technology that often undermines the Western emphasis on industrial-based societies. Rather than glorifying capitalism/industrialism and the subjugation of nature, as will often happen in Western sf, (in most Western sf technology is seen as a way to solve problems, even in cases where technology is viewed negatively) often this organic technology will represent a harmony with nature, or possibly at least an attempt to return to nature to some degree and live according to traditions that were lost when they were subjected to Western rule. These differences in combinations and approaches are often what separate postcolonial sf from the Western version because we can often sense that they are taking a very different stance on common sf themes like the alien/Other, conquest/colonization, scientific/technological advancement, and so on.

The concept of the Other is particularly important to postcolonial literature, in fact, because the concept of identity/identity loss, hybridity and so forth plays such an important role in the formation of cultural identities in former colonies. In postcolonial science fiction, interestingly enough, there is a tendency to embrace the alien/Other, or at least to better understand it, and there is a proclivity for syncretic combinations with that alien/Other, for example. In the case of technology, there is often a rebellious tone, particularly when that technology is used in conquest/subjugation or is detrimental to one's society and one's environment. This element of postcolonial sf, along with its treatment of technology, as well as other elements of mainstream sf that it uses and sometimes transforms, lead to texts that can be placed at various locations on this web. So, again, these texts will be quickly recognizable as science fiction; however, they will include other literary and thematic elements that will place them in unique positions on this web. So, perhaps Kincaid's approach can be at least somewhat useful when understanding sf because, again, even in the case of the sometimes very different postcolonial sf we still recognize the story as an example of science fiction.

2.2 Cognitive Estrangement

Another definition, and perhaps one of the most useful (and most accurate) is Darko Suvin's concept of cognitive estrangement. Suvin's definition of science fiction is that it is "a literary genre whose necessary and sufficient conditions are the presence and interaction of estrangement and cognition, and whose main formal device is an imaginative framework alternative to the author's empirical environment" (27). Suvin's definition is much more precise than Fowle's, Bova's and Kincaid's because it focuses on a specific outcome of sf texts and what they do for the reader, rather than simply

highlighting the rhetorical or literary elements that a text either must have or must not have. A further qualifier to this definition of science fiction might be that it uses extrapolation to achieve cognitive estrangement; this is an important distinction because fantasy also fits the requirements of cognitive estrangement, but it does so to the detriment of science. In other words, in fantasy we are displaced into a world of magic and nonmaterial powers that don't directly allow a specific critique of Western technology per se. Texts that don't tend to estrange the reader from reality, for instance, or at the same time lead to a cognitive process where the reader considers that strange situation, generally can't be considered science fiction. So, it provides a central, unifying concept that forms a boundaries around the genre and identifies which texts will be inside that boundary.

At the same time, this definition may be one of the most appropriate definitions when exploring postcolonial versions of science fiction because it helps to differentiate these texts from other forms of postcolonial fiction and in a double motion it places these texts within the borders of the sf genre. At the same time, Suvo's definition highlights one of the central goals of both postcolonial sf in particular and postcolonial literature in general, even as it differentiates the two and places postcolonial sf in a separate category. It helps to establish that both forms of postcolonial literature primarily tend to create what Salman Rushdie calls "newness." This newness that Rushdie describes is something unique and different, something that has been created from a syncretic blending of West and former colonies. His application of newness relates to hybrid characters who have been created by their immigrant status or their contact with the West in their own homelands; however, the same kind of newness occurs in these texts as authors blend Western sf elements with non-Western storytelling techniques. And, as

this newness occurs, it gives the reader that same sense of strangeness that the characters and the authors themselves experience, but at the same time forces them to think about their situations. As it does this, it closely follows Suvin's definition of sf.

However, obviously this definition still isn't a complete one because it tends to leave out important structural elements of what we usually consider science fiction (think Kincaid, again, and the common elements like aliens and advanced technology); however, it does include one of the most important things that happen to the reader while reading sf. As the reader reads a piece, say by H.G. Wells, he will be estranged from the world that he knows as "real" because he is taken into one that is strange and unfamiliar, a world in which one can travel through time and see strange creatures and vastly different social and political systems, as well as dramatically different technology. Of course, this is similar to other imaginative forms of fiction like fantasy, magical realism, travel stories, and so on. But the important difference is that there is a double motion occurring because as the reader is estranged from reality, he is at the same time asked to think.

So, as the reader is estranged from reality by being immersed in this other world, science fiction texts will at the same time take advantage of that estrangement by forcing the reader to compare that situation to his own world. To do this, the texts will usually use science in some manner to explain these strange creatures, differences in cultures and so on. So, Fowler's discussion of the realistic element in science fiction comes to mind again because even as these texts explore worlds that cannot be considered real, they make these worlds plausible through scientific explanation. This element of science fiction is quite different from other forms of speculative fiction like fantasy, travel fiction or

slipstream because the inventions, creatures and events become believable even as they're considered strange. So, Suvin's definition is appropriate for science fiction in its ability to differentiate it from other types of speculative fiction, and again this becomes one criterion that allows one to build the border around the genre.

Again, H.G. Wells is an interesting example, particularly because he was one of the first to include both cognition and estrangement in his fiction. For example, his story *The Time Machine* Wells effectively estranges the reader from reality, particularly the late nineteenth century reader who would be firmly ensconced in the Age of Steam. The reader would be exposed to a dramatically different social structure with the Eloi acting as a lower class and as a food source for the Morlocks, and he experiences these things vicariously through the Time Traveler who has visited this far future by using a time machine.

However, the reader is still asked to think while reading the story because Wells uses the Steam Age understanding of science to explain the workings of the time machine and the social situation in the future. So, ultimately the reader isn't required to suspend all belief but rather just his belief in where technology can take a person and a society. So, particularly in the case of H.G. Wells, the concept of cognitive estrangement provides an interesting way to define the text and differentiate it from other forms of speculative and fantastic fiction.

And, the same is true for most of science fiction. From authors like Wells to modern cyberpunk writers, the texts will often remove the reader from the world in which he feels comfortable and of which he has at least a relatively reasonable understanding and will surround that reader with a world of speculation where things are often (either

subtly or extremely) different. In the case of William Gibson's cyberpunk, for instance, the reader enters a near-future world where characters literally become one mentally with their computers. Then, the author will ask the reader to believe these changes by thinking through them and understanding them scientifically. So, after someone enters Gibson's strange world, he then becomes convinced that this world is possible because Gibson provides cogent explanations of the strange and amazing technology that he presents. At the same time the reader is confronted with the differences between the fictional world and the real one, and the political, scientific, social and other implications of these differences.

Suvin's definition is one of the most useful in the case of postcolonial science fiction, too, because again it allows thought experiments within the genre and dynamic, hybridized postcolonial worlds within the texts through cognition, and it allows a sense of estrangement that is often a part of any form of postcolonial fiction. For example, in these postcolonial versions of science fiction, the authors will estrange the readers from reality, just as in mainstream sf; the goal of the estrangement is often different in postcolonial sf, however. With these texts, the authors are usually attempting to create a sense of estrangement from Western culture that is similar to the sense of estrangement that the author and former colonial cultures experienced. So, the text overlaps both forms of literature; it remains a postcolonial text because of the thematic elements that it contains, but it also becomes a member of the sf genre as it includes the elements of sf that allow it to estrange the reader. At the same time, it becomes a particularly strong form of postcolonial literature because with the element of strangeness that sf often has, the reader is powerfully dragged out of the familiar into a world that resembles the strangeness of the postcolonial subaltern.

However, this definition is also particularly useful because it tends to ignore simplistic definitions that only highlight common elements like technology and aliens, and instead his definition focuses on the effect that the genre has on the reader that differentiates it from other forms of literature of the fantastic. While these elements are important because they are usually what makes an example of sf recognizable, they don't include the more important considerations of what science fiction does, like the ones considered above. Considering the goals and implications of the genre is particularly important in the case of postcolonial sf because just like in other forms of postcolonial fiction the authors tend to discard many typical elements of Western writing, or they tend to use them in a way that undermines them and makes them their own. So, again this definition of science fiction is a particularly useful one because of its specificity and precision about what science fiction does.

Finally, this definition is particularly useful because it highlights the important tendency in science fiction to utilize empirical approaches to problems, which is also especially important in postcolonial sf because of the common tendency to rebel against Western science and its use for subjugation. In this case, the postcolonial flavors of sf tend to use Western empirical approaches to reality and to problems; however, they tend to take this most basic foundation of Western science and turn it on its head, as well, again allowing them to avoid simply writing from (or to) the metropolitan center. Instead, they can write powerful science fiction that explores alternatives to the old paradigms of conquest, exploitation and control. The organic technology of a number of postcolonial texts again comes to mind because it provides an alternative that allows the characters in the story to live less intrusively in their surroundings, a symbol of the traditional

cultures from which the authors come, rather than the exploitative cultures that destroyed them.

So, in postcolonial sf the reader, again, is asked to shift into a world where things are radically changed – in this case, usually a world where colonialism has run amok, or one where colonialism either never existed or is far in the past – and through extrapolation the reader sees a world where these differences are highlighted by the author. This aspect of postcolonial sf, in fact, allows the authors to highlight some of the most far-reaching symptoms of colonialism: hybridity, syncretism, and so forth. And, again, it causes the estrangement that Suvin discusses and places the reader in a situation where he will be more open to considering alternatives to present situations.

For instance, again some authors will literally hybridize characters of color so they are imprisoned in white bodies and are literally forced to be white. At the same time, however, the reader is asked not to suspend belief but instead to accept the possibility of these strange worlds, so the reality of the postcolonial condition itself is immediate to the reader, much like the sometime-strange real-world experience and postcolonial situation is to the author. As the reader begins to experience this difference, he is invited to partake in the experience of the colonial subaltern and the immigrant to the West, the same experience that creates the hybridized identities that make up the characters, the authors and members of former colonies overall. And again, this is what sets postcolonial sf apart from mainstream forms of postcolonial literature; it tends to highlight the sense of strangeness that the subaltern feels.

In fact, for Suvin, the characteristic of estrangement “differentiates SF from the ‘realistic’ literary mainstream extending from the eighteenth century into the twentieth,”

so this characteristic is an important one for Western sf as well (27). Most of the literature in the early twentieth century, for example, was quite realistic; it was set in worlds that are virtually identical to the worlds of the contemporary readers and are relatively free from strange creatures or non-existent technology (other than in some minor exceptions like in travel writing, which will be explored later). This is an important distinction because of sf's unique ability to be a medium in which authors and readers imagine difference. It's also an important distinction to make because, according to William J. Burling, Suvin's definition has a "Marxist-Structural insistence on historical specificity" which seems to indicate that sf itself has a much more specific place in cultural/class identities and struggles (238). In other words, it takes on the specific role of enhancing the reader's awareness of his social situation by emphasizing differences through imaginative extrapolation.

An important difference between a large swath of science fiction and more mainstream fiction, for instance, is highlighted in the differences between sf and mainstream novels. The novel, is, according to Michael McKeon

what Marx calls a 'simple abstraction,' a deceptively monolithic category that encloses a complex historical process. It attains its modern, 'institutional' stability and coherence [...] because of its unrivaled power both to formulate, and to explain, a set of problems that are central to early modern experience. (Qtd. in Hawthorn 26)

So, novels take on a very similar social/political/class meaning; however, their more realistic subject-matter has a more broad appeal, particularly since they explain those

problems that are “central to early modern experience” which makes them, in some ways, much less practical for expressions of difference that mainstream sf often can be.

Novels, for instance, generally came about in the late eighteenth century, although this estimation may be arguable to some. However, stories that generally had the characteristics of novels were circulating by this time, and these stories and novels typically portrayed people and situations that were very easy to imagine and to which readers could easily relate; in other words, they weren't particularly fanciful or out-of-the-ordinary. As Jeremy Hawthorn suggests, in fact, although novels may have originated out of romance stories, “we have no difficulty in distinguishing the novel from the romance” because it is quite different in that the novel tends to have a “concern with the everyday and [a] rejection of the supernatural” (20; 23). Again, the distinction is important because of the results and ramifications of these differences; novels tend to express reality and are, overall, quite conservative; their focus is largely mainstream and their stories are for the most part relatively conforming.

On the other hand, instead of cultivating the everyday, science fiction texts obviously estrange one from the everyday, and this important distinction makes them uniquely suited to an exploration not of what is, but of what could be. So, while novels took on the role of exploring contemporary social issues, cultural problems and so forth, science fiction tended (and still tends) to project those same social issues and cultural problems into the future and take them to their most logical conclusions; at the same time, it predicts new ways of tackling those problems – including technological means – rather than solving them from within a contemporary context. Again, this makes science

fiction rather different from mainstream novels because it's often subversive and challenges the accepted norm.

And, this subversive nature gives science fiction an important political quality because individual texts question the very reality that we often take for granted. They then substitute that reality for others, offering alternatives to the status quo. Consequently, there is another important distinction to be made when one is exploring the tendency (or lack thereof) to ignore the everyday in favor of an exploration of fantastic worlds. In a large number of science fiction texts the first impression one gets is that, indeed, the characters and the situations appear to be everyday. However, again, there is usually an extrapolative feature present even in these kinds of texts that quickly and decisively removes one from any illusion that there is an everyday element to the text. In fact, in many cases the very fact that the situations seem everyday is in itself very out-of-the ordinary because usually the technology or social differences of the universe of the text and the way that the characters take it (or them) for granted, quickly removes that element of the everyday. In other words, when one reads a text by William Gibson, one commonly has the first impression that the world in the story is quite similar to our own.

However, this impression is often only because the characters themselves are surrounded by technology that they take for granted and of which they may no longer be aware. The technology becomes so ubiquitous to them that again we are left with a sense of estrangement because of their situations, just as we would be with more obvious science fiction like that of, say, Larry Niven or Douglas Adams. And, as we realize that these seemingly subtle differences are in fact very large ones, we quickly

realize that what we take for granted may not be so obvious and quite so common sense.

In other words, according to Suvin most mainstream literary pieces tend to have a subject matter that includes “exact recreation of the author’s empirical environment” (24), so with postcolonial sf, as one reads one is forced to see the potential reality of the concepts the author explores. Again, according to Suvin, the vast majority of literature is focused on stories that are plausible and avoid overly imaginative or unlikely events. However, he also qualifies this argument by saying that “at the beginnings of a literature, the concerns with a domestication of the amazing is very strong,” so again travel stories, for instance, in the early part of the eighteenth century commonly had amazing creatures or strange landscapes that would remind readers that “whoever thinks his valley is the world is blind” (25).

Suvin follows this background on European literature in general with the argument that science fiction follows this latter tradition of using the “amazing” by removing readers from their empirical environments and “confronting a set normative system – a Ptolemaic-type closed-world picture – with a point of view or look implying a new set of norms,” in other words, estrangement (25). So, while a discussion of the differences between mainstream novels and science fiction is useful, it’s also important to consider that what science fiction primarily does is quite different from other types of fiction, as well. It is also useful to mention that this characteristic of science fiction tends to run counter to Bova’s and Broderick’s definitions because it precludes the tendency of science fiction to focus on fixed mythical elements. Instead, it posits the argument that science fiction is essentially extrapolative – that it tends to view the world as evolving

and reality as subjective, and it uses that position to imagine possible futures for the world in general and for societies in particular, so again this definition is more apt for postcolonial sf where the authors very much believe in a changed and changing world, one that often has changed to their own societies' detriment.

In fact, Suvin says that science fiction can be differentiated from myth, what Suvin calls "a 'timeless' and religious approach looking in its own way beneath (or above) the empiric surface," and many other forms of texts that induce estrangement because science fiction tends to encourage cognition. Rather than a mythical/religious belief in the world and society as fixed and reality as ultimately knowable, science fiction "focuses on the variable and future-bearing elements from the empirical environment" (26). In other words, science fiction expresses a faith in the ability of empiricism to explain reality, but it also allows a more flexible approach to explaining reality as opposed to the inflexible explanations of myth. This tendency also sets science fiction against other literary forms like fantasy because Suvin says that the worlds within fantasy are "inimical to the empirical world and its laws" (27). Ultimately, he believes that the cognitive nature of science fiction implies a "reflecting *of* but also *on* reality" (27). So, while science fiction estranges the reader, it also allows for a world where one can explore problems in an empirical manner and allows for the changes in society and ideology that often result from those explorations, which is ultimately the goal of postcolonial authors who are attempting to explore the changes in their own worlds.

So, while Suvin's definition is probably the most important for a study of postcolonial science fiction, and it seems to be one of the most apt because it focuses specifically on one of the most important elements of postcolonial fiction, it's important to

review one other important definition. Barry Malzberg's definition is particularly useful in any attempt to find a workable definition of science fiction, particularly when exploring postcolonial science fiction because Malzberg refers to science fiction as "a methodology and an approach," a way of thinking about the world (qtd. In Gunn, 39). In other words, rather than defining it as a set of particular characteristics, Malzberg sees it in terms of what it does. He then applies this definition to the use of technology and its effect on society in science fiction because science fiction tends to use technology to show that it will inevitably change the world:

In a technologically altered culture, people will regard themselves and their lives in ways that we cannot apprehend. That is the base of the science fiction vision, but the more important part comes as corollary: the effects of a changed technology upon us will be more profound than change brought about by psychological or social pressure. It will be *these* changes – those imposed extrinsically by force – that really matter; this is what the science fiction writer is saying, and in their inevitability and power they trivialize the close psychological interactions in which most of us transact our lives. (39)

Essentially, his argument stems from his overall critical stance on technology as a powerful problem solver in all areas of society and is primarily a response to the constant optimism about technology that authors like Hugo Gernsback and John Campbell expressed in their own science fiction. While Malzberg sees the importance of technology as a driver of change, his attitude toward technology is that its effects are ubiquitous and largely negative. And, he finds the effects of social change far more

important and more far-reaching, in any case, than technology, at least in terms of most sf authors. Consequently, he goes on to say that because of this tendency in science fiction to de-emphasize the effects of technology even while placing it in the center of the metaphorical stage in sf texts, science fiction “is inimical to the middle class (which has been taught that increased self-realization is increased control) because it tends to trivialize if not actually mock the vision of the modern novel and drama (the shaping of experience is its explanation),” so science fiction “has been in trouble in America from the beginning as the enemy of the culture” (40).

So, Malzberg’s argument is doubly useful because again it explains both his attitude about what science fiction *does* and further muddies the attempt at a successful definition, and it also expresses an important concern about the role of technology in sf texts themselves and its role in the real world. Malzberg’s points, in fact, further highlight the ambiguity of what science fiction *is* and what it *does*, an important aspect of the genre because, again, it allows important interstices into which postcolonial authors can express their own concerns in the genre. And, at the same time it emphasizes an ambiguity in the role of technology, one that allows postcolonial authors to express a negative attitude toward technology that is similar to that of Malzberg.

In addition, while Malzberg may be a bit hasty when he says that science fiction as a whole tends to favor technology as a mode of change (because again not all science fiction is focused around technology), he does make a very strong point about the power of science fiction to force us to accept alternative sources of social and societal change, and in fact, in light of what Suvin says about science fiction’s ability to cognitively estrange the reader, Malzberg’s explanation of what sf does may be another

confirmation of sf's tendency to be a particularly useful genre to explore postcolonial concerns.

Malzberg also highlights an important subversive quality about science fiction that makes it particularly apt as a means to express postcolonial concerns. This subversive quality is another reason why it is a very effective medium for expressing postcolonial issues because in many cases science fiction forces its readers to take new perspectives on problems, perspectives that often will be uncomfortable to them in the same way that Malzberg says that it causes discomfort to the middle class.

A typical characteristic of postcolonial fiction, in fact, is the exploration of the social effects of colonial rule. For example, V.S. Naipaul's book *A House for Mr. Biswas* exemplifies the social problems that occur in the wake of colonialism and the struggle for societies and individuals ultimately to find their identities or at least to find their own way to be happy and fulfilled. Mr. Biswas marries into a traditional family, one that lives communally and represents the pre-colonial cultures that were mostly decimated by colonial rule. The Tulsi family offers him a place in this traditional world, one where he can live a relatively happy life; however, Mr. Biswas is not content with this situation. Instead, representing the modern man, the postcolonial subject who no longer feels a bond with traditions, he rejects this option. However, his choice leads him to varying levels of success, particularly financially and socially, because he is consistently afraid of losing his jobs, he never quite achieves his goal of his own home, and he doesn't quite relate to or understand those around him. Essentially, he has become a victim of hybridity, neither able to live traditionally as his in-laws have (albeit unsuccessfully) but also not able to embrace Western modern ideas.

The book is subversive to Western conceptions of colonialism in that it destroys the illusions that colonial rule has somehow improved the lives of colonial subjects. Rather than somehow being improved by being Westernized and modernized, most of the characters in the story lose a sense of their identities because they no longer have ties to their traditional cultures. The Tulsi family, for instance, lives together in a traditional communal situation, but the very house that protects them is decaying, much like the culture that they are trying to preserve. And Mr. Biswas, the so-called modern man, finds that he has a deep dependence on money and on Western powers, particularly the Americans, for his sense of worth and for his very livelihood. In neither case are the characters healthy, self-sufficient or even happy.

This strategy of exploring Western illusions of “the white man’s burden” and then shattering them systematically is a common characteristic in postcolonial fiction, and it makes Malzberg’s definition of science fiction particularly useful in an analysis of postcolonial sf. In fact, the use of alien cultures and situations in postcolonial sf makes it particularly useful for an exploration and subversion of the rule of Western society over colonies and former colonies. Buckell’s “Necahual” again comes to mind because it undermines that belief in the colonial power’s ability to save another group from themselves or from another powerful group. In that story, the situation is very similar to Mr. Biswas as the aliens attempt to find and re-constitute their identities.

So, exactly how do all of these perspectives and definitions come together to explain what we think of when we hear the words “science fiction?” Although seemingly disparate, these diverse and seemingly unrelated definitions of science fiction, overall, do tend to converge in many individual texts, and they particularly work well together to

explain and define postcolonial science fiction. In addition to the examples above, there are many other instances where science fiction meshes extremely well with the typical goals and characteristics of postcolonial fiction. And, many of the definitions of science fiction above can help to better explain the phenomenon of postcolonial science fiction.

For example, Kincaid's definition of science fiction as a web-like structure of related texts tends to allow interstices into which postcolonial science fiction texts can fit. Bill Ashcroft discusses the mimicry and appropriation of Western literature as an important means through which postcolonial authors can develop new identities and can achieve a level of authenticity that is typically only given to Western texts. Ashcroft says that

only certain categories of experience are capable of being rendered as 'literature.' This privileging of particular types of experience denies access to the world for the writer subject to a dominating colonial culture [...] both denying value to the postcolonial experience itself, as 'unworthy' of literature, and preventing post-colonial texts from engaging with that experience. The result is that the post-colonial writer is consigned to a world of mimicry and imitation. (88)

This is a common problem in postcolonial texts, but using Kincaid's definition it becomes more apparent that science fiction is more flexible in allowing non-Western texts because as long as the postcolonial sf texts follow generally-expected conventions of science fiction (again, some of the common elements like aliens, advanced technology, and so forth) and fulfills some of the other definitions above (like cognitive estrangement, for example), they can often diverge quite dramatically from what most consider to be

typical science fiction. As they diverge, they do so in a manner that, again, emphasizes difference, hybridity (particularly of the text – a mix of Western and non-Western, an exotic mishmash of styles) and syncretic strangeness. As they achieve these goals, they also achieve the goal of emphasizing that same strangeness that the postcolonial subject feels in the face of his cultural death. And, they can still achieve these goals while remaining within one of those interstices that make a text science fiction.

In fact, according to Kincaid's definition of science fiction, this genre is extremely flexible, allowing for many texts that focus on non-Western concepts that would not necessarily be accepted in other genres. For example, most Western science fiction texts tend to focus on mechanical/inorganic technology that reflects Western focus on domination, manipulation and transformation of inanimate elements in nature. Several postcolonial science fiction texts, however, including Okorafor-Mbachu's text *Zahrah the Windseeker* focus on organic technology that represents a manipulation of nature as well, but in a more complementary way that suggests harmony with nature rather than subjugation of it. Many texts like those of Nalo Hopkinson also tend to stretch the boundaries of the definition of the genre by combining futuristic settings and technology with fantasy elements like contact with voodoo spirits. All of these texts, though, highlight Kincaid's definition of science fiction as a web-like structure that includes some texts that have strong science fiction characteristics and others that are tertiary – although still considered science fiction – because they have fewer typical characteristics.

Again, the mimicry and appropriation element in texts like Okorafor-Mbachu's and Hopkinson's is important because while these texts maintain their membership in

the science fiction genre because of the things that they mimic (use of extrapolation, technology, encounters with the alien, for example), they also appropriate the genre and alter it in ways that make their texts uniquely postcolonial. For instance, they may place themselves in the role of colonizer and explore the significance of their activities on an alien population; this reversal of roles may be accompanied by a variety of unconventional technologies like organically grown computers, and the consequences of both human colonization and species colonization (from those organic computers) are explored. So, as one reads these texts one will still recognize them as science fiction, but at the same time these significant differences will highlight the significant differences between these non-Western texts and traditional Western ones, often in ways that highlight political or social issues related to Postcolonialism.

Kincaid's definition of the genre allows much more resilience than many of the others that are available, as well, and it allows for a genre that is uniquely suited to mimicry and appropriation. It also allows postcolonial authors to embrace difference and marginality in a way that Ashcroft says permits, "the disappearance of the 'centre,' and with no 'center' the marginal becomes the formative constituent of reality" (104). In other words, while still retaining characteristics of what many would call 'science fiction,' postcolonial authors are able to appropriate the genre for themselves by mimicry, and then offer a "sense of the complex, interweaving, and syncretic accretion of experience" (104).

Broderick's and Bova's arguments that science fiction is a type of modern myth – while again not generally apt for all types of science fiction – may in some cases also be applicable to postcolonial science fiction because, again, it tends to apply mythic

elements to the technological and empirical ones to create texts that can still be considered science fiction. Typically, for instance, non-Western myths will form the basis of many of these texts, so while one may include advanced technology, aliens and highly advanced civilizations, at the same time the characters may be living in communal settings much like the setting that Mr. Biswas ultimately rejected. In a sense, in fact, some of these characters (particularly the ones that reject industrial technology for organic technology) will find a means to unite their technology to their traditional cultures in a meaningful way, allowing them to form new, unique identities that preserve their pasts but also embrace the usually unavoidable influence of Western society.

At the same time, postcolonial science fiction stretches the boundaries of what Damon Knight says is “whatever we point to when we say ‘this is science fiction’” (qtd. in Gunn 40). Appropriation is important when viewing science fiction from Broderick’s and Bova’s perspectives, and in this case hybridity is also apt because many postcolonial authors tend to combine Western science fiction elements (like advanced technology and empirical science, for instance) with mythical storytelling from their respective cultures. Nalo Hopkinson’s novels combine modern technology with traditional Afro/Caribbean storytelling to emphasize the hegemony of Western technology and ideology but at the same time to abrogate it in favor of non-Western conceptions of reality.

In *Midnight Robber* Nalo Hopkinson’s characters live in a Caribbean-colonized world where Western influence is a part of the past (2). However, the remnants of that influence are still all around the characters, including in the very world on which they live. In fact, this is a place that the narrator describes as a planet where “the Marryshow

Corporation sink them Earth Engine Number 127 into it like God entering he woman; plunging into the womb of soil to impregnate the planet” (Ibid). In very vivid imagery, the narrator explains the technological rape of the planet to terraform it for human habitation. And in many ways the Caribbean characters tend to continue that Western attitude of using technology to subjugate nature; however, they have tempered this attitude with a more respectful one for nature and even use organic technology to live in harmony with their natural surroundings rather than controlling them. This different approach leads to a text that has many of the features of traditional Western sf but has a very different approach to the interaction between nature and culture, technology and colonization, one that finds a syncretic blend of nature/world and culture/technology rather than exploring the old Western dualities of either embracing technology or shunning it.

Using non-Western mythic elements and non-Western traditional storytelling techniques also creates a greater awareness, again, of the de-centering of typical Western texts that Ashcroft discusses. According to Ashcroft, colonial subjects experienced alienation because

a valid and active sense of self may have been eroded by *dislocation*, resulting from migration, the experience of enslavement, transportation, or ‘voluntary’ removal for indentured labour. Or, it may have been destroyed by *cultural denigration*, the conscious and unconscious oppression of the indigenous personality and culture by a supposedly superior racial or cultural model. (9)

This destruction of the culture of colonial subjects left them unable to find unique identities and to express themselves as distinct peoples. He goes on to say that

the most widely shared discursive practice within which this alienation can be identified is the construction of 'place.' The gap which opens between the experience of place and the language available to describe it forms a classic an all-pervasive feature of post-colonial texts [...and it] occurs for those whose language seems inadequate to describe a new place (10).

The effect of this sense of alienation on postcolonial texts is one that led to a consciousness where "the alienating process which initially served to relegate the post-colonial world to the 'margin' turned upon itself and acted to push that world through a kind of mental barrier into a position from which all experience could be viewed as uncentred, pluralistic, and multifarious" (12).

Thus, in postcolonial science fiction the author again appropriates the Western-styled emphasis on inorganic technology, but also pushes that style of science fiction out of the center through new forms of science fiction that emphasize non-Western mythical elements and storytelling techniques. At the same time, this new kind of fiction posits a new possibility of hybridity through the combination of Western written historical methods with other (depending on the background of the author) oral/mythical methods, creating a new kind of text that undermines Western conceptions of linear historicity in favor of a non-empirical paradigm.

In addition, Malzberg's emphasis of science fiction as subversive is applicable to postcolonial science fiction because of the intrinsically subversive nature of most of postcolonial fiction in general. Again, Malzberg primarily highlights the tendency of science fiction to subvert common middle-class values through the emphasis of

technological influence over psychological interactions. Postcolonial science fiction is subversive in a very similar way because it also emphasizes technological influences, particularly organic technology (again, Okorafor-Mbachu's use of organic computers comes to mind), to further subvert Western middle-class values.

It is typically middle-class values that are represented in the most pervasive Western fiction like the novel, for instance. Ian Watt argues that there is a strong correlation between the rise of the novel and the rise of the middle class, and it could be that texts like these tend to reflect the Western middle-class obsession with political/economic growth, cultural expansion, exploration and colonization and consistent progress because they arose out of the same capitalist expansionist tendencies that gave rise to the middle-class itself (Hawthorn 33).

Undermining these attitudes, and the requisite colonial tendencies that come with them, gives postcolonial writers the ability of "questioning the bases of European and British metaphysics, challenging the world-view that can polarize centre and periphery in the first place. In this way, concepts of polarity, of 'governor and governed, ruler and ruled' are challenged as an essential way of ordering reality" (Ashcroft et. al. 33). And, postcolonial sf is particularly suited to this endeavor because it combines both the tendencies of Western sf to undermine the middle-class ideals in particular with the postcolonial tendencies to undermine Western culture in general.

Finally, Suvin's explanation of science fiction as "cognitive estrangement" is especially applicable to postcolonial science fiction because of its tendency to cause the reader to feel alienation from the world of the text while at the same time causing the reader to reason about the author's portrayal of potential for societal change and

differences. Bo Fowler says of this tendency that “The worlds created in SF novels are not empirical in the sense that they accord to the external world as we know it; they are empirical in the sense in which the writer has gone about constructing the alternative world” (Par. 9). In the case of postcolonial science fiction texts, the construction of this alternative world again can lead to new hybrid texts that appropriate Western textual elements and combine them with non Western ones that allow for texts that abrogate the Western center. This combination creates the estrangement that Suvin mentions because it leads to alternative worlds within the texts, worlds that announce postcolonial difference from European hegemony. It also allows the cognition that Suvin discusses because these texts present worlds that are plausible and in most cases bear at least some resemblance to the colonial/postcolonial situations in which the authors are placed. Because they are plausible, they once again allow the displacement of the Western center because they offer realistic alternatives to the Western paradigm, worlds where Western influence is either minimal or nonexistent.

So, with a little bit of exploring some of the more common definitions of science fiction, it quickly becomes apparent that some of the most common conceptions of the genre, particularly Suvin’s cognitive estrangement, the mythic qualities of some sf texts and so on, make science fiction uniquely suited as an expression of postcolonial concerns.

CHAPTER 3

BUILDING SPECIFICS: THE *OTHER* AS A MAJOR DEFINITIONAL ELEMENT OF POSTCOLONIAL SCIENCE FICTION

The encounter with the Other is a particularly important characteristic of science fiction and forms a central part of the genre. Most science fiction pieces tend to focus on encounters with aliens, artificial intelligence, or radically different cultures; even the technology that fills the pages of science fiction texts is often a kind of Other that the characters use but tends to be an alienating influence in their lives. Arguably, the encounter with the Other is one of the most prominent and ubiquitous techniques that science fiction authors use to drive their plots, whether it is some encounter with alien species or the re-shuffling of society due to new technological influences, and without the presence of some Other as antagonist, most sf texts would devolve into mere adventure stories or travel narratives.

This encounter with the Other, whether it takes the shape of aliens, technology or landscape, also often intersects very well with the same kinds of encounters in postcolonial fiction. In fact, the Othering tendencies of science fiction are powerfully reminiscent of the Othering that occurs in the colonial/postcolonial interactions between colonizer and colonized. Many science fiction texts will commonly exoticize the Other, for instance, simplifying it into mere stereotypical simplicity, which is a technique that is very similar to other mainstream forms of Western literature and also became a decentering technique of postcolonial authors as they reversed the colonial gaze. And, in mainstream postcolonial texts authors similarly tend to exoticize and stereotype the

Other in ways reminiscent of their own Othering during the colonial period, leaving the reader much more aware of the objectifying tendencies of Othering. So, science fiction's similarity to mainstream postcolonial texts leaves it wide open as a powerful method for exploring postcolonial forms of the effects of Othering.

Othering takes many forms in science fiction. The most common is the use of aliens as Other. However, technology also becomes Other in various sub-genres; for instance, cyberpunk, particularly the fiction of William Gibson, will often explore the role of technology as Other and its Othering effects on the characters, often to their detriment. Artificial intelligence, while a form of technology, is often very different from other types of technology because of the autonomous intelligence of AI artifacts. So, AI is often a form of Other that is in a different category, particularly because of its ability to be autonomous, but still becomes a kind of Other as characters are forced to interact intelligently with forms of AI and re-define their own humanity.

Another common encounter with the Other is the interaction between cultures, either the cultures of different species or even cultures of identical species; these cultural encounters are often similar to those between species, but they are often more complex (particularly if they are both intercultural and interspecies encounters) and commonly more reminiscent of the interactions that occur in postcolonial texts. These interactions are probably the most obvious examples of Othering because they are very thinly veiled metaphors for the actual interactions between imperial powers and colonial subjects. The interactions between alien conquerors and their human victims, for instance, in *The War of the Worlds*, is a powerful analogue to the colonial enterprises of the British in their subject colonies.

Finally, and perhaps less obvious, is the representation of landscape as Other. Jonathan Letham's *Girl in Landscape* is a particularly strong example of this interaction because it is filled with the exotic influences of the environment on the planet of the Archbuilders, and the effects on the characters are palpable. This encounter is also similar to some postcolonial texts that explore the effects of landscape on identity.

Consequently, it can be argued that the Other is a primary element of all sf, including the postcolonial variety. One could argue, in fact, that science fiction is primarily about the interaction with and confrontation of the Other and an extrapolative exploration of potential effects of that interaction. Only rarely can one find texts that don't include some interaction with the Other, and texts that don't include this interaction often tend to lack Suvin's cognitive estrangement because they don't force one to consider different possibilities and extrapolate from current situations. If cognitive estrangement occurs when one experiences difference in a text, but that difference is plausible enough that it could be conceived as a possible future, then representations of the Other should consequently form a major part of any sf text. In fact, it seems plausible that cognitive estrangement and the Other go hand-in-hand. Consequently, it may be argued that since those texts don't tend to fit Suvin's definition of science fiction, they may not be considered science fiction at all. Thus, logically one might even argue that the Other is a central and necessary feature in science fiction.

The examples of this tendency to encounter the Other in sf are myriad. They include even the earliest proto-sf texts like Cyrano de Bergerac's *The Comical History of the States and Empires of the Moon and the Sun*, a satire that explores the possibility that French culture is not the yardstick by which all other cultures are measured. The

tale's encounter with the Other takes place as the main character encounters a civilization on the moon, one that views humans as not much more advanced than monkeys. As the character explores the society on the moon, he comes to the realization that his former ethnocentric views are ridiculous in the face of other, equally advanced societies. It is this realization that makes this text a particularly important example of the traditional encounter with the other. However, it becomes an even more important example in light of the cognitive estrangement that the encounter encourages. As the plot unfolds, the characteristics of the fantastical voyage (of which this text is often placed) are commonly overwhelmed by the more common sf elements, including a genuine attempt at scientific explanation of the technology that fills its pages, as well as a scientifically-minded description of the alien culture that the main character encounters. And it is this scientific basis that lends plausibility to both the technology and to the encounter, giving de Bergerac's tale an element of extrapolation rather than pure speculation. Thus, it begs the question "What if French culture isn't the center but only one society among myriad equals, or possibly even only one on a periphery?"

Even the space operas that came much later in the history of sf include this encounter with the Other that encourages cognitive estrangement. While some consider space operas the lowest form of the genre, and others consider it a different genre altogether (particularly because many are simply generic plots that are placed in space environments), even these texts include the encounter with the Other in such a way that fosters cognitive estrangement. Examples range from the generic heroes, often white and with Western cultural traits, that battle evil bug-eyed monsters and aliens. More recent examples include television franchises like *Star Trek*, where a utopian Western-styled democratic society stands up against warmongering creatures bent on destroying

and subjugating that democratic freedom. In all of these cases, though, the common denominator is the encounter with these aliens, this Other, and the sense of estrangement that it encourages in the reader, as well as the extrapolative function as these good guys and bad guys are portrayed as layers over real interactions between the self and the Other.

And since in Western science fiction the Other often constitutes either a conquering force or a force to be conquered, it appears that a primary function of Western sf is either to respond to that conquering force or to explore the consequences of being that conquering force. These contentious themes fill the pages of Western science fiction and also go hand-in-hand with the gaze. The concept of the gaze allows the two-way interaction between dramatically different cultures in both flavors of sf as each text expresses the interaction between subject and object. In Western sf for instance, the gaze allows the author to review the imperial tendencies of his own culture or to bask in the superiority of his own culture, to explore the experiences of the conquered and to explore the results of all of these encounters. In postcolonial sf the gaze itself becomes a tool to undermine and possibly neuter these encounters as Western society becomes the object of the gaze.

While the gaze is a rather simple concept – the idea that one loses a bit of autonomy once one becomes the object of observation – it has a very complex function in sf. John Rieder, for example, discusses the colonial gaze in science fiction and its important part of the encounter with the Other. In early science fiction, and even in proto-science fiction, there was a tendency for what Rieder calls satirical reversal in fantastic texts, the impulse to “turn things upside down and inside out” (4). This

distortion of reality in the texts allowed readers of the time to view their contemporary circumstances from unique perspectives. With the knowledge of the world expanding to such a degree that the strange creatures and places of adventure fiction were no longer quite believable, satirical reversal allowed authors of the period to find new ways to explore the exotic and use that knowledge to define their own concepts of the world and of Western values. Rieder says that

the Victorian vogue for adventure fiction in general seems to ride the rising tide of imperial expansion, particularly into Africa and the Pacific [and] the increasing popularity of journeys into outer space or under the ground in the late nineteenth and early twentieth centuries probably reflects the near exhaustion of the actual unexplored areas of the globe [...] so having no place on Earth left for the radical exoticism of unexplored territory, the writers invent places elsewhere. (4)

This attitude and the desire for the exotic may come from the imperial mindset of the time. As Europeans found actual worlds and cultures that were vastly different from their own, there was a tendency to find ways to define their own cultures in terms of their difference from the ones that they explored and conquered. And, much of the literature of the time reflects that desire. Edward Said says, for example, in *Culture and Imperialism* that “the novel, as a cultural artefact of bourgeois society, and imperialism are unthinkable without each other” (70). His argument, according to Rieder, is that

the social space of the novel, which defines the possibilities allowed to its characters and the limits suffered by them, is involved inextricably with Western Europe’s project of global expansion and control over non-

European territories and cultures [... and] one could no more separate the psychological and domestic spaces represented in the novel from this emerging sense of a world knit together by Western [...] control than one could isolate a private realm of emotions and interpersonal relationships from the history of class and property relations of the same period. (3)

Rieder's impression of Said's argument is particularly apt in the case of postcolonial sf because Said says that this need to find the exotic elsewhere may not necessarily be caused by imperialism, but imperialism has a tendency to allow what Rieder says is a "structure of possibilities and a distribution of knowledge and power that the novel inevitably articulates" (3). This distribution of knowledge and power allows postcolonial sf authors to disseminate their reversed gaze and to undermine the Western-centric nature of traditional sf because that structure of possibilities can itself be turned on its head and used as an expression of non-Western cultural values.

However, it is this same tendency that pervaded early Western science fiction and imbued it with the same sense of adventure and the exotic that one sees in many travel texts and even more realistic novels. These early "proto-science fiction" novels allowed Westerners to define themselves through their difference from the cultures they encountered, leaving them with a sense of superiority over those other societies and a sense of moral obligation to "improve" the lives of their subjects. However, these texts also express the fear of the Other that Westerners encountered as they realized the diversity and vast differences of other cultures.

Science fiction became a representation and a reflection of these preoccupations with the exotic/Other. Again, early sf texts like de Bergerac's proto-science fiction story,

The Comical History of the States and Empires of the Moon and Sun, as well as later novel-length sf texts, in fact, would satisfy the desire to experience the exotic that Europeans were learning about from colonial activities and often gave Westerners a sense of superiority over those exotics. It would also allow them to speculatively explore the results/consequences of the lopsided encounters with these exotics and, depending on the author, view these results either from the perspective of the conqueror or the conquered.

And conversely later postcolonial sf would allow postcolonial authors to reverse that sense of superiority by reversing the gaze that created it. Through postcolonial sf these authors could explore new possibilities in the colonizer/colonized relationship, a relationship that removes the West from the center – or maybe even removes the concept of a center completely in some cases. Science fiction then, rather than being a tool for Western exploration of the colonial enterprise, would later become a tool for the colonial subject to express the first-hand results of those imperial encounters.

While the more obvious surface differences and political contentions that occur in the encounter with the Other in Western sf may be an interesting parallel to colonial history, the encounter with the Other and its implications often illuminates some of the overlap between mainstream science fiction and postcolonial fiction. For example, both flavors of sf often will explore the detrimental effects of the encounter with technology as an Other. And this encounter with the Other may be one of the most important points of contact between the two types of science fiction because it highlights one of the major reasons why postcolonial authors may find this genre particularly useful for expressing common postcolonial concerns. Through the encounter with the Other postcolonial

authors can turn the Western colonial gaze back upon itself and can allow these authors to – using Bill Ashcroft’s metaphor – write back to the center in a way that is both critical of Western imperial attitudes but also healing for former colonial subjects. The usefulness of science fiction in portraying these concerns is, in fact, further enhanced by the reversal of the gaze that placed the West in the role of the Other and undermined Western centrality.

For instance, Karin Lowachee’s “The Forgotten Ones” acts as a rather complex reversal and redirection of the gaze, even though it’s a short story. Initially the reader is introduced to the inhabitants of Rumi village and the inhabitants’ ongoing war with the Lopo, a different race across the lake from the village. The Lopo appear to be the aggressors initially and are portrayed by the Rumi as especially brutal and genocidal. The reader continually sees the events from the perspective of the main Rumi character (unnamed in this first-person account) and her brother Hava. So, initially the gaze is turned on what the reader initially believes to be a representation of the colonizer.

However, the plot becomes more complex when another group arrives, one that appears to have extremely advanced technology compared to that of the primitive Rumi and Lopo. This new group further complicates the reader’s understanding of the direction of the gaze because the new group appears to be the subject of that gaze; both the Rumi and the Lopo view this new group with contempt as it successfully defeats them both.

Eventually, the reader realizes that the Rumi are actually a part of this advanced culture but were lost on the planet and forgotten generations before. So, the gaze turns yet again as the reader’s own attention turns to the Rumi and their own original

aggression and colonization of the entire planet. At the same time that the reader comes to this realization, the reader also realizes that what seems to be a powerful star-based culture of the Rumi is actually just as vulnerable as those it has conquered, and it is also just as prone to primitive violence and superstition and only seems advanced because of its science and technology. So, the unblinking eye of the gaze captures even the shortcomings of this seemingly advanced culture.

However, one last time the plot twists when it becomes clear that the Lopo are also not of this world but are in fact descendants of another star-faring culture that had originally been at war with the advanced version of the Rumi. So once again the gaze turns, this time toward both parent races as both seem to be aggressors against their lost descendants, forcing their cultures on them when they no longer care and prefer their lives in the land that they now feel is their home. In fact, both primitive groups become at once aggressors/colonialists and conquered/subalterns, further complicating and confusing the colonial gaze.

The complexity of the gaze in this text becomes an analogue to the complex causes and effects of the gaze in postcolonial society. Just as the inhabitants of the planet are both aliens and natives, the postcolonial experience becomes complex as the gaze that is often turned on the subaltern becomes reflected back to the conqueror. And in a double action the gaze also is directed from the postcolonial immigrant subject onto the colonizers who are in this case the natives. Ultimately, the turning of the gaze and its complexity (which is even difficult to describe in many instances) itself undermines the centrality of the colonizer and places it in the periphery.

This reversal of the gaze is actually a central element of postcolonial sf and makes it a powerful mode of exploration of postcolonial concerns; this is likely the case because it is usually necessary to understand and to be able to describe characteristics of the “Other” to be able to understand and to define oneself. And, as authors from former colonies attempt to re-define cultural identities, just as the wider cultures in which they are placed are doing, sf becomes a mode of expression that allows them to speculatively explore possibilities for those identities. Consequently, since sf is primarily a genre of the Other, postcolonial authors who appropriate it can use it to define themselves and their own cultures in relation to Western culture, essentially reversing the Western-centric nature of the genre. Ultimately, because of the highly speculative and creative nature of sf, these same authors can arguably move beyond a definition that is in terms of or in relation to Western culture and find a newness that no longer requires them to look back to the Western metropolitan center.

In both flavors of science fiction, in fact, authors will often portray characters (and whole societies – or even all of humanity itself) that find difficulty uniting with one another until faced with an alien threat. In these texts, the potential for defining the group in such a way creates group coherence. For instance Orson Scott Card’s *Ender’s Shadow* series explores the possibility of humans uniting against a common threat in the face of an alien invasion. The various groups are able to achieve this rare unity as they fight for their freedom, but they ultimately fall back into war amongst themselves once the alien threat is eliminated. Card’s series is specifically focused on the idea that groups can only forget their own differences and unite with one another when there is an Other that is so different that it minimizes their own differences. Of this problem, Jean-Paul Sartre says, “in and through the revelation of my being-as-object for the Other [...] I must be

able to apprehend the presence of his being-as-subject” (Qtd. in Ashcroft et al, 28). Sartre’s statement here highlights that need to initially understand the double movement of the subject-object relationship in the formation of one’s own identity. But, while identity is very dependent on this interaction between the self and the Other, the interaction can also lead one to move beyond this dynamic to a new understanding of identity, particularly because of the highly imaginative and speculative nature of sf. So, in both flavors of sf often the authors will find very unique ways to explore this relationship and move beyond it to new identities that are themselves exotic and Other, so again sf becomes a unique and highly effective means to explore the subject-object relationship.

This same interaction between self and the Other works on the level of the group in sf. A common characteristic in mainstream postcolonial writing, for example, is the definition of a particular group of people based on its difference from outside groups, like the interaction between invading aliens that creates a united humanity. In *The Empire Writes Back* the authors Gareth Griffiths, Helen Tiffin and Bill Ashcroft say that to develop a unique sense of identity in the face of oppression from Western powers, postcolonial authors will often unconsciously express their sense of Otherness because “the experience of a new place, identifiably different in its physical characteristics, constrains, for instance, the new settlers to demand a language which will allow them to express their sense of ‘Otherness’ [because of the unfamiliarity and lack of adequate means to describe and explain their new surroundings]” (11).

For instance, the authors mention Australian identity formation both for the settlers in that area and for the aborigines who were forced to re-define their identities in

the face of this colonization. In both groups, the need to differentiate themselves was satisfied through their expression of their differences from one another, but was more effectively satisfied by their differentiation of themselves from those who were outside *both* groups. They accomplished this by differentiating themselves from New Zealand. Griffiths, et al, say “Australian ‘identity’ is established not only in the vernacular discourse but also in a posited difference from New Zealand society” (56). In this case, the way to understand their own identity and their own characteristics is to juxtapose them against those of the Other, in this case the culture of New Zealand. And again the gaze becomes an important part of this relationship because it allowed Australians to turn New Zealanders into an object that allows them to define themselves. Through the gaze the subject/object relationship permits, for example the differentiation of oneself from the object of the gaze, and this same kind of gaze allows the same situation to occur as colonial subjects begin to define themselves, and in sf that gaze can, again, be a highly speculative/creative one that will allow uniqueness in that identity formation.

This characteristic of the gaze can also be a useful way to emphasize relationships to the Other that are a common concern in the interaction between Western and non-Western cultures. In most science fiction pieces that have aliens, there are various complex attitudes and beliefs that, in a double motion affect and are affected by the interaction. For example, in most cases the science fiction interactions are anthropocentric and/or geocentric. The concerns, beliefs, and effects in these texts are often focused on the human/earth point of view, even when the humans are portrayed in a negative light. These anthropocentric attitudes are usually accompanied by Western beliefs. For example, many of these pieces portray aliens as invaders that have come to either exploit the resources of Earth or to enslave the human inhabitants

of the planet, expressing the belief that the most important reason for invading another planet (or another country, for that matter) is only to exploit its capital.

Conversely, many geocentric pieces tend to view Earth (or some other fictional human capital) as the center of all society and civilization. In interactions with aliens, the aliens are either portrayed as primitives because they don't look back to the Earth as the center of all culture and all that is important, or they are viewed as rivals because they have their own imperial centers that challenge the centrality of humanity and of the Earth. For instance, in Asimov's *Foundation Series* the Galactic Empire's capital Trantor is considered the center of all culture and power and the gaze is turned outward at all of the inferior civilizations that are outside the empire are objects of that gaze. Civilizations that are outside of the empire are quite literally located on the edge of the galaxy but are also figuratively placed outside the empire as a barbarian Other, considered inferior, exotic and backward. Although, conversely, the gaze of these Others is turned back toward Trantor as the center, again in that double movement that eventually allows the reversal of the gaze and an intertextual opening for postcolonial sf authors to appropriate sf.

In fact, postcolonial science fiction tends to have similar attitudes toward the alien, but the postcolonial pieces often tend to be more sympathetic to the alien subaltern cultures or tend to invert the gaze so they are themselves the alien or subaltern cultures. Much of this attitude is, of course, because of the postcolonial experience as alien. Amy Ransom says, in reference to postcolonial fiction, that "the discourses of decolonization/the postcolonial and sf share this concern with alienation [...and] the word play between the terms alienation and the alien nation signals the

imbrication of the individual within the collective, [...so these texts] participate in ‘a continuing process of self-apprehension’” (60). So with postcolonial sf the inversion of the gaze allows the authors to reveal sympathetic attitudes to the alien and express the sense of alienation that accompanies the presence of the “alien nation.” On the other hand, in Western science fiction, the alien again is usually either an intelligent species from another planet, a genetically altered form of humanity or a highly developed artificial life form like an android and these aliens are often either feared, hated or avoided because they are seen as a challenge to the survival of humanity or at least to the maintenance of its distinction.

In postcolonial science fiction, though, the response to these attitudes to Western aliens is that postcolonial-flavored aliens tend to be either humans who are altered (though not usually deliberately as in Western science fiction), or some form of life that is usually part of the natural world (that is, alive and sentient, but not necessarily highly intelligent to the point of having advanced technology). Of course, Western sf, being highly speculative and creative, can (and probably does) often have aliens with similar characteristics, but these kinds of aliens are much more common in postcolonial sf.

In both cases, most postcolonial science fiction texts tend to be more tolerant of these differences, too, particularly of the primitive life with which the characters in these texts interact. Postcolonial texts will also often be much more sympathetic to the possibility of a blending of the alien with the humans in ways that will benefit both species because often the past forced hybridity is seen later as an advantage.

These interactions between aliens and humans can also be (and often are) quite complex in some texts. For example, some texts might explore the implications of encounters with aliens in much the same way that encounters between different cultures on Earth affected those cultures. In other words, rather than just exploring the contentious elements of the encounters (war or invasion, for example), they often will explore the more subtle effects of the interactions. The effects on religion, world-view, and cultural identity are often explored, for example, as the characters encounter something that dramatically challenges all their beliefs.

Octavia Butler's *Xenogenesis* trilogy is a good example of the complexity of these encounters because it affects humans and aliens on many levels, including socially, psychologically, physically and sexually. In fact, this trilogy is such a strong example of these encounters and all of their subtleties that, while Butler isn't a postcolonial sf author, her texts warrant further exploration. Additionally, her status as an African-American sf author gives her a unique perspective on Western society in general and on sf in particular, even though she is writing from the Western center. This status allows her to be highly critical of Western colonial tendencies and at the same time to degrade the typically white male-centric nature of Western sf.

This trilogy begins shortly after the nuclear devastation of Earth. An alien civilization known as the Oankali has come to Earth to help humans to survive the nuclear annihilation and the radiation that follows. They arrive on Earth and begin taking humans to their ship and placing them in suspended animation. In addition, they also genetically alter many plant and animal species to their needs and the needs of humans. Although humans began the dramatic change of Earth through their nuclear holocaust,

over the course of the three books the aliens make even more changes that lead to an Earth that isn't familiar to the humans from before the war, and an Earth that most humans find disturbing, something that, in an eerie way, is similar to the changes that Western powers made in the colonies, particularly the changes that they initiated because of their "white man's burden" attitude. In this sense, the aliens represent a very negative Other that removes the traditional homeland from the humans, leaving them unable to define themselves in terms of the landscape that formerly had been a part of their identities.

In return for saving humans and cleaning up Earth, the aliens expect humans to blend genetically with them. To survive and to avoid genetic stagnation the Oankali must constantly blend their DNA with the genetic material of other forms of intelligent life, so they need humans to maintain their species. They refer to this exchange of genetic material as a "trade," but it is quite apparent that the humans haven't made this trade willingly. In fact, when the Oankali save humans after the war, they are placed in isolation cells and conditioned to react positively when they encounter these creatures that look so different from humans. So, in addition to the loss of homeland that the humans endure, they are even forced to endure the loss of control over their own bodies. In fact, the humans – much like African slaves – are genetically altered or bred so they can only mate through the Oankali. So, the control of the bodies of the humans is amplified by their inability to even control their futures or determine the shape (or even existence) of the bodies of future humans.

The gaze is also an important element in this trilogy. The gaze itself becomes an especially noticeable presence because of the literal reaction that humans have when

they see the Oankali. Before the conditioning, most humans react to the Oankali with horror and disgust. The creatures have basic humanoid shape overall (two legs with a head on top, and an upright posture), but they are also similar to octopi. Some of the characters also refer to them as slugs because of their smooth, light skin. The technological Other even becomes an important element, as the Oankali use their advanced genetic technology to alter humans so they have a more positive reaction to the appearance of the Oankali. So, through their technology they are even able to manipulate the gaze, avoiding the inversion of the gaze and instead making it more positive for themselves and allowing them to prevent the undermining influences of that inversion.

Although these changes are compulsory and alter humans in fundamental ways that take away their humanity, many of the main characters accept the fact that they must give up their humanity and become something different. The character Lilith, for example, seems to embrace her union with an Oankali as the intermediary between her and a human male. Lilith is modeled after the Hebraic Lilith who refused to be subservient to God and to Adam. The analogy is apt because Butler infuses her Lilith with an ironic resignation to her fate. Much like the Hebraic Lilith she is strong-willed and also mates with a non-human, but her resignation to her fate becomes an important difference because, again, the potential of the inverted gaze is eliminated. As she loses her ability to rebel against this alien Other, she takes on, instead, the representation of the colonial object of the gaze, one who has been completely overwhelmed and diluted by it.

There *are* groups of humans, though, that rebel against the aliens. They refer to themselves as resisters because they do not give in to the manipulations by the Oankali, but rather live lives away from them in the periphery. Unfortunately, they are unable to reproduce, either, because they have been sterilized, so eventually they will cease to exist. In fact, the Oankali tolerate their existence because they are aware that they will eventually be able to rid themselves of these resisters. For these humans, their very act of resisting and their attempt to maintain their autonomous identity will lead ironically to their complete disappearance. The picture that this element of the narrative paints is very similar to the common fear in postcolonial fiction of the loss of identity due to the overwhelming influence of colonial powers.

In the last book, however, the Oankali give the resisters the option to emigrate to Mars where they will have their fertility restored and will be able to live free of Oankali influence. For many of the characters, though, this choice is not much better than living on Earth. Many complain that they are leaving their home behind and allowing the aliens to keep the home that truly belongs to them. The choice isn't exactly a good one for these groups, either, because of the harshness of the Martian landscape. Again, the choice is similar other postcolonial texts because in this case the humans are faced with either giving up their unique identities, or they will be forced to give up the landscape that makes up an integral part of their identity. For them, the choice is to trade one form of alien for another – alien creatures and loss of humanity or alien landscape and loss of their homeland.

While the loss of homeland is an important part of the last book, the trilogy overall is primarily focused on exploring dramatic differences between aliens and

humans and the effect of the gaze on the colonial subject. These differences and the gaze that highlights them fundamentally affect both the humans and the aliens, leading to a kind of newness that is very similar to the newness that Salman Rushdie says occurs between two dramatically different cultures, something that, according to him, causes people to lose the very ground beneath their feet as they learn new ways of understanding the world and learn to find new ways to define their own identities. While often synergistic, this syncretic blending is often disorienting to those affected by it in Rushdie's novels and in Butler's story. This newness is responsible for the loss of humanity culturally through the alien destruction of human culture and artifacts, and physically through cross-species miscegenation leading to the loss of the body. And this newness itself is caused by the intense colonial gaze of the Oankali, one that quite literally leads to a dramatic change in the objects of the gaze.

In addition to the negative results of physical and social blending, the dramatic changes in humanity also highlight difference similarly to postcolonial literature through a master/slave narrative. The Oankali consistently remind the humans that they are inferior, plagued by what the Oankali call the Contradiction, the dual characteristics of intelligence and hierarchy that will always lead humanity to destroy itself. Because they feel that they are superior to humans, the Oankali have a kind of "white man's burden" as they try to improve humanity through combination of its genetic structure with their own. The Oankali believe (in fact, they are so knowledgeable of human DNA and human behavior that they know) that infusing humanity with Oankali DNA will raise humans up from their self-destructive tendencies. This genetic engineering of humanity is reminiscent of the breeding of slaves, especially as the Oankali coerce humans in all their actions and take away their freedom to act autonomously. And, it's also just as

negative as the figurative blending of cultures that occur in colonial situations and the literal blending that occurs in slave breeding.

Butler's text is also an exploration of alternatives to traditional Western-centered notions of science and religion. It tends to undermine these hegemonic conceptions of reality in favor of alternative understandings of the world, according to Cathy Peppers. So, this aspect of Butler's text becomes an important exploration of the interaction with the Other because it turns the colonial gaze back upon the colonizers and is highly critical of the scientific and religious perspective that the West finds important (and uses to as tools in colonial conquest). The trilogy:

"seizes as tools" our culture's most powerful origin stories, those stories which are at the origin of what it means to be human in the Western order: the Biblical story of our genesis as "Male and Female, created He them"; the sociobiological story, which situates our identities in our genes; and the paleoanthropological story of our evolution from our Stone Age ancestors. To these dominant discourses, the trilogy adds what Foucault might call a "subjugated knowledge," a genealogy often written out of the dominant accounts, and therefore a powerful tool for resistance: the narrative of the African diaspora and slavery (a/the origin story of African-American identity). XENOGENESIS, as an origin story and as sf, is not about denying the discourses of science (biology, anthropology), nor the discourse of Biblical genesis; rather, it's about changing them from within, using the very power of these discourses to help us imagine the origins of human identity in other ways. (Peppers)

Overall, *Xenogenesis* presents a very disturbing view of the encounter with the Other and the effects of that encounter. Humans are dramatically changed so that they no longer maintain their cultures, their beliefs, or even their homeland and physical shape. Even the Oankali are changed by the encounter because of their exploitation of human genetic material, and this cultural/genetic blending leads to the newness in human/Oankali “constructs” that challenge the assumptions and ideologies of both species. In addition, the very name of the trilogy itself – *Xenogenesis* – hints of newness that will replace and supersede what the Oankali consider to be the inferior human race. And through the use of the Other as an alternative to Western scientific and religious discourse, it even challenges the use of those discourses as themselves a kind of Other that undermines traditional cultures of the colonized subalterns.

This text is also a very literal discourse on the bodily effect of the alien invader on the cultures of the invaded, as well as the psychological and spiritual effects of this encounter. However, the alien trope also has these more abstract effects in many other texts. While it's obvious that the aliens of science fiction will usually be physically different, they can also be different culturally and psychologically, and those effects are obviously exaggerated in the alien encounters of sf; however, often more important than the aliens is the encounter itself and the results of that encounter, and this is particularly noticeable in Butler's text. However, in many other texts this same dynamic also occurs, and in most of these encounters the imperial/colonial trope is often one of contention (aliens are usually conquering humans or vice-versa) or at least one of strained relations (political differences or conflicts over power or territory). Also typically the interactions are tense because of the differences in goals, world-views, ideologies, philosophies, religions, biology, among other things, depending on the text. However, the encounter

with the alien, even if it doesn't lead to conquest or intimate blending of the two cultures, does tend to have fundamental affects on both cultures, leaving them very different from their pre-contact characteristics.

The encounter with the alien isn't just a recent phenomenon; in fact, it is one of the most important elements of science fiction and traces back even to the earliest proto-sf texts. And, the presence of aliens in sf, particularly because sf texts typically explore these themes, highlights its pertinence to colonial and postcolonial concerns. In fact, arguably the genre's genesis traces back to the early colonial period and may even be dependent on colonialism, depending on the definition of science fiction that one uses. Some of the earliest texts that are recognizable as science fiction, ones based on fairly general and more inclusive definition of the genre, directly transpose the effects of conquest and colonial activities and highlight the interaction with the Other. For example, Cyrano de Bergerac's *The Comical History of the States and Empires of the Moon and the Sun* is one of the earliest texts that is recognizable as science fiction because it includes travel to other worlds, encounters with inhabitants of those worlds, and the use of advanced technology (de Bergerac mentions the use of ultra-light sails on homes to travel through space).

The text also maintains a colonial bent, criticizing the perception of French culture as that "norm" against which other cultures are criticized and expressing a critical attitude toward the ethnocentric/Eurocentric perspective on the world, which would include the Othering of non-European cultures. John Rieder says that the text's crux is that it

mocks, parodies, criticizes, and denaturalizes the cultural norms of [de Bergerac's] contemporaries [...] and the importance of his satire has far less to do with Copernicus's taking the Earth out of the center of the solar system than with Cyrano's taking his own culture out of the center of the human race, making it no longer definitive of the range of human possibilities. (1)

So, in this text de Bergerac directly attacks typical colonial attitudes -- ones that tend to lead to the Othering and objectification of colonial subjects -- and challenges their validity. In his text, no longer are French attitudes considered the norm or the yardstick against which other cultures are to be measured; instead, they become a minor part of a plethora of beliefs, attitudes and approaches to the world.

As de Bergerac satirizes his own culture, he turns the colonial gaze on it, making it into an Other, something exotic and ridiculous to the cultures of the moon and the sun, thus highlighting the inherent absurdity of treating French culture as central to understanding. Instead, de Bergerac portrays French culture and its accompanying ethnocentrism/anthropocentrism as ridiculous. In fact, because humans/French are so alien to the inhabitants of the moon, and are so unimportant to their own cultures, they mistake Cyrano and his companion for monkeys:

The little man told me he was an European, a native of old Castle, that by means of birds he had conveyed himself to the world of the Moon wherein we now were, that he fell into the Queen's hands and she had taken him for a monkey, because it happens they dress their monkeys in Spanish

clothes, and that when she found him dressed in this manner on his arrival, she had not doubted he belonged to the species. (60)

So, Cyrano himself becomes Other and exotic because of his differences (particularly his clothing which looks like the “Spanish” clothing with which the inhabitants of the moon dress their own pet monkeys). Consequently the attitudes that de Bergerac and his companions represent, those of arrogant centrality, are banished into a simian simplicity in the face of more complex societies, and ultimately de Bergerac criticizes these attitudes and this tendency as destructive and narrow-minded.

A later example of aliens and the Other appears in one of the most famous examples of sf, H.G. Wells’ *War of the Worlds*. This text turns the encounter with the Other on its head, so to speak, because Wells describes a world where the powerful British themselves become colonial subjects fighting for their cultural identities and their very existence against powerful and technologically advanced enemies. And once again the gaze is turned back on itself as Wells has a powerfully critical stance on the activities of the British colonial enterprise. The text is, fact, a very powerful reversal of the colonial gaze; throughout the text Wells explores the perspective of the subaltern, expressing, again, a pluralism that colonial powers often ignore in their arrogant focus on the centrality of their own culture.

In fact, part of Wells’ motivation for writing the book was his conversations with his brother about the British “colonization” (or more accurately their invasion) of Tasmania. While the details of their conversation are admittedly apocryphal, the brothers did often discuss the destruction of that area, including the genocidal tendencies that British colonists had toward the native population, and apparently Wells

said of the situation, and later stated in *War of the Worlds*: “Are we such apostles of mercy as to complain if the Martians warred in the same spirit?” (2). Again, while the discussion and the quote may be apocryphal, they do highlight an important (and well-known) attitude that Wells had: the desire to remove himself from the box of colonialist thought and to see the colonial situation from the perspective of the colonized. This was an important and rather unique attitude at the time, and it highlights the ability and effectiveness of Western speculative fiction to include the negative results of the colonial interaction. Using science fiction as a means to convey those attitudes also allowed Wells to fly under the radar, so to speak, in a society that largely disapproved of any criticism of its colonial tendencies.

Throughout the text itself, which is the result of these conversations, the same attitude prevails. Wells has a tendency to turn the colonial gaze back upon itself to express a critical attitude about the treatment of native populations as sub-humans who are barriers to the acquisition of resources. Consequently, throughout the text the reader experiences the loss of identity, territory, resources, and most importantly the loss of life, vicariously through the characters, which was Wells’ original intention. And, through this vicarious experience Wells allows the reader to also experience the reversal of the gaze and the effects of the intervention of the Other on the colonial subject.

These Western examples of the alien as Other highlight the fact that Western authors did (and still do) explore alien/human interactions in a manner that highlights the effect of those interactions through simplifying them to their basic essences:

essentially a form of stereotyping the interactions themselves and their effects on the two interacting cultures. Of this interaction, Michelle Reid says

In science fiction, complex gradations of identity can be displaced onto human versus alien confrontations. Racial, cultural and national differences can become supplanted by an encounter with a different species, in which human differences are elided by the assumption humanity will unite against an external alien "other". This strategy of literalising otherness can encourage the mainly white, Western science fiction audiences to examine prejudices and assumptions that they might be reluctant to face head-on. (sf-foundation.org)

Postcolonial science fiction does something very similar; in fact, like Wells, many postcolonial science fiction authors reverse the colonial gaze and turn the colonizers into the Other. However, while Wells tends to view colonized populations sympathetically, he is still writing from a Western point-of-view, and his perspective is still privileged and not quite believable since he didn't actually have a subaltern experience, so it doesn't necessarily provide a believable account of the colonized/colonizer experience, particularly one from the perspective of the colonized. Rather, Wells must speculate and present a hypothetical situation onto which he can transpose the alien invasion, again often a simplifying and stereotyping process that is effective for reifying deep problems associated with the interaction, but often simplifying to the point of watering down its more obvious effects on the subaltern populations.

On the other hand, postcolonial authors can present a more believable account of this situation because they are building their stories from real experiences; however,

their texts often go beyond just being more believable. Because they *are* the subalterns, their reversal of the colonial gaze is much more realistic and often a more complex exploration of the effects of the imperial/colonial enterprise on the subaltern. Consequently, rather than speculation just about the effects of colonial invasion, their lived experiences combine with speculation that lead to a much more realistic portrayal of the reversal of the colonial gaze.

Like Wells' exploration of the invasion and colonization process, postcolonial examples often portray the destructive influences of imperialism; however, examples of poco alien/Other are often highly critical of the colonial/imperial enterprise and often present alternatives to colonialism and potential postcolonial models. So, the extrapolative function of postcolonial sf often is about finding ways to heal societies and to find identities separate and independent from the colonial powers that destroyed those cultures rather than just an exploration of the effects of colonialism, and they lead to a postcolonial speculation of the future.

For example, Devorah Major's short story "Trade Winds," explores the very different understanding of the concept of trade and of home as humans and Voyagers discuss the possibility of trading goods and express their different understanding of ownership and of what each believes to be a home. The differences between these two species, particularly the things that they value, highlight the deep rift that separates aggressive imperial cultures and traditional cultures that postcolonial authors often portray as integrating more intimately with their surroundings.

Specifically, the two species are very different linguistically, which leads to a detrimental misunderstanding at the end, particularly because this linguistic difference

is combined with the difference in understanding of the concept of trade. Essentially, the Voyagers use a language full of nature and water metaphors that is mostly sung instead of spoken, one that makes it extremely difficult for the more mechanical/industrial-minded humans to understand. And, the difference highlights the differences in the values of the two cultures. The humans are portrayed by Major as being much more aggressive and prone to conquest, so they tend to use aggressive language to express their desires to gain commodities and new worlds. However, the Voyagers' language tends to express their deep valuation of lived experience and subjective acquisitions.

These aliens, for instance, talk about "life streams" that cross, referring to a person (and the sum of one's experiences) crossing with others (and their experiences, as well). This concept is extremely important to these creatures -- more important, in fact, than the material goods and commodities that the humans desire in trade. For the Voyagers, experiences, stories, and songs add to their culture and enrich it, rather than material infrastructure. And, ultimately this difference in values, combined with the linguistic differences, leads to a trade wherein the humans receive the much-needed commodity water, while the Voyagers receive a human -- the translator, Jonah, who had been interacting with them for months.

However, their linguistic variation also expresses their tendency to only briefly touch and interact with the worlds that they encounter rather than the human tendency to conquer. The Voyagers form a diaspora, in fact, that wanders for generations, never conquering the soil that they find on their travels. Instead, their most deeply-held belief is that "We are always at home," referring to their multi-generational ship and the fact

that they feel no need to conquer and then occupy a static place (184). Ownership to them, in fact, is a foreign thing, something to be viewed with suspicion to the point that they are unaware even of the use of money to transact business, although they are willing to trade a commodity for a person as they do with Jonah.

Oddly enough, however, considering the fact that they trade water for Jonah, no matter how much they misunderstand ownership, the Voyagers are even more squeamish about any form of slavery; just the mention of the word in a joke that Jonah tells terrifies his Voyager contact. However, the irony disappears in light of the fact that the Voyagers consider water worth nothing but consider the life of Jonah of immense worth. They feel that they are providing him with a dramatically better life because of his new experiences and his crossing of the life stream with their own people, and in return they are providing the humans with a worthless object, so they aren't buying a human.

So, the trade for Jonah isn't one that makes him a slave, at least in the opinion of the Voyagers, but rather has a positive outcome for everyone involved, including Jonah, particularly since they don't fully comprehend the concept of a home. Rather than seeing their actions as ones that take Jonah from his home and remove his freedom of choice, they see home as a fleeting, moving thing, so they see their actions as a positive change for Jonah because of the opportunities they afford him. In fact, at the end, Jonah says that he sacrifices himself and his home. In response, his Voyager contact says "But we do not take your home, we give one" (200).

Through this deeply different understanding of slavery, trade and commodities, Major appears on the surface to be highlighting how these differences can lead to

detrimental effects on individuals and is criticizing the Western tendency to be the imperial power in these exchanges. However, she is going much deeper than that because she challenges the very notions of home, ownership and control over others, the notions that become slippery when imperial power destroys traditional culture and replaces it with a transplanted, neutered version of its own culture. Her portrayal of us at the Other, for instance, forces the reader to consider the changing and mobile concept of home that occurs when homeland and identity are compromised by empire because the characters themselves are forced to re-imagine the meaning of home as they are confronted by vastly different conceptions of it in the aliens that they meet. And, she challenges the readers, as well, to consider pluralistic views of some of the most fundamental parts of their culture, ones like ownership and trade that tend to lose their seemingly unshakeable meaning in light of contradicting cultures.

While aliens are the most common and most recognizable feature that acts as Other in science fiction, the other most common feature – technology – often acts as an alienating Other in many texts. In science fiction, in fact, technology is an especially important element of the encounter with the Other, although it may not be as obvious as the interaction with aliens. In the case of technology the interaction is often quite complex, though, because it can be positive (the technology allows the characters to live more fulfilled lives and there are no negative consequences of the tools that they use), negative (it has a detrimental effect either on the characters or the environment or on both) mixed (either on the main characters or another group or on a combination of the two, as well as on the environment). Positive relationships with technology include early texts like Edward Bellamy's *Looking Backward*, where technology and socialist ideology allow a utopian society to develop, as well as other instances of technological

utopianism. Negative ones are quite common, including Fritz Lang's *Metropolis* (technology allows the complete control of the lower classes), Cold War era (development of powerful weapons lead to nuclear holocaust), and the *Terminator* and *Matrix* franchises (where the technology destroys human culture). Finally, the most complex feature an ambiguous relationship with technology, like *1984* and *Brave New World* (both of which feature technology as a tool for achieving utopia but at the same time removing personal freedom). While these various approaches to these interactions may seem obvious, it's important to mention these most basic interactions between characters and technology because they form direct analogues to other interactions with the Other, as well as interactions between Empire and colonized. Ultimately, for instance, these different types of encounters represent the degrees of interaction between colonizer and colonized, each with its own effect on both societies.

As the characters and their cultures interact with technology in these various ways and with various consequences, for instance, they are always changed in some fundamental manner by the interaction, and each type of interaction directly relates to its analogue in the interaction between Empire and colonized. While this statement may also be obvious, it's an important concept to keep in mind because the changes that the characters undergo are often (commonly negative) changes in identity, much like those that occur in postcolonial texts when traditional subaltern cultures encounter the technology of colonial powers. In many cases, in both science fiction texts and in postcolonial texts, the characters are also forced to re-define themselves and their cultures and to form new identities based on the influences of the technology. In fact, again while technology doesn't form the basis of most science fiction texts (they're mostly about social changes in most cases and even the technology itself is a form of

social change, but technology isn't required for a text to be sf, although one could argue that science itself is required to extrapolate and is the mode through which those social changes are explored) it does have a central role that makes it a particularly interesting example of the concept of the Other, especially in postcolonial sf.

Examples of technology as Other are unsurprisingly widespread in science fiction. However, most science fiction tends to treat technology as a welcomed means to improve life and to maintain control over the worlds around the characters. Western sf, for instance, mostly tends to extol the uses of technology and its means to achieve vastly improved, albeit more complex, futures. However, this isn't always the case; even in the Western mind-set of technology and constant progress, technology can sometimes play a more nefarious role. These texts tend to be vastly outnumbered compared to those that portray technology in a positive light, ones that tend to highlight the Western mindset of control through progress and scientific advance.

For instance, probably the most famous examples of technology and conquest are Jules Verne's *From the Earth to the Moon* and its companion piece *Around the Moon*. Verne's texts are filled with science and technology, and many believe him to be especially enamored of scientific and technological advances. However, his relationship to science was actually more complex than that. Arthur Evans mentions that he was, in fact "not unreservedly pro-science" (2). He goes on to say that Verne "evolved during his lifetime from being an early St. Simonian optimist and firm believer in scientific and industrial growth, to later becoming deeply skeptical as to the benefits that science would bring to an imperfect world" (2). In fact, Verne later said of technology that "nothing should be rushed. Science should not get ahead of social customs" (qtd. in

Evans 3). Evans explains that this later attitude that Verne had led to a didacticism in his later texts; this attitude could come from Verne's belief that technology would, indeed, get ahead of these social customs, undermine them to some degree, and cause alienation. And, in some of his texts, this alienation seems to be present, particularly in the sense of Otherness that the technology takes on in its use as a means of conquest, both of other worlds and of traditional culture.

In Verne's *From the Earth to the Moon*, the first piece explains the development of the projectile that will take the two main characters to the moon. The first story doesn't directly treat the attempted conquest of the moon itself; however, it does explore the development of the technology that the characters will use to reach the moon. And, it heavily relies on the notion that technology can be used to solve virtually any problem, even one created because of the hubristic notions of two characters in the heat of a bet.

The second story, *Around the Moon*, is about the actual trip that resulted from the development of the projectile. It is a much more direct exploration of the mind-set of conquest through the use of technology. The cannon from which the projectile is shot, for instance, becomes a sexual representation of the conquest and possession of another world with its phallic shape and violent and explosive release of the projectile. However, the attempt to reach the moon is an impotent one because the characters never actually make landfall there. Instead they become stranded in orbit; however, they do make the attempt to land on the moon by using rockets attached to the bottom of the projectile, thus completing their goal of conquest. The rockets themselves tend to highlight the violence of the attempt to visit and therefore conquer the moon; the ferocious flames will become a part of the process, scarring and forever marking it with

the results of their mission, much like the violent exploratory and colonial process back on Earth.

However, when they arrive at the “dead point,” an area where the gravity of Earth and the moon are equal (and where they are planning to fire the rockets, propelling them to the surface of the moon), they are too late and the projectile begins its descent to Earth instead. The dead point itself is an interesting aspect of the interaction between the Earth/West and the moon/Other, because it forms the liminal point that represents the great gulf between the West and all others. If the characters use the violence of the rockets effectively, they can cross the dead point and conquer the exotic moon; if they don't fire them correctly, they traverse the boundary and the gulf in the opposite direction and move back to the familiarity of the Earth. So this liminal point, this “dead point,” becomes a very real, physical point of differences between the two worlds. And, since they have failed to traverse this boundary, they are unable to wreak their violence on the moon at this point, leading them back to Earth in a seemingly violent ending of their own.

This text, therefore, reveals the Otherness and exoticism of the moon itself; however, it also expresses the Otherness of the technology that the characters use to attempt to conquer the moon. First, the technology provides a means to explore and confront the Otherness of this different world, so it forces the characters to also question and define themselves. So, in this sense the technology is already Other because it takes the characters from the familiar and forces them to literally explore difference, which is a challenge to what they thought they understood of the world. In fact, Timothy Unwin even says of Verne's representation of technology: “All at once, science, travel, geography and technology loom massively in the frame. Significantly, too, there is a

broadening of the settings. This difference cannot be over-stressed, for Verne puts the colonial (soon postcolonial) world firmly within the purview of literature” (12). And it’s this link between technology and cosmopolitanism, along with the alienating/Othering tendencies of the technology that places this text firmly in the early family tree of sf that expresses the Other in technology.

In fact, the technology is also is a particularly strong representation of Other because of its stark difference from the characters. While the technology represents the violent conquest of the moon that the characters attempt, the capability of the technology to act on the bodies of the characters by propelling them at massive speeds to immense distances expresses its vast difference from the capabilities of the characters without the technology. So, the technology dramatically improves the reach of the characters but at the same time becomes an almost monstrous character in itself as the characters attempt to tame it enough so that it doesn’t kill them in the process of conquering. For example, in *From the Earth to the Moon*, the characters begin with a series of bets that the technology can’t even take them to the moon in the first place, but even if it could, would destroy the people inside because of the high acceleration. Through more research, though, they manage to find a way to tame the technology and use it to, instead of destroying them, conquer the moon. However, even as the characters dramatically blast off to begin their journey, the bet still remains an important reminder that what they are doing is far beyond their own abilities and is even a dangerous substitute for their natural abilities.

Ultimately, the technology that they use doubly becomes Other because it becomes so different and so alien to anything that the characters have ever experienced

before. During the launch, its extreme violence literally knocks down everything and everyone for hundreds of miles around and highlights the frailty of the people who use it:

The discharge of the Columbiad was accompanied by a

perfect earthquake. Florida was shaken to its very depths.

The gases of the powder, expanded by heat, forced back the

atmospheric strata with tremendous violence, and this

artificial hurricane rushed like a water-spout through the air. Not a single spectator remained on his feet! Men, women

children, all lay prostrate like ears of corn under a tempest. (101)

And, these violent and otherworldly abilities of the technology don't end with the launch; as the plot progresses, the ability of the technology to both take the characters to the Other, but also shield them from the Other, and to become a liminal Other itself, make the technology a powerful character in the stories.

Technology usually plays a very different role in postcolonial texts. While it still plays the role of tool and often becomes either a positive influence or at least has a neutral impact, in most cases the postcolonial author will bring attention to technology by expressing its malevolence and alien-ness or by proposing alternative forms of technology. In many cases, for instance, technology as a representation of Other highlights the use of technology and science as a Western means to conquer and control colonies.

Often, for instance, postcolonial authors will explore the invasion of the body by technology as an analogue to the literal invasion of Western powers. These stories become metaphors of the use of technology as a violent means to maintain control over the groups of bodies that represent the subaltern in the colonies. Nisi Shawl's "Deep End," again provides a good example of this alien and violent characteristic of technology. In this story, the main character is a person of color who is quite literally ripped from her own body and is forced to inhabit the body of a white person. The act of removing her consciousness – what makes her a unique individual and establishes her identity – creates such a confusion that she is required to perform daily "body awareness exercises" to avoid physical pain and disorientation. And, it is technology that enables the transfer of identity/consciousness that the rich Whites are able to maintain this level of control.

The technology also leads to the commodification of the bodies themselves in this text. The rich Whites are farming the bodies for later use once the bodies arrive at a planet that is to be colonized. In the meantime, the characters who inhabit the bodies are to care for them as if they are products that should be of as high a quality as possible. So, the commodification of and care for the bodies re-enslaves the characters themselves; much like the slave caretakers who cared for the children of the slave owners, these characters are entrusted to perform a kind of husbandry, caring for the bodies, growing them, and developing them for later use by those in power. As they do this, they obviously lose their freedom, but more importantly that freedom is replaced with a bodily anonymity and loss of their most intimate markers of self: their color and their appearances.

Consequently, the technology in this story is an example of the use of technology for conquest and control. The technology – for the characters who are entrapped in alien and mis-colored bodies – becomes an abstract Other (especially since the reader and the characters never actually learn of the actual process of body-shifting) that more specifically represents the powerful colonial control over the subaltern. At one point, in fact, one of the characters says, after the main character explains that it's important to stay together:

Together to do what? To bear our enemies' children, that's what, we nothing but a bunch of glorified mummies, girl, don't you get it? Remote-control units for their immortality investments, protection for their precious genetic material. Cheaper than your average AI, no benefits, no union, no personnel manager. *Mummies*. (20)

So, through the controlling influence of the Other of technology, they become essentially nothing in the hierarchy of empire, and they remain completely powerless, even in their attempt to unify and maintain their togetherness/culture.

It's interesting that the characters in "Deep End" mention AI because it forms a very special role in most science fiction. Technology in general is one of the most important elements of the Other in sf; however, as a specific type of technology, artificial intelligence has a special role to play in the representation of the Other in sf because of the ability of AI artifacts to think and reason on their own. This ability leads to a new level of exoticism for the Other and its relationship to the other characters in various sf texts. One of these texts includes Clarke's *2001*, where the AI controlling the ship channels an advanced alien civilization, causing the AI to doubly represent otherness.

Another includes Asimov's robots that, while compelled to follow his "Three Laws of Robotics," often evolve an autonomous existence beyond the laws. Finally, *The Matrix* series represents what may be the ultimate AI Other as the intelligences of the matrix wield god-like powers in an artificial universe. AIs tend to drive the plots in many of the texts that explore the theme of artificial intelligence, and they often act as major thematic elements, often much more important than other types of technology.

Even early texts that may arguably be considered sf (like Shelley's *Frankenstein*) explore the encounter with intelligent technology as the Other and its effect on the characters. While technically the monster in Shelley's story isn't artificial intelligence, he still plays a similar role because his very existence is dependent on the development of science and technology and a character's use of that technology to develop his consciousness. And, because he takes on a very different identity from the one that he had before his re-animation, his characteristics are very similar to other examples of AI because he is intelligent and has a sense of selfhood, but this individuality has been created by technology and humans and then must develop beyond that in order for him to become autonomous and independent from his creators (another common theme in sf).

It is this autonomy and independent existence that the characters fear: for example, this ability to act on his own and still be inhuman even while he maintains the general outline of a human being causes the monster to become an Other that terrifies and disgusts the characters. The main characters -- like Victor Frankenstein -- are obviously human, but the monster also forces them to question just what makes them that way, especially when something seemingly inferior -- something even created out of

death and spare parts, can be so much like them and yet so different. Their encounter with the Other in this case challenges them to understand and define who they are because of their difference from the monster, but it also challenges them to understand what makes them human and therefore causes a kind of identity crisis in some of the characters. The concept of the gaze may even be appropriate in this case because, much like Wells' *War of the Worlds*, it forces the gaze back upon the colonizers/aggressors themselves and consequently forces them to re-evaluate their own identities and actions. And ultimately the characters in this case are disgusted by what they see as they view the results of that gaze, so the gaze acts as the means to judge both the characters but on a larger scale the scientific enterprises of colonial powers.

John Rieder traces many later sf texts from *Frankenstein*, linking it to later texts that explore artificial life and the Other. For instance, Rieder claims that Wells' *The Island of Dr. Moreau* inherits the theme of intellectual pride that fills the pages of *Frankenstein*, and later sf texts inherit the characteristics of both of these narratives. In fact, the influence of these two texts becomes even more interesting in light of the tendency of *The Island of Dr. Moreau* to portray the artificial human as "a literalization of the racist ideological fantasy that guides much colonial practice: We know very well that non-whites are human beings, but we behave under the assumption that they are grotesque parodies of humankind" (Rieder 106). Like Wells' text, *Frankenstein* likewise expresses the failure of artificial humans to compare to natural ones, and this theme finds its counterpart even in later texts, like Dicks *Do Androids Dream of Electric Sheep*, or even in the *Star Trek* franchise, where androids sometimes become more difficult to detect but continue to be ostracized from humanity.

In later texts the same kind of dynamic occurs as the confrontation with the Other (whether it is aliens or altered humans, for instance) becomes a means through which the characters define themselves as human and form their own identities, or as they question their identities. It is very similar, too, in the way that the characters often feel abhorrence toward the AI because of its simultaneous similarities and differences to them. Along with the encounter with the alien, these encounters with artificial intelligence tend to be some of the most dramatic; they highlight the deep ambivalence toward the Other that we feel, and science fictions powerful ability to expose it and explore it.

Arthur C. Clarke's *Rama* series is probably one of the more extensive explorations of AI as an exotic and even faceless Other. John Leonard had an interesting response to the very odd nature of Rama in his review of Clarke's text. Leonard, writing in *The New York Times*, found that Clarke's novel conveyed "that chilling touch of the alien, the not-quite-knowable, that distinguishes sci-fi at its most technically imaginative" (Leonard L35). Its beginning features an extremely large ship – a hollowed-out asteroid – that at first only seems to be self-controlled. The characters, however, gradually learn that the ship is controlled by an artificial intelligence, from its navigation to the miniature robots that keep the habitats clean.

The tone is that the AI of the ship is exceptionally strange and somewhat eerie, and a large part of this eeriness comes from the sense that something alien and Other is controlling the ship. The first book in the trilogy, in fact, has a rather creepy feel to it because of its dramatic contrast to anything remotely human, and to its apparent indifference to the human presence. As the astronauts arrive, in fact, the silence is

profound: “Rama was silent as a tomb – which, perhaps, it was. There were no radio signals, on any frequency; no vibrations that the seismographs could pick up [...] no electrical currents; no radioactivity. It was almost ominously quiet.” The initial silence of Rama, in fact, seems to convey its own message that it is completely indifferent to it: “What did he expect? Norton asked himself. A committee of welcome? He was not sure whether to be disappointed or relieved” (16). The reaction eventually leads to the inevitable question about the nature of this extremely complex ship: “Is this world alive? they asked themselves, over and over again. Is it dead? Or is it merely sleeping?”

That feeling that it may be alive, or may have been alive at one time, haunts the visitors to the ship. This feeling is particularly strong as the boarding party encounters manufactured creatures that are controlled by the central intelligence of Rama. The reaction of one character, Jimmy, is shock and confusion:

But was it an animal? Though that had been Jimmy's first reaction, now he had second thoughts. There was a purposefulness about its behaviour which suggested fairly high intelligence; he could see no reason why any creature of pure instincts should carefully collect the scattered pieces of his sky-bike - unless, perhaps, it was gathering material for a nest. (143)

The shape of the creature is even shocking, as it looks very similar to a crab, which makes the creature vaguely familiar. However, that familiarity, combined with minor differences were just enough to make it seem very alien and even intimidating:

Could it be a robot, and not an animal? He stared at the crab intently with this thought in mind, analysing all the details of its anatomy. Where it should have had a mouth was a collection of manipulators that reminded

Jimmy strongly of the multi- purpose knives that are the delight of all red-blooded boys; there were pinchers, probes, rasps and even some- thing that looked like a drill. But none of this was decisive.

However, the creature becomes even more alien in the way that it reacts to Johnny and his equipment:

The eyes, which might have settled the matter, left it even more ambiguous. They were so deeply recessed in protective hoods that it was impossible to tell whether their lenses were made of crystal or jelly. They were quite expressionless and of a startlingly vivid blue. Though they had been directed towards Jimmy several times, they had never shown the slightest flicker of interest. In his perhaps biased opinion, that decided the level of the creature's intelligence. An entity - robot or animal - which could ignore a human being could not be very bright.

This denizen of the Rama ship later becomes, however, a representation of the deep artificial intelligence that the ship holds, and it signifies the extremely alien and disconcerting differences of the ship. Ultimately, this creature (and the others that they later discover) and the ship that controls it represent the absolutely mysterious and exotic quality of the aliens who created it.

This example also is an expression of the attitude toward artificial intelligence that Western sf often has. There is a tendency to mistrust it because of its deep differences, but there is also a strange attraction to it. This could be representative of the sometimes-contradictory relationship that the West has had with technology as a whole. There is a belief that it is a powerful tool with which to manipulate, conquer and control the world around them, but at the same time there is an understanding that it is

ultimately a not-me, a something outside of and therefore alien and sometimes even dangerous to the user. Clarke's attitude toward AI in this trilogy seems very similar; the characters see the artificial intelligence of the ship as an amazingly advanced and useful tool that can dramatically extend the reach of its creators, but at the same time it takes on an almost ghostly quality that at times can be downright ominous and foreboding. And this theme tends to fill the pages of many Western sf texts, including ones like William Gibson's cyberpunk novels, that explore the use of AI and other advanced technology; while they see it as a useful tool, particularly one of control and conquest, they see it as something to be respected and even feared.

Postcolonial science fiction's portrayal of artificial intelligence as the alien Other diverges from Western portrayal of AI mostly due to the distrust of science and technology and the unique perspective on identity-building and the freedom of the individual from outside alien influences. It has a minor similarity to Western attitudes with respect to AI because both flavors tend to be somewhat distrustful of AI, but postcolonial sf will go much further in this distrust because AI becomes a tool that is used in their own conquest. For postcolonial science fiction authors, the approach to all advanced technology is one of caution; however, artificial intelligence creates a very unique situation in their texts because of its tendency to touch on these two very sensitive areas in colonial invasion and exploitation.

Imperial expansion was largely successful because of the concomitant development of science and technology. Through the advancement of these two bodies of knowledge, imperial powers increased their destructive powers dramatically and drastically undermined traditional non-Western societies. At the same time, the unique

identities of these cultures were destroyed through Western societies' "scientific" use of psychological concepts, including pigmentocratic thought and dependency theory. The results of these actions were non-Western colonial subjects who no longer held their traditional identities but also were unable to integrate into Western society. So, narratives of artificial intelligence and created identities often ring true and hold a special significance for postcolonial sf authors, particularly texts that explore the use of AI as a tool for conquest, but also interestingly enough in texts that explore the feelings of dislocation in the AIs themselves.

For an especially poignant example of the postcolonial sf portrayal of AI, one could turn again to Shawl's "Deep End," which is once again an important representation of the role of technology in general in postcolonial sf, but is also a very interesting example of the role of AI. The AI in this story is presented as a kind of authority figure who controls the very bodies of those on the ship: "Dr. Ops presented as a lean-faced Caucasian man [...who] wore an anachronistic headlamp and stethoscope" (28). This AI persona, that of a kindly, old-fashioned doctor, is actually a figure who requires obedience – at least in the Western world – because of the perception of the doctor as a knowledgeable and powerful source of information. The doctor figure is doubly authoritarian, however, because of his representation as a white male, one who traditionally was an authority figure over the colonial subaltern.

This doctor, a holographic projection from a supercomputer, is a source of information and health and also becomes a representation of healthcare workers in colonial situations, ones who could be a source of control for non-Western colonial subjects because the medical/scientific advice that they gave was often meant to

undermine the native identity through the insistence that the colonial subject is somehow diseased or has a disorder that must be corrected. The treatment of native diseases and disorders led to the biopolitical control of the populations through regulation of the very bodies of the individuals in many cases. This biopolitical control is still a concern in postcolonial societies as many NGOs attempt to shape non-Western societies into Western molds through the guise of healthcare. And, the doctor in this story becomes a powerful representation of this biopolitical control. He becomes an Other through his multiple removal from the bodies/identities of the patients he treats: his maleness, his whiteness, his scientific background and ultimately even his disembodied representation of male science because of his artificiality.

The representation of the authority figure of the physician in “Deep End” highlights also highlights his intimate bodily control. The characters are responsible for continuous contact with the AI doctor who regulates them as if their bodies are commodities. And the AI in this case allows the treatment of their bodies to be extended beyond the direct control of the original colonizers themselves, leading the AI to be an extension of the colonial/imperial enterprise. Even the “helpful” suggestions that the doctor offers to the patients is offered with the continuation of White control in mind, as well as the perfection of the bodies of the patients because of their material value.

So, Shawl’s story is a story about AI not as a useful tool or technological marvel, but about AI as a means of control and a destroyer of traditional culture. The AI becomes a representation of the artificial, the opposite of the traditional and natural order of the non-Western colonial subject. And at the same time it becomes itself a kind

of constructed consciousness and identity, subject to the whims and beliefs of its creators.

Finally, landscapes are often a very important part of sf texts. Almost all sf texts place their characters on alien worlds or in vastly altered worlds of the future. And, these landscapes of the stories often form a kind of Other. In a great number of the texts the characters are placed in situations where the landscape is itself exotic and Other and often calls into question their own identities. Often the landscape will force these characters into an awareness of their own self-hood because it challenges them to question their own place in their surroundings. Through these landscapes and their disorienting properties in sf texts the interaction between the self and the environment in the formation of identity becomes particularly obvious.

For instance, Ashcroft, Tiffin and Griffiths discuss the concept of place and displacement in postcolonial literature. They mention that “a valid and active sense of self may have been eroded by *dislocation* resulting from migration, the experience of enslavement, transportation, or ‘voluntary’ removal” (8). Because the landscape is often dramatically different, particularly flora/fauna, architecture and geographic features, the new surroundings often lead to disorientation because of the landscape’s powerful role in the development of culture and of self. Language itself is even developed based on the surroundings of the culture, so the ability to even name the features around oneself is diminished.

This loss of identity due to displacement stems primarily from the inability to reconcile the identity with the landscape in which one is placed, however, and other elements like language are often symptoms of this basic problem. Ashcroft, et al

mention, for instance, that the “most widely shared discursive practice within which this alienation can be identified is the construction of ‘place’ (9). The inability to feel a sense of place in a new environment is further worsened because of the inability to name surroundings and to begin to develop a new sense of place. Therefore, the landscape itself remains alien and Other to the displaced individual.

In fact, Ashcroft et al also say “the gap which opens between the experience of place and the language available to describe it forms a classic and all pervasive feature of post-colonial texts. This gap occurs for those whose language seems inadequate to describe a new place, for those whose language is systematically destroyed [...] by the imposition of the language of the colonizing power” (9). So language is, of course, of particular importance to this process of identity formation because by naming something one feels a link to it but also has a kind of ownership over it that forms as one’s gaze is turned on the object. However, of even greater importance is the simple familiarity of the landscape feature as it forms an important backdrop to one’s culture.

Finally they mention that “landscape, flora and fauna, season, climatic conditions are formally distinguished from the place of origin as home/colony, Europe/New World, Europe/Antipodes, metropolitan/provincial” (11). This may perhaps be the most important element to consider in relation to postcolonial sf because in postcolonial sf the landscapes are often so exotic and so noticeable that they form characters in themselves. The “characters” of the landscapes are often dramatic representations of the dualities that Ashcroft and Griffiths discuss, highlighting the commonly huge differences between the familiar traditional settings of the characters and the settings where they are often forced to go.

For those who are in these landscapes by choice, the experience of disorientation can be an enlightening one that makes them more aware of alternative cultures but will usually irrevocably change them at the same time. Often, in this one-on-one interaction between the individual and the landscape the overarching centrality of an imperial culture is undermined as the characters learn of these alternatives, even while they begin to lose the ability to choose between those alternatives. For instance, Jonathan Lethem's aptly named *Girl in Landscape* expresses the changes that a character undergoes as she is assimilated into the landscape of her chosen planet. While Lethem isn't himself a Postcolonial author, this particular text includes some interesting elements of the postcolonial experience, especially the emigrant experience and the role of the colonized in the colonialist enterprise. This tale, in fact, written from the perspective of the colonialist, seems to admit to the deep effects of the changing landscape on the transplanted individual.

This story begins as the human characters contemplate their move to another planet, one gained when humans conquered the native population. As they prepare to leave for this world, the very distance of the place (and its concomitant removal from the centrality of Earth, both physically and culturally) overwhelms the characters: "The family was moving to a distant place, an impossible place. Distance itself haunted them, the distance they had yet to go. It had infected them, invaded the space of their family" (1). At this point the realization that they are leaving their familiar surroundings, the surroundings that allow them to maintain their current identities, is setting in. And even at this point this realization is turning their own identities into something to be invaded and changed as they realize the great gulf between the familiar and the alien, the literal distance that they must cross as they enter this new landscape.

In addition, the original inhabitants of this planet also add to the deeply exotic nature of the landscape there, because their technological manipulation of nature and landscape have left the planet very different from its original natural state; more importantly, the landscape that they have created, and the creatures in that landscape, lead to some dramatic changes in the humans who colonize the planet. The most dramatic one is due to a virus that the natives (called the “Archbuilders”) created:

“The thing is, for people to really live there, they have to live like the Archbuilders used to. There’s this thing that happens to Archbuilders, young ones, and it would happen to people too.”

“What thing?” said Pella.

“It’s called becoming a witness,” said Caitlin, “[... and] what happens to Archbuilders is that the witness learns things about adults. It’s a way of growing up” (17).

The virus that causes this change has become so much a part of the landscape, in fact, that the characters see it as part of the planet now, an integral part of the ecosystem of this world. And, for the humans it becomes something to try to combat with their own technology, their medications that act as a kind of temporary inoculation that allows them to briefly avoid the effects of the landscape. To maintain their humanity, essentially they must consistently fight against the very landscape itself, hoping to avoid that invasion of their own identities even as they invade the landscape.

The landscape becomes even more exotic and takes on a more sinister role when Pella apparently hallucinates:

Terrified, Pella stood up and ran stumbling over the flagstones out of the nest of [Archbuilder] towers, and right up to the edge of a sheer drop [where] she nearly plummeted. She stepped back from the edge, looked down. It was a dry moat running as far as she could see, and it only got deeper farther on. Five or six deer ran past her, giraffe necks bobbing, then plunged over the rim, a brakeless entourage. Lemmings, except they skidded and danced down the precipice, unharmed. She ran again, down the crumbled slope, into the valley. Out on the mangled surfaces. She came across a gouge in the valley floor. Stones pried out of place, a patch of dust moistened into mud by what had been pulled out of the hole. [Archbuilder] potatoes. (78)

At this point, Pella is terrified as she runs across this desolate place, and her inner turmoil seems to be a reflection of the place where she finds herself, particularly because she's not sure how she has arrived here. She feels at first that she has had a seizure or has been sleepwalking, but the terror ultimately comes because she realizes that this planet may have some control over her and may be the reason why she has wandered into this deserted area. Perhaps the engineered virus has begun to take effect and she is herself becoming part of this landscape. If this is the case, for Pella the invasion is beginning to become complete; she has begun to lose her former self and is becoming something new, even as she is terrified of this change and of her loss of her human identity.

The word "landscape" itself hints at a vastness, a massive place that can swallow up an insignificant person and assimilate her so completely that it's as if she never

existed. So, the landscape takes away one's individuality, one's sense of uniqueness; however, even as the landscape is swallowing her and taking her former humanity, for Pella it also initially seems to be a place of refuge when she is losing her human identity, although it doesn't ultimately give her the peace that she needs:

When the Archbuilder virus infiltrated her body the girl felt an urgent need to search the hills and towers west of the settlement, to look for a hiding place, a burrow, a safe house for her human body. What she found was a chunk of fallen architecture with a half-collapsed chamber, a thing that might have been a turret, a tower room for a prisoner in a fairy tale.

She hopes the landscape will shelter her as she changes and becomes a more native part of it; however, it appears to be swallowing up the very artifacts that remain of those who created this landscape. And, in the process it leaves only ruins that provide limited shelter but remove her sense of freedom. The landscape has taken her over physically and psychologically, leaving her with very little to define herself.

And the landscape, as a place that was engineered by the previous inhabitants, ultimately becomes a kind of prison to all of the human inhabitants. The humans initially believe that they have conquered this place and have a new home that will be an easy source of shelter and food. However, it is actually a message that the Archbuilders provided to the humans. Efram, an original immigrant to the planet, says:

"The Archbuilders who left built this place as a challenge to us, Pella. Why else do you think we can breathe the air, drink the water? They invited us up to get a look around here, give us a taste of getting off Earth, to face us with a choice. We could try to follow them to the stars,

to the real frontier, or we could bog down here with these [remaining] idiots, get lulled by the weather and the free food and the atmosphere of complacent degenerate buffoonery” (180).

Eventually, though, the landscape absorbs – swallows – all of the inhabitants of the small colonial town. Most of them wander away into the distance; others are killed in a fire. Efram literally becomes a part of the landscape after his death as the few remaining Archbuilders incorporate him into a sculpture:

Now Efram’s corpse was nearly concealed inside the hardening sculpture. As the moisture evaporated, the figure turned the color of the valley floor, became another outcropping of the Planet. Another blunted shard pointing nowhere. (277)

So, while the humans “conquered” this planet and attempted to reshape it, ironically the landscape completely absorbs them and remakes them instead, so once again the gaze is reversed and the human conquerors themselves become objects of the gaze and become the conquered. Pella herself remains, but has been changed dramatically by the virus. She changes physically until she becomes a native animal, one of the local “deer” that fill the countryside. Her original identity is lost, replaced by this new Self that quickly can retreat into the tunnels beneath this alien landscape.

Postcolonial science fiction often explores very similar themes in relation to the landscape as Other. The major difference is obviously the perspective from which these authors view landscape. For many of these authors, they are a part of that so-called alien landscape and see it as part of themselves. When they and their homelands are conquered by an imperial power, however, the landscape that was so familiar becomes

alien to them. For example, the urban landscape of an Indian city becomes foreign and Other to the main character of Vandana Singh's "Delhi." This story begins with the main character, Aseem, reviewing the landscape of the city around him:

Tonight he is intensely aware of the city: its ancient stones, the flat-roofed brick houses, threads of clotheslines, wet, bright colours waving like pennants, neem-tree lined roads choked with traffic. The night smells of jasmine and stale urine, and the dust of the cricket field on the other side of the road. A man is lighting a bidi near him. (79)

The landscape, while rather tumultuous and ramshackle, seems intensely familiar to the man. Initially he seems to feel at ease and comfortable in this landscape as he surveys it. This initial comfort with the landscape seems to represent the initial comfort with his identity itself and his place in his surroundings. At this point landscape, identity and culture are one for Aseem.

However, this familiarity doesn't last because he periodically tends to see ghosts from Delhi's past and future. As he walks the streets, in fact, visions of its history are often present to him in the faces of people from various time periods. Many of his visions are of the various invaders that have controlled Delhi through history, including Mohammed Shah, who ruled India in the eighteenth century, and the British rulers of India. In fact,

he thinks about the British invaders, who brought one of the richest and oldest civilizations to abject poverty in only two hundred years. They built these great edifices, gracious buildings, and fountains, but even they had to leave it all behind. Sometimes he sees apparitions of the goras, the

palefaces, walking by him or riding on horses. Each time he yells out to them: “Your people are doomed. You will leave here. Your empire will crumble.” Once in a while they glance at him, startled, before they fade away. (81)

So, the familiarity of his landscape is ultimately undermined by the conquest of the invaders, those who attempt to change his landscape and erase his culture. However, because of the two-way nature of the gaze he views these invaders from the perspective of the future and can see that the alien landscape has changed both him and the invaders.

In addition to seeing characters and past landscapes, he occasionally sees the future landscapes of the city, “but rarely – a skyline dotted with palaces and temple spires, a forest in the middle of a busy thoroughfare – and, strangest of all, once an array of tall, jeweled towers reaching into the clouds” (82). These landscapes, particularly the ones with jeweled towers, tend to confuse and scare him. They remind him that the very place that he believes is his home is actually itself just an illusion because it will quickly fade away and change over time. So, the very familiar landscape of his present becomes an alien and foreign palimpsest that is transposed over thousands of years of change and history. And, more importantly much of that history and change is driven by invaders who have prevented his city from ever becoming a landscape that is completely his own – his culture’s own – so even the city of his present is a layered place, full of alien influence and ghosts of both the past and the future.

Ultimately Aseem is tempted to commit suicide. As he constantly experiences these future and past landscapes and the people in them, his sense of disorientation is

so strong that he feels unable to cope with his feeling that he is not intimately tied to an unchanging landscape. Instead, the constant flux of the landscape that he experiences tends to make him feel as if he himself is constantly changing and is unable to have a stable identity. And so ultimately, the excessive diversity of his city overwhelms him in the end.

Singh's story is a rather interesting example of the landscape as Other because on the surface it does have similarities to Lethem's. However, the major (and obvious) differences is that the landscape is changing because of the imperial Other rather than being changed by the main character or his culture. This difference becomes more apparent and more significant when the metaphorical gaze is applied to it. Lethem's story seems to hint that the gaze is directed from the landscape (making it an additional character) and upon the inhabitants of the landscape in a kind of judging criticism of their conquest and exploitation of it. On the other hand, in Singh's story the gaze is opposite; Aseem turns his gaze to the landscape and loses his own sense of self because of his inability to focus his gaze on anything unchanging and stable. So, in his case the reversal of the gaze makes him aware of the detrimental effects of the colonial activities of others. However, in both cases the stories highlight the fact that landscape itself can be an important Other, one that can either enhance the identities of those in it, or more commonly alienate them and undermine their identities. So, landscape becomes a particularly important part of many sf texts, particularly postcolonial ones.

There are, obviously, many other examples of the Other in multiple sf texts, both Western and postcolonial. Even a brief survey of a variety of texts will highlight the interaction with the Other that most sf tends to express. The Other, in fact, is arguably

an absolutely essential piece of any science fiction text. If sf is defined by its ability to encourage cognitive estrangement, learning-from-Otherness, and its double movement of cognition and estrangement, then most (if not all) of the texts that can be safely defined as sf will include elements of interaction with the Other that make them highly appropriate modes for postcolonial discourse. And, in fact, many are; Western flavors will commonly either express attitudes of imperial superiority or dismay at the imperial enterprise and will explore consequences of colonial expansion. And postcolonial flavors of sf, in a reversal of the colonial gaze will echo back those attitudes but turn them on their heads in an attempt to undermine and appropriate sf as a tool for the expression of postcolonial concerns. Ultimately, Suvin's texts of cognitive estrangement become methods for the Other to look back.

CHAPTER 4

MYTH, SCIENCE, AND EXTRAPOLATION: THREE POINTS OF DIVERGENCE IN POSTCOLONIAL SCIENCE FICTION AND THE DECENTERING OF THE GENRE

Postcolonial science fiction, like other genres of literature that come from former colonies and the Diaspora (Nalo Hopkinson, for instance, who is originally from Jamaica but now resides in Canada), is closely modeled on Western versions of science fiction, but it also diverges from it in a number of ways, some of which include differences in approaches and attitudes to technology and the alien/Other, as well as other differences like the way that it approaches extrapolation, and the way that it expresses gender differences and gender relations.

These divergences are an important element of postcolonial science fiction study because they point in two directions. First, a closer study of the divergence from traditional Western science fiction allows a deeper understanding of the mythology and cultural baggage of postcolonial sf. Second, it allows a better understanding of postcolonial fiction because the points of intersection between postcolonial fiction and traditional science fiction become more prominent, leading to an understanding of motives and mindsets in postcolonial fiction and to an understanding of the interaction of the academese of Postcolonial theory and its effect on popular culture.

These divergences also allow postcolonial authors to follow the generally accepted formulas of science fiction – just as they often do with other types of fiction -- of

the metropolitan center, and therefore to find an audience in both Western populations and in postcolonial populations that have become accustomed to Western literature through Western educations during the colonial period. Through these wider audiences these authors often disseminate their perspectives on colonial influence and detrimental neocolonial effects, creating a wider awareness of these issues. More importantly, this form of sf allows these authors to rebel against Western literary norms and to find new hybrid forms that allow them to express the concerns, religiosity and cultures that found their genesis in the colonial period and later more fully developed during the post-colonial period. And, with these wider audiences and dual purposes, postcolonial fiction (and to a lesser extent its theoretical foundations) break out of the walled garden of the academy and affect popular culture and sensibilities.

The most common points where these two flavors of science diverge are in myth versus science, extrapolation, and gender treatment. While there are other areas where postcolonial authors appropriate Western characteristics, these three are some of the most important because they highlight the very different world-views, political ideas, attitudes toward the subaltern (whether it is the colonized or women) and views of the future. They also are important because of the prominence that they bring to important postcolonial elements like appropriation, hybridity and liminality. And finally these three elements are important because they interact with one another in a synergistic way, each acting together to create uniquely postcolonial texts. Because of these divergences from typical Western science fiction and their implications and effects on the sf genre, an analysis of definitions of typical science fiction, as well as a brief look at some representative postcolonial sf texts themselves, will highlight the difference in perspective that non-Western sf authors have, as well as some of the political and social

goals that postcolonial authors may be pursuing in their use of sf to explore typical postcolonial concerns.

4.1 Mythos and Scientia

Ben Bova and Damien Broderick's definition of science fiction as a kind of modern myth is an important starting point because typically in Western society, with its emphasis on scientific explanations of reality, myth retreats into the background. Science fiction can take on the function of myth in these cases as it helps to make sense of this highly technical world and the possible trends that it will take into the future. And, Bova and Broderick are important to this discussion because they explain science fiction as a literary form that deals with modern myths.

While they don't have a specific definition, essentially their argument is that, in some ways, science fiction takes on the role of explaining the unexplainable, attempting to make sense of the world around us and what that world means. This definition of the genre meshes rather well with Levi-Strauss' argument that both science and myth are "means of structuring the universe" because in many ways science fiction takes on that role; it becomes a means to make sense of the mind-boggling complexity of the modern world and offers possible futures through extrapolation (231). So, while science fiction takes a different, more scientific perspective than traditional and ancient myths on the causes of events in the universe, it's the function of science and science fiction that may be more important, particularly in a study of its role, as opposed to a study of its meaning. It could be, in fact, that science fiction even takes the place of traditional myths, attempting to make sense both of the universe and the complex society that we've developed in that universe; its most obvious characteristic is that it looks forward

and attempts to make sense of future history much like traditional myth looks backwards and makes sense of the history of the past, so it does help to fulfill the need to understand the way that the world works.

While this definition may be a bit anemic for some elements of postcolonial study and only addresses one element in science fiction among many, it does highlight a very important difference between Western and non-Western science fiction. Namely, it highlights the different approaches to the world that the two flavors of science fiction have and the results of those approaches, especially the expression of their different attitudes toward technology. And it also articulates the differences between their approaches to causality, the explanation of elements of the plots of the texts and the role of technology and science in both.

One of the primary differences in the treatment of myth is that postcolonial sf texts often have a much more overt use of traditional myth, while in Western sf traditional myth is either displaced by myths surrounding modern concepts and modern technology, or it is absent altogether. A source of this difference might be the Western dependence on and belief in technology for manipulation and control of nature, and the consequent mistrust of that role of technology by postcolonial authors because of its detrimental effect on their own societies as they became a part of the world that the West controlled. This is a significant difference as it leads to very different styles, themes, characterization and world-views in postcolonial sf.

Of course, as is always the case with science fiction, there are exceptions. Some texts actually point in opposite directions, in fact, as many explore the irrational responses of characters to the natural worlds around them. However, even in these

cases, science often will play a central role. Asimov's "Nightfall," for example, touches on irrational fears that people experience when the world around them appears to end. The fear in this case stems from the approach of darkness in a world that rarely (only every 2005 years) experiences it; the rest of these years are filled with constant light because of the presence of more than one sun. With the arrival of a rare eclipse, the society on the planet must face something that is so rare and mysterious that they have embedded it with mystical and religious significance and believe that it will spell the downfall of their civilization.

On the surface, this short story appears to be an example of the rejection of science and an example of mythological science fiction; in fact, even the scientists themselves (astronomers), who are the main characters of the story, tend to succumb to a kind of madness at the end of the text. However, throughout the text Asimov takes great care to describe both the source of the darkness and the source of the resulting madness. Through a psychologist, the explanation for the madness becomes clear: it is an extreme form of claustrophobia that occurs because those exposed to darkness feel a sense of enclosure when they aren't able to see things around them. There is also a mystical fear of stars because they have never seen them before; the fear is that the stars themselves are responsible for the madness; however, as the plot unfolds the characters' reactions to the darkness actually resembles claustrophobia, even to the psychologist who is consistently providing commentary on the reactions of the other scientists around him.

So, ultimately the text still maintains a scientific basis, although the characters within the story lose their faith in science and feel that it has deserted them. The

darkness itself, in fact, is interestingly enough conflated in this story with the loss of knowledge; the world quite literally becomes submerged in a new Dark Age, one where scientific knowledge is lost and is replaced by superstitious fear. So, in this sense “Nightfall” is also a warning of the loss of knowledge, an example of the necessity of science.

Another example of the difference in attitude toward science and myth is the way in which Western science fiction portrays the universes in which the characters and plots carry out their actions. Western science fiction is typically more realistic in its treatment of the characters and the plots, for instance, and is based on variables (in plot and character development, meaning that there is an understanding that the universe is a place ruled by chance rather than the whims of superior beings or by the magical manipulations of the characters) according to Bo Fowler, as opposed to constants in plot and character in the case of traditional myth. The tendency to include variables includes the workings of the characters’ universe itself; probability and science are gods, leaving no room for anything unexplained or supernatural. At first glance, this seems to leave Broderick’s and Bova’s definition of sf rather inadequate as a description of the vast majority of Western sf. However, supernatural mythology is replaced in Western sf by a strong belief in the power of technology and in the science that makes that technology possible. So, while science and technology are constantly changing in the universes of Western sf, the fact that they rule as modes of belief does not change, so they become, themselves, mythological elements in the world-views of the characters in these texts.

Western science fiction – indeed both flavors of sf, in fact – are also mythologies of the future. While the mythological element of continuity and stability (as opposed to

uncertainty and variables/probability) is an important part of both types of sf, the mythological tendency to look toward the future is also represented in them, although again there are important differences. Muriel Rukeyser, interestingly because of her background as a political activist and poet, discusses this important characteristic of science fiction. Rukeyser appears to be interested in the genre because of its “futurist thinking” and the possibility in the genre for new ways to solve problems of social justice and equality. She says that, “science fiction is becoming the mythology of the future. As ancient mythologies provided meaning and direction for humankind, [...] science fiction, informed by science and contemporary and futurist thinking, will provide the stories that will give humanity meaning and direction in the future. It will inspire us, as did ancient myths, but it will base its visions on contemporary ideas and standards” (5). And, it is largely science and technology that is the mode of this change.

Star Trek serves as one of the most visible examples of this mythology of the future and the mode of technology and science to solve problems. While politics and the will to power are still quite prevalent on an interspecies level (and often on a personal level), the social structure of the Federation is itself quasi-utopian. The arguments about the impossibility of combining federalism with socialism in the way that society is structured in the *Star Trek* universe; law experts like Ilya Somin argue that this combination is impossible because of the tendency toward central control that characterizes real socialist states. However, one explanation for this apparent contradiction is technology. The technology that fills the pages of *Star Trek* pulps and television shows allows the citizens of the Federation to live quite comfortably. For instance, replicator technology allows the creation of almost any product, including food. So, the need for money no longer exists in the *Star Trek* universe, allowing the denizens

of this world free for higher pursuits. And, in true sf fashion, the replicator is scientifically explained as an analogue to transporter technology which essentially deconstructs a person on a subatomic level and then sends the person as a set of data to a receiving transporter. In similar fashion, the replicators, rather than receiving the information from another sending unit, create items from scratch using subatomic particles and template files.

This technology essentially eliminates the economic inequality and lack of necessities (and even non-essentials) that have plagued humans throughout history. And, since these problems disappear in the Star Trek universe, a socialistic system alongside personal freedom becomes plausible. Likewise, as this universe allows this quasi-utopian system (quasi because, again, there are still problems on a personal and an inter-species level), the Star Trek universe becomes a kind of mythology of the future. Of sf, Olaf Stapledon says, “our aim is not merely to create aesthetically admirable fiction. We must achieve neither mere history, nor mere fiction, but myth. A true myth is one which, within the universe of a certain culture...expresses richly, and often perhaps tragically, the highest aspirations possible within a culture”(4). It is this intersection between sf and myth that *Star Trek* expresses in its use of technology to eliminate age-old problems; the series becomes an embodiment of the “aspirations possible within a culture” by demonstrating the results of technological and social advancement to the point where social and economic problems no longer exist.

Both flavors of sf are both very similar, in fact, in the way that they express the future as the chance for positive change. Western sf, again, does this in terms of the advance of technology, leading to the expression of faith in scientific and technical

knowledge. Postcolonial sf, however, tends to focus more closely on cultural and social advancement, the tendency for societies shattered by imperial influence to re-create themselves, to find new and unique identities and move forward as stronger, less fragmented groups. Their portrayal of the future worlds often tends to include the struggles (racial, economic, and so forth) that the authors themselves have witnessed; however, in both the structure of the texts themselves (their syncretic tendencies) and the universes in the stories, there is often a hope for improvement on these present circumstances.

And, a brief examination of the mythic qualities of non-Western sf and Western sf displays the same kinds of mythological elements – in these texts, in fact, mythology often takes on an even more important role because it becomes one of the points of subversion where authors can make this genre their own. This particular element of postcolonial sf is very similar to magical realism's tendency to blend the real, predictable world with elements of the fantastic, encouraging a sense of alienation in the reader that is similar to that felt by authors from the broken cultures of former colonies.

For instance, Salman Rushdie's book *Grimus*, which was his first foray into the science fiction genre, is an excellent example of the combination of realism and fantasy and at the same time is a strong example of the traditional scientific basis of science fiction, but one that is blended with a mythical/mystical world-view. The text includes many of the most common features of science fiction: advanced technology, aliens, shifts through multiple dimensions, time travel, and so forth. However, many of these elements aren't exactly scientifically based or explained as realistic derivatives of the current understanding of physics. For example, the main character Flapping Eagle

becomes immortal simply by drinking an elixir, and later Grimus (the antagonist to Flapping Eagle) uses a special “Rose” (which isn’t really a rose, but a rose-shaped stone contraption) to control movement through the various dimensions of the universe. These technological marvels form a primary part of the text and have a heavy influence on the characters and the plot; however, Rushdie never really explains how they work, so the novel cannot be confused with Western hard sf. The main impression one gets from the presence of them is that they are hybrids – combinations of what is commonly expected in Western sf and what one would expect to see in traditional non-Western literature. So, even the physical objects are themselves combinations, much like the characters in postcolonial literature in general.

In the manner of most postcolonial sf, the text also includes mythical elements, in this case from Persian and other middle-Eastern beliefs. The name “Grimus,” for instance, is an approximate anagram for the mythical Persian simurgh, a bird of huge size that symbolized fertility, creation and great age. Grimus himself fits this particular pattern; while he isn’t extremely old (he gained mortality fairly early in life, before his body had taken on an aged appearance), because of his ability to shift through time and across dimensions, he has the same kind of influence as something that is immensely old. And he also has a creative tendency, particularly in his creation of a society on what is called Calf Island. Calf Island itself is also full of mythic references, particularly the name which is a reference to the Arabic letter Qaf, and the place of primordial paradise (much like Eden) of the same name.

Rushdie uses myth to emphasize the difference between typical Western sf and his own hybridized form; however, he also uses it to highlight several important

postcolonial concepts. The first is what Cundy calls the “immigrant identity” (Cundy, “Rehearsing Voices”). Flapping Eagle is the ultimate example of the wandering immigrant. He wanders literally from place to place, but also wanders through time and between dimensions of the universe. He spends virtually the entire story searching for a place and an identity that will give him a sense of stability. Rushdie’s use of this character gives the storyline a strong similarity to space opera, at least in the types of characters that are present. In this sense, Flapping Eagle is an adventurer who uses his wits and technology to propel himself through the plot, much like the characters in these stories. In this sense, the text recalls Western Golden Age science fiction. However, the similarities quickly break down with the mythical qualities that Flapping Eagle and his fellow immortals take on. This mythical element of the plot reads more like a recounting of the actions on Mount Olympus rather than science fiction; and, the non-Western feel of these mythical elements (particularly the use of Middle Eastern myths as the basis for Calf Island) take one even further away from typical Western science fiction.

Rushdie’s use of myth also tends to emphasize the impossibility of pure culture, a culture and *Weltanschauung* that is uninfluenced and monolithic. Instead, throughout the text the constant intermingling and re-combinations of various cultures and times consistently undermine the myth of the *Weltanschauung*. Rushdie, again, tends to combine both mythical elements and modern Western ideas in an attempt to do two things. First, his text undermines the illusion that cultures exist in a vacuum, uninfluenced by other cultures. So, his text becomes a kind of parable about the consequences of cultural hybridity on subaltern cultures. At the same time, it becomes an expression of the traditional beliefs of the Middle East, so Rushdie appropriates science fiction and hybridizes the text itself in a double movement, using the text itself as

a representation of the futility of the Weltanschauung and as a representation of his own brand of sf.

Mythical understandings of the universe include the belief that the universe is essentially a changing place, only subject to changes initiated by the gods. It's another element of myth that is commonly missing from Western sf but is more likely to be present in postcolonial versions of the genre. Of this aspect of myth, Fowler says

Myth is anti-empirical precisely because it does not see the Universe as a set of variables, but as something absolute. Mythic world-views do not accept the scientific method, the rational process, do not want the universe to be reasonable. Myth twists on a Nietzschean aphorism: "The unexplained should be thoroughly inexplicable, the inexplicable thoroughly unnatural, supernatural, miraculous. So goes the demand in the souls of all religious men and metaphysicians... Whereas the scientific man sees in this demand the 'evil principle.'" ("The Science of Fiction")

Essentially his argument is that there is a dichotomy between the world of myth and the world of science fiction, precluding science fiction from the function of a modern myth. And it is this dichotomy that is particularly important to postcolonial science fiction because of its tendency to undermine the scientific – and arguably the most important – element of traditional Western science fiction and appropriate it for postcolonial concerns. Indeed, it becomes the basis for appropriation of Western sf because postcolonial authors can emphasize the important difference between a scientific understanding of the world and a mythical one, exposing the dependence on variables and unpredictability that fills much of Western flavors of the genre.

These variables, for instance, that Fowler discusses are the uncertainties of life and uncertainties of the very nature of reality and the universe and the way that they are represented in science fiction texts, and they form a very important part of science fiction in the West, representing essentially the West's dependence on technology for conquest and control. Rather than an ordered world that is predictable and is controlled and maintained by mythical beings like gods, the universe of most Western science fiction is typically an uncertain place that is subject to the random acts of nature but is also subject to the control of humans through the proper technology. And it is this technology that takes on great power in Western sf, a technology that the characters in the stories both fear but depend on heavily to maintain their hegemony.

Kim Stanley Robinson's *Mars Trilogy*, for instance, is a protracted example of this role of technology. The characters' colonization of Mars is largely dependent on the technology that takes them there, protects them from the elements, and provides them with life support and building materials. This technology also allows them to eventually maintain control over Mars through areoforming/terraforming the planet. So, eventually, though, their technology, they change the face of an entire planet to their own needs. However, their relationship with that technology is at the same time rather ambiguous. In fact, their disagreements about how much the technology should be used lead to factions; there are green groups that believe that the technology should be used to turn Mars into another Earth, and there are red groups that believe that it should be used to effect only minimal changes on the planet, instead changing humans so they will adapt to Mars.

These factions highlight the ambiguous relationship that the various groups have with the technology. As the three books progress, the technology tends to play a rather large (and often negative) influence on the lives of the characters. It allows corporate interests back on Earth to exert a nefarious influence on the inhabitants of Mars (when their profits are threatened, they use military action to protect those profits), it allows some groups to destroy the virginal landscape of the planet and turn it into another human landscape, and it allows all of the groups to threaten one another with annihilation.

Many cyberpunk texts also express the outright fear that of technology that fills many sf texts. William Gibson's *Neuromancer*, for instance, and includes what Robert Geraci calls, "the split between technowrath and technoredemption [that] is so difficult to make definitive in his work" (972). Geraci explains that the AIs in *Neuromancer* are indispensable for the society: they "make the worlds economic and political machinery function" (972). However, humans have a deep fear of them because they threaten the control that humans have and even threaten the destruction of humanity. Geraci's argument is that they ultimately are seen both "in light of their threatening otherness and soteriological promise" (977). And this ambivalence occurs quite often in sf; in a wide range of texts, including others like *Metropolis*, *I, Robot*, *Do Androids Dream of Electric Sheep?*, *The Matrix*, and *Terminator*, the technology is viewed by the characters as the means for brighter futures, but at the same time as the means for the annihilation of humankind.

And like the technology, the worlds themselves in the texts are important elements in the expression of Western paradigms of control or postcolonial paradigms of

appropriation. Fowler does have a rather good point about the worlds within the texts; most are guided by empirical principles both in the way that the universes work in their texts and in the way that the characters see their worlds. In Western texts, for example, the characters live in predictable universes, and even when extraordinary circumstances occur they are often explained in scientific terms, again deferring to the supremacy of science. Likewise, the characters themselves very rarely exhibit religious beliefs; rather, most tend to express very strong beliefs in and dependence on science. The characters also exhibit the tendencies to view science as the means to solve any problem or to control the universe through manipulation of those variables. And, in most cases the universes of the characters respond to their scientific manipulation – in what postcolonial authors see as a representation of the same kind of scientific manipulation used to control the colonized.

In addition to portraying the universe as a variable and unpredictable place, commonly Western sf authors will go to great lengths to make the plots, the characters and the technology in the texts plausible. For example, even early science fiction like Shelley's *Frankenstein* tends to include explanations of strange occurrences and characters but the strangeness is explained so it becomes predictable and far less bizarre and consequently much less liable to estrange the reader from empirical reality. Shelley's Frankenstein monster is explained in the scientific knowledge of the time as a creature that the scientist Victor Frankenstein creates using existing body parts of cadavers and electricity. This text is mostly focused on the ethical dilemma that Frankenstein faces when becoming a creator (thus taking the place of God and using science itself to replace God's power) and the struggle that the monster faces as he is ostracized from human company. However, the technology involved in creating the

monster plays a rather large role, as well, because it propels the plot forward and even becomes a literal character in the form of the monster. And, the technology also propels the storyline forward as Shelley explains the workings of the body and electricity in the scientific understanding of the time, eliminating any element of divine intervention or influence.

Later texts – even “soft” sf, which tends to be less scientifically rigorous and more focused on “soft” social sciences – tend to use explanations similarly, making the various topics that range from anthropology and psychology to physics and biology, far more believable to readers and emphasizing the superiority of empirical understandings of reality over mythical ones. So, while the universe is a seemingly random and uncertain place, events still can be understood in terms of science and often even controlled. And, if the universe itself can be controlled, certain elements in the universe (like other cultures, other individuals, and so on) can also be controlled.

Ursula K. LeGuin’s *The Left Hand of Darkness* stands as a good example because its main focus is on scientific principles that are related to the inner workings of humans. The text revolves, in fact, around the cultural/social baggage associated with gender expectations. From a postcolonial perspective, it is also interesting because of the journey symbolism that is present – this journey is often present in mainstream postcolonial stories as characters that are outside their homelands seek to journey back. The text is a kind of hero journey, much like mainstream postcolonial examples, and it is one where the characters achieve self-awareness and begin to find a deeper understanding of the cultural construction (and therefore artificiality) of gender roles. As these things occur, however, LeGuin is careful to explain motives and actions of the

characters in terms of science (the prime minister of a planet, a person named Estraven, has a name based on estrogen and often influenced by it as well).

Realism, of course, also forms an important part of science fiction texts, both Western and non-Western ones. The use of realism is yet another element of sf that undermines the mythic qualities of the genre and provides an empirical basis to the stories those Western readers typically expect. Technology in the texts, for instance, must be described and its inner workings explained so it has an element of plausibility. The warp drive of *Star Trek* is a good example because authors in the franchise take great care to explain how it bends space/time to allow ships to travel faster than light. Through this description of the inner workings of technology and the natural world surrounding the characters, a kind of naming (and also control) of all of the elements can be maintained.

And this naming takes other forms in sf, particularly when the naming of landscapes expresses the sensibilities of those in power and able to do the naming. This form of naming is very similar to the naming of the inanimate world and of technology because the goal is to feel a sense of understanding and control over the universe surrounding the characters. Ultimately it is yet another form of control; it's very reminiscent, in fact, of the naming of cities, land features and even people in colonized areas. And in postcolonial sf, this emphasis on naming is turned on its head as the authors of these texts have their turn at naming. Often many of these authors will take great pleasure in naming in their texts. Nalo Hopkinson's *Midnight Robber*, for instance, takes place primarily on the planet Toussaint, named after François-Dominique Toussaint Louverture, the leader of the Haitian revolution. Through naming the planet

after a historical figure, the inhabitants of the planet feel a sense of their own place and history, leading to a stronger sense of identity. So, their naming of the planet gives them control over it that they may not have experienced under colonial rule, and it allows them to feel control over their own selves.

Fowler's point, again, is valid, particularly in the case of issues like naming, both of the inanimate world (and the consequent sense of understanding and control of that world) and in the case of naming of the world that has been militarily and politically conquered, because typically in Western sf the conventions of science are more prominent than those of myth and magic. The prominence of science –scientia or knowledge – in these texts leaves people themselves (whether it is scientists, authors or conquerors) in the position to do the naming, again a kind of control over the object or person being named. In Western versions with the closer reliance on science and technology there is an important reliance on knowing about an object that allows a kind of control over it, although when science fiction reflects this attitude there is a continuum ranging from strict hard sf to ones that are more loosely bound to scientific principles.

However, since in the case of postcolonial sf there are often magical elements combined with scientific and empirical ones in the texts, the power to give names is removed from those who are typically in power in the Western paradigm. Instead, naming rights often go to the subalterns, ones who subvert Western naming conventions for names that exalt the colonized. Michelle Reid, for instance, mentions the contrast between the AI Dr. Ops in "Deep End" and the AI in Nalo Hopkinson's *Midnight Robber*. Reid mentions that the AI in Hopkinson's text, named Granny Nanny, "signifies a different set of cultural references; it provides an interesting slippage between ideas of

nanotech, the spider-trickster *Anansi*, and the slave revolt leader Granny Nanny of the Maroons” (par. 21). This renaming of technology is an important feature of this particular text; it signifies a different kind of relationship to technology, one that is more familial and at the same time represents the subaltern experience rather than the role of technology as a conqueror. In fact, this renaming of the AI expresses a whole new relationship to the technology itself. Reid says “Like its slave-leader namesake, Granny Nanny provides a means of protection, organisation, and unity. The capricious, trickster nature of Granny Nanny is regarded as a vital aspect of the system, as opposed to a dangerous flaw” (par. 22). And, the role of Granny Nanny as both protector and as trickster makes her a combination of the Western view of technology as a tool (in this case a tool for protection) and an almost magical creature from African myth. So, naming in this case re-positions artificial intelligence technology as something less nefarious and more maternal, although sometimes unpredictable and semi-magical.

This combination of realistic/plausible elements with magical/unexplainable ones is one of the important divergences from the sf of the Western metropolitan center, and it has a powerful influence on naming and thus the interpretation of reality. While Western science fiction – particularly “hard” sf – tends to explain even fantastic technology and barely-believable events scientifically, postcolonial sf often includes the fantastic in a matter-of-fact manner, as if these events do not need to be explained, and the understanding is that both Western naming as a means of control and the Western obsession with understanding and control are subverted and emasculated in favor of a less scientific and more mystical understanding of the world.

And in fact, in these elements form a central part of postcolonial sf and have a three-fold reason for being in postcolonial sf texts: 1). Again, they are often included as an attempt to find a new combination of literary elements in an effort to find a new form of sf that doesn't identify them as Western authors; 2). The authors are often attempting to define their cultural identities and one means of doing that is to include important and influential myths associated with their traditional culture; and, 3). The authors are often rebelling against the empirical conception of the world and are finding other frameworks for making sense of the present, the past and the possibilities of the future, particularly a future free of Western hegemony.

Amitav Ghosh's *The Calcutta Chromosome* is an important and interesting example of the use of combinations of mythical elements with traditional sf ones. This text has a hard sf basis, as it is primarily focused around genetics; however, it diverges from those scientific principles quite a bit as the malaria chromosomes that take a central role have a mystical quality. Ghosh relies heavily on historical background, like the real (and Nobel prize-winning) Ronald Ross's discovery that malaria is spread through mosquitoes; he then diverges from this historical information by combining it with Indian mystical elements to create a text that Tuomo Huttunen says is a kind of "counter-science to Western scientific discourse" (57). Ghosh's counter-scientific discourse allows him to find a new direction for the genre, one that more closely reflects the non-Western periphery.

Ghosh's use of mystical elements is the primary vehicle for this new direction. Although there are a limited number of Western texts that include some degree of the mystical, the vast majority of Western texts revolve around empirical science and

extrapolation based on that concept. Ghosh's text, on the other hand, blends science and mysticism in the development of a technology that allows one to transfer one's chromosomes into another person, leading to a transfer of the person's consciousness, as well, and consequently a longer (if not endless) life. The main character, L. Murugan, discovers that Ronald Ross' research was actually surreptitiously manipulated by a secret group of Indian subalterns. This group, bent on using research into malaria to discover the secret of eternal life, manipulates Ross so he unknowingly aids them in their own research. Murugan, highly critical of the Western sense of scientific superiority, feels intense pleasure in the fact that a Western scientist could be so easily manipulated by so-called inferior pseudo-scientists. Ross says, "He thinks he's doing experiments on the malaria parasite. And all the time it's he who is the experiment on the malaria parasite. But Ronnie never gets it; not to the end of his life" (67).

The secret group itself believes in what Sanjit Mishra and Nagendra Kumar call counter science in their own analysis of *The Calcutta Chromosome*. This attitude toward science is quite opposite to Western reliance on empiricism. The group:

started with the idea that knowledge is self-contradictory; maybe they believed that to know something is to change it, therefore in knowing something, you've already changed what you think you know so you don't really know it at all: you only know its history. Maybe they thought that knowledge couldn't begin without acknowledging the impossibility of knowledge. (qtd. in Mishra and Kumar 81)

Eventually this group does achieve its purpose of finding a kind of fountain of youth, allowing Ghosh himself to question the validity of the argument that Western science is a

superior method for gaining knowledge and solving problems. In its place, the group proposes their own use of mysticism – combined with the ancient beliefs in folk healing and tantric ritual – to solve problems of physical suffering. Ultimately, according to Mishra and Kumar, “The novel questions the belief in the grand narrative that liberation of humanity is only possible through science and offers a glimpse into the existence of alternative possibilities” (85). And, as it calls into question the very basis of Western scientific discourse, it also calls into question the Eurocentric world-views that the edifice of Western science maintains.

In addition to the mythical elements that postcolonial sf authors use to appropriate the genre, many use unique literary elements, including differences in characterization, different approaches to conflict, and mythic storytelling, that allow an appropriation and hybridization of sf and typical postcolonial fiction and add to the element of mythos that these texts often express. While a discussion of literary elements appears to be different from a study of myth, many authors use these literary elements to express the mythical. And, the attempt to combine unique literary elements to essentially create a different kind of sf is probably one of the most noticeable characteristics of postcolonial science fiction and often turns traditional Western elements of sf on their head in a manner that highlights difference in these texts. These elements become unique to this genre not because they don't exist elsewhere, however, but because they are very rarely a part of Western sf, so again their use undermines the expected characteristics that one sees in science fiction, leaving texts that stretch the definition of the genre.

For instance, characterization is often quite different in postcolonial science fiction. In Western sf the characters are often heroes engaged in adventures and bigger-than-life activities. Space opera, in particular, has this type of characterization; very seldom are the characters common or run-of-the-mill. The characters typically are problem solvers, eliminating social or economic issues, finding ways to bend nature to their wills (particularly in texts that feature the creation of environments that are hospitable to the characters) or solving political or military issues. E.E. “Doc” Smith’s and Lee Hawkins Garby’s first piece, *The Skylark of Space*, for instance, is primarily about the relationship between two characters, the hero Dick Seaton and his antagonist Marc DuQuesne, two men who fight for the rights (and subsequent monetary gain) to faster-than-light technology that develops through the work that both of them are doing separately. During the struggle for control of this technology they find themselves initially stranded and lost on an alien planet; however, they find a sizeable amount of solution “X,” one of the components of faster-than-light travel and make their way home. Eventually, they learn to work together on a limited basis; Seaton gains control of the technology and DuQuesne receives a sack of rubies and diamonds. And overall, the characters solve the problem of travel between the stars – the primary goal of Seaton is to create technology that benefits society – and propels humanity into space.

Postcolonial sf often treats the characters much differently. In an attempt to express the effects of racism and imperialism on common folk, postcolonial sf authors will generally use characters that are anti-heroic. Many of Nalo Hopkinson’s characters, for instance, resemble cyberpunk characters (which are often more “common” and less heroic), but they go beyond even that subgenre of sf in their ordinariness. Her characters include people like inner-city voodoo practitioners who are suddenly placed in

situations out of their control. Rather than finding massive and heroic solutions to their problems, however, their solutions are commonly mundane and often preserve the status quo. Hopkinson's main character, for example, uses her voodoo skills to defeat the crime boss in her neighborhood and the text ends with a very mundane scene where she sits on her stoop considering what to name her baby.

The conflict, as another literary element that drives the plots of sf texts, is often quite different from Western sf, depending on the origin of the text. Conflict is often quite a bit subtler in postcolonial sf than in Western versions. Western versions typically include grandiose conflicts between empires, between civilizations, or at least between individuals and the powers that be in their worlds. Even in cyberpunk texts, which again don't typically have plots that are as grandiose as other forms of sf, the characters are often pitted against large corporations or national powers, struggling to maintain their lifestyles and identities in the face of malevolent powers. The uniting element in almost all forms of Western sf plots, however, is that the characters often are involved in actions that will have dramatic effects on their worlds.

Admittedly, not all sf texts have these dramatic, grandiose settings. Some, like Ray Bradbury's "The Veldt" and "There Will Come Soft Rains" both do have these subtle settings. In both of these short stories, the setting is a domestic one where the main characters only have an effect on the home itself and on the lives of the other characters in the home. "The Veldt," for instance, primarily revolves around the technology of the house. This house performs all household functions, including cleaning, cooking and caring for the children. The house performs the household duties so well, in fact, that the parents begin to feel unnecessary. And all of the members of the family become

absolutely dependent on the technology. The children become so dependent, in fact, that they are outraged that the parents want to shut off the nursery (a kind of virtual reality machine) that they use the nursery to murder the parents. In “There Will Come Soft Rains” another automated intelligent house drives the plot. So, both texts are essentially other explorations of the love/hate relationship with technology. And, both are exceptions the typical grandiose plot of most Western sf.

However, subtlety is often the rule in postcolonial sf as characters are often struggling internally with their identities or their lots in society. Powerful external struggles full of wit and violence are noticeably absent from the vast majority of postcolonial sf. In the case of these struggles (or lack of struggle), postcolonial sf sometimes resembles mainstream postcolonial fiction more than it resembles mainstream science fiction.

Nisi Shawl’s “Deep End,” for instance, is primarily about the struggle for identity as the main character’s personality is placed in the body of a white person. The plot does not revolve around dramatic events or actions that will cause change on a large scale; instead, it revolves around an almost mundane (in comparison to the lofty plots of other texts) internal struggle to understand freedom and identity in light of her marginalization. And, as she does this, the main focus tends to be on the character herself, with the technology acting as more of a tool to drive the plot forward rather than as an important element of the text.

Wayna, the main character, is a woman of color whose consciousness is placed in the blank body of a White person. This transfer of consciousness serves two purposes; first, she is a convict and is being punished for her crime with the destruction

of her own body and by being transferred to another planet, and second, the body that she inhabits allows Whites to transfer their genetic material to other planets without the danger of actually going themselves. As the text progresses it becomes apparent that the situation is a continuation of traditional slave culture, with Whites using new methods to perpetuate their mastery over Blacks. In this case, Blacks are unable to even maintain the blackness that allows them to differentiate themselves from those in control. Instead, they are only a kind of reverse surrogate, encased in the bodies of those who enslave them.

And, it's this disconnect between their bodies and their identities that drives the plot. Through the course of the story Wayna consistently experiences problems with the functioning of the body, problems that appear to originate from the mismatch between her consciousness and the body. These attacks are characterized by intense pain but ironically a sense that she is outside the body that causes the pain. This problem doesn't appear to be of concern to the AI that represents the Whites, however, as the body itself appears to be in good order. So, Wayna becomes further devalued as simply a means to achieve the plan to spread Whiteness to other planets; her own discomfort is only a minor side effect of this important colonization of the White. Throughout the text, even when she ultimately arrives on the planet that her body is to colonize, her personal struggle becomes secondary to the body and its genetic material.

In some cases like this text, the technology and/or extrapolation seems like decoration rather than the main characteristics of the pieces; in fact, it retreats into the background and becomes less of a character and more of a plot device. The main driver of this particular story is the dislocation of the identity and the use of the body as a

representation of that dislocation of identity. Through the very body itself, the characters of color lose their most intimate markers and become representations of something that they are not, something that itself represents their own repression.

And even as the common elements that make up other sf retreat into the background in these kinds of pieces, these elements still often become an important part of the characteristics of these texts. In these cases, the texts still retain their membership in the science fiction genre, but give the impression that they are at the same time trivializing the Eurocentric/phallogocentric tendencies in the Western flavor of sf. At the same time, they tend to accentuate elements like the search for identity and the effects of colonial misuse of power and exploitation, particularly when they emphasize technology that allows that misuse of power or the attempt to undermine traditional identity, again undermining the typical adventure story quality of most Western sf in favor of a hybridized, appropriated and new kind of text.

And, the way that these literary elements connect with the use of myth in these texts has a kind of synergistic effect, creating stories that tend to fashion a sense of alienation and a sense of the strange, much like mainstream postcolonial texts, and quite similar also to magical realist texts like Rushdie's. However, sf, even in its postcolonial iterations, still retains an element of realism that makes it an appropriate form for the expression of the political and social issues that often are a part of postcolonial fiction. While it's quite different from Western sf in its faithfulness to realism, in most cases postcolonial sf still retains some elements of realism, as this is one of the most important elements of sf as a whole.

And Kim Stanley Robinson, in fact, says that “science fiction is the realism of our time,” and his statement isn’t that far-fetched because most Western sf texts themselves tend to eschew the fantastic in favor of a more level-headed discussion of characters in common-place (albeit futuristic, of course) situations. Admittedly, these characters are in situations that are fantastic and sometimes difficult to believe, but the cognitive estrangement that Suvin describes as one of the most important elements of sf helps to create a text that at least becomes plausible. So, even while the situations are fantastic, the scientific explanations for these events make them believable, so again the texts come back to science.

Postcolonial sf, on the other hand, often stretches the limits of the genre along these lines, including rudiments of fantasy and fewer elements of realism. Postcolonial fantasy, in fact, is very similar to postcolonial science fiction in its goals and in the mixture of typical Western realism with less-plausible elements. In fact, in some cases it’s very difficult to differentiate postcolonial sf from postcolonial fantasy. Again, Rushdie’s *Grimus* is an example as it retains elements of fantasy and sf, as are many of Hopkinson’s books. Brian Attebery, author of “The Politics (If Any) of Fantasy,” for instance, writing of this inclusion of the unexplainable/fantastic, claims that magical realism, a category in which Salman Rushdie is often placed, is about “other places, the places that the industrialized world tends to see as backward” (7). According to Attebery, critics make a distinction between magical realism and fantasy in that the latter is “deliberate, a choice” whereas the former isn’t because “people from those Other places obviously don’t know the difference between the real and the fantastic, so it all get jumbled together in their work” (qtd. In Leggatt, 105). And it’s this difference that is important in the case of postcolonial sf because these authors obviously are

appropriating these elements (of sf and fantasy) and combining them consciously to create hybrid texts that become their own, ones that can be written back to the Western center in defiance of Western conventions.

And Judith Leggatt says that there are advantages to this blending because fantasy can use “myths and legends to comment on the present,” while magical realism can explore the problems associated with entering the twentieth century, “the magical world view that makes all things related and alive gives way to a world of dead commodities” (105). Leggatt goes on to say that “the simultaneity of the different worlds [past and present, magical and actual] allows them to comment on each other in a more immediate way than does the escapism that characterizes more mainstream fantasy” (105). The blending of magical realism with fantasy also allows postcolonial fantasy texts to supplement escapism with important commentary on the past, the future and the present syncretic circumstances of the postcolonial subject.

This blending of genres, styles, attitudes and political sensibilities also takes its toll on the characters – in ways that reflect real-world problems associated with identity. Western science fiction and its postcolonial counterpart’s tendency to cross borders – to oscillate between the worlds of the West and the former colonies (the Other) leads the characters to lack a grounding in either world, and it leads to ambiguity in the characters’ identities. This ambiguity, however, is an important part of these texts; again, rather than the traditional “sci-fi” hero who is often a representation of the adventurer, conqueror or cowboy, these characters again exhibit existential crises as they struggle to come to terms with the loss of their own cultures and the impression of Western culture on their societies. While new combinations of literary elements is the most obvious

aspects of postcolonial sf, their combination leads to one of the most important aspects of sf: its use to define and make sense of their hybrid identities as layers over palimpsests, layers of Western (and artificially imposed) cultural discourse over the hidden layers of their traditional (and often suppressed) world-views.

Bill Ashcroft, et al, say that fantastical elements and non-causality are common elements in postcolonial fiction because literacy in Western cultures produces “a sense of change, of the human past as an objective reality available to causal analysis, and of history as a broad attempt to determine reality in every (diachronic) area of human concern” (Jan Mohammed qtd. in Ashcroft et al 81). In contrast to cultures with long histories of literacy, traditional cultures of former colonies often maintained oral traditions that commonly led to very different conceptions of reality, cause/effect and explanations of events in the natural and human worlds. According to Ashcroft, Abdul Jan Mohammed goes on to say that this difference does not imply that “oral societies do not have a history, nor that their tendency to generate ‘mythic’ rather than ‘historical’ accounts of the world implies that they are unable to reason logically or causally [...rather] he argues that the logic and causality of oral cultures are more ‘magical’ whilst those of literate cultures are more ‘empirical.’” (Ashcroft et al 82). So, while Western audiences – long steeped in a society based on literacy and sf that is logically and scientifically-based – tend to expect texts to flow smoothly in a linear manner, to have scientific explanations for various elements of technology and events in the plot, postcolonial science fiction typically has no such tendencies nor any such requirements by the audience.

4.2 Extrapolation in Western Texts

Extrapolation, or the empirical prediction of current trends into the future based on current events, is an important (and arguably an essential) element of science fiction. In most cases extrapolation refers specifically to technology; however, extrapolation can also refer to other kinds of changes like social ones. In fact, many sf texts focus primarily on extrapolation of things other than technology. Many will use technological extrapolation as a starting point and then extrapolate the social changes that accompany the new technology. Drew Magary's *The Postmortal*, for instance, is premised on just one specific change: a gene therapy that stops the aging process and allows immortality (barring any other causes of death like heart attacks, car accidents or lightning strikes). The text is primarily about the social ramifications of this major change. Magary explores the riots that occur as people demand access to the cure (it is initially banned in the United States because of the uncertainty of side-effects on the individual, and because of fears of overpopulation and depletion of resources). He also addresses the changes in attitude toward marriage as people are no longer willing to have partners with whom they could possibly spend millennia. And, he explores the ramifications of a massive population (20 billion) that results when people live for exorbitantly long periods, including the stress on the environment, the lack of space for all of those people, and the wars that result from

The use of extrapolation is ubiquitous in Western science fiction and is another important element of the genre, important enough to be considered separately from the more general definitions provided in a previous chapter. Western science fiction authors have been using these techniques for most of the history of the genre to express

Western concerns of power, technology, exploitation of natural resources, encounters with aliens or the Other, and so forth. For example, Isaac Asimov's *Foundation Series* explores the interactions between various human societies in the galaxy after the fall of a human galactic empire, and the trilogy explores the implications of contemporary robotic technology advancing to the point of developing an intelligence of its own. This element is essentially an extrapolation of current political, social, scientific and historical trends into the future. While it is obviously symbolic and representative of current events, it also is an attempt to explore future events by superimposing important current trends onto the possible technology of the future to show how events may play out.

And, the importance of this extrapolative element in Asimov's stories is that he emphasizes certain elements of human character (like the tendency to aggression and greed that leads to empire-building) and shortcomings in society (like social inequalities and determinism versus free will and so forth); his extrapolation of these behaviors and characteristics into the future makes them particularly obvious and exposes them as problems in contemporary society.

His use of technology as a tool to try to solve these problems also tends to highlight its shortcomings as a tool to solve them. The development of psychohistory, a kind of extrapolation that allows the characters to predict the future, doesn't allow the characters to really solve the problems associated with imperialism and aggression. Although they have this very accurate tool at their disposal, through the course of the three books it's apparent that Asimov's attitude toward technology is that it's problematic and often inadequate for the tasks that it's meant to accomplish. And, through his

extrapolation of technology into the future, these problems become exaggerated and move obvious, and the results of these problems are much more evident, as well.

So, while technology's ambivalence is obvious in the case of Asimov's trilogy, it still is a major part of his texts, and extrapolation allows him to emphasize the centrality of technology in society. Likewise, other authors approach technology in the same way, and they also use extrapolation – in the sense that it extends a particular method or trend into the future – to explore social issues. A major element of all of these texts is that many of them tend to take a positive stance to technology – both in its value as a means to solve a wide array of problems and a way to solve social problems in particular (through methods like psychohistory, but also other methods like drug therapies and mind manipulation that present themselves in other texts) – and often extol Western culture as the norm to which all other cultures and world-views are to be measured.

Again the *Star Trek* franchise comes to mind as its Federation, with its egalitarian principles, anthropocentric (and largely white, it seems) stance, tends to be reminiscent of Western sensibilities, as if they are the best of all situations and are the yardstick by which all other cultures are compared. And this attitude is very common in Western sf; the Western-centric attitude pervades these texts and becomes an important starting point for the appropriation and subversion of these chauvinistic texts.

And, in postcolonial sf extrapolation is another means to do just that: postcolonial sf authors often go in very different directions when they extrapolate futures for their characters based on present circumstances. This may be an obvious difference from Western sf because for these authors the starting point is one of postcolonial angst and cultural irrelevance. However, extrapolation can go beyond an angry response to

Western hegemony; in fact, it can be a positive expression of future changes in the postcolonial situation. Indeed, many postcolonial sf authors imagine futures where former colonies are no longer consigned to the periphery; many of these texts instead portray cultures that take a central role and are yardsticks themselves.

Buckell's "Necahual" again serves as an example because essentially in this case the subalterns win. Toward the end of the text, as The League's powerful nanotechnology dissolves, leaving the soldiers vulnerable and weak, they come to the realization that they are not, indeed, the metropolitan center that they believe themselves to be. Buckell even makes a reference to Wells' *War of the Worlds*. The main character asks Jami about the importance of reading the book, and Jami replies that "you might appreciate it more now, I think. The only real alien right now is you [...] and soon we go teach you how to belong" (267). So the story is quite similar to Wells' story, except in this case the invaders are humans who are once again trying to assert their control on ones they feel are inferior. Instead, they are defeated and now must learn to conform to those who were once part of the periphery; the roles of master and subaltern are switched, and the former subalterns develop a healthy society that functions free from outside influence.

The tendency to use current political, social, technological and ideological trends and to imagine how they may evolve over time is one element in science fiction that makes it immediately familiar to the reader, as opposed to other texts like fantasy that commonly have unrecognizable worlds with impossible societies and magical elements as their basis. Of course, extrapolation doesn't just refer to possible futures and their development, however, and once again in postcolonial versions of sf fantasy often *do*

find a place alongside extrapolation. Gary K. Wolfe says that “critics have managed to adapt the word to include extrapolations about the past, about Alternate Worlds, and about other [...] themes,” and postcolonial authors often take advantage of this characteristic of sf, using extrapolation on two levels – both in a straightforward manner to imagine future situations but also at a meta level to extrapolate about the future of the texts themselves (17).

For instance, extrapolation can often be used to imagine these alternate histories (which might occur because some physicists believe that time contains infinite branches and universes) in ways that allow unique approaches to societal and technological problems, and when postcolonial authors use that aspect of sf they can undermine the Western ownership of the genre. Darko Suvin says for instance that the “form of SF in which an alternative locus (in space, time, etc.) that shares the material and causal verisimilitude of the writer’s world is used to articulate different possible solutions of societal problems, those problems being of sufficient importance to require an alteration in the overall history of the narrated world” (Qtd. in Wolfe 14). And, it is this important element of extrapolation that opens sf up to the possibility of new forms, particularly non-Western ones that remove Western culture from the metropolitan center.

The importance of this extrapolation is that it allows for a presentation of cultural/societal/technological differences that might not otherwise be explored or even imagined, and that makes sf a good medium for Postcolonialism to become a part of the consciousness of the masses. In the case of postcolonial fiction, this ability to explore differences can again allow the postcolonial author the chance to appropriate Western writing and use it to explore the possibilities of societies that are free of colonial/Western

influence. And, imagining these futures allows both an understanding of the current postcolonial/neocolonial situation, but gives hope for futures where the subaltern has a voice.

Authors like Nnedi Okorafor-Mbachu, Andrea Hairston and Nalo Hopkinson have appropriated the genre for non-Western themes, and they are good examples of the use of extrapolation for appropriation and other postcolonial goals. In particular, they have blended common characteristics of science fiction with those of native, non-Western forms like African folk tales and Asian myths to achieve the goals above, and they have used appropriation in each of these elements to explore future possibilities for their cultures. Through techniques like these, postcolonial authors have found a means for expressing the various concerns that are often present in more mainstream postcolonial fiction by taking advantage of some of these unique characteristics of science fiction.

Nalo Hopkinson's novels often exaggerate social and technological elements in this way to highlight problems in the current paradigm of Western/American dominance and to also express what particular Western/non-Western or racial interactions might be like if things were slightly different. For example, her *Brown Girl in the Ring* is set in a deeply divided Toronto where a large portion of the city is barricaded and guarded so the mostly non-white inhabitants inside can't enter the mostly white middle-class sections of the city. The book shows Hopkinson's projection of psychological, cultural and physical separation by portraying characters within the barricaded inner-city who have learned to shed Western habits in favor of traditional Afro-Caribbean traditions of herbal lore, farming and bartering. Those in the richer sections of the city, though, still continue to see the poor non-whites as something to be exploited and harvested because they begin

using them for spare body parts. The book is an exploration of racism and class fear when people are separated by racial attitudes and class differences, but it is also a graphic exploration of how current attitudes of Western/white superiority can lead to extreme ends, and it explores the consequences of being “Othered” by the ruling class in a society.

Hopkinson’s book *Midnight Robber*, on the other hand, is set in the deep future on a Caribbean-colonized planet called Toussaint. This book explores the implications of Caribbean cultures developing on their own, away from Western white influence. Again, the extrapolation in this book is highly imaginative, and that imaginative element highlights the influences of Western culture on Caribbean culture by emphasizing the differences between this culture that is uninfluenced by Western hegemony and the real ones that have been deeply influenced. Both books tend to exaggerate and highlight the current situations of blacks in Western culture, one by showing what might happen if current attitudes and actions were taken to the extreme, and the other by showing how much different Caribbean cultures would be without the influence of Western powers.

This tendency of science fiction to ask “what if?” also makes the genre an excellent means through which to explore real and current social and political problems often present in post-colonial societies and these societies’ abilities to form distinct identities, and it helps to pose possible solutions to questions of alterity that often arise in these former colonies. This extrapolative tendency also allows postcolonial authors to highlight the problems that colonialism has created either by showing what the world would look like in the absence of colonialism or by exaggerating elements of colonialism to the point where they are undeniable. This exaggeration of various elements of

colonial rule such as an emphasis on the superiority of Western literature, languages, and the strength of Western rule and law tend to highlight the West's powerful effect on non-Western societies. By using a metaphorical fast-forward button, one that either projects into our own future or creates an alternate history by fast-forwarding from the past, these authors show how current problems might play out in the future, and in some cases by imagining a world completely devoid of colonial powers they can better highlight the affect of colonialism on our own world.

Opal Palmer Adisa's short story "The Living Roots," set in the years immediately following the emancipation of slaves in the Caribbean, does something quite similar, but it focuses on the effects of slavery and compares/contrasts the differences between those who have maintained their freedom and their own cultural identities by (ironically) hiding away and losing their bodies as signifiers of their blackness and those who have remained slaves but have kept the signifier of the black body. Those who have learned to live in a cultural and metaphorical world beyond the body have kept their freedom, even during the years of slavery, by maintaining their own cultural identities and by defying the influences of the Western slave owners. On the other hand, those who were enslaved continue to live in the corporeal world that is controlled by the whites and continue to be mentally enslaved, even after their emancipation. The very bodies of the slaves, in fact, highlight this tremendous difference in attitudes.

The main character, Essence, who is mostly non-corporeal (she only takes human form to move among the slaves in Jamaica and determine when they are finally freed) and therefore free from the physical (and psychological) enslavement of blacks, for example, has ambiguous feelings about the human body that to her represents the

physical, slave world “not because [the human body] was ugly, but because the enslaved world always infuriated her, with its control of human labor and restriction of movements: ‘a complete degradation of the human spirit’” (231). However, she also seems to be drawn to the human form as an ultimate representation of the eventual freedom of her people. The contradictory nature of her feelings convey the ambiguity of the corporeal itself, as the primary means through which slavery is perpetuated, but also as the means through which it will be overthrown. For this text, the imposition of slavery affects the obvious physical freedom of the characters, but it also affects them psychologically and culturally, taking away their ability to develop strong, independent identities, even after their emancipation.

And, “The Living Roots” highlights a possible alternate future extrapolating from the experiences of the Maroon population in the West Indies. The group to which Essence belongs, for example, is a subset of the Maroons, but they have developed quasi-magical methods of hiding from the slave holders: they have literally become part of the land, living under the ground like plants and feeding off of it through their dreadlocks like roots from trees. Their dreadlocks quite literally become roots that allow them to leave behind their slave bodies and find a place living not on the land but intimately in the land until the slavery that they’ve escaped no longer exists. The text ultimately opens up the possibility, through extrapolation, for a world in which the former slaves can maintain their blackness but at the same time feel a strong connection to the land where they’ve been forcibly transported. At the end, in fact, Essence seems optimistic that while the former slaves she visits are still crippled by their sense of inferiority, they will ultimately find living roots that link them to this land and allow them to find power in that link. The text even ends with an image of Essence and Tuba (her

soon-to-be mate) discussing their own optimism at their own linking. In a metaphorical blending of their own link with their link to the land, she calls him her “sweet-potato” while he calls her his “cassava” as they literally link their bodies.

While Western flavors of sf have examples of alternate histories, this exploration of the past and extrapolation of past attitudes and situations is a very different approach from typical mainstream science fiction’s usual focus on the future. It is also a clear example of postcolonial authors appropriating Western literature and re-shaping it in ways that make it uniquely their own. Adisa’s “Living Roots,” in fact, extrapolates from the cultural situation of the past, and in that past it blends common science-fiction elements of superior technology with elements of the fantastic (like spiritual creatures – “duppies”) that are commonly present in African folk tales. The Maroon culture of which *Essence* is a part is a real part of Caribbean history and folklore. And even though the plot is set in the past it is a metaphorical representation of a form black freedom that possesses mythical powers and futuristic technology similar to societies and cultures in mainstream science fiction. This blending of past and present, of real history and imagined history, and the blending of science fiction elements with elements of Afro-Caribbean history and folklore both appropriates and undermines traditional Eurocentric science fiction and allows non-Western authors to shape science fiction so that it can express non-Western postcolonial concerns rather than Western ones.

Again, Buckell’s “Necahual” is also a good example of this tendency to appropriate elements of science fiction because while it imagines current attitudes (like the white man’s burden mentioned above) in future situations, it still imagines them by re-configuring traditional sf elements in ways that create new types of texts, one that are

less Western. Much like “The Living Roots” it also combines both a futuristic society with one that resembles nineteenth century Caribbean society. The text focuses on the idea that other, less advanced cultures are the responsibility of more advanced Western cultures, the idea of the “white man’s burden,” but again it also undermines many traditionally Western elements of science fiction and appropriates others and blends them with non-Western traditions. And as it does this, the text itself becomes an artifact of the periphery, one that, in the words of Bill Ashcroft, points back to the center and questions its right to be central to science fiction.

The text is set in the distant future, where European values of industrialism, exploitation and technology are apparently still strong, as well as the belief that societies that don’t embrace these values are primitive. The main characters, for example, consider themselves liberators of the planet New Anegada, a reference to a former British colonial holding in the Virgin Islands. They consider the planet a “backwater shithole” but still feel compelled to liberate the inhabitants (Caribbean refugees) from the aliens who have enslaved them (252). Ironically, however, the inhabitants do not want to be saved because they (ironically, as well) have a close relationship with the aliens who have become incarnations of Aztec gods, representations of another people who were originally destroyed by imperial conquest. Eventually, the aliens (called the Azteca) use an “antidote on the members of “The League” (the human liberation force) that destroys all of the nanotechnology that allows them to control their ships and weapons, leaving them powerless. One of the Azteca says “all those nasty little metal bits inside of you that talk to each other and to your ships, all those little ghosts running around inside your heads, those intelligent machines, they’re all dead now” (263). So,

the technology upon which this imperial society depends, is ultimately fragile and weak itself and leads to the downfall of The League in this battle

The element of appropriation is particularly important to this particular text because the author appropriates a typical science fiction story of invasion and exploitation – particularly one that relies on technology for this exploitation – and turns it on its head when the natives themselves gain the upper hand and force the invaders to view difference as something to be celebrated and the rejection of sterile technology as an acceptable alternative. This technique allows the author to undermine the values that the West places on these ideals of exploitation and technology, and it replaces them with traditional emphases on nature and cooperation.

4.3 Kim Stanley Robinson's Extrapolation as (non)Western Thought Experiment

Some authors also see science fiction as a thought experiment and they use extrapolation to put that experiment into action. Viewing science fiction in this way is somewhat different from pure extrapolation because it focuses more on real possibilities in the future and it tends to explore complex interactions between various elements of society, including psychological and scientific understanding, economic issues, environmental issues, philosophy, and so forth. It also is another link to science, as thought experiments are generally used in fields like physics to understand principles or concepts that may not be actually possible to perform. And, because extrapolation tends to be more conservative than pure speculation, the individuals and even entire cultures, as well as the complex interaction between various elements in the societies present in extrapolative science fiction tend to be more plausible and the stories themselves tend to be more “hard” science fiction than imaginative science fiction. Kim

Stanley Robinson refers to much of his writing as thought experiments, for example, and uses this characteristic particularly in his Martian trilogy to envision a world where “eco-economics” replaces the capitalistic/industrialist paradigm where the global environment is exploited and destroyed and the gap between the rich and the poor is immense. Because of his exploration of these themes, he tends to be a bit closer to the border between Western sf and postcolonial sf as he often criticizes Western exploitation of resources, even while he is himself part of the Western paradigm.

In fact his approach tends to contrast with much of the current science fiction sub-genres like cyberpunk and soft science fiction. Cyberpunk tends to focus on a near future that is usually dystopic and is centered on marginalized and alienated characters unable to adapt to the landscapes in which they are placed. Soft science fiction, on the other hand, tends to focus less on the physical sciences or on imagining possible futures and focuses more on imaginary worlds and the effects of exotic (and most likely unrealistic) technologies. Using science fiction as a thought experiment also contrasts with authors like Hopkinson who extrapolate possible futures based on a small number of current trends. For these authors, possible futures are based on dramatic changes brought through major advances in current technologies. For Robinson, though, science fiction is a means through which complex problems occurring in contemporary society can lead to possible solutions. His particular thought experiment in his *Mars Trilogy* leads to what he calls “eco-economics,” an economic system based on cooperation between small groups of people, ownership of companies by employees (rather than the “ownership” of employees by companies), and the rationing of resources so that they can more easily be replaced (as opposed to the pure consumption of them). It’s an interesting concept, in fact, one that again places him closer to postcolonial flavors of sf

because it's very similar to the postcolonial attempts to remove Western capitalism from the center.

This thought experiment also leads his characters to a new way of understanding humans' relationships to their environments, as they must learn to live with dramatically reduced resources on Earth and the already scarce resources on Mars. And, it's also a good example of a Western author's use of extrapolation to focus on postcolonial concerns from a Western perspective. His trilogy shows the negative impact of colonization on both the land and on the colonists themselves.

Over the course of the three books the colonists slowly reshape Mars into something that reflects not only their biological needs, but also their cultures and their material desires. The implications of these changes are far-reaching because they affect both the character of Mars (it loses its autonomy and becomes just another world that is fundamentally touched and shaped by humans) and the characteristics of the humans who initiate them (the humans become something new – “Martians,” but they also perpetuate old violent habits because of their disagreements about how to shape and change Mars). Robinson's trilogy also expresses the same cultural blending and identity crises that immigrants face as they enter new environments, much like the European settlers that Ashcroft et al say had to “create the indigenous, to discover what they perceived to be, in Emerson's phrase, their ‘original relation to the universe’ (135).

Robinson's trilogy is also an important example of extrapolation because the political situations on both Earth and Mars highlight the neocolonial situation that is occurring in non-Western areas of the world today. On Earth in the text's early twenty-first century, globalization and ever-growing corporations lead to a global society that

major corporations control. These corporations, called “metanationals” or “metanats” are so powerful that they are able first to corrupt national governments to use them as flags of convenience, places where they can control the policies of the governments and avoid any legislation that would hinder their ability to make profits. Later in the century they are able to take control of these governments, and they essentially become the governments, the employers and the suppliers of all products. The situation reflects neocolonialism as the characters are placed in a subaltern position when they find their resources exploited and they find themselves dependent on these corporations (and consequently on earth) for their basic necessities. So, in this sense Robinson’s texts even go beyond just a discussion of the postcolonial situation and explore other important current trends.

This economic/political situation is an obvious extrapolation of the present economic situation, but it’s also a commentary on globalization’s negative effects, including the inability for local governments to maintain autonomy, and the inability of cultures to maintain autonomy in the face of Western globalization and Americanization. These metanats are almost exclusively controlled and owned by Westerners, even the ones that have been relocated to non-Western, third-world countries. While more subtle than previous imperialistic direct take-over and control of non-Western countries, the metanats’ control of these countries is even more pervasive because it allows control of both the means of production and the market that buys the products, and it also allows for complete control of the governments that regulate the economies. The metanats also ignore national boundaries, so they are beyond control by any one nation, and this gives them autonomy beyond that of any political or economic entity in history.

Because of the power of these companies, smaller former “third-world” countries are again subjected to a form of colonialism because these large corporations are free to take their natural resources and use their workers. Because the corporations also control the national governments in these countries, the local populations again have no control over the exploitation of their resources and they receive very little benefit from the profits that the corporations gain. The citizens themselves are also exploited in this neo-colonial situation. Again, they are used as cheap labor to produce goods for those who have the means to benefit from these goods, and they are treated as yet another form of capital.

Robinson also explores cultural interactions on Mars, and he explores what he calls “chromodynamics,” a physics term that is based on the interaction of sub-atomic particles. He adopts this term and uses it to refer to the various factions on Mars. Initially, the “Greens” want a Mars that is terraformed so that it is hospitable to human life and it resembles Earth as closely as possible. Later in the series of books, though, they tend to alter their position somewhat when they realize that Mars should become something that is a syncretic blending of the old Mars (the pristine Mars) and a new Mars that is inhabited by humans. They call this new alteration of Mars “areoformation.” The Reds, on the other hand, ideally want no alteration of Mars. They want humans to adapt themselves to Mars rather than vice versa. At the very least they want very little alteration of Mars, possibly minimalist structures that blend in with the landscape and house humans, but an unchanged world outside the airlocks in these structures. Their view is again similar to some other postcolonial science fictions because it reflects a blending of two unique views into a new view, a hybridization of the Western hegemony and the alternative views of the periphery. In this case, the blending will take place

between Mars and humanity so that both are changed and both form something new and unique.

Robinson also ultimately comes to the conclusion that changing cultural and political situations call for new ways of thinking. Robert Markley, in *Dying Planet* says, “Robinson’s Mars novels call into question the exploitative logic of late-twentieth-century capitalism to suggest alternatives to ever-increasing cycles of intensification and environmental degradation” (28). In other words, Robinson’s extrapolation focuses on the Western tendency to exploit natural resources, and it criticizes that tendency because of its destructiveness to both the environment and to the cultures that live in the exploited areas.

Markley summarizes Robinson’s suggestion for a new economic paradigm, as well. He says that Robinson’s novels not only suggest particular ways of imagining the future, but that “This ‘future primitive,’ can serve as a powerful analytic to reveal – and indeed gesture beyond – the forms of alienation that structure and are structured by the deep-seated antiecological values and assumptions characteristic of Western thought” (355). In other words, while the novels themselves suggest specific new ways of ordering the economy of the world, the particular themes of eco-economics that the novels portray suggest the possibility of questioning our ways of thinking of both Western-style economics and the epistemological methods that we use to find these new ways of thought.

This is an important concept to keep in mind because if it is applied to postcolonial sf, the future primitive becomes a useful lens through which these texts can be viewed. Texts like Adisa’s “The Living Roots,” technically is an alternate history

based in the past, can be viewed as a possible reflection of the future of race relations and post-postcolonial re-integration of identity and economic freedom. As this particular short story ends on a positive note, the hope that it seems to express is a future free of white interference but full of chthonic-economic freedom, one that allows a closeness to the new land where they've been translated. And, this same attitude can be found in many other postcolonial sf texts; many of them replace the antiecollogical industrialism of Western thought with organic mindsets and economics, finding a technologically advanced future primitive in this action.

And ultimately, extrapolation is also important for Robinson's text – even with its Western bent – because it often reflects contemporary concerns in the society, which is particularly useful to a postcolonial study of science fiction as it helps to highlight the ongoing colonial/postcolonial focus of science fiction in the West and in non-Western science fiction. For example, going back to one of the very first sf texts, one that was written during the height of European colonialism but also at the beginning of dramatic social change, technological advancement, and scientific discovery, can help to highlight the reliance on extrapolation for an understanding of the consequences of all of these influences. Edward Bellamy's *Looking Backward*, written in 1887, explores the implications of several corporations merging into one large one that essentially controls the entire nation. And, while Bellamy is also firmly fixed on the Western side of the split between center and periphery, his book expresses some important concerns about capitalism and exploitation that run parallel to postcolonial sf decades later. Indeed, his text forms a kind of 19th Century analogue to Robinson's, expressing the preoccupation with economic change, albeit one that is radically more positive.

Consequently, Bellamy's conclusions were far different – in fact nearly opposite - - from those of Robinson, but in many ways he tends to find capitalistic exploitation unacceptable and seeks solutions to the problem through extrapolation. In his solution, he sees a society in which most social problems are solved by one large corporation because competition has been replaced by cooperation, and all people work for the corporation but also share in its ownership. Because of this lack of competition and the fact that all people work for one large corporation, there is now an equality that wasn't possible before; everyone is employed, and everyone has an equal amount of income. Since there aren't any social classes there isn't a tendency to competition on an individual level, either, so people can also focus on more noble pursuits like helping others or improving their knowledge and the knowledge of society as a whole.

This solution is similar to some postcolonial texts. A number of postcolonial authors tend to seek a post-capitalist alternative to exploitation through cooperation and a closer tie to nature (particularly through an organic form of technology rather than an industrial one). While these two stories are quite different and reflect very different political and economic beliefs, they both effectively use extrapolation to reflect the problems and situations contemporary to their authors, and they tend to propose solutions based on current paradigms.

Finally, and possibly most importantly considering science is one of the central tenets of science fiction, the ability to extrapolate based on present attitudes, concerns, and so forth is important because it allows the authors of such stories to determine what may happen in the future within the confines of scientific fact. So, there is a certain realism that makes these stories plausible and makes the effects of technology and

social issues that they portray more believable. This plausibility is an important element in science fiction, because it allows sf to be taken seriously – at least to some degree – as a representation of current social and technological influences and their consequences, even if it isn't always taken seriously as a literary construction.

While Asimov is a bit of a step backwards chronologically, his texts often express contemporary changes and their concomitant consequences quite vividly. For example, his *Foundation Trilogy* is plausible because the field of robotics was developing at such a rapid rate and is still having dramatic effects on economics (the replacement of workers in auto manufacturing, for instance, is a gradual but far-reaching change). With current advances in real-world technology and their implications, the technology that his stories describe could very likely be available in the not-so-distant future. This is important because this plausibility raises concerns today about the responsibility that is incurred when such technology is available, and it can be, as Darko Suvin explains “a diagnosis, a warning, a call to understanding and action” (61). And in the same manner, other examples of sf create an awareness of the issues raised when technology forces economic and social change, and those changes force responses and new ways of thinking and being.

Asimov's *Foundation* trilogy is also a good example of this tendency to call readers to action in ways that mirror postcolonial concerns because it raises questions about the nature of intelligence, the importance of independence, the nature of humanity and identity. Like postcolonial science fiction, Asimov's *Foundation* makes this call to action – a call to make various changes in the current trends in society by using extrapolation to increase awareness of problems of identity, racial and cultural

interaction. The problems that they explore become momentous in future societies, particularly in the galactic civilization of Asimov's *Foundation* novels, to the point that they are impossible to ignore and action must be taken.

In the case of the *Foundation* novels, in fact, the characters are forced by circumstances to make decisions that will affect the future of the entire galaxy; if they don't make these decisions, the lesson to the reader is that the fragmentation will ultimately destroy all humanity, no matter what form it takes. So, while both traditional Western science fiction and postcolonial science fiction tend to illuminate contemporary concerns, they are also often didactic in their tendency to call readers to attempt to change the future.

Like Asimov, the postcolonial sf author Larissa Lai explores current concerns in a form of didacticism in "Rachel." She explores the confusion that a young woman of eighteen experiences as she realizes that she's not human. After a police officer asks her a series of questions that test common human reactions to various hypothetical situations (like her reaction to being given a calf skin wallet, although killing all living things is illegal in this future), the officer finds that she is a replicant. This realization has a powerful effect on her sense of self-worth, causing her to be deeply confused about her role in society and her relationship with her father.

Although she's confused, she obliges her father when he asks her to help the officer to find a group of escaped replicants. While walking the streets and considering her situation, she encounters the officer again at the same time that one of the escaped replicants places a gun to his head. Although she wants to see the officer die for making her aware that she's not human and for treating her as an inferior, she uses her own gun

to kill the replicant. After she does this, the officer, seemingly attracted to her and at the same time wanting to use her as an object, tells her to say “kiss me.” She complies, and they spend the evening together.

The text becomes interesting when the significance of Rachel's experience is considered through the lens of the immigrant experience. As the plot unfolds it becomes clear that she is only a constructed being, both physically and mentally. All of her memories of her childhood are artificial, all of her talents (like piano playing) are artificial, and even her feelings are artificial. She becomes an analogue to the immigrant, being forced to shape her identity to those in control around her. And, quite literally she is forced to turn over her body to an authority in compliance to his wishes. And the consequence of this compliance is that she feels that she has no identity or even any existence beyond those who have created it/her. At the end of the story she says “I move to the piano to see if I can really play, or if those music lessons were just the product of a stranger's love for another stranger. I'm not sure which way I'd have it, if I had a choice” (60). And it's this last statement that is the most significant of the entire text; not only does she feel unreal, she realizes that she doesn't even know how she wants to feel.

This statement is probably the most significant when considering the didactic quality of the text. Like Asimov's warning about the dangers of fragmentation through indecision, “Rachel” is primarily a warning about the fragmentation and even disintegration of the identity of the immigrant and the subaltern in the face of an overwhelming imperial culture.

So, extrapolation becomes an important element in both flavors of science fiction. And, through its combination with science and myth in new forms in postcolonial science fiction, these authors can find new ways to maintain some of the most basic elements of the genre, but at the same time appropriate it for themselves and write back to the center. Thus they challenge the boundaries of science fiction and give it a new relevance as a body of texts that creates awareness and also asks readers to act on that awareness.

CHAPTER 5

TECHNOLOGICAL DIVERGENCES: WESTERN INDUSTRIALISM VERSUS NON- WESTERN ORGANICS OF FORMER COLONIES

Of technology, Michelle Kendrick says that it “actively intervenes in the construction and social reformulations of subjectivity; so, specific technological interactions, ‘assistance,’ and disruptions cause subsequent reformulations of one’s sense of self” (149). In other words, rather than a one-way dynamic in which our technology becomes a tool that allows us to shape our environment, there is a two-way dynamic in which we shape the world around us and the technology shapes us as well. Technology also alters society itself in the ways that it allows us to manipulate the world and to view the world around us. At the same time, it alters our very bodies and the way that we view ourselves and form our identities. In fact, Kendrick goes on to say that “the repressed recognition that technologies do intervene in our bodies produces the desire to distinguish ourselves from these interventions, to imagine a self that is not subject to prosthetic assistance or its corollaries: disease, decay and death” (150). In other words, these interventions on us and alterations of us on these most intimate levels in turn lead to a desire to see ourselves as unaffected -- in fact unblemished -- by the technology that has become so ubiquitous in modern society. Ultimately, however, we find that we are unable to extract ourselves from the role of technology in our lives and its influence on our identities and very bodies. In fact, Kendrick mentions that “the process of subjectivity cannot be separate from an embodied experience that impels both the denial

of the technological real and the idealization of the disembodied self as a kind of fetish” (150).

Technology takes a major role in postcolonial science fiction, just as in Western science fiction, but postcolonial texts often supplant industrial, inorganic technology with organic forms that are often less intrusive upon the societies and bodies of the characters in the stories and have a tendency to integrate well with the commonly natural settings of the characters. So, the effects of technology that Kendrick discusses are often minimized because they are often associated with Western world-views and Western hegemony in postcolonial science fiction, and the characters seem more willing to accept the influence of their technology but at the same time often firmly reject the inorganic technology that represents Western ideology. For instance, Nalo Hopkinson’s characters frequently live in pastoral settings where the characters interact with technology like computers that are grown from genetically altered plants or light bulbs grown from bioluminescent flowers. While this technology still does participate in some of Kendrick’s dynamics, particularly the reformulation of subjectivity and sense of self, in many texts it tends to retreat far into the background to a point where it is almost indistinguishable from the natural environment, and the characters themselves often are less influenced by their technology because it more closely resembles natural surroundings from pre-technological periods than artificial constructs that isolate the characters from nature. For the characters that interact with this type of technology, there is an ability to extend the consciousness beyond the space immediately around the body, to expand knowledge and to manipulate the world, but the technology seems to have a less profound affect on the identities of the characters because of its organic basis.

On the other hand, the effects that Kendrick discusses are in fact still present in postcolonial science fiction. In fact, one of the most important tenets of his argument – that technology creates the desire to feel unaffected and unaltered – is vividly represented in postcolonial science fiction. Postcolonial authors seem to have an even stronger desire to be unaltered by technology than Western authors. The organic technology present in many postcolonial science fiction texts is a vivid example of this desire. Again, in many postcolonial science fiction texts technology often represents Western imperialism and manipulation, so organic technologies become a major part of postcolonial science fiction because it seems to have a minimal effect on subjectivity and on society, and it tends to be far more transparent in postcolonial texts than in Western science fiction where technology often takes center stage.

An excellent example of the transparency of technology in postcolonial science fiction and the desire to avoid inorganic technology that represents manipulation and control is in Nnedi Okorafor-Mbachu's *Zahrah the Windseeker*. The book is about a young girl who is born a "Windseeker," a feared but very special part of the community because of her special powers and her ability to lead the community and protect it from the outside world. The story is about her coming of age and her search for an antidote for her friend after a strange beast bites him and he is on the verge of death. Throughout the story, though, various examples of organic technology surround the characters but at the same time seem to be transparent to them and seems to have just a one-way dynamic rather than affecting the characters dramatically like in Western science fiction because the characters use the technology to enhance their lives. However, once they are finished with each tool it retreats into the background and becomes indistinguishable from the natural plants and animals that surround them. The

effect of technology on the characters is still there, but is dramatically less pervasive than in Western texts. For instance, Zahrah describes her computer as a “flora computer” that is grown from a CPU seed. She says:

I had planted it and taken care of it all by myself. It was my first responsibility. My flora computer had grown nicely because of my care. Its light green pod body was slightly yielding, and the large traceboard leaf fit on my lap like a part of my own body. The screen was large and oval, a shape that I had always found soothing. The computer would pull energy from my body heat, and I'd link a vine around my ear to that it could read my brain waves. It would grow in size and complexity as I grew. (38)

In this example, Zahrah's description of the computer is less of a technological artifact and more of a natural part of her ecosystem that is part of a two-way dynamic interaction between person and tool, and in this case the technology takes on a more intimate connection with the user of the tool. Zahrah describes the computer in much the same way that one would describe a pet or even a part of one's own body; the computer actually becomes a non-intrusive part of the body of the user, a part that grows and thrives as the user herself grows, and one that even becomes intimately a part of the personality of the user and reflects back that personality because of the nurturing that it has received as it has grown. Instead of an invasive and alien/inorganic appendage, the computer/human interaction is a symbiotic one, and the user of the technology seems largely unchanged and still primarily a natural and unaltered human after the interaction.

Other technological artifacts are very similar in that they are grown and nurtured rather than manufactured and because they are part of a symbiotic relationship with the humans that grow them. Later in the text Zahrah tells a story, for instance, about a man in the community who attempts to grow a “glassva” plant. The glassva plant is a transparent plant that the people of her culture grow into large glass-like buildings. This particular glassva plant is initially nearly impossible to cultivate, though, and again highlights the difference between the technological interactions that Kendrick explains because in this case the technology actually has a will of its own and is autonomous because, obviously, it is a living thing. It seems, in fact, that the characters do not intervene in nature to manipulate it genetically or to create inorganic machinery that controls nature, but instead they practice husbandry that explores the innate tendencies that are already in the natural settings around them. This is a significant difference because there is less mutation of nature and no use of natural resources to create inorganic technologies, and this different approach to technology also seems to have an effect on the attitudes to the technology and the exploitation of the world around the characters as well. This difference is a consistent reminder to the characters that their technology is part of a system outside themselves, distinct from them and likewise they are separate and distinct from their technology, so again the characters themselves tend to be minimally changed subjectively and their identities remain largely intact and mostly natural.

This technology contrasts sharply with the frequent use of inorganic, industrial technology that plays a part in sf written by Western authors. The important difference between these two approaches to technology is that while postcolonial authors still tend to portray technologies that manipulate nature and affect the body either directly or

indirectly, the societies that they portray in their fiction are usually still centered in traditions that are based around smaller, quasi-tribal cultures, while Western science fiction authors often write about capitalistic cultures with economies based on the exploitation of nature and the intrusion of technology into a culture based on conquering nature and other cultures and on economic and cultural expansion. Thus, technology itself plays a role that is two-way in both cultures, both shaping them and being shaped by them, leading to two very different approaches to technology, but there is a minimal effect of Western/capitalistic conceptions of technology in postcolonial science fiction texts.

In direct contrast to technology that grows and lives symbiotically with the user, for instance, is the technology of Isaac Asimov's *Foundation Series*. In Asimov's series of books technology has a very powerful influence on the characters in the book, and toward the end of the series Asimov reveals that technology in fact has actually been in control of human history. In the very last book of the series, *Foundation and Earth*, for instance, the main characters travel to a number of different planets, and through their exploration they realize that sentient robots have influenced many historical events of the galactic empire. Even the so-called psychohistory -- a means of predicting future events through an analysis of human behavior that the characters believe was discovered by Hari Seldon -- is actually contrived by the sentient robots as a way to control humans and protect them from themselves. So, rather than technology that interacts with humanity symbiotically and enhances human experience, the technology surreptitiously controls human actions and eliminates human freedom, leaving the characters of this world in a very different situation from the characters in Okorafor-

Mbachu's story because they have been directly and intimately altered by their interaction with their technology.

An interesting effect of the intervention of technology in the series, too, is that the characters seem unaware or even unable to admit that the technology has this powerful affect on them both personally and on huge groups through the manipulation of history. Kendrick's point that we are unwilling to admit technology's effects on us rings true in the series and Asimov's extrapolation of this tendency leads to a technology that becomes completely invisible to the creators of that technology because at some point in the past the characters created the technology specifically to be both transparent and pervasive. Over time, however, the desire to deny the profound effects of the technology degenerates into a complete lack of knowledge that the technology has an effect or even exists.

In *Foundation and Earth*, for instance, the main character Trevize initially refuses to acknowledge the robot Daneel's assertion that he has manipulated human history for millennia. The robot explains that some of the most important developments (again, like psychohistory or Gaia) in human history were actually developed by him, even though it appears that humans developed them. The robot's subtle influence on human history is very powerful, but even when faced with this reality Trevize initially refuses to acknowledge it and instead attempts to maintain his belief in human freedom and autonomy.

Another important technological development in the series of books is Gaia, a sentient living organism that is made up of all of the living organisms as well as inorganic material (like rocks, for instance) of the galaxy and connected together telepathically.

While initially Gaia may seem to be very similar to the technology present in Okorafor-Mbachu's novel, it is very different because again it is actually a technology that was developed and created for the purpose of manipulating nature and altering society rather than an extension of the natural world that is husbanded and still maintains its natural autonomy. Much like the original android technology, Gaia, in fact, is created specifically to dramatically alter human society and individual humans as well. Gaia, in fact, becomes the ultimate intervention on the bodies and identities of the characters because it has the potential to radically transform the characters into post-humans, creatures who will no longer be distinct and unique individuals but members of a galactic mind no longer related to natural, unaltered humans.

The representative of Gaia, Bliss, for instance, consistently refers to herself as "He/It/we" because of her lack of autonomy and individuality (Asimov 411). She also desires that the same characteristics will be part of humanity throughout the galaxy and she/Gaia have been manipulating humanity for millennia to this end. Bliss, for instance, highlights the point that Kendrick makes about "specific technological interactions, 'assistance,' and disruptions [that] cause subsequent reformulations of one's sense of self" when she explains Gaia's plan to incorporate all of humanity into the galactic mind (149). Bliss/Gaia says, for instance, that there is an urgent need to begin the process of incorporating humanity because other forms of technology are becoming more influential, but that humans themselves must make the decision to become part of the galactic mind because of the original Three Laws that prevented robots from harming humans. Bliss/Gaia says that:

Gaia was formed thousands of years ago with the help of robots that once, for a brief time, served the human species and now serve them no more. They made it quite clear to us that we could survive only by a strict application of the Three Laws of Robotics as applied to life generally. The First Law, in those terms, is: 'Gaia may not harm life or, through inaction, allow life to come to harm.' The result is that we are now helpless. We cannot force our vision of the living Galaxy upon a quintillion human beings and countless other forms of life and perhaps to harm to vast numbers.

Ultimately, in other words, humanity's representative Trevize must make the choice for all of humanity to join the galactic mind so Kendrick's dynamic again comes into play because, again, the two-way dynamic between technology and humans is still present because, while the technology will have a deep influence on humanity, it is still humanity that must choose to use it to bring about this change.

Trevize's dilemma, however, eventually hinges on free will. While initially he can make the decision to choose Gaia or another form of technology, once the choice of Gaia has been made he realizes that humanity will lose much of its free will because it will now be intimately linked in the galactic mind. This aspect of the choice again highlights Kendrick's assertion that technology leads to "the desire to distinguish ourselves from these interventions" on the body and identity because the problem of free will is directly related to the understanding that there will be extremely profound interventions on humanity (150). For decades Gaia has been working secretly because it is aware that humans do not want to feel as if they are being manipulated by their own

technology. With Trevize's decision to join Gaia, however, there will now be a powerful awareness that technology has intimately altered humanity, so it is immensely important that Trevize make the decision for humanity to join with Gaia.

Finally, one of the most important concepts in Asimov's body of work – the "Three Laws of Robotics" – relates closely to Kendricks' arguments about minimizing the effects of technology. Asimov's three laws state that " 1). A robot may not injure a human being or, through inaction, allow a human being to come to harm; 2). A robot must obey orders given to it by human beings, except where such orders would conflict with the First Law; 3). A robot must protect its own existence as long as such protection does not conflict with the First or Second Law" (*I, Robot* 68). These three laws are very similar to what Asimov says should be the role of any tool. He says that " 1). A tool must be safe to use; 2). A tool must perform its function efficiently unless this would harm the user; 3). A tool must remain intact during its use unless its destruction is required for its use or for safety." Effectively, all of these rules -- both the ones related to robotics and the ones related to tools in general – minimize the effects of the technological artifacts on the humans who use them. They are an attempt to produce a one-way dynamic that allows the user to use the tool but to be only minimally affected by the tool at the same time and to never be affected in a negative manner.

Again, these rules also tend to reflect the desire of users to avoid and to minimize the role of technology in their lives, even while they are still using the technology daily. Ironically, though, in most of Asimov's stories the rules themselves eventually lead to even stronger effects on humans because in an attempt to prevent harm to humans, robots tend to surreptitiously manipulate the lives of individual humans and even of whole societies through long swaths of history. So, ultimately Asimov

seems to be saying that even with safeguards in place we cannot escape the pervasive effects of our technological creations.

Another important effect of technology that has far deeper implications is the effect on the bodies of those who use the technology. In both Western science fiction and postcolonial science fiction there is intervention on and alteration of the body. Again, however, in postcolonial science fiction there is often an attempt to minimize these effects because often intrusive technology is viewed as analogous to intrusion by Western imperialist societies. Nisi Shawl's "Deep End," for example, expresses in bodily terms the strict control that Western powers have over colonial subjects. In the story the characters appear white because they have white bodies; however, the conscious of each apparent white person is a person of color who has committed a crime and has been "downloaded" into a white body so the person can act as a caretaker for the body. The story therefore represents the control even of the bodies and personalities of colonial subjects and the effects of that control on identity.

The different economic and technological approaches between postcolonial authors and sf authors from the West also affect the representation of bodies in the texts. Just as Western sf authors commonly portray nature as something to be controlled and exploited, they also write texts that portray the body as yet another commodity to be exploited, controlled and altered. On the other hand, postcolonial sf authors' texts commonly do the opposite; one is most likely to find bodies free of technological alteration, commonly Adamic blank slates that are virtually free from the filtering intervention of technology.

This portrayal of the body isn't due to the denial of the effects of technology by postcolonial authors, however; instead, it's a negative reaction to the continuous

pressure of Cartesian dualism in Western society and its effect on non-western conceptions of the body and identity. Cartesian philosophy has a profound effect on cybernetics and informatics in Western thought, and the Cartesian approach to cybernetics in turn also affects modern conceptions of consciousness and the duality between the mind and the body in terms of technological alteration. For instance, the Western tendency to commoditize the body is a result of the belief that the body is distinct from the mind – the essence and center of a person – and therefore is an object to be owned. We commonly use the terms “my body” or “his/her body” as if it is a tool that is distinct from the self. This distinction leads to the perspective that the body is open to modification in the same way as any other tool or possession. The prevalence of this Western view of consciousness in sf becomes a common point of contention for postcolonial sf authors as they find new approaches to science fiction.

Cartesian dualism can also lead to the concept of the Self as a thing to be owned, modified and controlled because the body itself becomes another physical tool rather an intimate aspect of the self and the mind becomes nothing more than disembodied information distinct from the body and subject to transfer and sale. One way of better understanding this dualistic approach to mind and body and how it leads to commodification of both bodies and “souls” is through an examination of cyberpunk fiction, particularly the stories of William Gibson. Gibson’s *Mona Lisa Overdrive*, for instance, explores the ability to download the consciousness into computer systems and explores the consequence of that ability: the development of the consciousnesses of various individuals as sources of entertainment, information and incomes for those who are in possession of these so-called “constructs.” Throughout this story, characters like Angie Mitchell, an extremely popular “simstim” star, and Mona Lisa, a prostitute and

junkie, are pursued by various groups bent on controlling them and the incomes and power that they can produce. Ultimately, none of the various groups sees any of the major human characters as human beings with unique identities and traditional liberal humanist rights to their own selves; instead, these groups see all of them as bodies and consciousnesses that are separate and interchangeable and as tools to be used in the search for power and money.

One of the most important elements of dualism in Gibson's story is the use of "simstim." This technology allows those in the public to experience the lives of stars in the first person, giving the viewer a first-hand and intimate bodily experience of the things that stars like Angie Mitchell experience on a daily basis. The use of simstim expresses the attitude that the body is something that can be shucked off and exchanged for the bodies of others so one can live vicariously through the bodies of other, more fortunate people. Thus, technology in the novel is a useful tool, but it also becomes a controlling influence on the culture in the story and a catalyst for the loss of traditional identity – both physical identity and psychological identity and selfhood.

The easy – and rather common – alteration of the body itself is also a major theme of the book. Many characters are altered in one way or another, and many pride themselves on their lack of human characteristics. Another, more important, example of bodily alteration is the attempt of a powerful group to kidnap Angie Mitchell for financial gain; this group of thugs initially kidnaps Mona Lisa because of her physical resemblance to Mitchell, and they physically alter her to make her even more similar to the star. In a dramatically postmodern moment in the book their alterations essentially transform Mona into a completely different person who is indistinguishable from the

original, even to her closest friends. Throughout the story Mona becomes no more than a pawn, simply a body to be altered and used as a replacement of Mitchell so fans and attendants won't initially miss the star. The story ends, in fact, with the retreat of Mitchell's consciousness into cyberspace and the permanent replacement of her with Mona. The interesting thing about the conclusion is that both Mona and Mitchell are ultimately interchangeable; nobody even notices when Mona becomes the new Angie Mitchell. After being treated for drug abuse and "fine-tuned" bodily and mentally, "her first stims are greeted with unprecedented enthusiasm. Her global audience is entranced by her freshness, her vigor, the delightfully ingenuous way in which she seems to discover her glamorous life as if for the first time" (Gibson 306). In the end, Mitchell – the body and the consciousness (although not genuinely Mitchell) -- becomes nothing more than yet another commodity, another franchise that generates money, even though, again, her fans intimately know her through the simstims that she produces.

The use of cyberspace in the novel to represent both an alternate universe and also a stage on which the consciousnesses of individuals can be placed is also an important representation of the Western preoccupation with control and manipulation. Of cyberspace, Michelle Kendrick says it "does not exist as a coherent, technologically created spatial arena but as the discursive site of ideological struggles to define the relationship between technology and subjectivity. In this sense, it is both an imaginary projection of the idealized telos of technologically mediated existence and the latest instance of the technological interventions in human subjectivity that [...] always have structured definitions of the human" (143). This is the world that Gibson knows best and portrays better than any other author, and at the end of the novel many characters are

inclined and able to shed their bodies completely and enter the world of cyberspace, of the matrix. According to the story, though, there isn't a continuity of the original person; the person still dies, but the person's "construct" exists within the matrix as an almost exact copy of the original. Again, in typically postmodern fashion, even the Self can be constructed and then confused with the original, leaving the original as just an informational construction rather than something unique. The copy itself, in fact, becomes a source of information for those who have access to it, and for the deceased it becomes a means through which that person can continue policies and activities that were pursued in life. The super-rich 3Jane, for instance, uses her construct as a tool to pursue her vengeance against another character even after death. Other characters enter the matrix as constructs deliberately to become sources of knowledge for their companies and family members, and to continue their own agendas within their companies. Ultimately, these constructs themselves – and by proxy the consciousness of living individuals – are seen by the characters and citizens of this world as nothing more than raw information, another commodity to be traded, altered and controlled.

The relationship between technology and the self, as well as this relationship's affect on the development and modification of the self is an important one. Don Ihde, in *Technology and the Lifeworld: From Garden to Earth* writes about the role of technology in cultural development and self-identity, as well as the often-intrusive qualities of technology. One of his approaches to the topic is a phenomenological perspective on the role of technology, a perspective on technology that helps to inform an analysis of the differences in the role of technology in postcolonial non-Western sf and traditional Western sf. Ihde defines phenomenology in its simplest terms as "I—relation—world." (25). In this definition, a kind of bodily materiality is left, one where we have an

experience as “*being* our bodies in an environment,” but one where the relationship between “I” and “world” become relative. The significance of this perspective of phenomenology to technology is that “while there is [...] a need to classify technologies as objects, what will be focused upon here will be their set of human-technology relations, the relations which can best be exemplified in [a relativistic account]” (26). This approach prevents a tendency to place too much emphasis on either technology or the self, and instead explores the shifting interaction between technology and the individual and individual cultures that may sometimes fall into the quagmire of reflexivity, but even so is an important perspective that informs an analysis of postcolonial sf.

For instance, Ihde explains that this relativistic approach helps one to avoid two extreme results: one that tends to reify technology into Technology, and the other that absorbs technology into technique that becomes too general to avoid overly metaphysical claims. Treating technology as Technology tends to be dangerous because the cultural effect on technology is often ignored, and the use of technology in individual societies towards ends –whether good, bad, or neutral – is not seriously enough considered in the interactions between those cultures. Technology in this perspective is a “thing-in-itself” that doesn’t play a part in the complex back and forth interaction between it and culture but rather is artificially stripped of its cultural relativism, a particularly dangerous tendency when analyzing the role of technology in Western versus non-Western cultures. The latter result of reducing technology into technique is a problem of practice and thought because this fallacy usually doesn’t include actual physical artifacts, so technique can be reified as well, leading to an often-meaningless analysis of the role of technology.

Another, probably more important, benefit for the purposes of this analysis of postcolonial sf is that the “I—relation—world” definition avoids accounts of technology as neutral, as “things-in-themselves,” again separate and distinct from culture, although with opposite results from treating it as Technology (26). When analyzing postcolonial sf it is especially important, again, to avoid the temptation to see technology as neutral, as something that only takes on significance and affects individuals and societies when it is taken up and used. Again, the complex relationship between technology and society is particularly important because of the role that it played both in colonial expansion and its continued role today in neocolonial interactions, as well as in the continuing process of identity and culture-building in former colonies.

With this relativistic perspective on technology in mind, Ihde explores the concept of the “New Adam,” a hypothetical person who lives free of the mediating role of technology between himself and what Ihde calls the “lifeworld.” Without this mediating presence, this New Adam experiences his natural surroundings intimately and immediately, but even he sees the world around him through his cultural filters. Ihde describes the New Adam gazing at the stars and his own gaze as culturally described, devoid of an innocent perception that “is at least an abstraction” (42). Even without the mediating intervention of technology that allows him a microperceptive view of the heavens, his macroperceptive view is filtered and altered by the sieve of his culture.

The concept of the New Adam is particularly interesting in light of the trend for postcolonial authors to write sf. One can use it as a basis for analysis of the role that technology plays in the worlds of the characters in these stories. An understanding of the mediating role that technology and culture play when experiencing reality can shed

light on the different approaches to technology that postcolonial sf authors take versus Western ones. For instance, in Western sf characters are often highly insulated from the natural world around them. The vast bulk of sf is filled with characters whose lives are constantly protected from the vacuum of space or the inhospitable atmospheres of alien planets by layers of metal, plastic and insulation; when outside these artificial environments their bodies are still separated from the elements by space suits complete with plastic face-plates that even block harmful and unwanted electromagnetic invaders; and, even in hospitable environments many are ensconced in gleaming metal and glass cities far from the influence of nature, or they are protected from unsavory influences by their weapons. Even characters in natural settings see themselves as separate from their environments and often in opposition to these environments; these characters frequently bring their technology with them in their luggage and even in their bodies.

Even though technology should not be reified into “Technology” according to Ihde, it still is important to consider its context within a culture, and this is often the perspective from which one can best understand the differences between the role of technology in Western texts and postcolonial ones. The role and perceived use of technology within a culture isn’t necessarily intuitive; often the perceived use of a particular technological artifact will vary from culture to culture. For instance, Ihde mentions that when the indigenous people of New Guinea first came into contact with Australians in the 1930s the natives initially didn’t see very much use for rifles, but they did understand the usefulness of knives; the most striking example of their conception of Australian technology, however, was their use of sardine cans as body adornment during ceremonies. Of this practice, Ihde says, “The sardine-can-become-headwear example embeds a new artifact into an extant ‘fashion’ praxis. Such a praxis

incorporates into its context of significance the status and identity of the wearer in ways not necessarily too far from our own fashion intentionalities” (126). However, as Ihde says, technology itself isn’t neutral and doesn’t only take on significance when it has a particular perceived usefulness; instead, even discarded technology and technology consigned to museums “continues to indicate its perceived usefulness” (128). This is an important aspect of technology to consider in an analysis of postcolonial sf because there is a very different approach to technology in this fiction compared to the use of technology in Western sf as a means to control and to appropriate.

For instance, just as technology takes a different role in postcolonial sf, frequently postcolonial sf will portray characters in very different kinds of relationships with their environments and with their technology from the characters in Western sf. While often still possessing advanced technology, these characters will often be in more intimate contact with their environments with their technology taking on less of a mediating effect between themselves and their environments. They will often carry the organic technology mentioned above, and the modifications of the body are commonly non-existent or are often fantastical in nature and more akin to fantasy or magical realism than sf. The use of insulating technologies like space ships are often absent altogether, unless they are used by conquering or subjugating cultures as in Nisi Shawl’s “Deep End” where a large group of African-Americans on a prison ship are being transported to a penal planet.

“Deep End,” in fact, is a rather interesting example of the postcolonial sf reaction to the commodification of the body, the alteration and control of the self, and the use of those technologies to achieve social control and maintain power, and in this story the

main characters are doubly insulated from nature. The story centers on the main character, Wayna, whose consciousness has been downloaded into a different body and who is now en route to a penal colony. The inhabitants of the penal ship are all convicts, but it isn't clear what crimes any of them have committed, other than that they have rebelled against those in power in some manner. After their convictions, their original bodies are destroyed, and their consciousnesses are "downloaded" into clones of the bodies of those that they had wronged, "the people against whom they'd rebelled. The rich. The politically powerful" (16). Wayna, however, feels that even though the genetic makeup of her body isn't her original DNA, her body is still hers, and is something "no one else owned, no matter who her clone's cells started off with. Hers, no matter how different it looked from the one she had been born with. How white" (17). The elites, however, those who are white and in power in the society, feel very differently and treat bodies as objects that can be created and destroyed and as tools that can be used to destroy the original blackness of the prisoners and replace it with their own white DNA. Of this process, Wayna says that they still exist only "To bear our enemies' children [...] we nothing but a bunch of glorified mummies [...] remote-control units for their immortality investments, protection for their protection for their precious genetic material" (20). Thus, the Western, white space ship technology of the elites allows them to cull out the non-white elements in their culture and therefore becomes a means of separation from undesirable environments for themselves because it allows them to separate themselves and the black "criminals." Ultimately, it also becomes a means of forced separation between the black prisoners and their own environments, leading them to feel alienated from their natural environments and even from themselves as those in power take their very identities/bodies away.

Interestingly enough, even though there is strong emphasis on the body itself as a marker of race and therefore something to be destroyed and replaced with the white mark of privilege, the subject of transgender shifts is still taboo for the characters in this story. When Wayna requests that her body be replaced because of a degenerative nerve disorder, she is informed that the only other available body is male, and the rules don't allow, "transgender downloads" (21). It seems that while the bodies of these convicts are fair game for destruction and old taboos of cloning no longer exist, the question of gender is still controversial and unresolved and gender identity is still itself considered sacrosanct. Many characters in the story, in fact, choose to stay within their computer hosts rather than being downloaded into bodies that, while matching in gender, no longer match their original cultures and their self-identities, so while those subjugated to the destruction their original bodies often conflate gender and ethnic identities due to their circumstances, those in power still differentiate between the two so as to undermine non-white identities but still preserve gender identities. Those without power, consequently, either find no problem with switching gender as well as ethnic identity, or choose to forgo the possession of a body at all because they no longer have their body that is marked in such a way that matches with their identity of the self. Ultimately, they are forced either to choose a body that mismatches their identities and so they end up having the double filter of Western technology like the ship in which they ride and the bodies that they now possess. Those who choose no bodies at all are forced to remain completely removed from the natural world, embedded in silicon and metal circuits and virtual reality.

Of course, in a society like our own, one in which technology becomes ubiquitous and pervasive, we – no matter what race or culture -- are ourselves often separated from

our environments by the filters of technology, and in fact we are commonly behind a double filter similar to the characters' filters in "Deep End," looking at the lifeworld in what Ihde calls the microperception, the view of the world's minutiae through the lenses of metaphorical microscopes and telescopes. Ihde says that "There is no simple seeing; there is only a situated seeing that is both a seeing as _____ and a seeing from _____" (42). This statement is doubly true in our technological society because our "seeing as" is dramatically affected by our technology and society, and our "seeing from" is never separated from our technology, either. We essentially become cyborgs ourselves, unable to view the world nakedly as the New Adam, and because of this inability we are also unable to view our own bodies as separate from the technology that so intimately influences us. In this sense, the portrayal of bodies as interchangeable in "Deep End" becomes very similar to the way that bodies are viewed in Western society; bodies become objects that can be controlled and altered based on the desires of the "owners" of these bodies, and technology becomes both the means of control of those bodies and identities but it also becomes a means to think of those bodies themselves as forms of technology.

Ihde also discusses this relationship with the outside world and its influence on our bodies and inner worlds in what he calls "embodiment relations," the tendency for technology to become such a part of the person/society that it becomes transparent. For instance, he says that glasses become part of the way that one ordinarily experiences the world, that "they 'withdraw' and are barely noticed, if at all [...so the technics of vision] is the symbiosis of artifact and user within a human action" (73). This transparency of technology often results in a deeper, doubled desire of embodiment relations. Ihde says that "it is the doubled desire that, on one side, is a wish for *total*

transparency, total embodiment, for the technology to truly “become me.” In this sense, the desire is for the technology to still exist and to still assist the person/culture, but there is also a desire for the technology to become invisible and completely nonintrusive.

So, there is a desire for technology to become invisible, and in many cases the technology does just that. Ihde says that what “allows the partial symbiosis of [the person] and the technology is the capacity of the technology to become perceptually transparent” (86). Thus, like the lenses of eyeglasses (while clean and free of scratches), which are pushed to the edge of the wearer’s consciousness, other forms of technology, including thermometers, clocks, and even in some cases extensions of the body like hammers and screwdrivers become largely transparent to the user. This transparency creates the illusion that the technological object is itself a part of the body of the person using it. For instance, in the case of gauges like thermometers, the user will often feel as if he/she actually knows that it is cold, but Ihde says that the technology is in a liminal position between the actual temperature and the person viewing the temperature gauge. Ihde says that this is a kind of hermeneutic relationship to reality, much like the hermeneutic relationship that one has with a text; the reader reads the text but then interprets it by filtering it through his cultural lenses and in the process of filtering sees the object in the world itself rather than the gauge that is allowing him to perceive that object. Thus, again there is the desire for this to happen, but there is also the tendency for it to happen anyway in many cases in the interaction with technology. This tendency is actually even more apparent in postcolonial sf in many situations because the technology is organically based and therefore often is both transparent but also is indistinguishable from the natural world around the characters.

With the common rebellion against Western technology as a means of appropriation, in fact, this desire is particularly apparent in postcolonial sf with the use of organic technology that typically blends in with the often-pastoral settings of this form of sf. For the sake of this analysis, the phrase “organic technology” refers to technology that is based on living things – technology grown and altered through the manipulation of DNA rather than technology that is manufactured through the manipulation of inanimate materials. This form of technology differs from current genetically altered foods, however, in the sense that it is not intended for consumption but instead is intended to be used as a tool and as an extension of the body rather than something to be absorbed by the body. For instance, instead of genetically modified crops, organic technology might be a genetically designed and grown computer or light bulb. These organic crops, rather than being inanimate objects that are physically shaped and machined are grown, and this growth of tools places them even more firmly than manufactured tools in what Heidegger calls *das Zeug* (44).

Heidegger’s *das Zeug*, roughly translated as “equipment” is a reference to the use of tools and their placement in a network of other tools, “ready-to-hand”, but always useful within the framework of the other tools: for instance, a spoon on a plate which is on a table. According to Heidegger, it is most appropriate to see tools within this network and only useful within the context in which they are placed in relationship to one another. Heidegger’s *das Zeug* is particularly evident in relation to the organically grown tools of many postcolonial sf texts. For instance, many organically grown tools in these stories, including computers, light bulbs, and so forth, literally become parts of networks, both in their use as ready-to-hand objects, but also in their literal dependence on one another in a miniature ecosystem within the living areas of the characters.

The technology in Nnedi Okorafor-Mbachu's writing, for instance, is intimately networked not only in the Heideggerian sense of *das Zeug*, but also in its living dependence on other forms of technology derived from its original ecological interdependence. . Her book *Zahrah the Windseeker*, for example, revolves around the main character, Zahrah, a "dada" or magical child. At the beginning of the story Zahrah learns of her magical powers, and in an attempt to find an isolated place to practice her powers she slips into the Forbidden Jungle with her friend Dari. During their afternoon in the jungle Dari is bitten by a special snake and enters a coma. The rest of the story is about Zahrah's quest through the jungle to find the only antidote to the snake's venom, the yolk from an Elgort.

Mbachu herself is an important example of the postcolonial sf representation of technology and tools; she is an author who now lives in Illinois, but is the daughter of Igbo parents from Nigeria, where she often still visits and to which she feels a cultural connection, so her connection with postcolonial themes is an intimate one and her themes often reflect this connection. Her books include both speculative fiction and fantasy, and she has won awards for her African-based, postcolonial fiction, including the Macmillan Prize for Africa. Her fiction explores many common postcolonial themes like alterity and the effects of colonial powers on identity, particularly *Zahrah the Windseeker*, and in her novels with organic technology the technological objects are often ubiquitous in the worlds of the characters, but are often transparent to the characters because of their blending with the natural settings in which the characters live. This transparency is similar to the transparency that marks Western technology, but it's very different in the *reason* that the technology is transparent in postcolonial sf.

In the beginning of the novel, for instance, the characters are surrounded by technology, but most of that technology tends to be transparent because it is organic and blends in with the surrounding floral life. In fact, even though there is a boundary between the civilized Ooni Kingdom and the Greeny Jungle and the barbarians there, the boundary isn't itself that noticeable because of the similarity of the technological artifacts in the society to the wild living things outside it. The towers in which the citizens live, for instance, are themselves plants. Zahrah says "Downtown, many giant plant towers reach high into the sky [...] and I learned that every year, the ten tallest plant towers grow ten inches higher and five inches wider and that they're thousands of years old" (ix). She mentions, in fact that this is a planet of vegetation, and this is another important point because rather than clear-cutting their planet, altering nature and controlling it the inhabitants of this planet tend to alter the plant life in a manner that allows the ecosystem to remain, a much different approach to the environment and to technology that most Western sf takes. The household objects with which characters interact on a daily basis are also organically-based and while they allow the characters to extend their experiences beyond their immediate surroundings in ways similar to the gauges that Ihde discusses, these objects also tend to be transparent in the sense that they are natural objects that are grown.

Zahrah mentions her "flora computer," for instance, and she discusses how she grew it rather than purchasing it after it was manufactured in a factory: "My father had given the CPU seed when I was seven years old, and I had planted and taken care of it all by myself. The machine would pull energy from my body heat, and I'd link a vine around my ear so that it could read my brain waves. It would grow in size and complexity as I grew" (37). So, these computers interact with the characters intimately in

the same way that Hayles says inorganic computers interact with humans, but the interaction is also a “natural” one that seems as if it’s almost a symbiotic result of evolution that makes these computers transparent on other levels, as well.

This representation of technology as transparent could be a reaction against the use of technology by colonial powers for conquest, as well as the neocolonial use of technology to undermine sovereignty. Ihde says that:

The desire is the source of both utopian and dystopian dreams. The actual, or material technology always carries with it only a partial or quasi-transparency, which is the price for the extension of magnification that technologies give. In extending bodily capacities, the technology also transforms them. In that sense, all technologies in use are non-neutral. They change the basic situation, however subtly, however minimally; but this is the other side of the desire. The desire is simultaneously a desire for a change in situation – to inhabit the earth, or even to go beyond the earth – while sometimes inconsistently and secretly wishing that this movement could be without the mediation of the technology. (75)

In Western sf, this sometimes-contradictory relationship with technology is a common theme. Most Western sf texts deal with the desire and need for technology to conquer space, aliens, planets, and other elements of their frontiers, but also to subjugate elements of their own species and maintain control over nature. At the same time, these texts will express a desire for that same technology to be invisible to those who use it, pushed into the background of consciousness so the characters still feel themselves as

natural creatures, themselves unchanged by the technology that they use to control the Other.

In postcolonial sf, on the other hand, there is a double desire to alter the dystopian past, a time when the industrial and inorganic technology of the Western colonizers was used to take and maintain control of indigenous populations, but also to use technology to improve the future while forcing it to be even more transparent than in Western texts, to maintain some semblance of the distant past before the colonial period. In this scenario, Western technology often becomes highly visible in the form of weapons, methods of transportation, methods of communication, and so forth because the awareness of Western technology's intrusive nature is a major goal of postcolonial authors.

The other half of this desire is to replace this highly visible technology that typically represents Western conquest with a less intrusive form of technology, again in the manner of the story "Deep End" where the technology becomes ultimately intrusive on the very bodies and psyches of the characters, but the desire of the characters is to avoid this technology altogether by thwarting the desires of the elites for them to reproduce or by retreating into the computers in a bodiless simulacrum of reality. In other postcolonial sf stories, though, when free of the influence of Western technology, the characters often reduce technology to something that more closely resembles the natural world, again in the guise of genetically altered items that grow rather than being produced in factories. In this third scenario, technology becomes, again, a tool that is used to communicate, light homes, and to increase the quality of life in general, but it does not take on intrusive qualities or represent conquest – either of other people or of

nature – because it is organic, natural and fits in its environment and culture more closely.

This difference in the way that sf authors of former colonies view technology also raises a question of the hermeneutic properties of technology. The tendency of technology to separate one from the “world” outside the human-technology relationship leads to a need for a new hermeneutical relation to the outside world. The use of scientific instruments, for instance, to measure properties like temperature, gravitation effects, and a myriad of other things requires that the viewer see the phenomenon being viewed through the scientific instrument, both preventing a direct observation of the phenomenon but also allowing an indirect observation of the phenomenon that the viewer might not otherwise be able to view at all. Of this relationship, Ihde says “Readable technologies call for the extension of my hermeneutic and “linguistic capacities *through* the instruments, while reading itself retains its bodily perceptual location as a relation *with* or towards the technology. What [emerges] here is the first suggestion of the technology as ‘object’ [...and] indeed the type of special capacity as a ‘text’ is a condition for hermeneutic transparency” (88).

This relationship, though, is often positive in that it helps to enhance the perception of the world, but it also can become a point of alterity in that it tends to “intrude upon rather than facilitate one’s perceptual and bodily extension into the world” (97). In this relationship with technology, the technofact becomes, rather than a transparent object through which the world is experienced, an object-in-itself that increases one’s awareness of the otherness of technology because one is even further removed from the world itself and is only viewing the world through readings like dials on

a clock or gauges on pressure sensors. Again, many postcolonial sf texts contrast this relationship to technology, though, in the way that the characters are typically portrayed in quasi-Adamic circumstances like small villages completely surrounded by jungles. The technology that these characters often possess tends to inform the characters about the nature of the world around them, but they often still depend on their unaided senses as well to experience the world. Many, for instance, will have mixtures of technology that will comprise high-technology devices like computers that can allow them to slip the bounds of their bodies and link indirectly with others who have similar computers, but at the same time these characters will live in huts and tree houses that lack boundary-technologies like glass or insulation. Consequently, while they can experience their world vicariously through their computers they still are intimately tied to it bodily.

This idea of the intimate bodily tie to the outside environment gives rise to another important concept that Ihde discusses. He mentions a hypothetical situation in which there is a totalization of technology, again, where technology completely separates one from the outside environment, which according to him is a current desire of many societies. An example of this totalization of technology is what Ihde calls the “technological cocoon,” a place where every aspect of a subject’s environment is under total control. The space shuttle serves as a good example of the technological cocoon, as well as the ships that are being developed for the future trip to Mars. However, there are also “mini-cocoons” such as recreational vehicles that provide this enclosed environment on a more limited basis. In the case of recreational vehicles, there is still a barrier between the subject and the outside world that insulates from weather, noise and provides maintenance of the temperature inside. In the case of recreational vehicles, the owners of the vehicles commonly want to be surrounded by the natural world, but

through the mediating influence of the vehicle itself. Again, this is an important concept because it shows yet another contrast between much of Western sf and typical postcolonial sf because yet again characters in postcolonial sf are usually not ensconced in these cocoons. Instead, it often reflects the desire of characters in postcolonial sf to be a part of their environments, once again unified with the places that gave them their pre-colonial identities and no longer forced to identify with Western technology and culture that leads to self-destructive alterity and hybridity; even more importantly these cultures will bring the natural world inside with them in the form of organic technology.

The idealization of technology in Western sf texts, though, often replaces the Romantic idealization of nature, but at the same “the dominant threat and problem[s]” of nature are replaced with those of technological breakdown, according to Ihde. So, while there is dependence in Western texts on the ability of technology to isolate and protect individuals, there is still a fear of failure of that technology and an understanding that it can come crashing down, leaving the modern individual naked, exposed, and often even dead. The “Challenger” incident, Bhopal and Chernobyl are all examples of this breakdown and the subsequent disasters that result from it. The fears of disasters that stem from technology, again, replace those of natural disasters due to the ironic desire to have technology even with the fear that that technology will somehow slip from our control. In many Western sf texts, for instance, this theme is explored through the use of androids or supercomputers, and while the breakdown of these technologies isn’t usually one in which they self-destruct catastrophically, their malfunction and frequent conquest of the civilizations that created them is often just as devastating.

These supercomputers and androids, in fact, represent yet another stage in the commodification of both the body and the self in Western texts. Katherine Hayles, for instance, explores the shifting attitudes toward the body and the understanding of consciousness in her book *How We Became Posthuman*. Hayles takes this interaction between humans and technology a step further and explores the tendency of technology to transform the human into what she calls the “posthuman.” Rather than seeing technology as external objects that are manipulated and that filter interactions between the person and the outside world, technology becomes imbedded in the body and fundamentally alters the nature of humanity itself. Through complex interactions between technology and human bodies, as well as fundamental changes in the view of the mind/body connection, the understanding of the definition of “human” has changed in fundamental ways from the prevailing humanistic understanding of what constitutes humanity. Hayles says, for instance, that the posthuman view “privileges informational pattern over material instantiation [...] considers consciousness [...] as an epiphenomenon [...] thinks of the body as the original prosthesis that we learn to manipulate [and...] configures human being so that it can be seamlessly articulated with intelligent machines” (3).

This definition differs dramatically from the traditional humanistic definition of the human, which up to this point has mainly been the focus of this discussion. C.B. Macpherson says of possessive individualism, which is a major influence on the understanding of what makes one human: “Its possessive quality is found in its conception of the individual as essentially the proprietor of his own person or capacities, owing nothing to society for them...The human essence is freedom from the wills of others, and freedom is a function of possession” (3). This humanist conception of the

body as something owned appears to predate market society, but according to Hayles this concept was actually retrospectively created and “the liberal self is produced by market relations and does not in fact predate them” (Ibid). This concept of the body as a form of commodity to be owned and controlled actually tends to be a symptom of the view that the body is an object to be offered for labor in exchange for wages. The view of the body as a commodity to be traded and sold is just one of the elements of the liberal self that are criticized by various groups, including postcolonial sf authors.

Another point of contention is that the liberal subject has been typically constructed as a white European male, and this construction leads to the view that the white male is considered the normal, universal baseline that ignores the voices of women and non-white groups. This is a view that is particularly relevant to a study of postcolonial science fiction because in many sf stories women and aliens are treated in just this way; they are treated as an Other that is outside the norm of western-centered maleness. In fact, many Western sf texts would be fundamentally different if there weren't aliens to conquer, battle or at least to understand. Postcolonial sf texts often explore these differences as well, but in many texts the characters see themselves as the Other, the one who is alienated and is displaced from the center/norm that is Western society, whether it is by choice or by force. Again, their technology itself is commonly a rejection of this displacement as the characters often see their own technology as normal but the industrial, inorganic technology of the West as intrusive and abnormal.

For instance, Larissa Lai's "Rachel" is about an android that is implanted with the memories and personality of a real Chinese girl who had died years earlier. She

becomes a symbol of hybridity, one that is both human (in its consciousness) and artificial. The android/girl consistently battles to understand her identity and where she belongs in her world. To the other characters in the story, however, she is just an android, just an object that is to be used much as any tool. To these other “real” characters she is the ultimate Other, one who has a little of the essence of what it means to be human, but at the same time is unknowable and impossible to understand because of her artificial body. This alienation affects her deeply and prevents her from feeling as if she is a real person because she understands that she is a construct, an artificial combination that was contrived by the Western society in which she lives. At the end of the story she says, in fact that “I move to the piano to see if I can really play, or if those music lessons were just the product of a stranger’s love for another stranger” (60). It is at this moment that she realizes her artificiality and her inability to ever reconcile the two halves of her hybridity.

The deconstruction of the liberal body in Western culture, according to Hayles initially occurred because of the change in the understanding of what constitutes information and the implications of that change on the mind/body connection. As research in cybernetics advanced to the point where information itself was and is seen as a disembodied phenomenon that works completely independently of the medium through which it is transferred, the understanding of the mind also changed to the point where many cyberneticists saw it as disembodied information – separate from the hardware of the brain – that could be transferred from the “wetware” of the body to the circuits of the binary computer. This new view of both the information within the brain and the information on computers led to the desire to develop technology that could hold

the consciousness of individuals and inevitably the commoditization of that disembodied information itself, again often in a manner very similar to the books of William Gibson.

Many sf authors have explored this concept of identity transfer and have also seen the identity, the self, as disembodied and separate from the physical “ware” on which it runs. Again, Gibson’s novels immediately come to mind, but there is a rather long list of Western authors who have explored this concept. Hayle’s concept as consciousness as disembodied information, again a Cartesian idea, is quite common in Western sf and seems to be a reflection of the postmodern Western tendency toward the ever-more abstract conceptions of almost everything, including the consciousness itself.

Hayles also discusses the way that the understanding of life itself changed. During the Macy Conferences, a series of meetings of scholars from various disciplines held to discuss "Circular Causal and Feedback Mechanisms in Biological and Social Systems" held between 1946 and 1953, for instance, the discussion of homeostasis figured largely in debates about cybernetic systems (“Coalescence of Cybernetics”). Homeostasis, understood as the ability “of living organisms to maintain steady states when they are buffeted by fickle environments” was initially only thought to be an ability that living systems possessed (Ibid). During the Macy Conferences, however, many scientists argued that computers themselves are homeostatic systems in the feedback loops that programmers often used to extend the ability of computers to interact with their environments. Through the concept of feedback loops, another similarity between non-biological systems and living organisms had been discovered, leading to one less point of uniqueness for living organisms and by extension humans themselves, and consequently another point where the concept of the Liberal Self could be debated.

This change in the belief of the uniqueness of life also signaled a dramatic change in the belief as the individual as a person unto him/herself but instead yet another object to be altered and traded.

The link between homeostasis and feedback loops led to what Hayles calls “the subversive idea of reflexivity.” (8). Hayles’ definition of reflexivity is the “movement whereby that which has been used to generate a system is made, through a changed perspective, to become part of the system that it generates” (8). The reflexivity issue dramatically raises the complexity of the feedback loop because it also takes into account the observer and includes the observer in the system, almost infinitely, leading to difficulty in defining a discreet system. The significance of this concept to Western sf versus postcolonial sf is that there is a tendency in Western sf and Western society to deny that systems are discreet but rather subject to control and influence of observers. Much of postcolonial sf, however, tends to contradict this concept, perhaps in an attempt to displace the central focus of Western thought in sf and to find an alternative that allows a re-appropriation of the non-western identity. Instead of non-Western cultural and personal identity being subject to Western thought yet again because of the constant influence of the Western observer on non-Western society, there is now a possibility for postcolonial societies – both inside and outside the texts – to find a unique view of the world and of the postcolonial self.

The possible solution to this problem of reflexivity in Western thought, however, was still a problem to many cyberneticists and philosophers, so there was a tendency to consider discreet systems as autopoietic. Hayles says that

autopoiesis turns the cybernetic paradigm inside out [...because] its central premise – that systems are informationally closed – radically alters the idea of the informational feedback loop, for the loop no longer functions to connect a system to its environment. In the autopoietic view, no information crosses the boundary separating the system from its environment. We do not see a world ‘out there’ that exists apart from us. Rather, we see only what our systemic organization allows us to see. The environment merely triggers changes determined by the system’s own structural properties. Thus the center of interest for autopoiesis shifts from the cybernetics of the observed system to the cybernetics of the observer (11).

She goes on to say that this new paradigm emphasizes the interactions between the components of a system rather than information exchange, leaving information itself as almost non-existent. This de-emphasis of information itself is rather important because again it undermines traditional beliefs in the substance of the conscious mind, and at the same time it makes this substance subject to commodification and trade. Ihde says, for instance that

with biological technics, there is reached a new boundary between technology and life where the horizons of nature and artificiality are blurred [...and this] blurring of the borderline life/artificial product is anticipated in the changes of attitude and use towards domestic plants and animals. They become clearly ‘use beings’ under human control and for human use. (114)

This is yet another example of the commodification of bodies and minds in Western society as more and more objects become fair game for trade and for use as tools. According to Idhe's argument about use beings, through the blurring of the borderlines between artificial constructs and natural life forms and the influence of cybernetics and particularly reflexivity, there is also a blurring of the limits of what constitutes an acceptable object of use and what is off-limits or still considered sacrosanct under prior conceptions of the liberal self.

Hayles discusses reality itself in relation to this new understanding of information. She says that the universe itself is seen as the ultimate flow of information. Edward Fredkin, for instance, claims that reality itself is simply a program that runs on a kind of universal computer made up of the physical structures of the universe. This perspective on information as an abstraction that is disembodied and lacks substance has multiple implications, most notably the understanding that even the very structure of the universe is a kind of "being" because it runs on informational code in a sense. Another important implication is that living organisms, including humans, no longer enjoy privileged status because they are simply complex forms of information processors. Again, the emphasis on inorganic technology in Western sf comes to mind because when Hayle's argument is applied to technology in general even organic systems become tools and information processors in Western culture. On the other hand, in postcolonial sf, the special status of natural, organic systems tends to be maintained because technological artifacts become not only tools but also maintain their organic status as part of the ecosystem of the other tools and the humans who use them.

This understanding of the world and of humans as processors of disembodied information also changes attitudes to the understanding of the link between mind and body in the same way as other trends like cybernetics and informatics have changed attitudes about self/information. If the body and the mind are both simply information processors, then the information that constitutes the mind can be transferred to other storage/processing media, and the body itself becomes interchangeable.

Hayles, like Gibson and other authors, also discusses the preeminence of information in modern first world nations like the United States. The ubiquity of information technology in markets, politics and even in day-to-day life in contemporary society affects the interaction with information and also the attitudes toward it. For instance, MUDs and virtual reality have had a dramatic effect on the perception of bodily limits. MUDs, or multi-user dungeons, which are virtual games usually played on the Internet by players who are geographically isolated from one another, allow the body to be projected into the virtual world of the game. Hayles says that MUDs problematize “thinking of the body as a self-evident physicality” (27). Virtual reality takes this blurring of the body-world boundary even further, allowing the body to be transported into a virtual world and allowing a direct feedback loop interaction with a computer. Hayles says that “the user learns, kinesthetically and proprioceptively, that the relevant boundaries for interaction are defined less by the skin than by the feedback loops connecting body and simulation in a technobio-integrated circuit” (Ibid). Through new experiences like these, as well as the more mundane daily interaction with the computer through key punches and perception of the computer screen, the perception of information becomes such that information itself is seen as pattern with an abstract but very real effect on daily life. In fact, even money is

increasingly experienced as informational patterns stored in computer banks rather than as the presence of cash; surrogacy and *in vitro* fertilization court cases offer examples of informational genetic patterns competing with physical presence for the right to determine the 'legitimate' parent; automated factories are controlled by programs that constitute the physical realities of work assignments and production schedules as flows of information through the system; criminals are tied to crime scenes through DNA patterns rather than through eyewitness accounts. (28)

Hayles says, in fact, that "the contemporary pressure toward dematerialization, understood as an epistemic shift toward pattern/randomness and away from presence/absence, affects human and textual bodies on two levels at once, as a change in the body and as a change in the message" (29). This new dynamic, according to Hayles, leads to new models of signification, most importantly what she calls the "flickering signifier," a signifier that acts as the next iteration of Lacan's floating signifiers. For Lacan, signifiers did not have any one-to-one, direct relationship with the things that they signify; instead, they take on meaning through their relationship with other signifiers, and in a sense float in a kind of network fashion on top of the objects that they represent. Hayle's flickering signifiers, though, "operate within a realm in which the signifier is opened to a rich internal play of difference [...so] the signifier can no longer be understood as a single marker, for example an ink mark on a page. Rather it exists as a flexible chain of markers bound together by the arbitrary relations specified by the relevant codes" (31). So, rather than signifiers that take on significance because of their relationship to one another (a strikingly similar situation to that of Heidegger's *das Zeug*

and his tools that take on meaning and usefulness in relation to other tools), these signifiers take on yet another level of abstraction and become even more slippery in a cyberworld of constantly shifting meaning.

As with other Western concepts related to technology, tools and the self, postcolonial sf tends to be a rebellion against many of these concepts, including the concept of the floating signifier and the understanding of information as disembodied and therefore a transferrable commodity. Andrea Hairston, an African diasporic sf writer, for instance, challenges this doubled abstraction of flickering signifiers in her short story “Griots of the Galaxy.” In this story, signifiers and the meaning that they represent – rather than being slippery and abstract – become extremely important to the characters. The griots of the story, in fact, sacrifice their very existence to pursue their stories, their intimate knowledge of the life of the universe. The characters in the story jump from body to body and from world to world to collect experiences from various living things and then to upload those experiences and that knowledge into an ultimate repository where it will be preserved and passed down to subsequent generations. Hairston’s challenge comes in her representation of this knowledge as something that is not flexible and flickering, something that is not subject to deconstruction and change over time and from person to person, but instead something that can be preserved and experienced “as-is.” Hairston calls this “deep memory,” a far-future and sf version of the transference of cultural traditions and knowledge by African griots; this deep memory is a sacred thing, something that again the galactic griots find very concrete and worth losing one’s life in its pursuit.

The most important implication of cybernetics and informatics, though, is that the concept of the liberal subject is imperiled in Western society, according to Hayles. This change in the conception of the liberal subject comes about for several reasons. First, the traditional distinction between machine and body is violated because of the feedback loops that typically link body and machine into a single system, an increasingly common occurrence in the twentieth and twenty-first centuries with the development of interactive machines and electronic devices. The use of night vision, for instance, allows soldiers to see objects in almost total darkness, but rather than being a separate object, when it is in use by the soldier it becomes part of the feedback system between soldier and technology and allows both to function as one in the interaction with the outside environment. The traditional liberal concept of the individual as a unique self, autonomous, and “free from the will of others” is undermined by the concept of consciousness as a “material-informational” entity that is a construct of society (Macpherson; Hayles). This new concept of the individual as not so individualistic and not so unique is analogous to the concept of the identity and the body in much of postcolonial fiction in general and postcolonial sf in particular, because just as the Westerner himself begins to lose a sense of uniqueness and loses traditional identity because of the changing understanding of the Self, the postcolonial subject is also in the same situation with the loss of identity due to the hegemonic influence of Western culture.

Finally, border crossing, in the sense that information crosses the boundary between flesh and world, as well as the feedback loop of the human/computer and human/machine, is yet another trope of cybernetics that is taken up by Western authors. For Western authors this boundary is in place, but it is something to be ignored and

transgressed completely when possible. The concept of border crossing is a common one in mainstream postcolonial fiction in general but is a major trope in postcolonial sf in particular. On the other hand, Many Western texts explore the combination of human/computer and human/machine, and yet again the body itself is subjugated and commoditized to the point where it becomes an object to be altered, improved and eventually thrown aside in favor of more efficient, more powerful inorganic technology. In Western sf the boundaries that are often crossed are ones that transgress the separation between natural and synthetic, unaltered and exposed (in the Heideggerian sense), and these boundaries usually represent the location at which there is a difference between a “primitive” society and a technologically advanced one. In other words, those societies and their members who remain on the natural side of the boundary are considered traditional and primitive and in many Western sf texts are subject to appropriation and “education.” Cultures that are on the other –synthetic – side of the border are advanced and are civilized both in the sense that they can control their environments but also in the sense that they can again transgress that boundary and appropriate both nature and primitive cultures on the other side.

Postcolonial sf explores these boundaries, too, but the boundaries often take on a more sinister role in these texts. For postcolonial sf authors the boundary represents a separation between themselves and the Other which often includes conquering races but can also include the non-violent influences of other cultures. Okorafor-Mbachu’s *Zahrah the Windseeker* explores this boundary, in fact, because the citizens of the Ooni Kingdom are surrounded by the Greeny Jungle, an area that is vast, mysterious, Other, and is constantly threatening to completely absorb the Ooni and their civilization. The boundary between this jungle and the kingdom itself represents an area of dangerous

blending of Ooni civilization and the Other; the creatures that fill the area are aggressive and are always threatening to snatch away a person and break the close ties of community and tribe that those within the kingdom enjoy. On the other hand, the technology of the Ooni also takes a liminal position between the natural and the synthetic world. Unlike Western authors, postcolonial sf authors' characters usually don't transgress this boundary, though; again, the technology of their civilizations (and the citizens themselves) commonly remain on the natural side of the boundary, and the technology still maintains its place within an ecosystem, even if that ecosystem is itself contrived.

Finally, the most imposing boundary of all is the one between the planet of the Ooni Kingdom and Earth. The Earth is only mentioned briefly in the novel, and in that one brief passing discussion Earth is believed to be nothing but an ancient myth. In other words, the boundary between the Ooni Kingdom and Earth has at this point become so insurmountable and so physically strong (because of the great distance between planets) that the characters themselves no longer identify with it or base their own cultural identity on it.

Overall, the approaches to technology by Western sf and postcolonial sf are very different in many regards, including the view of technology as a tool of control, conquest and isolation versus technology as an organic tool that allows manipulation of the world while still maintaining the traditional role in ecosystems. Often, this difference leads to a two-way interaction between the technology and society in both types of fiction. For Western sf the emphasis on technology as a means of control and conquest is followed by societies that are either bent on conquest or are themselves being conquered, and

this tendency to focus on conquest in the society leads to the development of other technology of conquest, not always just in terms of other societies, however, but even conquest of the body and ultimately conquest of the identity itself. On the other hand, postcolonial sf is often a rebellion against societies as machines of conquest and against technology as a tool of that conquest. Instead, many postcolonial sf texts portray Western technology as intrusive, invasive and ultimately a means through which conquerors can control the postcolonial subject. These texts commonly offer alternative forms of technology, ones that improve the lives of their characters but allow them to remain intimately a part of their ecosystems and foster the healing effect of re-integration into the traditional society and the land, as well.

CHAPTER 6
THE MULTITUDE AND THE SPECTACLE: POLITICAL IMPLICATIONS OF
POSTCOLONIAL/NEOCOLONIAL SCIENCE FICTION

Many science fiction texts explore the differences between capital and labor and the influences that those differences have on both privileged Western nations and on weaker non-Western and decolonized/developing nations. Similar to the other scenarios that science fiction often explores, these texts will frequently explore these differences by exaggerating real-life scenarios and their effects, or by extrapolating possible future scenarios in the interaction between Western and non-Western nations. For instance, Kim Stanley Robinson's *Mars* trilogy explores a future of metanational corporations or "metanats," and the effects of these entities on the global economy, the interactions between nation-states, and the day-to-day lives of the people who are considered the source of labor for these metanational corporations. This set of texts exaggerates the current situation in which multinational corporations are often accused of perpetuating colonialism through the exploitation of the natural resources and cheap labor of developing countries, leading to a transfer of wealth to Western nations, similar to the situation in the colonial period. Overall, this trilogy allows an analysis of the postcolonial effect and the "hangover" of neocolonial influence of Western culture because it uses great depth and detail to extrapolate current situations in the relationships between nations as well as the neocolonial effects of late capitalism. At the same time, Michael Hardt's and Antonio Negri's two co-authored books *Empire* and *Multitude* also help to provide a theoretical basis for these trends. They both discuss a shift from national

sovereignty based on centralized economies and national discipline to a less localized and more diffuse sovereignty based on control of capital and discipline of populations (regardless of geography or nationality), as well as the struggle of the multitude against this trend toward Empire.

The “hangover” effect refers to the continued influence that former colonial powers have on the colonies that they once controlled. These affects include the continued control of or influence on natural resources, the exchange of direct military coercion of weaker nations for coercion through economic means like the World Bank and the International Monetary Fund, or social means like the United Nations and other various social organizations like Greenpeace, and occasional direct military influence in the interest of “peace” and “stability.” Through these controls, Western nations tend to continue the manipulation of former colonies for their own interests and national security. Even through less direct means there is a privileging of the Western industrialized nations economically because of their stronger economies, their central role in international entities like relief agencies and charity organizations, and the continued centrality of Western culture itself. While these influences aren’t intended as direct control of former colonies as was the case during the colonial period, they are just as detrimental to the development and independence of these regions, and Robinson’s trilogy addresses this problem by portraying the large metanats as mostly Western-oriented companies run by mostly white Westerners. These affects also lead to cultural changes in these former colonies as they struggle to find their own identities in the aftermath of Western cultural hegemony. Robinson’s trilogy addresses this issue of finding a unique cultural identity, as well, as the inhabitants of the Martian colonies attempt to develop a society that is uniquely adapted to the conditions on Mars.

The effects of appropriation of the resources of developing countries, as well as the continued transfer of wealth from them to Western nations through superior economic and political influence (rather than direct military control) are often referred to as neocolonialism. Neocolonialism is, rather than simply the conquest of land and raw materials, the subjugation of weaker developing countries by creating within them a dependence on the Western paradigm of consumption and by exploiting them as producers of raw materials. In his article "Colonialism is a System," Jean-Paul Sartre discusses the importance of this kind of interaction between Western nations and former colonies. In reference to the French in Algeria, he says that "the French State gives Arab land to the colonists in order to create for them a purchasing power which allows French industrialists to sell them their products; the colonists sell the fruits of this stolen land in the markets of France. From that point on, the system feeds itself; it runs smoothly" (42). In order for this system to run smoothly, though, the colonists had to have control of the land that the Algerian Arabs owned. This appropriation of the land was achieved by the gradual breaking up of tribal ties and the lands into a "jigsaw puzzle of individual properties" (41). The indigenous Arabs were literally pushed to the periphery of the Algerian colony into the pre-Saharan Desert area where they were no longer able to grow enough crops to survive. Also, since the French government had to ensure that industry was located in France itself (so French business could maintain a monopoly and continue making profits), the Arabs had no opportunity to find jobs in the cities. In addition to the literal forced-migration to the periphery of their own land, the Arabs were also pushed to the cultural periphery by laws that were enacted to prevent them from reading or writing in their own languages, and they were also treated as sub-human, leaving them with no sense of cultural identity or even of humanity.

In fact, the relocation and forced ignorance of the indigenous cultures is another symptom of neocolonialism. It privileges Western culture over the cultures of the colonized, usually influencing the colonized themselves to believe in the superiority of Western culture. The emphasis on Westernization in these countries fosters the often-false hope of developing nations becoming more “Western.” In many cases, there is also a strong cultural influence on these nations, in fact, through the continued privileging of Western ideas, particularly political views, literary and artistic aesthetic sensibilities, and Western scientific and religious conceptions, a process known as cultural colonialism. Sartre says that these French policies “fabricate ‘natives’ by a double movement which separates them from their archaic community by giving them or maintaining in them, *in the solitude of liberal individualism*, a mentality whose archaism can only be perpetuated in relation to the archaism of society. It creates masses but prevents them from becoming a conscious proletariat by mystifying them with the caricature of their own ideology” (48). Thus, they are no longer able to identify with their traditional way of life and identities, but they also cannot identify with Western culture, even though the colonizers have instilled in them the idea that Western culture is superior. For the colonized, one culture is no longer available, and the other is unattainable and unsatisfying.

Many developing countries also tend to see their sovereignty undermined by stronger Western nations through economic means used to coerce and influence internal politics, even though direct political control arguably no longer occurs. Hardt and Negri say that capital is deterritorialization, that “traditional cultures and social organizations are destroyed in capital’s tireless march through the world to create the networks and pathways of a single cultural and economic system of production and

circulation” (326). This tendency tends to conflict with modern sovereignty and leads to the insufficiency of geographical divisions between nation-states. Capital has now begun to flow almost completely unimpeded between one nation and another, and old geographical divisions like “Third World” are no longer apt descriptions of areas that in the past represented vast economic and social differences from Western nations. However, Hardt and Negri argue that “this is not to say that the United States and Brazil, Britain and India are now identical territories in terms of capitalist production and circulation, but rather that between them there are no differences of nature, only differences of degree. The various nations and regions contain different proportions of what was thought of as First world and Third, center and periphery, North and South” (335).

This unimpeded flow of wealth also does not mean that there is now equality in the distribution of wealth, or even a stronger sense of sovereignty and cultural independence in the former colonized nations. In fact, Hardt and Negri say that “the dominant voices of the global order are proclaiming the nation-state dead just when ‘the nation’ has emerged as a revolutionary weapon for the subordinated, for the wretched of the earth” (Ibid). Instead, true power is exercised through the global market and juridico-economic bodies like the GATT, the World Trade Organization and the IMF, which are still mostly maintained and influenced by the West, leaving former colonies without an ultimate sovereignty over juridical or economic matters. Through the IMF, for instance, poor nations like those in Africa typically will pay back much more in loans than they are receiving, and they are required to pay in Western currencies like dollars rather than their own devalued currencies. Practices like these lead to an economic dependence on entities like the IMF for basic products like food, medicine and other essentials, again

reducing their ability to act independently.

The hangover effect of colonialism, the decentering of non-Western culture and the continued lack of ultimate sovereignty combine to create a situation that is strikingly similar to the colonial period because of continued subjugation and marginalization of developing countries. Western nations, while also subject to the tendency of national markets in late capitalism to become increasingly abstract and the tendency of national sovereignty to be undermined by capitalist expansion, still maintain an economic and military superiority that allows them to continue manipulating former colonies in a way that is largely unchanged from the colonial period. A good example of this coercion is the recent Iraq war. When the government of Iraq failed to maintain an economic and political system that was approved by Western powers and beneficial to them as well, a coalition led by the United States and other Western nations eliminated the Iraqi leadership in favor of one that would fall into line with Western economic and governmental ideals.

Noam Chomsky discusses instances of Western (mostly American in his opinion) coercion in Iraq and other nations that will allow the United States to maintain superiority over other nations. His argument in *Hegemony or Survival: America's Quest for Global Dominance* is essentially that the United States will use any means necessary – including direct military force -- to maintain hegemony over other nations. He argues that the most effective means that the United States government has is through “preventive war.” The targets that are chosen depend on three factors:

1. It must be virtually defenseless.
2. It must be important enough to be worth the trouble.
3. There must be a way to portray it as the ultimate evil and an imminent

threat to our survival. (17)

Again, Iraq is a good example of preventive war because according to Chomsky it qualified on all three counts. When coercion through economic means (the trade embargo that was in force for a number of years) or social means (the isolation of Iraq from world affairs and the continued humiliation of the Iraqi government by mandatory UN inspections) did not achieve the desired results, the American government used military intervention to force Iraq to conform to Western (again, mostly American) ideals and interests. According to Chomsky, through economic, social and ultimately military coercion, the West essentially dissolved Iraqi sovereignty that would allow it to maintain control over Iraq and much of the Middle East.

Hardt and Negri discuss this concept of sovereignty in terms of the tension between the “immanent forces of desire and association, the love of the community [on the one hand], and on the other the strong hand of an overarching authority that imposes and enforces an order on the social field” (69). They go on to say that another way in which tension led to a concept of sovereignty was Europe’s relationship with its outside, “particularly through its colonial project and the resistance of the colonized” (70). Thus, in many ways the very concept of sovereignty owes its existence to the colonial relationship, and this continued presence of Western concepts of sovereignty tends to perpetuate the perception of an “inside” and “outside” world that is still hobbled by Manichean binaries that lead to the continued marginalization of former colonies.

This perception of the inside and outside is still very influential in Western attitudes toward former colonies and other non-Western countries. Edward Said, in *Orientalism* mentions that the concept of Orientalism is very much alive and well in the relationship between the Middle East and Western nations. Orientalism allows Western

societies to ignore the cultural richness of non-Western nations because of misguided perceptions. Said quotes Nietzsche's argument, in fact, that even Western language tends to distort the reality of these cultures:

A mobile army of metaphors, metonyms, and anthropomorphisms – in short, a sum of human relations, which have been enhanced, transposed, and embellished poetically and rhetorically, and which after long use seem firm, canonical, and obligatory to a people: truths are illusions about which one has forgotten that this is what they are. (Qtd. in Said 203)

Said also says that through “commercial enterprises, governments, readers of novels and accounts of exotic adventure” and even the academy, non-Western cultures are distilled into mere simplistic stereotypes that represent the outside, leading again to ethnocentrism and cultural colonialism because of the lack of respect for these cultures (203). With this Western lack of respect and understanding of their pluralism and rich diversity, these cultures and their national sovereignty is in more danger of being undermined by Western nations.

Hardt and Negri also discuss the affects of contemporary transnational (though not metanational yet in the sense that Robinson discusses in his trilogy) corporations and shifting world economic structures. They discuss the paradigm shift from production to the network model. In other words, traditional production, according to Hardt and Negri, have become deterritorialized due to the availability of cheap labor in developing countries, and this deterritorialization has led to the need to decenter corporations themselves. This decentering effect has also resulted in a need to think of corporate structures in terms of networks rather than vertical/hierarchical structures. This trend also leads to a continued marginalization of former colonies because these corporations

are largely Western-based and tend to privilege Western culture and allow a continuation of Western manipulation of the resources and labor of former colonies.

Finally, information networks have also been tremendously affected by neocolonialism. Hardt and Negri mention that these information networks “release production from territorial constraints insofar as they tend to put the producer in direct contact with the consumer regardless of the distance between them” (296). This further decentering and reduction of geographic distance and physical/national boundaries has a further effect on the unhindered cultural, political and economic development of former colonies. Information exchange itself is Western-centric, with most large carriers of information located in Western nations, and mostly Western culture being disseminated through these networks. Through these widely spread networks national sovereignty is itself disseminated because of the growing dependence worldwide on Western sources for information.

Again, though, Hardt and Negri argue in *Empire* that the very notion of national sovereignty – and with it the nation state – is being replaced by a new conception of sovereignty, that of Empire. Just at the moment that the former colonies are beginning to develop a new sense of identity and unity, and just as they are beginning to maintain a level of independence (notwithstanding the economic influences discussed above), they are once again limited in their attempts at self-determination. In this scenario, they are limited not by direct political, social and military control, but by a postmodern shift from the concept of strong central power to a diffuse and often amorphous power structure that is web-like rather than hierarchical, meaning that there is no longer a potential to rise in the hierarchy by developing economically but only a potential to become just another “node” in a largely Western world economic structure. This new

paradigm of the sovereign and new economic situation leads to an often uneven flow in capital, along with a diminishing of national sovereignty – particularly of former colonies because of their already weak economies and governments – and involves a worldwide tendency toward capitalism, which is almost identical to the main engine driving colonialism and neocolonialism. In many ways this new paradigm also is a new species of neocolonialism because in this new milieu Western societies and economies are still privileged, but their sovereignty is also undermined in the “New World Order.” Because capitalism constantly requires new markets full of people who will consume the products made by its factories, capitalism on a global scale essentially turns the entire planet into one large factory, with Western governments, societies and companies usually maintaining the most benefits, although again even the Western governments are being undermined by overwhelming market forces and corporations that tend to manipulate those governments.

Even though the West still continues to hold a privileged position, this tendency toward economic coercion and social control of labor is not necessarily perpetrated by any one particular group, but in an abstract sense by the very market that labor has helped to create, as well as through various groups and organizations. Through market expansion into areas that were previously unable or unwilling to transfer wealth both to and from currently capitalist nations, capitalism has managed first to turn most of the people of the planet into a potential market, and then into producers of goods. And, on the other hand, through various multinational organizations, power and influence have been denied to most of the world’s population.

Hardt and Negri say, for instance, that certain organizations tend to constitute the overall framework of control on a global scale, even though none are in direct control.

For example, they say that there is a kind of monarchical influence by the United States, the G8 and international organizations like NATO, the IMF, and so forth on world economic and political activities. Through these organizations many of the economic, political and social decisions for most of the world are made, and these decisions tend to affect all levels of world society. There is also an oligarchic influence that has a powerful effect, according to Hardt and Negri. The oligarchy is made up of various multinational corporations and nation states (although, again their individual influence is diminishing). Finally, there is a tendency to democracy, and this segment of worldwide control is growing in power, as well. This aspect of Empire is made up of the United Nations and various non-governmental organizations like Greenpeace and Médecins Sans Frontières. Ideally, through organizations like these, the will of the multitude is represented, and the problems of oppression are addressed; however, even in this situation Western influence often prevails over non-Western interests. Of course, even though multinational organizations like these exist, the other elements of Empire often exert their own influence to the detriment of those who have no power, including developing countries.

The will of the multitude is well represented in the *Red Mars* text, as the inhabitants on Mars begin to make their own decisions due to their isolation from Earth. Very quickly after the first arrival on Mars, the crew begins to act very similarly to Hardt's and Negri's description of the multitude and the tension between it and the other elements of Empire. The initial construction of the base on Mars is a direct analogue to this tension, with the scientists on the planet representing the creative and productive acts of the multitude, and the metanational corporations supplying the capital but also maintaining a high level of control over the activities in the colonies. The tensions

develop as the multinational group of scientists (representing a wide international community) maintains its right to make decisions independent of the metanats because of the physical and epistemological distance and the intimacy and immediacy of the experience of Mars that the colonists themselves have daily. Ultimately, just as in the case of Hardt's and Negri's view of Empire, the multitude and the metanats are dependent on one another to successfully create and maintain the fledgling culture on Mars, but there is also a persistent friction between these two groups that itself tends to be a creative font leading to the production of a new culture that will be seen later as the three books unfold. So, the capitalist influence on Mars has its negative side effects, but it also has a positive aspect in that it aids in the transformation of the physical landscape of Mars, as well as its social one.

Capitalism also has negative effects, though, on the landscape of Mars itself. As the three stories unfold, two important factions develop on the planet that represent two different approaches to the terraforming of the planet. The Reds argue that the planet should remain in its pristine form, but the Greens desire a radical terraforming project that will allow the planet to be treated as an analogue to Earth and its resources to be exploited. Robert Markley says that the philosophical underpinnings of this debate expose an even deeper debate concerning anthropomorphism and the "moral relationship of humankind to the land" (369). The Reds, with the character Ann Clayborne as its spokesperson, believe that "creating the conditions for life is purposeless because the geology of the planet is inherently valuable as a 'historical record' of planetary and solar system history that dwarfs human technologies, intentions and desires" (369). The Greens, however, represented by the scientist Sax Russell, believe that Mars' "purity can be appreciated only through human perceptions and

values, through an aesthetic appreciation of its beauty and an intellectual, and even spiritual, recognition of the knowledge it offers” (Markley 369). Russell believes that “the beauty of Mars exists in the human mind,” which, according to Markley, “reveals the accuracy of Ann’s criticism: the basis of terraformation, of Baconian science itself, is an adolescent faith in human significance, a will to play with the universe” (Markley 370). This attitude of anthropomorphism is again analogous to the Western-centric notion of exploitation of resources and human labor in capitalism, and because of the challenges that Mars presents, requires eventual rethinking of the corporatist model that prevails on Earth. Ultimately, the initially antagonistic positions that these two factions hold have to be modified because of historical and environmental changes on Mars. Markley says that

Descriptions [and arguments such as these] thus have a maieutic function; the impossibility of fitting Mars into paradigms imported from Earth forces characters to move beyond false historical analogies and, consequently, to take moral responsibility for the complex changes – socioeconomic as well as biospheric – initiated by terraformation. This responsibility is what ultimately distinguishes veriditas from corporatist models of terraformation as business investment and the passive worship of a romanticized nature. Areoformation, another name for this responsibility, resists the acts of simplification and demonization that construct Mars – or the Earth – as a storehouse of materials and energies waiting to be extracted, priced and marketed. In this light, the ebb and flow between Red and Green areophanies reveals the paradox that there is value in both the pristine terrain of Mars and in life spreading across

and irrevocably altering the planet's surface and atmosphere. (373)

In the end, these two factions must learn to balance their contrary views in much the same way that the various power structures are balanced and contrary in Hardt's and Negri's view of Empire. And similarly, with any luck the same balance will (must) occur in the relationship between the West and former colonies.

Back on Earth and in the present, though, global capitalism and its emphasis may seem mostly positive because of the opening up of markets both to Western companies and to many groups in former colonies and in developing countries, as well as the potential for production of wealth on a global scale. It actually has strong negative influences on both the international and personal levels. First, much like Robinson's trilogy, in a capitalistic economy corporations have a tendency to become extremely powerful -- to the detriment of workers and even governments in many cases. Through monetary influence, corporations can often impose their own policies on national governments, and can often trample on the rights of workers in both the Western nations and in the developing nations where many factories are relocating. These corporate policies lead to the loss of jobs in Western nations, for instance, while workers in the relocated factories are paid wages that barely allow them to live. This situation also has a pervasive influence on events in the Robinson trilogy. The metanational corporations not only are able to move their factories into places that allow them to exploit workers through low wages, but in this future world Robinson also portrays corporations that can move their main offices from one nation to another, based on the benefits and freedoms that the much-poorer nations are willing to provide to them (similar to the current tendency for cities to provide incentives), giving them the ability to be virtually immune to any national laws. Because these corporations have larger profits

than the gross domestic products of many nations, poorer countries are often very happy to allow companies to relocate and even exert control over their governments. This situation essentially gives corporations a sovereignty that is above that of nations and that eventually replaces national sovereignty completely.

These metanats also increasingly assert their control over the activities of the Mars colonies that continue to grow in the second and third books (*Green Mars* and *Blue Mars*). The growing influence of Empire becomes increasingly obvious in the last two books as the influence of nation-states diminishes because of their decreased ability to fund the Mars project and through the inability of the United Nations to exert its influence due to internal corruption. Initially, the increasingly diverse groups on Mars begin to rebel against this control from afar, however. At the end of *Red Mars* (the first book in the trilogy) the rebellion spreads until one group destroys the tether that links Mars to Phobos and allows easier entries into Martian orbit, severely limiting the metanats' ability to control Mars and its inhabitants. This act is more importantly a symbolic act, though, because it represents the desire for independence on the part of the Martian inhabitants, a break from dependence on the production of capital and capitalistic infrastructure by the metanats and Terrestrial hegemony over Martian cultural production.

Another important element of this destruction of the tether, as well, is the fact that the group responsible for its destruction is the Reds, a group that is also dedicated to developing a human population that adapts itself to the Martian environment rather than developing a Mars that is adapted to humans. Although the Reds and the Greens will eventually have to compromise to find a new unique perspective on Martian development, the Reds also believe that rather than developing Mars to suit humans, humans themselves should adapt to the landscape of Mars. Ultimately, though, the

relationship between the organizing elements of the metanats and the pluralistic elements of the various groups forming the multitude on Mars is a symbiotic one. While the Martian multitude seeks independence on many levels, it is still intimately tied to the cultural, scientific and physical contributions that Earth can provide, while the Earthly metanats are dependent on the cultural production and raw materials that are provided by those on Mars.

Finally, another negative influence of capitalism is the influence on the Martian landscape itself, although again a new concept of areoformation develops based on veriditas. The constant pressure to exploit the resources of Mars leads to the dramatic change of the Martian landscape to make it more Earth-like. This pressure to transform Mars so that it's more amenable to production of raw materials becomes a point of contention very early in the trilogy because of the pressure of the Reds to maintain Mars in its pre-human state and instead to allow humans to adapt to the landscape. This tension between these two sides is very similar to the tension between Empire and the multitude because again the capitalist bent of Empire threatens to homogenize and reduce diversity. In the case of Mars, the very act of exploitation of resources dramatically alters the landscape itself on which human life is played out, leaving a Mars that is very similar to Earth, and a Martian humanity that is only minimally unique under the capitalist hegemony, while simultaneously this concept of areoformation develops and gains power.

Markley says even in the face of corporate, imperial control, the development of Areophany leads to the development on Mars of eco-economics, the development of an economic system that allows a sustainable use of resources. This new paradigm is quite a challenge to the characters in Robinson's trilogy because they must maintain

strict controls over even the most basic resources like oxygen and hydrogen. The importance of these basic elements leads to an economy based on these elements on Mars as opposed to more complex raw resources on Earth.

While in Robinson's trilogy the concept of areoformation and the environmental disaster on Earth eventually leads to more power for the multitude, the means that Empire uses to maintain its controls in reality even against the resistance of the multitude are themselves important because through entities like the IMF, the United Nations and various relief organizations Empire subtly influences and affects all populations. Hardt and Negri and Robinson show that these various entities -- particularly national governments and even corporations -- can maintain and strengthen this power over nations and individuals through control of individuals on the most intimate level: the body. Through direct control of the body of the individual on an intimate level, entities, whether they are sovereign nations or metanational (often sovereign themselves in a sense) corporations, can maintain populations, often leading again to the tensions between these two bodies (the multitude and the organizing influences of Empire).

In the past, these methods of control were located only with sovereign governments. According to Foucault, the body of the individual during the seventeenth century was subject to direct punishment in public spectacles that had a two-fold purpose: first, to set the condemned as an example, and second to provide a mechanism of revenge for the wrong committed against the sovereignty of the king. By directly punishing the body of the condemned, the sovereign king maintained a very direct and intimate presence in the lives of his subjects.

Foucault says that this emphasis on public spectacle and on the dramatic and

violent destruction of the body of the condemned changed during the latter part of the eighteenth century, however. This change is mostly due to the transition from a traditional agrarian economy to an industrial one, along with the continued rise of capitalism and the transition from the sovereignty of the king to the sovereignty of the people as a whole. This shift is due to the democratization of capital. Capital and land were no longer the exclusive domains of the aristocracy; with the development of a capitalist economy they became diffused into the general population, forming a bourgeois class that had its own property to protect. According to Foucault, the “shift from a criminality of blood to a criminality of fraud forms part of a whole complex mechanism, embracing the development of production, the increase of wealth, a higher juridical and moral value placed on property relations...” (67). This original change, therefore, came about as a shift in the economic system led to a change in the attitudes toward ownership of property, and these changing attitudes led to a shift in the way that labor was treated. Because of this new attitude toward both workers and property, those in power placed an emphasis on private punishment and an attempt to rehabilitate prisoners through the penitentiary system. This private punishment evolved from the lack of a single sovereign bent on dramatic public punishment meant to set an example for others tempted to defy the king. Instead, individuals were subject to discipline in the hopes of preventing problems in the first place, and this discipline led to many of the systems that we have today, such as the mental institution, the hospital and charity organizations, according to Foucault.

The shift in sovereignty that was centrally concentrated with the king to a more diffuse sovereignty of the people also affected the means of punishment and discipline. Foucault says that

The true objective of the [change] was not so much to establish a new right to punish based on more equitable principles, as to set up a new 'economy' of the power to punish, to assure its better distribution, so that it would be neither concentrated at certain privileged points nor too divided between opposing authorities; so that it should be distributed in homogeneous circuits capable of operating everywhere [...] down to the finest grain of the social body. (80)

This shift in the concentration of power of punishment is a symptom of the diffusion of the sovereign power of the king into the pluralistic power of the people, and this diffusion affects the system of punishment, leading to a more generalized form of punishment (as opposed to specific types of bodily torture based on the type of crime committed) that is performed in the privacy of the prison walls. Again, punishment now becomes a mechanism for the rehabilitation of the convicted criminal rather than a means to exact revenge on the behalf of the sovereign king. The new approach to punishment was a reflection of the attitude that the accused had committed a crime against all of society, leading to detrimental material and economic affects, so the attitude was generally that the criminal might be able to reform, but at the same time controls would be in place to insure conformity at even the most intimate levels of the life of both the criminal and the average citizen.

This shift in the type of punishment, and the need for surveillance in every detail of the lives of individuals also led to a need for changes in the discipline structure that acts as a means of social control. Foucault explains that the disciplinary system developed through institutions like hospitals, schools, and of course the prison. These institutions continued to maintain power by directly exerting it on the body, but rather

than imposing it through violence and spectacle, these institutions cultivated what Foucault called the “docile body.” He says that “a body is docile that may be subjected, used, transformed and improved” (136). He says that the means through which this level of control is achieved is by treating each body individually rather than in a wholesale way, of considering the modality of this control, the “uninterrupted, constant coercion, supervising the processes of the activity rather than its result,” hence again the need for constant supervision and surveillance of the society (137).

This shift in control is also apparent in the world of Hardt’s and Negri’s Empire. Through organizations like the United Nations, various relief organizations and powerful governments like the United States, control is maintained through the cultivation of the body by medical means (inoculation of children in African countries, for instance) and the maintenance of social and physical needs. These activities lead to a dependence on these social mechanisms as well as a sense of loyalty to their organizing influences. Likewise, the same influences are apparent in the *Mars* trilogy. Dependence on Empire is maintained through provision of capital and also because of the lack of an indigenous culture on Mars to maintain a sense of identity. Because of an initial lack of cultural coherence and a need for all the items that help to maintain life in this wasteland, the inhabitants of Mars are initially physically and socially dependent on Earth, and this dependence leads to a handy means of bodily discipline and control of Martian colonists.

To maintain this constant control during the eighteenth century, both today and in the Robinson trilogy, it was/is necessary to continuously monitor the lives of members of society. Foucault mentions panopticism, a concept that originated with the bubonic plague and was perfected later in prison systems. The prisons that followed this concept were designed so that the guards could always see each convict. The guards

themselves were always visible to their superiors, so that the whole process was observable and easily controlled. Foucault says, “the major effect of the Panopticon [is to] induce in the inmate a state of conscious and permanent visibility that assures the automatic functioning of power” (201). This power of the gaze is one-way, though, so the inmates are unable to see their jailers, and the guards are unable to see their superiors. This one-way nature of surveillance leads to a disindividualization of power. According to Foucault:

Power has its principle not so much in a person as in a certain concerted distribution of bodies, surfaces, lights, gazes; in an arrangement whose internal mechanisms produce the relation in which individuals are caught up. There is a machinery that assures dissymmetry, disequilibrium, difference. The Panopticon is a marvelous machine which, whatever one may wish to put it to, produces homogeneous effects of power. (203)

Thus, the maintenance of power in the juridical system itself became decentralized, at least to the perspective of the typical citizen, and particularly the criminal.

This means of control through constant surveillance also spread to society at large and led to another means through which intimate control could be maintained over the body of each individual member of the society. Foucault says this surveillance is

Polyvalent in its applications; it serves to reform prisoners, but also to treat patients, to instruct schoolchildren, to confine the insane, to supervise workers, to put beggars and idlers to work. It is a type of location of bodies in space, of distribution of individuals in relation to one another, of hierarchical organization, of disposition of centres and channels of power, of definition of the instruments and modes of

intervention of power. (205)

This new method of power was applied in most public and private institutions that consisted of large numbers of people. As Foucault mentioned, schools could use the panopticon to observe children from their earliest years, for example, but because the panopticon allowed experimentation with subjects and allowed the ability to homogenize large groups of people, it could be used to train these children to be useful and productive members of society so they could later move on to the factory where they would be further watched. By turning them into mere objects to be observed, various social systems could now maintain discipline with far less exertion of resources and with a greater distribution of power than had been possible under the rule of a king and in pre-capitalist economies.

Hardt and Negri discuss a very similar means of control of populations. In recent times, though, the means of control has become even more intimate. The control of the populations – the multitude – is achieved through biopower, “a form of power that regulates social life from its interior, following it, interpreting it, absorbing it, and rearticulating it” (Hardt and Negri 23). Hardt’s and Negri’s definition of the multitude goes a little beyond simply the people, however. For the authors, the multitude constitutes “an open and expansive network in which all differences can be expressed freely and equally, a network that provides the means of encounter so that we can work and live in common” (*Multitude* XIV). They differentiate the multitude from the *people*, which is a unitary conception. Instead, “the multitude is composed of innumerable internal differences that can never be reduced to a unity or single identity – different cultures, races, ethnicities, genders, and sexual orientations; different forms of labor; different ways of living; different views of the world; and different desires” (Ibid). While

seemingly amorphous and so inclusive that it is difficult to picture or define, the multitude can be explained in terms of what it makes possible and what it produces, according to Hardt and Negri. For instance, “globalization is the creation of new circuits of cooperation and collaboration that stretch across nations and continents and allow an unlimited number of encounters” and through these encounters members of these networks discover a commonality that allows them to “communicate and act together” (XIII). Thus, the multitude is central to “biopolitical production,” the production of “all facets of social life, economic, cultural, and political” (XVI). Through the multitude Empire controls almost every facet of life from the inside of the networks of populations rather than from outside and above as in previous methods of sovereignty, but at the same time the multitude itself is in a constant struggle against the organizing influences of Empire.

The *Mars* trilogy also explores both the panopticon and the influence of the multitude. In the last two novels the metanats’ ability to observe Martian populations has grown tremendously. Global imaging systems orbit the planet, allowing metanats to see virtually all of the activity on the surface of the planet. Within the enclosures constant supervision is also maintained over the populations themselves, giving the metanats almost unlimited control over Martian populations. The almost omniscient effects of supervision lead the colonists to retreat under the surface of Mars where they cannot be observed as easily. It also leads to further organization of the disparate Martian groups in an effort to counteract the outside, unwanted influence from Earth. These organizational efforts in turn lead to characteristics similar to Hardt’s and Negri’s multitude. Though these groups are indeed disparate and have many different goals, cultures and characteristics, they are essentially united in their new-found rebellion

against the organizing influences of Empire and their new-found sense of place in the Martian landscape.

This power of the multitude is the democratic power that Hardt and Negri discuss as one of the three constituents of power; it is the power that tends to form a counterbalance against the oligarchic and centralizing forms of power that are made up of national governments, international corporations, entities like the IMF, and so forth. Because the multitude tends to be non-hierarchical, it tends to exert its power simply through its “will to be against,” its unorganized but powerful resistance to the organizing tendencies of the other two power structures in Empire (*Empire* 235). Hard and Negri say

When the flesh of the multitude is imprisoned and transformed into the body of global capital, it finds itself both within and against the processes of capitalist globalization. The biopolitical production of the multitude, however, tends to mobilize what it shares in common and what it produces in common against the imperial power of global capital [...and] in time developing its productive figure based on the common, the multitude can move through Empire and come out on the other side, to express itself autonomously and rule itself. (101)

Therefore, while the multitude tends to be largely amorphous, dramatically diverse, widely scattered and ultimately without a traditional organizational structure, it still tends to exert a powerful influence that counterbalances that of the other constituents of Empire. At the same time, though, the oligarchic and monarchic powers are consistently exerting their own influence on the multitude through their own control of biopolitical production.

This is the most effective power available over the population because Hardt and Negri also say “power can achieve an effective command over the entire life of the population [...] when it becomes an integral, vital function that every individual embraces and reactivates of his own accord” (*Empire* 24). By participating in the exertion and act of power, the population lends itself bodily and intimately to the sovereignty of Empire, in a very similar way to what Foucault explained occurred when the king would claim sovereignty over even the bodies of his subjects and would demonstrate that power through the public acts of execution. With the biopolitical mechanism in place, however, the power over the body extends to its every facet, including the most intimate functions of health, heredity, sexuality and consumption of food. In fact, according to Foucault, through biopower “life [itself] has now become [...] an object of power” (194).

In the Robinson trilogy the use of biopower also aids in the maintenance of political power at a distance because the Martian inhabitants are dependent on Earth initially for all of the things that allow them to maintain their colonies and to stay alive. The constant shipments of equipment, food, even constituents of life like soil bacteria to maintain plants are intimate necessities in the survival of the colonists. Through the three books, though, the colonists begin to become much less dependent on Earth for their survival. The planet itself tends to be a medium on which new paradigms of sovereignty can be traced. Throughout the story each shifting of control leads to a palimpsest effect on the surface of Mars itself. The first stage in the process of colonizing Mars leads to the initial use of basic molecular structures on the planet, like the carbon dioxide, water and iron oxide. The exploitation of these substances is reflective of the initial “molecular” colonies that are barely subsistent and are still dependent on the structures of power on Earth. Gradually, they begin to produce the

constituents of life – elemental substances like oxygen, carbon dioxide, and water – from the planet itself. As their ability to do this increases, their dependence on the metanats diminishes, so through their own bioproduction they begin to shift to production of biopower and begin to be much less dependent on Earth culturally, as well. They have now set the stage, through the combined efforts of the Martian multitude, to produce a unique and new society free from the social, economic and political influence of Earth. And, at the same time the landscape of Mars itself undergoes changes: first its greening, and then its inundation with water as the inhabitants of the planet themselves begin to feel further alienated from Terran culture while paradoxically the Martian landscape itself tends to become more Earth-like.

This concept of biopower, though, is in some ways in opposition to Foucault's discussion of disciplinarity, which "fixed individuals within institutions but did not succeed in consuming them completely in the rhythm of productive practices and productive socialization; it did not reach the point of permeating entirely the consciousnesses and bodies of individuals, the point of treating and organizing them in the totality of their activities" (Hardt and Negri 24). Thus, in the former disciplinary mode of power, the emphasis on discipline allowed a static relationship between power and the individual, even though the power itself was very diffuse. In other words, through the organized hierarchies of productive practice control could be maintained, but it did not achieve the intimate level that the control of life itself allowed. In the new mode of biopower, there is now the ability to permeate the entire individual to the deepest levels, leaving almost no ability to struggle, at least not in the traditional sense. Hardt and Negri say

Civil society is absorbed in the state, but the consequence of this is an

explosion of the elements that were previously coordinated and mediated in civil society. Resistances are no longer marginal but active in the center of a society that opens up networks; the individual points are singularized in a thousand plateaus. What Foucault constructed implicitly is therefore the paradox of a power that, while it unifies and envelops within itself every element of social life, at that very moment reveals a new context, a new milieu of maximum plurality and uncontainable singularization. (25)

It is the paradoxical nature of the singularization and plurality of the populace that leads to an opening through which the multitude can find a new means of resistance, and it is through this opening that the Martian inhabitants themselves find a means of resistance after they begin to find their own Martian identity while maintaining their uniqueness as separate groups.

However, before that can be accomplished, the decentralized, diffuse power of Empire itself must be undermined by the multitude. Empire is the culmination of all of the centuries of shift from the sovereignty of the individual king to the shift to sovereignty of the people, and of the shift from an agrarian economy to an industrial, capitalistic one. Sovereignty itself has shifted from the direct control of the king over the population through violent discipline and punishment meant to exact vengeance for crimes against the king to the diffuse and disindividualized punishment and discipline through the panopticon. This modality of control is shifting even further, according to Hardt and Negri, in the late-capitalistic period, to large corporations themselves that tend to exercise control over individuals through wages and other economic coercion and on entire governments through economic manipulation. The shift from an agrarian

economy to an industrialist, capitalist one has allowed this shift in power. Originally, the agrarian economy prevented the easy observation and discipline of populations because there wasn't enough of a concentration of populations to allow outlets like schools and hospitals to have effective control. With the growth of capitalistic economies, however, populations became more concentrated, and observation became more viable. Foucault, using Marxist verbiage, says

The technological mutations of the apparatus of production, the division of labour and the elaboration of the disciplinary techniques sustained an ensemble of very close relations. Each makes the other possible and necessary; each provides a model for the other. The disciplinary pyramid constituted the small cell of power within which the separation, coordination and supervision of tasks was imposed and made efficient.

(221)

So, the increase in efficiency of factories and systems of information and the development of centralized locations of production in the factories led to simpler methods of maintaining surveillance and discipline of the population. The disciplinary pyramid that he mentions also allows for multiple layers of control that can insure that power is decentralized rather than focused and therefore open to weaknesses. This pyramid structure also allowed for the dissemination of power into multiple nodes, including the prisons, hospitals and factories themselves. Through these various discipline structures biopower would become necessary.

While also seemingly paradoxical, the multitude itself is also both a plurality and a singularization because it takes on a strong unified characteristic in the tension that it creates against Empire, but at the same time it defies any straightforward definition

because of its diversity. This seemingly paradoxical nature isn't necessarily paradoxical at all because it allows the multitude to resist the influence of power through an inability to be ordered and systematically controlled. Hardt and Negri say "when the synthesis of sovereignty and capital is fully accomplished, and the transcendence of power is completely transformed into a transcendental exercise of authority, then sovereignty becomes a political machine that rules across the entire society. Through the workings of the sovereignty machine the multitude is in every moment transformed into an ordered totality" (87). However, this tension created between the tendency of Empire to consolidate the multitude, and the multitude's resistance through its amorphous nature is very similar to the tension in modernity between the penchant for destroying the past and the second mode of modernity that was "constructed to wage war against the new forces and establish an overarching power to dominate them" (Hardt and Negri 74). Because of this tension between the consolidation/control influence of Empire and the indeterminacy/lack of central control of the multitude, there is a consistent activity or "posse" as Hardt and Negri call it. The multitude continually "materializes within the vacuum that remains necessarily at the heart of Empire"; it is continually moving toward its own liberation and power (407). Hardt and Negri say "everywhere these movements [of people and their consequent shifts in power] arrive, and all along their paths they determine new forms of life and cooperation – everywhere they create that wealth that parasitic postmodern capitalism would otherwise not know how to suck out of the blood of the proletariat" (397).

Again, Robinson's text highlights this power relationship through the extrapolative function of placing the multitude on Mars, where they are completely dependent on capital and basic substances for their very survival. However, the text also includes the

activity of the posse in the cumulative effect of the disparate Red and Green groups. Through that cumulative effect, they eventually reject and ultimately undermine the effects of the Empire as the planet itself becomes a source of life and nourishment. And finally, roles are even reversed in the text as the inhabitants of Mars must lend aid to Earth when environmental change nearly destroys the carefully-built infrastructure of Empire on that planet. Hardt's and Negri's "new forms of life and cooperation" which capitalism "otherwise [would not] know how to suck out of the blood of the proletariat" is ultimately triumphant as the paradigm of the multitude on Mars replaces the paradigm of Empire on Earth. Ultimately (and somewhat ironically) biopower is responsible for this shift of influence; because of its total dependence on basic substances for life, the Martian multitude eventually organizes itself around a diffuse and decentered democratic sovereignty, while Earth's outmoded power-dynamics lead to less influence and eventually complete collapse.

Thus disciplinarity is no longer a viable means to control these amorphous masses, so biopower is a necessary mode of control that allows continuous control regardless of the composition of the shifting masses. This difference between disciplinarity and biopower is also applicable to the power relationship between Western powers and colonies in the past and former colonies in the present. The colonies likewise were subjected to the power of discipline. In the colonies strict discipline of the colonized populations through deprivation of education and treatment of individuals as sub-human subjects allowed the colonizers to create docile populations. This disciplinary approach also caused the colonizers themselves, though, to dehumanize themselves because they were required to harden themselves to the inhuman treatment to which they subjected the colonized populations. By transferring the colonized from

subject to object and turning their own gaze back upon themselves through the colonized, the colonizers also manage to create a tension very similar to the tension between Empire and the multitude because of the subject/object division that leads to the perception of natives as Other.

On the other hand, the new use of biopower leads to a new and unique relationship between Western powers and former colonies. In terms of neocolonialism, though, biopower takes the form of international relief agencies and organizations like the International Monetary Fund and the United Nations. Hardt and Negri say that “disciplinary power rules in effect by structuring the parameters and limits of thought and practice, sanctioning and prescribing normal and/or deviant behaviors” (23). On the other hand, biopower rules by “becoming democratic [...by being] distributed throughout the brains and bodies of the citizens,” but by then controlling the behaviors of those brains and bodies through institutions that regulate social life from within (Ibid). The use of biopower allows the Western powers to maintain the neocolonial control over areas that are the sources of raw materials and potential markets. The use of biopower through social institutions like the United Nations continues the dependence of former colonies on Western powers because these institutions are still largely Western-centered and funded by Western governments, but also through capitalist expansion because, in Marxist terms, labor (in former colonies commonly workers gathering raw materials for production) is subsumed under capital. Through biopolitical control former colonies continue to be themselves subsumed through the Western-centric exchange of wealth and culture.

Of course, the use of biopower again tends to undermine the sovereignty of the nation because this flow of wealth transcends traditional borders. In addition, the use of

communications and flow of information likewise crosses traditional national borders unimpeded, often leading to the homogenization of large masses – the contradiction again between plurality and homogeneity in the multitude – of people across national boundaries. Hardt and Negri say, in fact, that “[multinational corporations] tend to make nation-states merely instruments to record the flows of the commodities, monies and populations that they set in motion” (31). This lack of traditional borders leads to a biopolitical situation where rather than traditional national sovereignty, capital in general and transnational companies in particular exert ultimate control: “they produce agentic subjectivities within the biopolitical context; they produce needs, social relations, bodies and minds – which is to say, they produce producers” (32). It is these producers that are linked in an ever-turning cycle that allows corporations, largely Western corporations, to maintain an ad hoc sovereignty over former colonies that produce most of the raw materials necessary for consumption.

Ultimately Robinson’s view of this is more positive. Again, eventually, with the increased bioproductive ability on Mars, the dependence on Empire decreases, and there is a dramatic shift in the relationship between Earth and Mars. With environmental problems on Earth growing worse, Earth begins to depend on Mars for leadership. Later in the trilogy Martians have discovered that they can address the shortage of natural resources by adapting an economy based on the exchange of raw elements like oxygen and nitrogen, two of the basic constituents of life, and therefore bioproduction. The ability of Martians to fine-tune bioproduction down to the molecular level makes them uniquely suited to aiding Earth out of its political problems (metanats’ control) and environmental nightmare. In fact, the Martian emphasis on the diversity and paradoxical unity of its multitude, combined with the emphasis on bioproductive elements as an

economic basis allow Martians to break through the constant struggle between Empire and multitude into a new landscape in which inequalities are largely relegated to the past.

Curiously, this perspective on the sovereignty of Empire is largely based on postmodern ideas of hybridity and difference. Hardt and Negri say that “postmodernist thought challenges [the Manichean] binary logic of modernity” and in this rejection it tends to mirror the tendency of Empire to create a “free play of differences across boundaries” that is “liberatory only in a context where power poses hierarchy exclusively through essential identities, binary divisions and stable oppositions” (142). Thus, Empire itself is “bent on doing away with those modern forms of sovereignty and on setting differences to play across boundaries” because again this downplay of national sovereignty strengthens the immanent sovereignty of Empire (Ibid).

Ultimately, the similar goals of postmodernism and Empire, say Hardt and Negri, tend to make postcolonial theory itself moot. Since the postcolonial emphasis on hybridity that goes beyond colonial binaries and on “the multiplicity of differences [that] subvert the power of the ruling structures” are similar goals to those of Empire, Hardt and Negri say that postcolonial theorists are actually attacking an enemy that no longer exists and are missing the more dangerous target: that of the organizing tendencies of Empire. Contrary to what Hardt and Negri say, though, these colonial binaries do tend to persist, although in different forms. These binaries now take the form of the very Empire/multitude that Hardt and Negri discuss because of the Western-oriented nature of Empire and its privileging of Western ideologies like capitalism and postmodernism juxtaposed with the typically pluralistic and trans-geographical nature of the multitude. At the same time some older ones like developed/developing nations still exist and lead

to many of the current social and economic equalities discussed above. In other words, while many continue emphasize what is considered the ideal of equality, hybridity and the de-emphasis of difference, these things still remain to be seen. While they remain to be seen, the struggle against Empire will continue to go on in the body of the multitude.

Again, Robinson's trilogy allows some insight into the de-emphasis of binaries that still persist. While there is a trend toward plurality and an emphasis on diversity in the cultures that develop on Mars, the binaries still tend to persist even to the end of the last book. For example, the initial situation is the familiar one of the multitude versus the metanats, a world where various disparate groups are united in their struggle against the growing power of the metanats.

On the other hand, these metanats essentially have a sovereignty of their own. They maintain a level of power even above that of nations because of their ability to move their corporate headquarters and production facilities to nations that will allow them to carry out their policies as they please. These nations, referred to as "flags of convenience," and the threats to leave them and shatter their economies, allow these large corporations to maintain a level of power above and beyond even those of major Western nations like the United States, thus maintaining the essential binary opposites of capital and labor. Of course, even in the later books of the trilogy these binaries persist, albeit in different forms. The capital/labor binaries are replaced by the Mars/Earth ones, with Mars still essentially representing the will of the multitude and Earth representing the old Empire paradigm because of its continued attempts at organizing and homogenizing both Terran and Martian cultures. Even in the end of the trilogy these binaries persist in the new paradigm of Martian biocultural/bioproductive potential and Terran capitalistic/industrial stagnation. Ultimately, the *Mars* trilogy seems

to echo Hardt's and Negri's warning that although postmodernism may be making us more aware of dangerous binaries, these binaries still persist. The point of view that the trilogy takes on neocolonialism and capitalism is the most important element from the perspective of a postcolonial reading. The book again tends to echo concerns of a continuation of Western hegemony and marginalization of former colonies through the pervading influence of Empire.

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