

**Decloaking Disability:
Images of Disability and Technology in Science Fiction Media**

by

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B.A. English
University of Massachusetts, Boston, 2004

SUBMITTED TO THE DEPARTMENT OF COMPARATIVE MEDIA STUDIES IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN COMPARATIVE MEDIA STUDIES
AT THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

[September 2006]
AUGUST 2006

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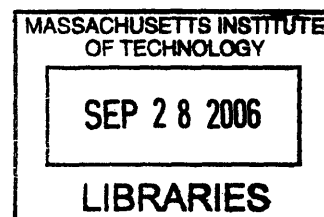
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ABSTRACT

This work examines how images of disability are used to frame cultural narratives regarding technology. As advances in biotechnology ensure that more people will be living with technological prosthetics against and beneath their skin, there is an increasing importance in examining how such bodies challenge traditional cultural attitudes regarding identity and non-normative bodies.

This work uses a cultural studies approach to explore the intersections between disability and technology. Additionally, memoir is often included to illustrate some of the complexities regarding how experiences with disability and technological prosthetics can influence aspects of identity.

Like disability, technology is often framed in gothic terms of lack or excess, and thus a discussion of the "techno-gothic" also features in this work. Furthermore, such a discussion is also relevant to seemingly unrelated modes of characterizing the other, such as the archetype of the cyborg, the queer body, or the formation of non-traditional social groups, even to images of the city as urban ruin.

This work demonstrates that, while images of disability rarely inform us about the everyday experience of disability, they can inform us about how technology frames non-normative bodies as either "less than" or "more than" human, and how the tropes and language associated with disability is often used to characterize technology itself.

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Acknowledgements

I would like to acknowledge my thesis committee members for all their encouragement:

Faye Ringel, Professor, Department of Humanities, U.S. Coast Guard Academy; Henry Jenkins, Professor, Comparative Media Studies, MIT; and William Uricchio, Professor, Comparative Media Studies, MIT.

I would also like to thank the science fiction writers and readers who answered my many questions and who offered their own recommendations of works I should read.

Last, but not least, I wish to thank Alexx for his encouragement and proofreading, not to mention the comics.

Introduction: On the Stories We Tell About Disability and Technology

Decloaking Disability examines the practice of using media images of disability to frame cultural discourses regarding technology, both in fictional and nonfictional narratives. While narratives concerned with disability and technology often use terms such as “special” or “assistive” technologies to create the impression that the technologies people with disabilities use exist separate and apart from mainstream technologies, and that such special technologies are distinguished from those of the mainstream by being imbued with values of overcoming, compensating for, or even curing non-normative bodies, such distinctions can be viewed as arbitrary and artificial. Such narratives, while they may explicitly “celebrate” the fact that these special technologies allow people with disabilities (PWD) to “lead normal lives,” often simultaneously serve to stigmatize the technologies used by PWD as extraordinary technologies subordinate to mainstream technologies, much as disabled bodies are often constructed as subordinate to “normal” bodies. Such narratives typically ignore the role of people with disabilities as early adopters and adapters in the development of new technologies. In addition, I suggest that such images frequently use disabled bodies to manifest points of social tension and contention regarding cultural attitudes toward technology and identity.

One of the main difficulties in discussing any aspect of disability is the speed with which such discussions are dismissed as being irrelevant or insignificant to the main able-bodied society. Yet disability is used to frame many of the norms and values of the able-bodied society, and this includes the uses to which the society puts its technology. Genetic counseling, stem-cell research, invasions of the biological body like prosthetics and implants: each of these explosive topics illustrates how discussions of new technologies intersect with representations of disability. Furthermore, media representations of people with disabilities are often framed specifically to

rouse either support for or resistance to radical new technologies.

Adding even more layers of meaning to these images is the fact that such representations may not even be addressing the subject of technology, but instead may frame some less explicitly stated theme, for, in my experience, disability stories are rarely solely about disability. Images of disability are often appropriated to express the attitudes and agendas of social institutions and practices such as family, education, citizenship, and gender and sexuality. Thus, images of disability and technology frequently carry a message for the non-disabled even more than for the disabled audience. One example of such appropriations is the widespread use of images of Helen Keller to make statements regarding the role of reading or education in society. Such statements rarely address the difficulty of finding sufficient numbers of teachers for blind students to learn braille, or to ensure that disabled students have the same access to educational materials as their non-disabled classmates. Instead, the purpose of such images is to convey cultural attitudes regarding the value of reading for the able-bodied “normal” students in the society. Another example of how implicit meanings can be conveyed in images of disability is the cultural assumption that technology promises to “fix” disabled bodies by making them conform to cultural norms. Such representations often use the language of illness and cure to say as much about non-conforming but able bodies—such as the queer or homosexual body—as the disabled body. One need only look at the language of the heterosexual mainstream that frames homosexuality as a condition which could and/or should be “cured” by medical technology to comprehend how the subject of disability leaks into other aspects of identity politics. Both of these examples demonstrate why other minority groups that fall under the label of “diversity” have sought in the past to distance or disassociate themselves altogether from disability. Thus, the ways in which images of disability intersect with technology have rarely been critically examined or even commented upon by either the mainstream or minority groups, despite the fact that these media images do not restrict their influence merely to technologies for people with disabilities but

ultimately provide insight into cultural values and beliefs regarding technologies for the culture at large.

The title of this thesis comes from a science fiction technology: the *Star Trek* cloaking device that renders objects invisible by “cloaking,” that is, making the object undetectable to the human or technological eye. “Decloaking” is that transformation in reverse, that is, rendering a “cloaked” or invisible object visible. I will be applying this process of decloaking themes in cultural images of disability by using science fiction as a framework for interrogating cultural assumptions about disability in narrative. Science fiction narratives, like science and technology innovation itself, have often reflected the fact that people with disabilities are frequently early adopters and adapters of technology. Additionally, science fiction has often used protagonists with disabilities to illuminate the tension between cultural and personal motivations for using new technologies. In this way, technology itself often serves to lend material form to the abstraction of teleology (that is, the study of final causes, purposes, or goals) in the adoption of technology, such as the ways in which technology may impose its own design upon the body through prosthetics or architectural spaces. The larger part of my analysis will concern itself with how such teleologies are expressed in stories through themes that frame technology as a control system which enacts a point of assimilation or resistance to cultural norms concerning cognition or behavior. My analysis will also concern itself with how such disability themes often offer alternative representations of what is human that challenge the traditional dualistic perspective such as mind/body, normative/other, presence/virtuality—binary oppositions that stigmatize those individuals who fall into the negatively-valued characteristic.

Narratives about disability and technology can thus often express the tension between identity politics and the experience of social pressures to conform to cultural norms. It is this tension between personal identity and cultural coercion that I will explore in this work. What I hope to

demonstrate is that technology is both personal and political, not only for people with disabilities, but for anyone who inhabits an increasingly technological environment. Thus, I wish to open with one of my own stories that I hope will illustrate some of the complexities between the personal and political aspects of disability and technology.

On the Saturday morning before I was to present the proposal for this thesis, I was standing on a train platform in Boston, waiting for the train that would take me to MIT, where I was attending a conference on media and narrative. A man walked up to me and said, “HI!”

Since I am completely blind and it is difficult for me to recognize a voice with only a single syllable to go on, I wasn’t sure if I knew him, but his tone implied he knew me, and his voice sounded similar to that of a friend who lives near the train station, so I thought it might be my friend. I tentatively replied, “Hello.”

This man, who it turned out I had never met before, began to ask me what I think of as “the interview questions.” These are the questions that people with disabilities get asked constantly, and by people they’ve never met before. “How blind are you?” “How did you go blind?” “When did you become blind?” This man fired them all off, despite my obvious pauses and short answers. I always feel conflicting motivations when I am in this situation: on one hand, I feel reluctant to share the private and personal details of my life, particularly since so often doctors, teachers, and total strangers seem to expect that I should feel no qualms at all regarding answering any question they might feel entitled to ask me; on the other hand, I keep hoping that by answering with a semblance of cooperation and humor I might actually impart some sort of knowledge or at least increased awareness to those asking the questions.

What this man really wanted to do, however, was impart knowledge to me. “I have a friend who’s

blind,” he began, “and he read a news story about how they’re developing a computer chip that will let blind people see. My friend is waiting to get this chip in his head.”

While the stranger’s comments caused me to suppress a groan, the topic of his story and the way he told it were part of a narrative familiar to any person with a disability. One of the social effects of having a disability is that people who don’t know you come up to you in public and at parties and try to persuade you that you should get radical new surgeries, medications, or implants that they have read or heard about so that you can be cured. Indeed, these stories represent an ongoing cultural narrative that people with disabilities should not only desire such dubious cures, but should also feel a social obligation to actively pursue technologies that promise a cure in order to align themselves with the rest of the society, that is, allow their bodies and minds to be assimilated.

It is the unspoken theme of assimilation that makes me think of such technology proselytizers as the man who approached me on the train platform as “the Borg”—those cyborg characters in the *Star Trek* series who travel the universe, seeking out new life forms, in order to confront them with the ultimatum “Resistance is futile; prepare to be assimilated.” While the word “diversity” has become a motto for celebrating religious, racial, ethnic, or other forms of human variation, it is a word rarely applied to physical or cognitive variation. If technology is going to be used as a means of eliminating such variation, it should be challenged, while cultural narratives and media images that convey such themes of assimilation should be interrogated and exposed as the means by which such ideologies are preached, for assimilation through technology is at the heart of this cultural narrative, a narrative that has never perceived itself as a form of social coercion.

One way in which such cultural narratives of conformity and cure fail is that they rarely offer critical information that allows individuals to make robust, informed choices about the

technology. I have read many of the stories the man referred to [1], and I have even talked with other blind people who get excited about these stories, but I myself always feel a sense of reservation. My reservations do not arise from a fear that I will get such a chip inserted in my brain and that I will subsequently become a cyborg. As someone who has multiple prosthetics who also spends most of her waking time reading and writing on her computers, I already self-identify as “cyborg.” No, what disturbs me about these stories is the absolute lack of any sort of critical dialogue within or around them. What I mean by a lack of critical dialogue is all the things that go unsaid and unmentioned in order to make the story conform to traditional tropes of “tragedy” or “triumph.” Some of the details I would like to know represent social and economic factors that complicate the essentializing narratives. Some of these questions are:

- * Economics: How much do these surgeries and implants cost? (The average I’ve heard regarding the cochlear implants and the visual implants is over fifty thousand dollars.)

- * The validity of the study and the test subjects: Often one reads different stories that mention the same test subject by name over and over. I can’t help but feel that after a period of time—and many of these subjects have been involved in these experiments for years—being asked the same questions, the test subjects couldn’t help but begin responding to those questions with the expected answer. Aside from the question of possible confabulation, I am concerned that these experiments are located in Europe, and have yet to receive FDA approval.

- * Extent of time spent with implant in real-world environments: These subjects have not lived 24/7 with the implant, but only short durations, and no mention is ever made of whether the subjects live outside the research facility with the implant.

In many ways, these narratives of technological cure reflect poor journalistic practices on the part of the mass media which, rather than asking hard questions about disability and technology, chooses instead to become complicit in perpetuating old stereotypes by framing disability as requiring cure or fixing, and framing people with disabilities as objects of tragedy or overcoming.

The upbeat human interest story—what I refer to as “the triumph of the human spirit” story—rarely does justice to the complexity of social and personal conditions, including the medical history of the individual, which lie outside the realm of simple uniform answers. Yet such stories are taken at face value with very little critical discourse, and, as in my own experience of trying to introduce such critical discourse into my conversation with the stranger on the train platform, the conversation devolves into a “he said/she said” set of responses. It seems to me that the stranger and I represented two very different discourses: his, which resembles an urban legend discourse, where the “friend of a friend” word-of-mouth is accepted as valid evidence, versus mine, which is built around a demand for proven facts and demonstrated results. I have come to think of these two discourses as the theologic versus the logic discourse, the former being based on a cultural discourse of belief, with its own particular practices of narrative and evidence, as opposed to the latter, which relies on examining the validity of information through inference and demonstration.

In my conversation with the stranger on the train platform, all of these thoughts and struggles over contested meanings occurred beneath the surface, however. I can only try to persuade such an audience that I am familiar with the stories being told and that I am resistant to the simplistic “happy ending” structure of such stories.

When I tried to voice some of my thoughts on the subject to the stranger on the train platform by stating that I was familiar with those stories and that I felt serious questions had not been addressed, the man on the train platform answered readily, “But my friend said he would be able to read signs and stuff so he could get around easier.” While personally I wondered which alternate Boston the man lived in where there were signs for even the sighted people to read, I replied, “But I can teach myself to get around without reading the signs. The resolution from the implant wouldn’t be enough for me to read books either.”

The man was undeterred by this argument. “My friend thinks it would let him read books.”

I decided to bring out the big guns. “I’m a graduate student at MIT; I’m actually pretty happy with my brain the way it is.”

But no, this stranger would not be persuaded that I knew at least as much about the technology, let alone my own abilities and desires, as he did. He could not seem to understand that I was happy with my life and my successes—and my chipless head—as they were; instead he seemed to feel that having a piece of technology implanted in my brain would, could, only improve my life. He continued on and on, until I began to feel an odd sense of being pressured into something I had no desire to do.

It was ridiculous, of course. This man was a stranger with no influence or control over my decisions.

Yet he was representative of a very real social pressure to use technology to conform to cultural norms. Such pressure can be applied generally through such casual interactions as mine with a stranger, but is often applied more powerfully through the personal—that is, family, friends, and institutional relationships.

My friends and extended family know my thoughts on such matters and respect my opinion enough that they listen to my arguments and accept them, but what about the friends and family of other people with disabilities? What about the doctors, teachers, counselors, and the extended social groups to which other PWD belong? This is the very real situation facing many deaf people in relation to cochlear implants [2]. This is the very real situation facing many people with speech impairments who are asked why they don’t get voiceboxes that produce synthesized speech (see, for instance, the documentary *King Gimp* [3], in which art student Dan Keplinger addresses this

subject).

If I, as someone who is old enough to make my own decisions and experienced enough with technology to have some inkling of which questions should be asked, if I am educated in regard to media in a way that allows me to even interrogate the news story, if I could feel pressured, how would such relentless arguments affect other PWD without this knowledge and experience?

Most of these stories are neither strictly technology stories nor disability stories. Such stories instead represent a chimera, a strange animal engineered from a variety of metaphors, meanings, and motivations. In these stories, disability becomes a trope, a characteristic, and a “symbolic vehicle for meaning-making and cultural critique” (Mitchell and Snyder 2000, 1). The lonely and violent monster of Mary Shelley’s *Frankenstein* and the virtuous but pitiable crippled child of Charles Dickens’s *A Christmas Carol* have become recognizable character types that spill from fictional narratives into nonfictional stories we tell about disability. Real stories of disability as a lived experience cannot be reduced to either a case study or a fictionalized story that can be told within the span of a few hundred pages or two hours spent in a movie theatre. Such narratives are deterministic because they must be resolved within the span of a few pages or a few minutes on screen, flattening the disabled character to the two-dimensionality of a page or a frame, and thus reduce human identity to a type, that is, a particular point of view and positioning in which the character’s motivations are an extension of the author’s motivations in telling the story. This is reflected in my meeting with the stranger on the platform who wanted me to adopt his story as my story, that is, to accept his own view as the correct one.

Such stories seem to indicate a certain unwillingness, or even inability, on the part of both writers and audiences to distinguish between facts and their—not my—wish-fulfillment fantasy. How else to explain the non-critical blatant sentimentality of disability stories in the news? How to explain

why trained news journalists seem to abandon all sense of objective truth and basic methods of investigation when they cover such stories? Why do audiences so often seem to fail to apply critical questions to interpreting these stories? Most of all, why do such stories so often exclude personal identity as an aspect of making reasoned choices about technology?

It could well be that what I am referring to as a lack of critical discourse may be an example of an alternate discourse, one based upon belief rather than science. Authors who have written about the tension between science and spirituality include Daniel Dennett (*Breaking the Spell: Religion as a Natural Phenomenon*) and Lewis Wolpert (*Six Impossible Things Before Breakfast: The Evolutionary Origins of Belief*). Such tensions have a lot to do with factors such as who each of us individually accepts as a credible expert, to what extent we choose to allow others to influence our personal choices, and what degree of curiosity and research skills we possess that allow us to find the information we need to make those choices. The tension between discourses of science and discourses of spirituality is not, however, limited to fictional or human interest stories. Scientific writers such as Oliver Sacks also offer problematical perspectives on disability and technology. Sacks, who is a trained neurologist, has written a number of books and a large quantity of articles which have been widely read. Sacks often writes each article as a case study about a particular individual with a disability that affects how that person perceives and interacts with the world, and, again and again, these stories return to the theme of communication as a mode of social isolation versus social integration to frame the individual's life as either happy or lonely. Yet this anxiety regarding isolation and loneliness is also an aspect of the literary Romanticism which Sacks himself often lays claim to as an aspect of his own perspective and that of other doctor-authors whom he admires (for an example, refer to Sacks's annotated bibliography of *An Anthropologist On Mars*, where Sacks's own authorial antecedents such as A. R. Luria in his autobiography *The Making of Mind* link disability with Romanticism of the author's intellectual development and the narrative mode of the case study as "Romantic Science")

[Sacks 1996, 297]).

In his referencing of science as the Romantic, Sacks conflates the identity of the doctor with that of his patient. Disability studies scholars Leslie Fiedler and Paul Youngquist have both addressed this conflation of the identities of doctor and patient. Youngquist writes that medicine, which emerged at the same historical moment as the Romantic movement in Britain, helped shape the idea of the normative body, but it could only do this by paradoxically defining the anomalous body and then subsequently attempting to assimilate it.

...the material force of a norm of embodiment...seeks an exception to prove its rule. It assimilates as it pathologizes, assimilates in a weird way because it pathologizes. (Youngquist 2003, xiv)

The emergence of the medical “theatre,” however, also aligned medicine with the dramatic possibilities of media images, and many of these images required that the materiality of the physical body be encoded with the norms of nineteenth-century democracy, with its resultant institutions and practices, including the literary movement of social realism. Medicine, media, and social institutions and practices evolved simultaneously, and they all used images of bodies “marked” by non-normative characteristics to define the normative or “unmarked” body. Thus the defining characteristic of the normative body became its invisibility within the context of society and the public sphere, while simultaneously heading off any challenge to this image by maintaining that the body itself was unimportant and “immaterial.”

Many of these Romantic images of the non-normative body paint in broad strokes which provide a portrait of the disabled body as simultaneously “less than” and “more than” human. Leslie Fiedler examines how John Merrick, the Elephant Man, for instance, was promoted as a wonder, a spectacle, and an example of how a gentle soul could exist within the prison of a monstrous

body. These images were created by Dr. Frederick Treves, the disabled man's doctor, in the doctor's, not Merrick's, autobiography [4]. Such a conflation of autobiography and biography was also constructed in the writings of Anne Sullivan about her famous student, Helen Keller [5]. (Note that the most famous book and movie about Sullivan and Keller, written by William Gibson [no relation to William Gibson, the cyberpunk author] is titled *The Miracle Worker*, referring to Sullivan, not Keller, as the protagonist of the story [6]). Once one asks, "Who is the storyteller, and what are his motives for telling the story?" one begins to get an inkling of why such narratives of disability are more likely to reaffirm traditional binaries of mind/body and corporeality/spirituality, rather than challenge such oppositions, for such storytellers are often aligned with social institutions and practices, such as medicine or education, that have very different motivations and models for socializing individuals than that of identity politics.

These storytelling tropes, however, though originally seen in media images of the Victorian era, remain every bit as popular in current media images. Returning to Oliver Sacks as a storyteller who produces medical and media narratives, we can read how he follows this Romantic paradox of framing disabled bodies as anomalous and then assimilating them into society, while his own body and its identity remain unmarked and unremarked upon. Yet this separation of the storyteller from the story is problematical. Sacks has written and stated in interviews [7] that he himself often finds social relationships difficult, that he does not date, and that he has chosen to remain celibate. If one were to read the narratives of disability that Sacks-as-storyteller writes as a personal narrative about his own difficulties with social relationships, these stories say less about disability than they say about the storyteller and how powerfully he conveys cultural anxieties regarding feelings of emotional loneliness and the experience of social isolation. However, Sacks's use of his preoccupation with people with disabilities as the foundation for his professional career has led many disability advocates to compare him to P. T. Barnum, whose own professional career (and its subsequent monetary profit) was based to a large degree upon his

employment of PWD as “freaks.” Disability scholar Tom Shakespeare, in his review of Sacks’s *An Anthropologist On Mars*, referred to Sacks as “the man who mistook his patients for a literary career” [8]. This criticism of Sacks often strikes non-disabled readers as over-harsh, but, in his own framing of his role as an anthropologist of PWD, Sacks seems as problematical to many disabled people as cultural studies now finds the ethnographic narratives of those anthropologists who studied indigenous people in the twentieth century.

Note also the science fiction aspect to the title of Sacks’s book, which frames the disabled people he writes about as “aliens” from a different planet. One issue in the dynamic of the expert who appoints himself as the official storyteller of the experience of disability is that both the professional and financial success of the storyteller often rely upon his framing of the disabled characters as extraordinary, freakish, or abnormal. This is what disability studies scholars and disability advocates term the “medicalization of disability” (Linton 1998, 1-2).

Medical humanities programs, such as that at NYU’s School of Medicine [9], are only just beginning to address how medical science creates its own non-neutral narratives about disability. These programs attempt to make explicit how medical frameworks may reaffirm stereotypes by making implicit assumptions, even when such assumptions do not portray disability as negatively-valued—at least, not obviously so.

In turn, media producers such as journalists and visual artists, who quote the “experts,” adopt the same point of view and metaphors used by the doctors, never examining the binaries—sick/healthy, broken/fixed, anomalous/assimilated—used by the medical professionals. Such textual and visual images are in turn adopted by the institutions and practices that address the social needs of people with disabilities.

The overlap between Oliver Sacks’s medical and commercial careers highlights how the separation between the professional medical narrative and the popular case study has always been a contested one. In one article published in the August 2003 edition of *The New Yorker* [10], Sacks repeatedly swings back and forth between the language of science and the language of Romanticism. Sacks begins this article by discussing blindness in terms of the “brain-mind problem” as it relates to choice, self-determination, and adaption by discussing the case of John Hull [11], a professor of religion who went blind as an adult.

[T]o what extent are we—our experiences, our reactions—shaped, predetermined, by our brains, and to what extent do we shape our own brains? Does the mind run the brain or the brain the mind—or, rather, to what extent does one run the other? To what extent are we the authors, the creators, of our own experiences? The effects of a profound perceptual deprivation such as blindness can cast an unexpected light on this. To become blind, especially later in life, presents one with a huge, potentially overwhelming challenge: to find a new way of living, of ordering one’s world, when the old way has been destroyed (Sacks 2003, WBS).

Soon, however, Sacks makes a point of describing how Hull “sees” objects most clearly when it is raining, because he can hear the shape of the objects by the way the rain falls over them. Such descriptions make some use of synesthesia, or the way in which the sensory input of one sense is translated into the experience of a different sense (as in “hearing” music as colors). Yet, as I read the description, I couldn’t help but think of the moment in the *Daredevil* movie where the title character, a blind superhero, “sees” the woman he loves when she is standing in the rain.

One question which might be asked regarding such textual and visual descriptions is why they choose to frame the skills and abilities of PWD as extraordinary rather than ordinary by using images and language that frame such skills and abilities as uncanny powers rather than commonsense knowledge. There have been a number of very interesting studies done, using blind

people as subjects, that have used FMRI to investigate how the brain activity of blind individuals may vary from that of sighted people [12]. There have been other studies that have had sighted people living blindfolded for extensive periods of time to investigate brain plasticity in order to find out how their brain activity might remap itself to adapt to the loss of sight [13]. These are only some of the research studies that have implications for developing computer vision and the field of neuroscience [14]. Yet Sacks, like so many other media producers, while he makes cognition the supposed subject of his narrative, couches the topic of human thinking in Romantic language that places spirituality over materiality, the compensation of “gifts” over the adaptation through knowledge, “an uncanny otherness” over a sense of common “us-ness.” In other words, the practical and pragmatic considerations of being ordinary and living in the everyday world are not the primary themes of this sort of discourse of disability. Instead, narratives such as Sacks’s are driven by the need to construct disability as extraordinary. Sacks himself is often confused by his failure to locate the “typical” experience of blindness. He goes on in his article to discuss how, after the publication of his original essay on Hull, he received many letters from other blind people who disagreed with Sacks’s conclusions regarding the experience of blindness.

Had I been wrong, or at least one-sided, in accepting Hull’s experience as a typical response to blindness? Had I been guilty of emphasizing one mode of response too strongly, oblivious to the possibilities of radically different responses? (Sacks 2003, WBS).

I believe that Sacks’s confusion regarding his own failure to depict the “typical” experience of blindness is a key to the reason for the popularity of disability themes in both mainstream and science fiction narratives, though the motivations and themes of both modes of storytelling are quite different from one another. In mainstream narratives, disability is used to frame the “normal” experience by defining the limits to that experience, with the image of the “freak” often used as the marker of that boundary. The inherent problem in such models of normativity is that

they fall apart when framed by alternative discourses, such as those of science fiction, which demonstrate that such models, rather than expressing objectivity, express the limitations of particular positionings, the definitions of a specific historical or cultural moment, or even the anxieties and wishes of the narrative's creator. While mainstream narratives are preoccupied with images of the strange and uncanny in order to reaffirm the normative experience, along with all the social institutions and practices connected with it, science fiction just as often challenges such constructions. Science fiction grew up alongside science and technology because science and technology have become the modes by which the mainstream constructs the "other," with the mainstream insisting that certain human variations are "unnatural" and thus are justifications for literally failing to recognize fellow beings.

With culture's increasing use of technology—and this includes biotechnology—there is an equivalent increased need to examine the ethics used to make social and personal choices about such technologies. The construction of dualities to create a sense of there being two distinct groups of technologies can only result in both a mistaken sense that such distinctions are valid, and a less robust basis for making useful technological choices.

If we as readers, viewers, and consumers cannot rely upon "experts" such as journalists, psychologists, and bioethicists to suggest paradigms for critical discourse with which to interrogate narratives of physical and cognitive differences, where are we to find such a critical discourse? How are we to learn which questions to ask in order to distinguish between critical and non-critical discourses of disability? Most importantly, how are we to learn how to make well-reasoned beneficial choices in the present or future case of personal disability?

Thesis

Using science fiction narratives as a framework, we can examine how the interconnections of disability and technology are represented within the cultural discourses on both. In this way, science fiction narratives become a mode for liberating technology from the artificial environment of laboratory in order for the individual to imagine and to extrapolate possible real-world effects of technology which are both social and personal. Perhaps even more importantly, by allowing the reader to experience technology from the point of view of disabled characters within science fiction narratives, the reader is given the opportunity to interrogate how these narratives frame cultural discourses concerning both disability and technology and how, through the positioning of disabled characters within such narratives, the narratives themselves are never neutral but instead reflect cultural discourses on the subjects of both disability and technology.

Media images often create a sense that the mainstream technologies used by able-bodied people can easily be distinguished from the “special” and “assistive” technologies that are used by people with disabilities. Indeed, during the years I have advocated for and written about disability and technology, I have been challenged repeatedly to prove how the “special needs” of a “special” group are relevant to the overall society. This thesis is my response: namely, that the intersections of disability and technology for people with disabilities represent the same needs, concerns, and emotional responses as those of the society at large.

Whatever separations culture attempts to impose between the technologies for the disabled and the technologies for the abled, however, such a “separate but equal” approach proves to be artificial and temporary, as it can only defer discussion of the larger discourses inherent in the ways culture frames both disability and technology. Aside from the question of long-term effect, however, at the very core of the challenge to demonstrate how the “special” needs of a “small”

section of society is relevant to the larger society are two embedded fallacies:

1. While the casual observer may believe that the number of people with disabilities in society is relatively small, the actual numbers are quite significant. According to the 2000 U.S. Census [15], the numbers show that roughly one in five American citizens over the age of five who live with a disability which affects them on an everyday basis. Additionally, these numbers are only destined to increase as a generation of baby boomers age and begin to require computers with such “special” technologies as text-to-speech or voice recognition programs. Furthermore, technology is changing the already complicated definition of disability as technologies such as prosthetics limbs equal or excel beyond the abilities of biological limbs, and other technologies such as neural implants and other biotechnologies are inserted beneath the skin.

2. As demonstrated by any investigation into the evolution of ideas in the work of such innovators as Alexander Graham Bell, Thomas Edison, and Ray Kurzweil, disability is an aspect of the very nature of invention and innovation. Indeed, since the 1960s, technology has often been referred to as a means of extending the human body and senses (when Marshall McLuhan proposed this idea in his book *Understanding Media*, which he subtitled “The extensions of man”).

Effective study of the media deals not only with the content of the media but with the media themselves and the total cultural environment within which the media function. Only by standing aside from any phenomenon and taking an overview can you discover its operative principles and lines of force.

....all media, from the phonetic alphabet to the computer, are extensions of man that cause deep and lasting changes in him and transform his environment. Such an extension is an intensification, an amplification of an organ, sense or function, and whenever it takes place, the central nervous system appears to institute a self-protective numbing of the affected area, insulating and anesthetizing it from conscious awareness of what’s happening to it. It’s a process rather like that which occurs to the body under shock or stress conditions, or to the mind in line with the Freudian concept of repression. I call this

peculiar form of self-hypnosis Narcissus narcissis, a syndrome whereby man remains as unaware of the psychic and social effects of his new technology as a fish of the water it swims in. As a result, precisely at the point where a new media-induced environment becomes all pervasive and transmogrifies our sensory balance, it also becomes invisible. [16]

McLuhan's book *Understanding Media* was published in 1964, but it merely reflected within the domain of the humanities the same blurring of the boundaries between the human body and the technology it makes use of that was arising within the domain of cybernetics. N. Katherine Hayles, one of the current leading scholars attempting to establish the literary roots of the posthuman body, is also preoccupied with the boundaries between our bodies and our technologies, but Hayles challenges the assumptions that distinguish the technologies of the able-bodied user from those of the disabled user: reliance upon technology to mediate the environment we are attempting to navigate is an aspect of all technologies.[17] Cognitive scientist Andy Clark, in his book *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence*, further explores this idea that not only do all of us qualify as cyborgs due to the technologies we embody—such as implants, pacemakers, and even contact lenses—but that basing distinctions between those who use prosthetics, implants, and assistive technology and those who are entirely “human” becomes complicated by the way in which we embody technology in our very mode of thinking.

My body is an electronic virgin. I incorporate no silicon chips, no retinal or cochlear implants, no pacemaker. I don't even wear glasses (though I do wear clothes). But I am slowly becoming more and more a Cyborg. So are you.

Pretty soon, and still without the need for wires, surgery or bodily alterations, we shall be kin to the Terminator, to Eve 8, to Cable...just fill in your favorite fictional Cyborg. Perhaps we already are. For we shall be Cyborgs not in the merely superficial sense of combining flesh and wires, but in the more profound sense of being human-technology symbionts: thinking and reasoning systems whose minds and selves are spread across biological brain and non-biological circuitry (Clark 2003, 3).

Clark manages to blur the boundaries not only between our bodies and technology, but between our very thought processes and technology, demonstrating Hayles's statement that "the boundaries of the human subject are constructed rather than given."

Historically, the seemingly distinct boundaries between "special needs" technology and "mainstream" technology are also much more blurred than is usually assumed, illustrating Andy Clark's law, "Everything leaks" [18]. As mentioned above, Bell's development of the telephone grew out of his personal and professional relationships with deaf students and family members; Kurzweil's development of the speech synthesizers and Optical Character Recognition engines we all use today grew out of his professional and personal relationships with blind individuals. Science and technology publications are constantly featuring some study or research project that involves PWD as inspiration or test subjects for new innovations. A few of these recently in the news are:

- * "biohybrid limbs," which restore arm and leg function to amputees [19].
- * brain-computer interfaces which allow paralyzed individuals to "control everyday objects by thought alone" [20].
- * robot guide dogs for blind and visually-impaired individuals [21].

It appears that people with disabilities are often on the cutting-edge of emerging technologies, yet they are still treated by the media and the technology innovators as if they are a merely tagging slowly after the main body of society. Despite the headlines that proclaim these tools as being for the benefit of PWD, however, all of these technologies have implications for non-disabled users through further development and distribution. By their willingness to be test subjects, along with the fact of their being early adopters and adapters of such new technologies, people with disabilities, rather than existing as an afterthought to such technologies, repeatedly prove themselves to be on the cutting edge of technology. From this perspective, I can only wonder why

PWD are so infrequently consulted as experienced and knowledgeable resources in regard to the everyday experience of living with new technologies 24/7, and to the long-term effects and implications for integrating technology into the way users unconsciously interact with their environments.

Despite these facts and figures, however, the social, cultural, and economic aspects of their impact on everything from technological development and marketing to public education remains mostly invisible to the general public, and those designated as “special needs” users must constantly confront the artificial construct of the “average user.” This idea of the average user implies that there is a single physical or cognitive norm for technology users, reflecting the false assumption that not only does the “average” user not possess some sort of impairment which affects everyday life (an assumption refuted by the “one out of five” statistic from the U. S. Census), but that none of these “average users” will ever experience accident, disease, or aging. Thus, it can be seen how ability is constructed by the assumptions built into the technology. Yet ability is not fixed: it changes as our bodies change. Within the context of technology, this can be illustrated by the fact that children need larger buttons to take into account their less refined motor skills, and aging technology users need screens with larger fonts or speech synthesis.

One reason disability and technology prove so problematical in relation to the human body and the meaning it creates through its senses of the world around it is that Western philosophy and the sciences that reference it persist in viewing the human body as either a fixed object or an object that requires “fixing.” This static representation of the “average user” is like a snapshot, an image representing a human body frozen at a single point in space and time, a single context, a fraction of a second in the span of a lifetime. If we conceive of the “average user” as a human being who undergoes many transformations throughout his or her life, however, we could more accurately represent the user by a montage or, to take advantage of a newer mode of visual imagery, a

morph. We would then perceive that there is no “average user” whose body remains fixed, either in time and place or in physical and mental abilities. This idea of representing the average user as a morphing body was suggested to me when I read Vivian Sobchack’s article on morphing images:

At this particular moment in the history of representation and in our Western culture with its particular conceptions of time and the temporal process of a human life, is there anything that has become so quickly cliched and yet remains so surprisingly “uncanny” as the digital “morph”—especially as it has been used to transform photorealist animations of the human body in film and television?

On the one hand, in a very short time, through advertising, movies, and inexpensive software we all can buy for our home “PCs,” the morph as a distinct figural phenomenon has become utterly familiar, completely banal. We are intimate with the likes of such narrative shape-shifters as the T-1000 “metal-morph” in *Terminator 2: Judgment Day* (1991) or Odo, the shape-shifting Constable in the television series, *Star Trek: Deep Space Nine*...On the other hand, however, there is nothing quite so continually fascinating and deeply unheimlich as the elasticized ease with which these digital metamorphoses effectively echo, transgress, and transform not only the “natural” spatial boundaries of the lived-body but also, in the containments of their process, the presumed articulation of human animation itself. Watching a morph, at the same time I know its human “impossibility” and strangeness, I also feel myself identifying with it—not with its narrative figure, but with its figuration of corporeal process. My own body quickens to its effortless transformations at some deep molecular level and I recognize the morph as strangely familiar; that is, I feel “myself” in constant flux and become aware that I am never self-identical (and possibly not even self-contained). [22]

The representation of the transformations of a human life as a morphing image may seem to spring from new media and postmodern theory, but transformations of the human body has been a theme that one can easily trace back through the literary and visual images of the Surrealists, the Pre-Raphaelite Brotherhood, the Romantics, gothic art and literature, and even to the medieval grotesques. Indeed, the seemingly uncanny but natural transformations of the human body is represented in one of the oldest riddles in the world. When the Sphinx asked Oedipus, “What

goes on four legs in the morning, two legs at noon, and three legs in the evening?” the riddle, like the story of Oedipus itself, served to remind the listener that human life was an ongoing process of transformation, and that such transformations are just as much placed within the physiological and the philosophical.

From the point of view of the technologist, the critical theorist knows nothing about the workings of technology and demonstrates it by talking in terms so abstract that material objects are vaporized into mere words; from the point of view of the theorist, the technologist is so stuck on nuts and bolts that he remains oblivious of the fact that these objects are never simply present in themselves, being always already enframed by cultural assumptions and mediated by discursive practices. [23] (Hayles 2000, v)

Thesis Information

This thesis uses science fiction as a framework for examining intersections of disability and technology within the scope of cultural studies. The approach is an interdisciplinary one, applying texts taken from a range of domains, including disability studies, science fiction studies, science and technology studies, and architecture. The theoretical frameworks include those proposed by Haraway, Kittler, Sobchack, Hayles, Grosz, and Virilio. Because the nature of this work is, as far as I can discover, *sui generis*, however, these frameworks have been—to use a term applied to the look of *Blade Runner*—retro-fitted in order to serve my own very different purposes.

The goal of this thesis is an admittedly ambitious one: to provide a new framework for opening discussion of how disability issues are contextualized within both the humanities and the sciences. This goal is reflected in its title, taken from the *Star Trek* cloaking device that is used to render a “cloaked” or invisible object visible. Similarly, I wish to render visible some of the

assumptions usually embedded in images which use technology to either reaffirm or challenge cultural discourses about disability. My motive in doing so is to cast a light on science fiction narratives as an accessible mode of discourse for both humanities- and science-based perspectives on the role disability themes have played and continue to play in shaping the conceptualization of technology within culture.

This thesis has a secondary goal, which is to make some of the themes regarding disability in science fiction media more visible and more accessible to the general reader. The science fiction fan may or may not be familiar with the writings of such cultural studies scholars as Rosemary Garland Thomas, Donna Haraway, N. Catherine Hayles, and Elizabeth Grosz, but the ideas regarding knowledge and power, cultural capital and individual agency, are ideas inherent to science fiction. Thus, the discussion of science fiction themes within the context of such scholarship can only help to distinguish the vital part identity politics plays in science fiction narratives.

The thesis is organized into four parts, including this introduction. The three main chapters each take as a subject of inquiry one specific media object intended to address the following questions:

- * How do cultural attitudes toward other aspects of identity, such as sexuality, gender, and familial and social affiliations, frame discourses of disability and technology?
- * How do particular points of view or positionings within the story influence subjectivity within such discourses?
- * How do cultural assumptions regarding the body, including binary oppositions such as assimilable versus anomalous bodies, corporeal versus virtual bodies, and inside/outside, influence desires and expectations regarding technology?

Chapter One begins with a discussion of the image of the freak to express cultural concerns

regarding conforming bodies versus non-conforming bodies. I then use John Varley's short story "The Persistence of Vision" to demonstrate the dialogic relationship of disability-themed stories in science fiction narratives by comparing and contrasting Varley's story with H. G. Wells's short story "The Country of the Blind" (first published in 1904) and Theodore Sturgeon's 1953 novel *More Than Human* to demonstrate how disabled protagonists have been used to express subjectivity as a mode of resistance to cultural assimilation.

The concept of reflexivity as it emerged in the 1960s to challenge the traditional idea of scientific objectivity is the subject of Chapter Two, which explores "Is There in Truth No beauty?", an episode from the original *Star Trek* television series, which uses images of disability and prosthetics to complicate the primacy of the whole and bounded able body. The concept of the "techno-gothic body" as a motif for portraying the disabled body as derelict or dangerously flawed is related to similar images regarding technological dangers, such as virtuality or non-presence. The relationship between vision, identity, and recognition is also explored as a means of further complicating the question of what is human.

The connection between vision and recognition is further explored in Chapter Three, which uses the movie *Blade Runner* to examine how images of disability are used to identify or disqualify the non-normative inhabitant of the technological city.

While the major methodological method used in this thesis is textual and visual media analysis, this work also contains a degree of auto-ethnography. The purpose of this auto-ethnography is to demonstrate how technology and the stories we tell about technology contribute to representations of both disability and technology and, through such representations, influence cultural attitudes regarding both the disabled and the abled body. Indeed, the abled body can only exist in its diametric opposition to the disabled body, and this dichotomy demonstrates why the

cultural desires and values embedded in our uses of technology prove to be such a fertile ground for cultural tensions and why people with disabilities have often proved to be a focal point for such tensions. In providing narratives of how technology intersects with social relationships, people with disabilities create technological narratives which often challenge the accounts of technology created by social institutions, such as medical, scientific, and government professionals. Thus, these accounts demonstrate how discussions of technology become points of struggle over who possesses more cultural capital and whose account possesses more authenticity. My academic influences and inspirations are obviously taken at this point from feminist and queer studies scholars. In addition, however, I have accessed a lifelong fascination with science fiction, fantasy, and speculative fiction, along with such genre roots in mythic and gothic fiction. Such narratives have always, to my mind, offered a rich variety of characters with non-normative bodies for readers to identify with. Subsequently, I have come to believe that the literature of the fantastic is too often dismissed as merely “allegory” or “metaphor,” and that such simplistic definitions of science fiction and fantasy overlook its realistic aspects, which frequently concern themselves with issues of cultural capital, social roles, and physical and/or cognitive difference.

My use of science fiction and fantasy narratives to explore disability themes is thus informed by both my academic background in disability and media studies and my consumption of science fiction and fantasy media. In addition, I have at times used my personal readings of science fiction media as a means of reading my experience as a disabled individual, and then used such readings to place my experiences of disability within the larger context of culture. Such examinations of my own experiences will, I hope, prove that the ways in which we as media consumers relate to media images can be used to open up shared discussions regarding identity politics, using a shared text if not a shared experience. Furthermore, I hope that such readings of personal experience in relation to what strikes many mainstream critics as the unrealistic nature of

science fiction and fantasy texts might illuminate why these genres have such a strong appeal to many fans: namely, there are realistic aspects to such narratives, but they often involve intellectual and emotional relationships to technology and culture.

While identifying myself as a science fiction fan might seem to threaten my position as a scholar who is attempting to produce a work based on objective research and analysis, I counter with the defense that for far too long such claims of objectivity have not only been seriously challenged by the move toward reflexivity and the charge that claims of objectivity have often merely masked other agendas and privileged perspectives (which I discuss at length in Chapter Two of this work), but that the fear of being accused of being biased has kept many scholars from including the personal and political aspects of their own experience which can often most uniquely cast light upon their arguments.

Notes

1. Articles on the subject of computer vision as it applies to blind and visually-impaired individuals appear regularly in both mainstream and academic publications, and a plethora of such articles can be found online. A brief list might include:

“I Spy a Bionic Eye”

By Anne Casselman. *Discover*, Vol. 26 No. 08, August 2005.

<http://www.discover.com/issues/aug-05/rd/i-spy-a-bionic-eye/> (April 17, 2006).

“Electric eye under development: Artificial retina nearly in sight”

By William J. Cromie. *Harvard Gazette*, February 19, 2004.

<http://www.hno.harvard.edu/gazette/2004/02.19/01-retina.html> (April 17, 2006).

“Vision Quest”

Wired.

<http://www.wired.com/wired/archive/10.09/vision.html> (April 17, 2006).

“Bionic Eyes Benefit the Blind”

By Lakshmi Sandhana.

<http://www.wired.com/news/medtech/0,1286,59634,00.html> (April 17, 2006).

Many of these articles mention Michael J. Black, Professor at Brown University, and one of the leading innovators in the field of neuroprosthetics (Michael J. Black home page <http://www.cs.brown.edu/people/black/> [April 17, 2006]), and also the web site for the company

he helped found, Cyberkinetics—Neurotechnology Systems, Inc.
(<http://www.cyberkineticsinc.com/content/index.jsp> [April 17, 2006]).

2. “The Scandal of Speech In Deaf Performance”

By Michael Davidson.

http://www.ubu.com/ethno/discourses/davidson_hearing.html (April 17, 2006).

3. Dan Keplinger’s *King Gimp* web site (<http://www.hbo.com/kinggimp/king/cmp/writing.html> [April 17, 2006]), especially Dan Keplinger’s writing on the subject of talking (<http://www.hbo.com/kinggimp/king/cmp/writing.html> [April 17, 2006]).

4. For a discussion of John Merrick (the “Elephant Man”) and his relationship to his doctor, Dr. Frederick Treves, refer to Leslie Fiedler’s book *The Tyranny of the Normal* (David R. Godine, Boston, 1996), in particular his chapters “Pity and Fear: Images of the Disabled in Literature and the Popular Arts” and “Images of the Doctor in Literature and the Popular Arts.”

5. The entwined biographies and autobiographies of Helen Keller and Ann Sullivan provide a challenge to the construction of authorship every bit as complex as those of James Boswell and Samuel Johnson. For an example of how difficult it is to separate the lives and writings of Keller and Sullivan, refer to *Helen and Teacher: The Story of Helen Keller and Anne Sullivan Macy*, by Joseph P. Lash (AFB Press, 1981).

6. William Gibson. *The Miracle Worker*. Pocket Books, 2002 (originally published in 1956).

7. Refer, for example, to Andrew Duncan’s interview with Oliver Sacks, “The Mind Traveller”

<http://www.fortunecity.com/emachines/e11/86/duncan3.html>

Updated: 8/25/2003 (April 17, 2006).

8. Quote by Dr. Tom Shakespeare in his review of Sacks’s *An Anthropologist On Mars*, originally published in the journal *Disability and Society* 11 (No. 1): 137-142, and cited here by Simi Linton in her book *Claiming Disability*, pp.140-1. Also cited by M. Couzer’s article <http://poynter.indiana.edu/publications/m-couzer.pdf> (April 17, 2006).

9. New York University Medical Humanities Database

<http://endeavor.med.nyu.edu/lit-med/medhum.html> (April 19, 2006).

10. Oliver Sacks. “The Mind’s Eye: What the Blind See.” *The New Yorker*, July 28, 2003, p. 48.

11. Also refer to John M. Hull’s book, *Touching the Rock: An Experience of Blindness* (Vintage, 1992).

12. Burton, H. “Visual Cortex Activity in Early and Late Blind People”

<http://www.jneurosci.org/cgi/content/short/23/10/4005> (April 18, 2006).

13. Refer to the home page of neuroscientist Alvaro Pascual-Leone of Harvard Medical School <http://www.psicomag.com/prensa/INTERNACIONAL/Alvaro%20Pascual.doc> (April 17, 2006). It includes details of the study of brain plasticity in sighted subjects blindfolded for a week in comparison to brain activity in blind individuals.

Also refer to:

“A Study of Spatial Cognition in an Immersive Virtual Audio Environment: Comparing Blind

and Blindfolded Individuals”

By Amandine Afonso, Brian FG Katz, Alan Blum, Christian Jacquemin, and Michel Denis
from the Proceedings of ICAD 05-Eleventh Meeting of the International Conference on Auditory
Display, Limerick, Ireland, July 6-9, 2005

<http://66.102.7.104/search?q=cache:RTt-k IP6iAJ:www.idc.ul.ie/icad2005/downloads/f112.pdf+blind+%2Bstudy+%2Bblindfolded+%2Bboston+&hl=en> (April 17, 2006).

Also refer to:

“Short term light deprivation increases tactile spatial acuity in humans”

By Stefano Facchini, MD and Salvatore M. Aglioti, MD

The effect of short-term light deprivation on tactile spatial acuity was evaluated by asking 28 adult humans to perform a grating orientation task. The 14 subjects who were kept for 90 minutes in complete dark showed, immediately after deprivation, a reversible improvement of tactile spatial acuity. No acuity change was observed in the 14 nondeprived subjects. Results indicate that even a short-term visual deprivation may disclose highly dynamic plastic interactions between visual and tactile systems.

“Visual Cortex Activity in Early and Late Blind People”

Burton Department of Anatomy and Neurobiology, Washington University School of Medicine,
St. Louis, Missouri 63110

<http://www.jneurosci.org/cgi/content/short/23/10/4005> (April 17, 2006).

14. “The art of seeing without sight”

By Alison Motluk.

New Scientist. January 29, 2005.

<http://www.newscientist.com/channel/being-human/mg18524841.700> (April 17, 2006).

New Scientist article on blind painter Esref Armagan and John Kennedy, a psychologist who studies blind artists.

Additional research projects and studies include:

The Boston Retinal Implant Project (at the VA Center for Innovative Visual Rehabilitation)

<http://www.bostonretinalimplant.org/project.xml> (April 17, 2006).

including this publications page

<http://www.bostonretinalimplant.org/progress/publications.xml>

and The In Vivo Laboratory at MIT

<http://www.bostonretinalimplant.org/progress/in-vivo.xml> (April 17, 2006).

In vivo experiments include the study of: 1) new surgical techniques to implant our retinal prosthesis, 2) the biocompatibility of the implanted device, and 3) the amount of electricity needed to stimulate retinal cells so that responses can be recorded from the visual cortex of the brain. In vivo experimentation is performed by Drs. Joseph Rizzo, MD, Sandra Montezuma, MD, and John Lowenstein, MD, including this publication web site offering downloadable articles.

Also refer to:

<http://www.jneurosci.org/cgi/reprint/23/10/4005.pdf>

“The vOICe home page”

<http://www.seeingwithsound.com/sfn2004.html> (April 18, 2006)

including

“Sound-Induced Mental Imagery for the Blind”

<http://www.seeingwithsound.com/imagery.htm> (April 18, 2006).

15. “US Census Bureau Data on Disability.” 2000 U.S. Census.

<http://www.census.gov/hhes/www/disability/disability.html>

16. "Marshall McLuhan: A Candid Conversation With the High Priest of Popcult and Metaphysician of Media," Eric Norden, *Playboy Magazine*, March 1969.

17. N. Katherine Hayles, "Liberal Subjectivity Imperiled: Norbert Wiener and Cybernetic Anxiety," <http://www.english.ucla.edu/faculty/hayles/wiener.htm> (June 3, 2006).

18. Andy Clark, "Natural Born Cyborgs," *The Edge*
http://www.edge.org/3rd_culture/clark/clark_index.html

19. "Amputation rate for US troops twice that of past wars" by Raja Mishra. *Boston Globe*, Thursday, December 9, 2004.

Also refer to:

"Technology serving new war amputees," by Raja Mishra. *Boston Globe*, Friday, January 7, 2005

Extreme Interfaces Conference

http://www.ttvanguard.com/a_speakersgeneva05.htm

20. "Brain chip reads man's thoughts" BBC News
<http://news.bbc.co.uk/2/hi/health/4396387.stm>

21. "Robot Guide Dog Picks Up Where Man's Best Friend Leaves Off"
<http://www.usu.edu/ust/index.cfm?ArticleID=2900>
based on this research paper: "RFID in Robot-Assisted Indoor Navigation for the Visually Impaired"
<http://robots.net/article/1466.html>

22. Vivian Sobchack. "Morph/Cut."
<http://www.manovich.net/VIS149/MorphBook.html>

23. N. Katherine Hayles, "Foreword: Clearing the Ground," *Embodying Technesis: Technology Beyond Writing*, by Mark Hansen. University of Michigan Press, 2000.

Works Cited

Clark, Andy. *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence*. Oxford University Press, 2003.

Daredevil. dir. Mark Steven Johnson. Marvel Enterprises, New Regency Pictures, Horseshoe Bay Productions, 20th Century Fox, Epsilon Motion Pictures, and Regency Enterprises, 2003.

Fiedler, Leslie A. *Freaks: Myths and Images of the Secret Self*. New York: Doubleday, 1978.

Garland Thomson, Rosemary, ed. *Freakery: Cultural Spectacles of the Extraordinary Body*. New York: New York UP, 1996.

Gibson, William. *The Miracle Worker*. 1959.

Hayles, N. Katherine. "Foreword: Clearing the Ground," *Embodying Technesis: Technology Beyond Writing*, by Mark Hansen. University of Michigan Press, 2000.

Lash, Joseph P. *Helen and Teacher: The Story of Helen Keller and Anne Sullivan Macy*. AFB Press, 1981.

Linton, Simi. *Claiming Disability: Knowledge and Identity*. New York University Press, 1998.

McLuhan, Marshall. *Understanding Media: The Extensions of Man*. 1964

Mitchell, David T., and Snyder Sharon L. *Narrative Prosthesis: Disability and the Dependency of Discourse*. Ann Arbor: University of Michigan Press, 2000.

Sacks, Oliver. *An Anthropologist On Mars: Seven Paradoxical Tales*. Vintage, 1996.
— "The Mind's Eye: What the Blind See." *The New Yorker*, July 28, 2003, p. 48.

Shildrick, Margaret. *Ethics of the Body*. MIT Press, 2005.

Youngquist, Paul. *Romantic Monstrosities: Bodies In British Romanticism*. Minneapolis: Minnesota UP, 2003.

Zimmer, Carl. *The Soul Made Flesh: The Discovery of the Brain and How It Changed the World*. New York: Free Press, 2004.

Chapter One

Subjectivity and the Disabled Body in Science Fiction

1.1 “One of Us”: Intersections of Disability and Science Fiction

In the movie *Free Enterprise* (1998), a story about the grownup lives of a group of friends who are all *Star Trek* fans, the friends spend the entire movie communicating with each other and with the non-fan world in the language of the media they love. Near the end of the movie, Mark, the unofficial leader of the group, and his friends have gone to a movie theatre to see one of Mark's favorite movies for his birthday, but one of the friends gets them thrown out of the theatre. After some verbal squabbling, Mark mumbles that his friends are “freaks.” In response, the group immediately starts to chant, “One of us! One of us!”

For those who may not recognize the reference, it is from Tod Browning's movie, *Freaks* (1932). “One of us” is the phrase chanted by a group of circus performers in an infamous scene in which the circus performers toast the marriage of a beautiful woman to one of the “freaks.” During this scene, the other performers—real-life sideshow “freaks” who were employed by P. T. Barnum in his circus—spin and dance about the newlyweds in a Dionysian frenzy, their chant of “One of us! One of us!” growing increasingly louder and wilder.

I found myself intrigued by the intertextuality of these two narratives, that is, the referencing of *Freaks* by the science fiction fans in *Free Enterprise*. One reason for my curiosity was that the chant of “One of us” as it was framed within *Free Enterprise* took on the position of self-identifying with the freaks. This sort of identification with the freaks was a very different position than what I was expecting. As a disability studies scholar, I was used to *Freaks* being criticized

for its framing of people with disabilities as being stigmatized to such a degree that the viewer would reject any sort of identification with the disabled characters. Indeed, the scene during which the chant occurs may well be the single most-criticized scene in the field of disability studies, that area of cultural studies which examines representations of disability and identity. In *Screening Disability: Essays On Cinema and Disability*, which has four articles dedicated to *Freaks* alone, editors Christopher R. Smit and Anthony Enns state in the introduction that the scene in which the chant described above occurs, rather than being constructed as a point of identification between the viewer and the disabled characters in the film, in each of the four articles is constructed as one of horror, isolating the disabled bodies as “other,” and allowing the non-disabled viewer to reaffirm their own normativity.

In this context, the fearful refrain “one of us, one of us” is a particularly fraught trope: while it entrenches identification within the community of freaks, it holds up the presumably “normal” or able-bodied viewer as a subject at once cut off from this unified group at the same time that s/he is guiltily implicated in the construction of just such a group identity. (Smit and Enns 2001, xiii)

Smit and Enns’s comments underscore that the chant itself represents a point of contested meanings, for while it frames the circus performers as a group who identify with each other, it alienates the viewer from identifying with the freaks. My own personal experience seems to indicate that the way viewers interpret and make use of the chant may be more open than disability scholarship has indicated. When I showed *Free Enterprise* at a private movie party, my friends—a majority of whom are science fiction fans—took up the chant “One of us! One of us!” with even more glee than the science fiction fans in the movie they were watching. I was surprised at both the group’s ability to instantly recognize the reference (though recognition of the movie seems to be higher within the scope of fans of genre film) and their willingness to take up a chant that seemed to identify the chanter as “other.”

My experience in reconsidering the meaning of this scene in *Freaks* was the event that first suggested to me that an exploration of disability as framed within science fiction narratives might inform both disability and science fiction studies. As a science fiction fan with a disability, I had noted on previous occasions that readers with disabilities were, as a group, unusually interested in science fiction stories, and that there seemed to be a lengthy list of science fiction stories which had disabled protagonists with whom readers could identify. I began to wonder if these narratives might indicate larger cultural concerns with the relationship between images of the human body and technology, and, in this light, I began to consider the role disability played in science fiction narratives. (Note: I will from this point on be using the shorthand term SF to refer to these science fiction narratives.)

My first task was to collect a list of SF narratives with disabled characters in them. Even after I narrowed the list by requiring that the disabled character had to be at least one of the main characters if not the actual protagonist within the story, I was surprised at how long the list soon became, and how many of these stories are considered to be canon, that is, were award-winning works of major note within the SF genre that went on to influence the narrative forms of SF itself. A brief listing of these could include:

* Robert Heinlein's short stories "Waldo," featuring a disabled engineer, and "The Green Hills of Earth," featuring a blind poet named Rhysling [1]

* George Lucas's *Star Wars* movies, in which Darth Vader possesses a variety of prosthetic body parts

* Anne McCaffrey's novel *The Ship Who Sang*, about a disabled woman whose mind and body are built into the systems of a space ship

* Octavia Butler's short story "Speech Sounds"

* James Tiptree Jr.'s short story "The Girl Who Was Plugged In," featuring a disabled woman who is persuaded to be part of an experiment where she will live life through a physical simulacrum

* Lois McMaster Bujold's Miles Vorkosigan series, most notably the first in this series, *The Warrior's Apprentice*, in which Miles, the main character, suffers from a number of disabilities, including extremely short stature and brittle, highly breakable bones

* Elizabeth Moon's novel *The Speed of Dark*, which features an autistic protagonist.

Once I had compiled a selection of stories to analyze, I began to construct a list of what seemed to be the most important questions.

(1) Do SF narratives possess different representational practices than mainstream narratives in regard to people with disabilities?

(2) Does SF's framing of disability within the specific context of technology differ from those media images used in mainstream media (i.e., technology as a means of physical cure and/or social assimilation)?

(3) Do the startling number of disabled characters to be found within SF narratives indicate that disability themes plays some significant role in the way science fiction (and possibly science) narratives of technology reflect images of the body that differ from those in the mainstream?

As I further refined the scope of my research, the historical period I was examining changed. My initial goal had been to investigate what seemed to me to be an increased interest in disability themes within SF narratives of the past two decades (1984-2006). Yet once I began to look for reoccurring patterns, certain earlier works emerged as influential upon the development of images of the disabled body in SF.

1.2 Freaks: Anomalous Versus Assimilated Bodies

During the many years in which I have studied the role of the disabled character in story, I have developed a mantra: “Disability stories are almost never about disability.” What this mantra attempts to do is to challenge the narrative work to which disabled characters are put within the structure of story. How often, after all, do such disabled characters mention chronic pain, side effects of drug or physical therapies, or even the casually cruel or inconsiderate comments of total strangers? The purposes to which disabled characters are put within the work of stories is typically not to be descriptive of the experiences of disability, but illustrative for the purpose of presenting morality tales. It is in this aspect of disability as illustrative of the morality tale that it is most often linked with technology. Both mainstream and SF narratives share a preoccupation with the ways in which technology reconfigures the body and the limits at which society will tolerate such reconfigurations. In this light, disabled bodies have often been used as liminal representations “marking the threshold, not of humanity itself, but of acceptable, tolerable, knowable humanity (Grosz 1996, 55). Because of this representational use of disabled bodies in media, disability was traditionally read as metaphorical rather than as phenomenological (that is, the experience of reality as it is lived through the body and its perceptions). Disability as metaphor is still the default mode of interpretation. For example, in *Reload: Rethinking Women + Cyberculture*, edited by Mary Flanagan and Austin Booth, though a number of stories with disabled female protagonists are addressed—stories such as Octavia Butler’s “Speech Sounds,” James Tiptree Jr.’s “The Girl Who Was Plugged In,” and Anne McCaffrey’s *The Ship Who Sang*—disability is never explicitly addressed either as a theme or as a lived experience which manifests in feminist SF literature. Yet I believe that rereading such texts through the lens of disability as a means of representing the lived experience of perception through the disabled body can only enrich the meanings of the texts in question and that, far from rejecting identification with disabled bodies, SF readers and viewers frequently and sometimes even strongly identify with disabled bodies.

1.3 The Golden Age of the Assimilated Body

During the year I spent doing research for this work, many readers wrote or spoke to me of science fiction works with disabled characters which they found memorable. Two works in particular were cited repeatedly by both disabled and non-disabled fans: Theodore Sturgeon's novel *More Than Human* (1953) and John Varley's short story "The Persistence of Vision" (1978). Despite the twenty-five year span between the publication dates of these two works, they possess some striking similarities: both stories follow the formation of a group of disabled characters into a collective which is framed as an alternate form of social organization to the traditional family unit promoted by mainstream society. Additionally, each of these collectives develops a unique mode of communication which allows the collective to develop a unified networked consciousness. Thus, both of these stories strongly link new modes of communication with new modes of social organization as they relate to the limitations of the human body.

In briefly considering the time period framed by the two works, that is, post-World War II to the late seventies, the connection between new forms of communication and new forms of social organization becomes apparent. In the 1950s and 1960s, post-World War II technologies changed the way an entire generation would communicate, and the social changes these new technologies made upon the way this generation of children would think, act, organize, and express themselves were so radical that they often seemed, to an older generation, like alien beings. Leslie Fiedler in his book *Freaks: Myths and Images of the Secret Self* included a chapter titled "The Myth of the Mutant and the Image of the Freak," in which Fiedler connected SF's fascination with "freaks" not only to the counterculture of the 1960s and 1970s, but to the role emerging technologies played in changing the ways in which an entire generation conceptualized the world and their place in it. These changes seemed so sudden and so radical that they were perceived in the terms

of an evolutionary leap that had occurred so rapidly that it was often expressed in terms of mutation.

Contemporary fiction about freaks is read by a much smaller audience than nonfiction, except for certain novels based on the notion of an evolutionary leap which in a single generation produces children as different from their parents as Homo Sapiens was from Neanderthal man. . . . Many of the kids who . . . call themselves 'freaks' are in reality mental mutants. They have mutated through an auto evolutionary process triggered by technology...(Fiedler 1978, 320)

Though the mutant and the freak as expressions of evolutionary anxieties have inspired many SF works, the association of disabled bodies with dangerous technologies seemed to be a preoccupation of post-World War II SF in particular (an era known in SF as “The Golden Age of Science Fiction”). The disabled (or otherwise anomalous) body, in its failure to literally conform to predictable cultural systems of thought, presented a double threat when it used new technologies to discover new modes of being which challenged traditional practices and institutions. This linking of the radical body with radical new modes of being was expressed in a number of SF stories, including Isaac Asimov’s “The Mule” (*Astounding*, 1945), Daniel Keyes’s “Flowers for Algernon” (*F&SF*, 1959), C. L. Moore’s “No Woman Born” (*Astounding*, Dec. 1944), and Louis Padgett’s “Mimsy Were the Borogoves” (*Astounding*, 1943). These stories express a certain cultural anxiety regarding how disability as physical and/or cognitive difference threatens the established social institutions and practices represented by parental, cultural, and political gatekeepers. It is only when or if the disabled body and mind can promote the cultural agenda of normativity and assimilation (such as in the desire of the cognitively-impaired man to be “normal” in “Flowers for Algernon”) that the disabled body and mind can be tolerated by society. Indeed, the agenda of assimilation is automatically assumed in any narrative which has the disabled person express a desire for cure, for being “just like everybody else” (or every other body). Such narratives, however, use the expressed desire of the disabled person to construct the

normative body as being superior, and thus the most desirable. The disabled person's body then becomes as much a mirror in which the normative person perceives his own body as worthy of imitation.

Studies by psychologists show that people who start out different from a person but become similar over time are liked better than people who were always similar. People who change to make others happy are preferred over people who always try to make others happy. The idea that people like to gain something rather than always have it has an academic name—"gain theory." In human-human interaction, the theory can be summarized by this simple adage: Imitation is the sincerest form of flattery. (Reeves and Nass 1996, 101-2)

One SF short story that illustrates the theme of disability as requiring social assimilation is Robert Heinlein's "Waldo" (*Astounding*, 1942). The story opens during a dance performance being given by the title character, and his thoughts upon experiencing the applause of the crowd at the end express the promise held out by assimilation: "It was wonderful to dance, glorious to be applauded, to be liked, to be wanted" (Heinlein 1999, 124).

Waldo is on his way to another challenging performance, that is, as a surgeon, but he pauses to answer the question of a female journalist. Waldo begins to tell his story, but the narrative position switches at this point to Waldo being described from the points of view of James Stevens, a young civil engineer, and Gus "Doc" Grimes, an old man who has been Waldo's personal doctor his entire life. Thus, we really get an introduction to Waldo not through his personal memories and experiences, but through the criticism of two authority figures, one a government scientist, the other a medical doctor. Stevens, who needs to ask Waldo's help in solving an engineering problem, has come to Doc to ask for assistance in dealing with Waldo, whom Stevens finds dislikable.

“I can’t do it alone. Waldo doesn’t help people; he uses them. You’re his only normal contact with people.”

“That is not entirely true. ...He has no normal contacts. I am simply the only person who dares to be rude to him.” (Heinlein 1999, 158)

This exchange frames Waldo’s emotional immaturity as interfering with his usefulness to the society, and it is the responsibility of the one person who is close to him to mediate the relationship between Waldo, as the disabled person, and the society which finds him distasteful, though Doc portrays his own power over Waldo as based upon Doc’s willingness to be rude to Waldo. Note Stevens’s objections to Waldo’s refusal to feel a sense of social obligation in cooperating with Stevens when Stevens demands it, and how Stevens ascribes this lack of social responsibility to Waldo’s disability.

“Waldo is the man we’ve got to have. Why should it come about that a genius of his caliber should be so unapproachable, so immune to ordinary social demands? Oh, I know his disease has a lot to do with it...” (Heinlein 1999, 158)

Doc explains to Stevens that Waldo’s genius is a compensation for his disabled body, “His weakness is his genius” (Heinlein 1999, 158). What Doc doesn’t share with Stevens is Doc’s own ambivalent feelings toward Waldo, whom, from the time Doc delivered him as a baby, Doc has felt would have been better off dead.

During Waldo’s childhood he had hoped constantly that the child would die, since he was so obviously destined for tragic uselessness, while simultaneously, as a physician, doing everything within his own skill and the skill of numberless consulting specialists to keep the child alive and cure it. (Heinlein 1999, 159)

Thus, while Doc uses Waldo’s disability to explain Waldo’s genius as a form of compensation,

Doc also uses his own work with Waldo to construct his, Doc's, superior moral authority. The nobility of the medical doctor can never be separated from his moral obligation to cure the cripple, and the application of that cure includes being rude enough to wake the cripple up to his social responsibilities. Yet it is not just the doctor who constructs his own moral superiority by viewing the disabled body as requiring cure and social assimilation: the reader and the viewer of such literary and visual narratives also experiences a sense of physical and emotional superiority through his feeling of pity for the suffering disabled person. Compare the descriptions of Waldo with that of the "archetypal" crippled boy, Tiny Tim, as described by disability scholar Leslie Fiedler:

If there is an archetypal image of the handicapped...it is that of the pitiful puer embodied in the crippled boy forever perched on Bob Cratchit's threadbare shoulder: "Alas for Tiny Tim, he bore a little crutch and had his limbs supported by an iron frame."
(Fiedler 1996, 44)

If we think of Waldo's satellite as not merely an environment which he has developed to suit his needs, but as an "iron frame" like Tiny Tim's crutch, the contested names and meanings for Waldo's technological environment become examples of the contested meanings of disability. Doc warns Stevens early in their trip to visit Waldo not to refer to Waldo's home by the name "Wheelchair," which makes Waldo angry.

When the newscasters tagged his spacehouse "Wheelchair," one might have expected him to regard it as more useful publicity. That he did not so regard it, that he resented it and tried to put a stop to it, arose from another and peculiarly Waldo-ish fact: Waldo did not think of himself as a cripple. He saw himself not as a crippled human being, but as something higher than human, the next step up, a being so superior as not to need the coarse, brutal strength of the smooth apes. Hairy apes, smooth apes, then Waldo—so the progression ran in his mind. (Heinlein 1999, 169)

Waldo views his body in relation to his technology not merely as compensation, but as adaptation

and even evolution. Thus, to a large degree, Doc's and Stevens's attempts to rehabilitate and assimilate Waldo—and his technological adaptations—express a social struggle to retain control, commercial as well as technological, over Waldo and his identity. Something as seemingly simple as how Waldo's technology is named becomes a power struggle for “domination” (Heinlein 1999, 132), and throughout their visit to Waldo's “Freehold,” as he refers to his space-home, Stevens and Doc are uncomfortable and angry at having to play by Waldo's rules while in Waldo's sandbox.

While Heinlein's “Waldo” could be used to unpack a number of other assumptions about disability, the fragments examined so far illuminate how the framing of the disabled body is strongly linked not only to the purposes of technology but to how closely those purposes reflect the goals and values of the society. The technology was intended to exert a gravitational pull upon the disabled individual, to rehabilitate and integrate that individual's dangerously liminal identity safely back into the mainstream. Yet only a decade after the publication of “Waldo” would come another SF short story, which would turn this cultural definition of disability and its relation to technology upside-down.

1.4 Anticipating the Mind Meld: Communication as Communion With the Alien

Amongst the post-WWII disability narratives of the 1940s and 1950s, Theodore Sturgeon's story “Baby Is Three” (*Galaxy*, 1952), stands out as a narrative that makes radical use of disabled characters to challenge the cultural agenda of assimilation. This story (which was to become the basis of Sturgeon's novel, *More Than Human*, published in 1953) features a group of disabled children and adults who possessed strange powers that not only allowed them to communicate with each other in a mysterious new way but also gave them the ability to influence people around them. Sturgeon explicitly frames this group as representing an evolutionary leap, “Homo

Gestalt,” and he uses the word “blesh”—a portmanteau word for “blend” and “flesh”—to refer to their unique form of communication. The very concept of “blesh” frames new modes of communication as an experience which would not only challenge the traditional Cartesian boundary between mind and body but between individual minds and bodies, that is, the traditional liberal humanist subject.

One feature of Sturgeon’s story that occurs often in disability narratives is that the characteristic of being disabled is often linked with other marks of difference, such as gender or race.

Sturgeon’s story seems to have been the first to have been written in large part from the perspective of inside the head of disabled characters (the novel *Johnny Got His Gun* written in 1938 by blacklisted Hollywood writer Dalton Trumbo predates Sturgeon’s story, but Trumbo’s story was not published until 1958). It is this unique positioning indicating an emerging new subjectivity that allows the reader to identify with the freak even while such a radical new subjectivity is acknowledged to threaten the status quo.

Sturgeon’s story, by explicitly linking disability with marginality, is an example of how SF narratives often use the social construction of the freak to challenge traditional social organizations and institutions. Queer studies scholar Elizabeth Grosz, in her article “Intolerable Ambiguity,” discusses how disabled bodies get labeled “freaks” because they represent “those human beings who exist outside and in defiance of the structure of binary oppositions that govern our basic concepts and modes of self-definition” (Grosz 1996, 57). Thus the disabled body as a freak body often poses multiple challenges to neatly-bounded categories and classifications defined by binary oppositions. Disability scholars David Mitchell and Sharon Snyder address how, though disability can embody all other marks of difference, it itself often goes unremarked upon:

Disability has undergone a dual negation—it has been attributed to all “deviant” biologies as a discrediting feature, while also serving as the material marker of inferiority itself. One might think of disability as the master trope of human disqualification. (Mitchell and Snyder 2000, 2-3)

Thus, though disability has often been used as a mark of difference in SF narratives, the question of whether anyone would self-identify as disabled (that is, voluntarily use being disabled as a point of identification in exploring other marks of difference) was rarely asked [2]. This is, however, precisely the question posed by John Varley in his short story “The Persistence of Vision.”

1.5 Excursus: Sense and Subjectivity In John Varley’s “The Persistence of Vision”

In examining how SF narratives offer radical interpretations of the experience of disability, few works make a better subject for examination than John Varley’s short story “The Persistence of Vision” (originally published in the March 1978 issue of the *Magazine of Fantasy & Science Fiction* and republished in 1978 as the title story in Varley’s first collection of short stories). The reason for this lies not only in the uniqueness of Varley’s story, but in its striking connections to two other stories: Theodore Sturgeon’s novel *More Than Human* (1953) and H. G. Wells’s short story “The Country of the Blind” (*The Strand*, 1904, revised 1939), for these similarities allow us to trace changing attitudes toward disability within the context of SF narratives. While *More Than Human* stands chronologically and thematically as a precursor to John Varley’s story, it is Wells’s story that proves the most useful for comparing and contrasting changing images of disability within SF narratives. The reason for this lies in the fact that, despite the almost three-quarters of a century span between the original publication of Wells’s story and that of Varley’s, many elements of the story are almost identical. The plot synopsis for both Wells’s and Varley’s stories is as follows.

A young able-bodied man traveling in an isolated area discovers a community of blind people. He spends a period of time with them, trying to adapt to their language, culture, and practices, all the while becoming aware of how his body, perceptions, and mode of thought—all of which conformed to his own culture's norms—fail to give him the skills he needs to truly participate in the work and culture of the community. He falls in love with a young woman in the community (in each case, a woman who herself fails to conform entirely to the cultural norms of her community), and must decide if he will give up his existence as a sighted man and stay in the country of the blind, or whether he will leave them and return to his own culture of the able-bodied.

The protagonists of each story, though similar in their cultural affiliations of being able-bodied, heterosexual, and male, are very different in temperament, and it is their personalities and perceptions, particularly in the ways they each relate to being outsiders, that provide very different perspectives. Each man, upon discovering the blind community, expresses a saying that demonstrates their own sense of how subjectivity relates to power. Wells's character, unshakable in his faith in his own physical and intellectual superiority, gloats that he will soon rule the group by telling them, "In the country of the blind, the one-eyed man is king." Varley's character, however, who is slightly older and has drifted through an America riddled with radiation poisoning, unemployment, and urban riots, shrugs and tells himself, "When in Rome, do as the Romans do—otherwise, stay at home."

Additionally, the stories offer very different treatments of the young women the men fall in love with. The young woman in Wells' story is seen as less valuable by her community for not conforming to their own unique standards of beauty, although it is precisely her "ugliness" that makes her appearance more conformative to the sighted man's own cultural norms. The young

woman in Varley's story (who is herself a sighted and speaking thirteen-year-old child [3] of deaf-blind parents) envies the blind members of her community for what she perceives as their superior ability to communicate.

The protagonists of both stories ultimately choose to leave, but, again, the framing of each of these leave-takings is very different. Wells's protagonist leaves because he has been confronted with an ultimatum: If he wishes to marry the young blind woman and stay with the community, he must become blind like them by having his eyes put out. (Note that the version of the story I am citing is the earlier, more graphic version and not the revised version that is more typically anthologized, as in the case of the 2004 Wells short story collection edited by Ursula Le Guin.) Yet the young man's horror at the suggestion that he allow his body to be mutilated in order to enforce conformity to social norms is diluted by the fact that Wells's story is often interpreted metaphorically for the "blindness" of culture to new ideas and innovations. By reading this story very literally, however, one can find a more radical interpretation, for it then becomes a very different story about the coercion and even outright demands culture places upon its individuals to conform through their bodies, their sensory perceptions, and even the means by which they communicate. In other words, the story becomes one in which disability is defined by the failure of the individual to "see" and "speak" about the world in ways considered to be "appropriate" or "normal" by the culture in which the individual lives. More unnerving, however, is the implication that those whose bodies fail to conform must literally go under the knife or otherwise suffer physical mutilations in order to fulfill the cultural expectation that the individual conform to bodily normativity. No one ever questions, for instance, that a blind person would be willing to undergo any surgery, no matter how painful or expensive or even futile, in order to be "cured." Why should a disabled person not view such operations with as much revulsion as the protagonist of Wells's story viewed the "cure" that was offered to him?

If “The Country of the Blind” is given this literal interpretation, that is, a story told from the perspective of an outsider who discovers that his body is judged as anomalous and non-normative by cultural as well as biological criteria, Wells’s story suddenly aligns very well with Varley’s. Each story offers the theme of how culture not only shapes the ways in which we view our own bodies by valuing (or devaluing) specific bodies as “able” or “disabled,” but it renders visible the arbitrariness of such judgments.

Yet it is not always easy to separate interpretation from the imposition of axiomatic assumptions upon the story. Readings of these stories that insist, like Wells’s protagonist, on the superiority of their own normative positioning can only interpret these stories as metaphorical. Reading them as literal representations of the experiencing of the world through a disabled body allows the stories to become a lens through which disability, similar to interpretations based upon gender, sexuality, and race, challenges culture’s promise that normativity ensures all the benefits and rewards of being a member of the society.

“The Persistence of Vision” makes explicit what “The Country of the Blind” only touches upon, that is, that cultural ideas regarding the body shape everything from technology to language. Varley’s story connects the anomalous body with subjectivity, that is, the construction of identity through personal experience, to challenge culture’s traditional institutions and practices. Varley explicitly associates such subjectivity with radical politics when he has his protagonist, in his cross-country trip with which the story begins, demonstrate to the reader that there is a diversity of ways by which people and animals organize themselves into and communicate within groups.

The story opens with the protagonist fleeing from the urban ruin of the city into the open space of the countryside, where he works for food and lodging on traditional, family-owned small farms. He continues west, hitchhiking along the highways, staying in the camps of those people who

have been poisoned and left homeless by radiation contamination, participating in the practices of a variety of communes, and trekking across Native American tribal lands. This westward journey reproduces, through the protagonist's personal experiences, the historical journey west across America in search open spaces which invited radical new modes of identification and participation.

What Varley's story manages to accomplish through this diversity of social environments is to underscore how subjectivity, or the perspective presented through the positioning of the narrator within a story, does not concern itself solely with the point of view, for Wells's story provides a similar perspective of the able-bodied outsider attempting to live within a culture of people with disabilities. (Indeed, the point of view of the "stranger in a strange land" might well be the most widely-used point of view in science fiction as a genre.) What Varley's story does that Wells's does not is construct a subjectivity that questions the dominant cultural assumptions about normative bodies and how they are assimilated into the culture, the outside, that is, a culture in which the representation of bodies as normative is so ever-present that it has been rendered invisible until it is viewed from the outside. This is one of the reasons Varley's protagonist provides the reader with a variety of social arrangements at the beginning of the story: He is setting up a selection of diverse social arrangements to be compared and contrasted, though the protagonist ultimately concludes that there is not that much diversity after all:

So the place wasn't paradise, not by a long way. But there were successes. One or two had been there since '63 or '64 and were raising their third generation. I was disappointed to see that most of these were the ones that departed least from established norms of behavior, though some of the differences could be startling. I suppose the most radical experiments are the least likely to bear fruit. (Varley 2004, 234)

Diversity, according to this character, is not so much strange as necessary. Unlike the protagonist

of Wells's story, Varley's protagonist never takes it for granted that any one form of social organization is superior to another, or that imposing his own values on someone else by making himself "king" might have an ethical justification. Indeed, the protagonist reminds himself—and the reader—that human experimentation with how groups organize and communicate is an expression of personal ideology, and that such experimentation is necessary in any society, since these alternatives supplant old institutions and practices that no longer serve the purposes and interests of the society. The protagonist uses the city he has fled from as an example of a social organization that is failing to offer a viable environment for human health and happiness (the protagonist often uses illness as physiological evidence of the unhealthiness of the social organization):

I tried not to make judgments. These people were doing something important, all of them. They were testing ways whereby people didn't have to live in Chicago. That was a wonder to me. I had thought Chicago was inevitable, like diarrhea. (Varley 2004, 234)

While it is tempting to read the protagonist's pejorative comments about Chicago and his travels into the countryside as a flight toward the pastoral Eden, I would suggest that the city more accurately represents the nexus of various systems of social institutions and practices. This reading is supported by the protagonist's descriptions of his own experiences with the social disintegration occurring in other sites of human organization—the city with its riots, the stigmatized shanty towns full of radiation victims, and the abandoned communes—alternated with the blind-deaf community's struggle to break away from the control of the state institution where they grew up. Additionally, the subjugation of the individual to the systems of social institutions is often demonstrated through the technologies that mediate experience. For the protagonist, these technologies create a sense of inside/outside connected to the landscape through which he is moving:

What I saw of Texas was through a car window. I was a little tired of that by the time I reached New Mexico...by then I was less interested in California than in the trip itself. I left the roads and went cross-country where there were no fences to stop me. I found that it wasn't easy, even in New Mexico, to get far from signs of civilization. (Varley 2004, 233)

For the deaf-blind community, the technologies of the dominant culture become a means by which the culture quantifies, contains and constrains the definition of who is human and thus who is allowed to participate in—or even resist—the cultural institutions and practices. Note how, in the following passage, the tool of language, which typically serves as a media technology for connecting individuals in a culture, becomes a mode of excluding or “tuning out” non-normative individuals, and doubly-stigmatizes these individuals since it is the means by which other “human” qualities such as intelligence are determined:

Many children with undamaged brains were shuffled in among the retarded because they were unable to tell anyone that they were in there behind the sightless eyes. They failed the batteries of tactile tests, unaware that their fates hung in the balance when they were asked to fit round pegs into round holes to the ticking of a clock they could not see or hear. As a result, they spent the rest of their lives in bed, and none of them complained, either. To protest, one must be aware of the possibility of something better. It helps to have a language, too. (Varley 2004, 235)

From this point onward in Varley's story, the deaf-blind community's development of their own language—and even more radical forms of communication—becomes the technology through which experimentation and mutation occurs, for communication is, just as much as genetics, the mode through which informational patterns are distributed. Communication as the possibility for sharing informational patterns across the physical boundaries that separate diverse beings—including animals, aliens, and AI—is a consistent theme in Varley's work. Varley's focus on communication above physical form or culture as the mode for transgressing boundaries is what

helps the story offer a new kind of subjectivity. Unlike the blind community in Wells' story, those in Varley's story are very familiar with what sight is and what it means specifically in relation to their own identity and rights in society. For Varley, technology as much as language represents one of the ways in which culture and identity manifest themselves. Indeed, Varley often describes language as a form of media technology. Note how Varley describes language as a wave, like those of light or radio, that is, like the medium in which media technologies transmit information.

I began to be more observant. I had thought they were eating in solitude, but soon saw that lively conversation was flowing around the table...I watched in amazement as a ripple of laughter spread like falling dominoes from one end of the table to the other as some witticism was passed along the line. It was fast. Looking carefully, I could see the thoughts moving, reaching one person, passed on while a reply went in the other direction and was in turn passed on, other replies originating all along the line and bouncing back and forth. They were a wave form, like water. (Varley 2004, 245)

This idea of the deaf-blind community's form of communication as a wave draws a parallel to media technology not only in that it refers to the spectrum of energy that is shared by diverse media technologies, but through the implication that each media technology only provides partial access to the entire spectrum. In other words, any one media technology has a limited range of reception or perception of the whole. This is the way in which culture defines bodies, by looking only at a small part of the spectrum and ignoring the whole. As Varley's protagonist begins to feel the effect of his social isolation from the group due to his inability (disability) to access the language, he gains insight into how disability is socially constructed, that is, a matter of context rather than unambiguous "knowledge." Furthermore, he realizes that his own ideas defining communication strictly through either visual or verbal signals are more a matter of a restriction imposed by cultural indoctrination than true limitations on possible modes of communication, and language is one of the means by which such indoctrination occurs. Even in his communications with Pink, a thirteen-year-old girl who can see and speak and who acts as his translator within the

community, the protagonist realizes that he can only access a small part of what Pink understands as communication.

Pink talked to me, but I knew I was finding out what it's like to be deaf...Now this is going to sound crazy, I know. It sounded pretty crazy to me when I thought of it. It dawned on me with a sort of revelation that her word for talk and mine were miles apart. Talk, to her, meant a complex interchange involving all parts of the body. She could read words or emotions in every twitch of my muscles, like a lie detector. Sound, to her, was only a minor part of communication. (Varley 2004, 246-247)

This “revelation” on the part of Varley’s protagonist makes explicit a theme that has been implicit since he began his journey, namely, to “see” the world is not as much about traveling to new landscapes as it is about learning new ways to communicate in order to convey new modes of being in the world. The “persistence of vision” referred to in the story title, referring as it does to the visual effect where an image is retained within the vision even after it is no longer visible, suggests that the protagonist is aware that his perceptions are shaped by what came before. When Varley’s protagonist declares, “I knew I had to stay and learn to speak” (Varley 2004, 249), he is expressing a desire not only to learn the system of communication he has observed amongst the deaf-blind community (the form of the system) but to the possibility of being able to perceive a wider spectrum of ideas rendered invisible within the constraints of his own culture (the content of the system). As the protagonist states, “The strength of the organism was communication” (Varley 2004, 266), because the communication systems of the deaf-blind community are not a control center for the culture, but more like a virus, a delivery system or medium for the constantly evolving organism that would always need to adapt to changing environments and contexts. In a flashback that describes the principles the founder wished to integrate into the community, she determined that one of its few principles should be that knowledge was situated, that is, determined from personal experience, rather than inherited or programmed secondhand.

The second principle was to accept nothing. There had never been a blind deaf community operating on its own. They had no expectations to satisfy, they did not need to live as the sighted did. ...They had been forced into a mold that was not relevant to their needs, but beyond that they didn't know. They would search out the behavior that made sense...It all had to do with social context. (Varley 2004, 249-50)

In its emphasis upon personal or subjective knowledge, Varley's story is reminiscent of Theodore Sturgeon's story. Also reminiscent of Sturgeon's story, "The Persistence of Vision" emphasizes relationships outside of those traditional relationships of family, religion, or work. One is reminded of Fiedler's description of the counterculture as a generation that "mutated through an auto evolutionary process triggered by technology" (Fiedler 1978, 320). Like the counterculture of the 1960s and 1970s (note that Fiedler's book and Varley's short story were both originally published in 1978), resistance to the dominant culture's attempts to force the conformity of the body through the development of new media technologies can only be interpreted on the part of the mainstream as a refusal to be assimilated. Yet it is only through the insistence on self-definition and self-determination as a means of adapting to new contexts that individuals can truly grow, and it is only through the growth of its individuals, its constituent parts, that a culture can avoid stagnation and slow disintegration.

By the end of the second year they had their context. They continually modified it, but the basic pattern was set. They knew themselves and what they were as they had never been able to do at the school. They defined themselves in their own terms. (Varley 2004, 250)

The entire story can be interpreted as a series of misinterpretations on the part of the protagonist, who is constantly blinded to what is really occurring around him by his own "persistence of vision," his preoccupation with interpreting what he perceives through the filter of pre-existing assumptions that restrict the range of the signal he receives to a narrow bandwidth. No matter how much he believes he is aware of, his own preconceptions prevent him from seeing what is

actually happening. Yet, more than that, he discovers that this limited vision is something he shares with Pink, who is, in her own way, also an outsider within the community.

“Where is everybody?” I asked.

“They are all out ***,” she said. It was like that: three sharp slaps on the chest with the fingers spread. Along with the finger configuration for “verb form, gerund,” it meant that they were all out ***ing. Needless to say, it didn’t tell me much.

What did tell me something was her bodytalk as she said it. I read her better than I ever had. She was upset and sad. Her body said something like “Why can’t I join them? Why can’t I (smell-taste-touch-hear-see) sense with them?” That is exactly what she said. Again, I didn’t trust my understanding enough to accept that interpretation. I was still trying to force my conceptions on the things I experienced there. (Varley 2004, 259)

The protagonist discovers that this ***ing is a higher form of communication which the deaf-blind members of the community have, though their able-bodied children are not capable of using it. This incident provokes the final conflict, which arises when the protagonist realizes that, though both Pink and he will always be to some degree outsiders to the main group due to their inability to ***, Pink will never leave the community, while he, the protagonist, will always feel like an outsider and a freak. The protagonist decides to leave the community. The resolution of the story comes in the final page of the story when the protagonist returns to the deaf-blind community. Pink, along with the rest of the able-bodied children, has been rendered deaf and blind, so she and the other children can now ***. Their parents have mysteriously disappeared, transported through or transmuted into the universe somehow through some still-evolving form of ***ing, it is implied. In a mysterious topsy-turvy version of a New Testament miracle, Pink lays her hands on the protagonist and he, also, is rendered deaf and blind, though he now feels happy that he has been integrated into the community.

This rather strange ending follows through on the continued puzzle of the story, that is, the uncanniness of our own sense-experience and the ways, both “naturally” through language and

“artificially” through technology, that we communicate those sense-experiences to each other. Note how Varley’s uncanny *** echoes Sturgeon’s concept of “blesh,” that is, a form of communication which satisfies the desire to join individuals into a networked consciousness. While the uncanniness of blesh and *** can be interpreted as the stereotypical “more than human” sensory abilities ascribed to disabled people, it is also possible to interpret these uncanny communications in the same light in which new technologies have always been viewed, that is, undecipherable due to their inexplicability. This also hints at the possibility that there are higher and higher levels of communication to which we aspire in order to form social groups. Thus, in posing the question of how images of disability relate to emerging technology, it becomes apparent that the technology has the possibility to be either an open system capable of evolving to integrate individual experience and knowledge, or a closed system which uses communication as a means of enacting cultural exclusion.

1.6 The Cyborg Manifesto: Subjectivity in Science and SF After Varley

In considering how Varley’s “The Persistence of Vision” influenced both science and science fiction narratives, we have only to refer to Donna Haraway’s “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” in which Haraway cites Varley’s “The Persistence of Vision” (along with a number of his other stories) as one of the inspirations for the chapter:

One way to read Varley’s repeated investigations of finally always limited embodiments, differently abled beings, prosthetic technologies, and cyborgian encounters with their finitude despite their extraordinary transcendence of ‘organic’ orders is to find an allegory for the personal and political in the historical mythic time of the late twentieth century, the era of technobiopolitics. Prosthesis becomes a fundamental category for understanding our most intimate selves. Prosthesis is semiosis, the making of meanings and bodies, not for transcendence but

for power-charged communication. (Haraway etext)

Haraway's point is that, while by the later part of the twentieth century, technology had become personal and political for all beings, people with anomalous bodies had become allegorical modes for conveying this sense of techno-identity. If technology was personal but also political, however, there was a problem of perspective in portraying technology as an objective material object but also as having personal effects. Haraway's idea of "situated knowledges" addresses the problem of perspective in discussing technology, and states her desire for a new perspective, which she refers to as the "doctrine of embodied objectivity" or "situated knowledges."

If, as Haraway states, "Science is a contestable text and a power field; the content is the form," then science certainly has been a highly contested field for PWD. The voices of people with disabilities have been notably silent within science and technology narratives, and such a silence has been typically interpreted to suggest that PWD have been non-participants in "the knowledge game." Yet PWD are ever-present in science and science fiction narratives, both as innovators and early adopters and adapters of technology. The widescale participation of PWD in science and technology over the centuries supports Haraway's theme that, rather than reducing the significance of disabled bodies to the merely metaphorical, there is a "biological discourse that is absent from literary discourse and its knowledge claims" (Haraway, etext).

In Chapter Two of this work I will further examine the connection between disability and knowledge production in technology by focusing on how contested meanings of prosthetic devices contribute to the construction of identity.

Chapter One Notes

1. Rhysling has become the official poet of SF by having the science fiction poetry prize named after him.

2. Crip theory, which explores the intersection of disability and queer identities, represents the exception. For an introduction to crip theory, refer to *Crip Theory: Cultural Signs of Queerness and Disability* by Robert McRuer, with a foreword by Michael Brub (New York: New York UP, 2006).

3. Of course, the fact that a thirteen-year-old girl is considered physically and emotionally mature enough to have a sexual relationship with a much older man adds a problematical aspect to a story already complicated by issues of agency and self-determination.

Works Cited

Asimov, Isaac. "The Mule," *Astounding Science Fiction*, November 1945.

Bujold, Lois McMaster. *The Warrior's Apprentice*. New York: Baen, 1986.

Butler, Octavia E. "Speech Sounds," from *A Woman's Liberation: A Choice of Futures By and About Women*, Connie Willis and Sheila Williams, eds. New York: Warner, 2001.

Caidin, Martin. *Cyborg*. New York: Arbor House, 1972.

Fiedler, Leslie. *Tyranny of the Normal: Essays On Bioethics, Theology, and Myth*. Boston: David R. Godine, 1996.

— *Freaks: Myths and Images of the Secret Self*. New York: Doubleday, 1978.

Flanagan, Mary, and Booth, Austin, eds. *Reload: Rethinking Women + Cyberculture*. Cambridge: MIT Press, 2002.

Freaks. dir. Tod Browning. MGM, 1932.

Free Enterprise. dir. Robert Meyer Burnett. Mindfire Entertainment and Triad Studios, 1998.

Grosz, Elizabeth. "Intolerable Ambiguity: Freaks As/At the Limit," from *Freakery: Cultural Spectacles of the Extraordinary Body*, Rosemarie Garland Thomson, ed. New York: New York UP, 1996. pp. 55-68.

Haraway, Donna. "Situated Knowledges" from *The Reproductive Technologies Web: RT21* (course Web site) (course Web site), Harvard University.
<http://www.hsph.harvard.edu/rt21/concepts/HARAWAY.html> (May 22, 2006).

Heinlein, Robert. "The Green Hills of Earth," *The Saturday Evening Post*, Feb. 8, 1947.

— "Waldo," from *The Fantasies of Robert A. Heinlein*. New York: Tor, 1999.

Keyes, Daniel. "Flowers For Algernon," *The Magazine of Fantasy and Science Fiction*, April 1959.

Le Guin, Ursula. *The Left Hand of Darkness*. New York: Walker, 1969.

Longmore, Paul K. "Screening Stereotypes: Images of Disabled People" from *Screening Disability: Essays On Cinema and Disability*. Lanham, MD University Press of America, 2001.

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McCaffrey, Anne. *The Ship Who Sang*. New York: Walker, 1969.

Mitchell, David T., and Snyder Sharon L. *Narrative Prosthesis: Disability and the Dependency of Discourse*. Ann Arbor: University of Michigan Press, 2000.

Moon, Elizabeth. *The Speed of Dark*. New York: Ballantine Books, 2003.

Moore, C. L. "No Woman Born," *Astounding Science Fiction*, December 1944.

Reeves, Byron, and Nass, Clifford. *The Media Equation: How People Treat Computers, Television, and New Media Like Real People and Places*. Stanford: Cambridge UP, 1996.

Screening Disability: Essays On Cinema and Disability. Smit, Christopher R. and Enns, Anthony, eds. Lanham, MD University Press of America, 2001.

Star Wars. dir. George Lucas. 20th Century Fox and Lucasfilm Ltd., 1977.

Sturgeon, Theodore. "Baby Is Three," *Galaxy*, October 1953.
— *More Than Human*. New York: Farrar, Strauss, and Young, 1953.

Tiptree Jr., James. "The Girl Who Was Plugged In," *New Dimensions 3*, Robert Silverberg ed. New York: Signet 1974.

Trumbo, Dalton. *Johnny Got His Gun*. New York: Citadel Press, 1991.

Varley, John. "The Persistence of Vision," from *The John Varley Reader*. New York Berkley Publishing Group 2004. pp. 228-270 (originally published in *The Magazine of Fantasy and Science Fiction*, March 1978).

Welles, H. G. "The Country of the Blind," from *The Door in the Wall and Other Stories* (etext). <http://etext.library.adelaide.edu.au/w/wells/hg/w45td/chapter8.html> (April 8, 2006).

— "The Country of the Blind," from *Selected Stories of H. G. Wells*, Ursula Le Guin, ed. New York: Random House, 2004. pp. 365-395.

Chapter Two

Miranda Jones and Me: The Prosthetic Aesthetic and the Techno-Gothic Body

2.1 *Star Trek* and the Intersection of Disability and Technology

Like many people who attend science fiction conventions, I enjoy wearing costumes. One of my favorite costume pieces is a cloak made of an unusual lightweight fabric in dark green with gold wires woven through it in a weblike pattern. Whenever I wear this cloak, sooner or later someone will pause to study it, look thoughtful for a moment as if attempting to retrieve an elusive memory, and then ask, “What is that *Star Trek* episode...?”

The *Star Trek* episode the questioner is thinking of is one from the original *Star Trek* television series titled “Is There in Truth No Beauty?” (original air date October 18, 1968). This episode features Miranda Jones, a blind psychologist who passes as sighted by wearing a cybernetic sensor net woven into her dress. In regard to seeing, this device serves a dual purpose for Miranda because it (1) provides her with the information she needs to “see” her environment, and (2) permits her to influence social relationships by controlling how other people “see” her.

In actuality, my costume bears little resemblance to that worn by Miranda Jones. The only thing the costumes have in common is that they are made of materials woven through with shiny threads, and they are both worn by blind women. So what links these two costumes together in the minds of science fiction fans? I believe that the similarity lies in how Miranda reveals the relationship between the human body and her prosthetic both as technology and as art, that is, as a mode of self-expression that says as much about material form as it does about technological

function.

From the opening title, evoking as it does the famous final couplet of John Keats's "Ode On a Grecian Urn," this episode contains an unusual number of literary and mythic references, many of which indicate a preoccupation with the aesthetics of form. In light of this preoccupation, Miranda's disabled body becomes a vehicle for what Elizabeth Grosz refers to as the "significant nexus of bodies looking at bodies through and as art" (Grosz 2006, etext). Once we begin to think of technology as art, that is, as it is manifested in both the materiality of our bodies and the abstracted meanings we ascribe to our bodily forms, we can begin to see how technology is both personal and political as it is one of the means by which the "body reproduces itself...through its self-representations" (Grosz 2006). Just as Miranda Jones appropriates the technology of the sensor net to create a self-representation of her body for the public gaze, media consumers like myself appropriate the visual and textual images from science fiction media like this episode to create self-representations of our own relationships with technology.

From the opening shot of "Is There in Truth No Beauty?", when we hear the standard voiceover of Kirk's entry about the current mission in his captain's log, we are forced to focus on definitions of the non-normative body. Kirk, initially unaware that Miranda is blind, focuses his gaze—and his definitions of non-normativity—upon Kollos, the ambassador of an alien race named the Medusans, whom Kirk must transport back to his home planet. Accompanying Kollos is Miranda Jones, a telepathic psychologist whose abilities have qualified her to become Kollos's companion. As Kollos and Miranda board the *Enterprise*, we find out that the job of being Kollos's companion had originally been offered to Mr. Spock, whose half-Vulcan ancestry has given him the ability to "mind meld" with other beings.

The three characters of Kollos, Miranda, and Spock all complicate definitions of what is

“human,” both in the variation represented in their physical forms and in the ways in which more abstracted characteristics of “being human” are attributed to them. Since the nineteenth century, traditional narratives rooted in naturalism have defined humanity through a contradictory duality, that is, as a matter of physical and material form or biological integrity but also as a dematerialized abstraction of intellectual and aesthetic attributes. One of these attributes is that of being bounded by an individual sense of autonomous self, or identity, while a second but just as important attribute is that of the Platonic principle of being able to recognize and appreciate beauty (indeed, the title of this episode points directly to this attribute). Kirk’s description of Kollo in the opening voiceover expresses these often conflicting definitions of human by actually describing two very different Kolloles: the “sublime” Kollo of the mind and the “hideous” Kollo of the physical form: “While the thoughts of the Medusans are the most sublime in the galaxy, their physical appearance is exactly the opposite. They have evolved into a race of beings who are formless, so utterly hideous that the sight of a Medusan brings total madness to any human who sees.”[1]

If Kirk’s description of Kollo is preoccupied with the form of the alien, his description of Miranda also focuses on her form, as he praises her beauty. Yet Kollo is not the only being who complicates the definition of “human” as a matter of biological and mental integrity. Kirk is shocked to discover that Miranda is blind, and that she sees through the use of the technological sensor net instead of the biological sensory organs of the eyes. From the moment Kirk finds out that Miranda is blind, he regards her knowledge and opinions with suspicion, as if the credibility of what she “sees” and thus “knows” has been cast into doubt. Kirk’s antagonism toward the “evidence” of Miranda’s senses strikes a particularly resonant note with my own experience as a blind person, that is, it illustrates a cultural prejudice regarding how “seeing” and “knowing” often seem to be interchangeable terms in our highly visual culture. Mr. Spock’s body also proves to challenge the idea of human as bounded physically and mentally when Spock mind melds with

Kollos so that Kollos can navigate the ship after it has been thrown off-course into unknown space. As the triangle of Kollos, Miranda, and Spock repeatedly swap information packets of consciousness, they complicate the Cartesian split between embodiment (materiality) and mind or consciousness (information). More notably, this triad complicates the liberal humanist construction of human as a being with a unique sense of self defined by a single physical form. Such a virtual swapping of consciousness echoes not only the gothic sense of the “sublime” which draws the individual into a shared sense of being one with a greater consciousness, but it also echoes the mythic (and feminine) triads of both the Gorgons, the three sisters of whom Medusa was one, and the Graeae, or “Grey Ones,” older sisters to the Gorgons. Both of these mythic triads presented iconic images of the eyes as a locus for the threat non-normative bodies present to the definition of the bounded self—the Gorgons with their gaze that can turn a man to stone and the Graeae with the single tooth and eye they share between them (this is the eye that Perseus stole in order to force them to tell him where he might find the winged sandals and helmet of invisibility he needed to kill Medusa, adding another layer to the metaphor of eyes as a locus of information exchange).

In the triad of Kollos, Miranda, and Spock, the eyes represent weak points in the integrity of both the body and identity (that is, identity as it is related to reason or truth as it is referred to in the title of the episode). Kollos, from a race whose name is reminiscent of the Medusa, can cause any human who looks at him to go mad by losing his reason (or “forgetting himself”). Miranda has eyes that do not work as human eyes should, and when Kirk finds this out, he seems to interpret all her actions as potential threats, as if she herself has lost her reason, or is someone who, like a child, makes unreasonable claims about her identity and ability (another aspect of the experience of disability which I find particularly resonant). Spock, who, in order to mind meld with Kollos must wear a special visor that prevents him from actually seeing Kollos, in a moment of distraction forgets to use the glasses (which fill the role of the mirror given to Perseus by Athena

in the original Medusa myth) and, as a result, temporarily loses his reason. The eyes as the means by which sentient beings communicate their nature to one another are also points of weakness in the material integrity of the body, and, for these three beings who can swap identities with ease, a distracted gaze into one another's eyes may well cause them to lose all sense of self.

This motif of loss or lack of physiological integrity being linked to lack of reason or psychological integrity is often a theme in narratives that feature disabled characters (for example, Richard III in Shakespeare's play by the same name, or Captain Ahab in Herman Melville's *Moby Dick*[2]) and it carries the implication that, if the whole and healthy body is a temple, then the disabled mind and body are gothic ruins.[3] Frankenstein's creature is an example of how the aesthetic sense of the human form undergoes a dark alchemy which often integrates disability and technology, producing strange new chimeras (consider how Mary Shelley, herself part of a mythic triad consisting of her and her husband and the poet, Byron, included in her novel *Frankenstein* a blind character who is the only human who offers friendship to the creature everyone else views with horror). Frankenstein's creature, in its cinematic form, demonstrates how visual media itself influences the way we think of the human body by its emphasis on seeing, and this is as true within narratives of drama and fiction as it is within narratives of science and technology. Marjean D. Purinton in an article titled "Byron's Disability and the Techno-Gothic Grotesque in *The Deformed Transformed*,"[4] states

Both gothic and science were discursive fields upon which anxieties about social identity and physicality could be displaced, and the gothic conventions of drama were particularly convenient for playwrights' use in negotiating the influences of science upon culture. The strategy for performing the discourses of science, I call the "techno-gothic," an ideologically charged and melodramatic structure in which disturbing issues and forbidden experiences are recontextualized by the intersecting fields of the supernatural and science—or the gothic and technology.[5] (Purinton 2001, 301)

Other scholars such as Paul Youngquist have linked images of the gothic or "ruined" body, in

particular those bodies belonging to Romantic poets such as Byron and Keats, with medical and cultural narratives concerned with images of disability as a threat to the health of the society. The techno-gothic body is dangerous because it lacks boundedness, allowing other essences to slip in and out of its borders like a sort of contagion. It is this mingling of essences which is paradoxically framed as “transcendental” or “sublime” but also “horrifying,” as it simultaneously promises communion and union with other beings as a balm to feelings of isolation and loneliness and also threatens the liberal humanist idea of the individual as unique and possessing agency independent of other entities. Such invasions of the mind and body, however, threaten not only the individual but the society that individual is a part of. Youngquist, citing British narratives concerned with Byron’s disabled body as lacking some vital physiological or moral essence, demonstrates how such techno-gothic bodies can threaten to contaminate the entire social body as manifested in the identity of the group, including that of the national identity.

This techno-gothic motif of the body being defined through lack and loss is also, however, referenced in the postmodern concept of virtuality, that is, lack of materiality, presence, or individual identity. N. Katherine Hayles uses the term “distributed cognition” (Hayles 1999, 3) to describe how thoughts and identity may be located outside of the individual body, and describes its impact upon individual agency thusly: “If ‘human essence is freedom from the wills of others,’ the posthuman is “post” not because it is necessarily unfree but because there is no a priori way to identify a self-will that can be clearly distinguished from an other-will” (Hayles 1999, 4).

Within the larger context of media theory, however, this association of the techno-gothic as mingled essences with loss of agency and the contamination of identity could also become a metaphor for the potentially dangerous identity-confusing nature of media technology itself. Mainstream and academic critics of media have often used the argument that media consumers “lose themselves” through over-identifying with the media they consume, or even attributing

human attributes such as personality or emotions to technology.[6] Such moral panics point to a cultural anxiety about defining the boundary between the human and the technology, yet such boundaries often depend upon perspective. Paul Virilio has specifically named this effect “the Medusa Syndrome”: “When you stare at the Gorgon, the sparkle in her eye dispossesses you, makes you lose your own sight, condemns you to immobility” (Virilio 1994, 40).

Contemporary postmodern and media theorists thus both connect technology to the loss of identity through lost perspective. Yet perspective as it frames what should be seen and what should remain “cloaked” cannot be entirely freed from the dominant social institutions and practices that can only designate the normative form through the establishment of a privileged perspective. In other words, what passes as normal depends on where you are standing when you look. Miranda’s story, as it expresses a struggle over the prospective perspective, that is, who should be narrator of her story, her or Kirk, reflects a similar struggle that was occurring at the same time within the domain of cybernetic theory. According to N. Katherine Hayles, while the first wave of cybernetic theory (1945-1960) under the influence of Norbert Wiener emphasized the concept of homeostasis, during the second wave (1960-1980) theorists such as Gregory Bateson and his wife Margaret Mead developed the concept of reflexivity. (The third wave, which includes our present historical moment, concerns ideas of virtuality) (Hayles 1999, 7). Reflexivity, similar to subjectivity in literary criticism, questioned the role of the narrator in science narratives. Hayles points out how reflexivity cast into doubt the role of the objective observer (another designation that lays claim to a privileged perspective for looking), defining reflexivity as “the movement whereby that which has been used to generate a system is made, through a changed perspective, to become part of the system it generates” (Hayles 1999, 8).

In relating this idea of reflexivity to Kirk’s reaction to his discovery of Miranda’s blindness and her use of a prosthetic, we have an example of how perspective can transform the meanings

ascribed to both disability and technology as Miranda and Kirk argue over how both of these aspects affect Miranda's identity and abilities. In "A Leg to Stand On," an essay she wrote about her own use of a prosthetic leg, Vivian Sobchack claims that the meanings attached to the prosthetic cannot be decontextualized from the disabled body itself, that is, from the point of view and the lived experience of the disabled individual who is literally and figuratively attached to that prosthetic. Similar to Kirk's reaction to Miranda's prosthetic, whether cultural theorists speculate upon the prosthetic as a "less than" human lack or a "more than human" extraordinary body, such speculations can only be formulated by assuming the spectator/speaker represents the normative perspective of a whole and able body:

The metaphor of the prosthetic and its technological interface with the body is predicated on a naturalized sense of the body's previous and privileged "wholeness." Furthermore, this corporeal wholeness tends to be constituted in purely *objective* and *visible* terms: body "parts" are seen (from an "observer's" point of view) as missing or limited, and some "thing" other (or some "other" thing) is substituted or added on to take their place. (Sobchack 2006, etext)

Sobchack makes the point that the simultaneous claims to objectivity and possession of bodily wholeness are not as unambiguous as these able-bodied speakers might assume, and her point is underscored in the intertextual relationship between her own essay written from the perspective of a disabled person with a prosthetic and a second work bearing the same title which offers its own ambiguous perspective of disability. This second work which shares the title *A Leg to Stand On* was written by cognitive psychologist Oliver Sacks, who often writes from the privileged perspective of the medical and literary expert discussing people with disabilities. Yet in his book, Sacks writes about the prolonged period he himself spent as a temporarily disabled patient after damaging his leg. What Sacks found most disorienting about this experience was how the reversal in perspective affected his sense of identity as he found himself in the role of patient while other doctors spoke about his experience from their perspective of privileged experts. These two narratives by Sobchack and Sacks which share a single title demonstrate how definitions of

disability are not only subjective but, through the process of reflexivity, can become political in the way they offer oppositional interpretations to those theorized by the “experts.” Furthermore, within the context of culture at large, reflexivity has “subversive effects because it confuses...the boundaries we impose on the world in order to make sense of that world” (Hayles 1999, 8-9).

In considering the role reflexivity played in the narrative of the *Star Trek* episode under discussion, we can see how Miranda actually represents a double threat for Kirk. First, she threatens to upset Kirk’s position as the privileged observer who is qualified to claim objectivity in his judgment of other bodies and beings as non-normative. Second, Miranda threatens Kirk’s position of authority, for Kirk’s physical and social authority is based upon his body being constructed as the most able body. However, if Miranda’s prosthetic allows her to do everything Kirk can do, and possibly better than he can do it, it endangers the definition of Miranda’s body as disabled, and, in turn, Kirk’s body as abled. In comparing Miranda’s prosthetics to other SF characters with prosthetics, such as Heinlein’s Waldo or *Star Wars*’ Darth Vader, can she still be defined as “disabled”? And if her prosthetic allows her a greater ability to control and manipulate her environment, does she in fact possess a body that is superior to the able bodies? This tension between the disabled body being “less than” and “more than” human is one of the defining characteristics of disability in both the fictional narratives such as those that appear in this and other *Star Trek* episodes, and in nonfictional scientific and medical narratives.

The construction of Kirk’s body as abled, however, cannot be entirely separated from his positioning as white, male, and heterosexual, and this gender implication definitely plays out in the differences between the female cyborg and the male cyborg in science fiction narratives, much as gender plays out in the “feminine” versus the “masculine” gothic traditions.[7] Consider, for example, the disabled character of Helva in Anne McCaffrey’s novel *The Ship Who Sang* (1969), in which the “shell person” Helva’s body and thoughts are integrated in a very material

sense into a space ship, and Helva's male companion is reduced to fulfilling the role of "brawn." The mind boggles to think of Kirk in this role, but at the same time one can see how having the female literally assume the lead by embodying the technology of the bridge, including all surveillance and navigational systems, would endanger the male role of authority due to both his able body and his gender. To understand how reflexivity as perspective can threaten the cultural order, McCaffrey uses the device of having Helva use her technological sensors as a mode of offering a dizzying range of possible perspectives to the reader. This Swiftian narrative of how disruptions in perspective, from the microscopic to the panoramic, could be used to challenge social order can be contrasted to the title character of Martin Caidin's *Cyborg* (1972), which was the basis for the 1970s television series *The Six Million Dollar Man*. The role of the eye in providing perspective is discussed in the very first meeting between the title character, a military test pilot who lost a number of his own limbs and sense organs in a crash, and the military doctor who initially proposes that the pilot consider becoming a cyborg.

"There are different ways for an eye to be useful," Goldman told Steve. "We propose one of these for you."
"Mind identifying the 'we'?"
"Your government." (Caidin 1972 156-7)

Note how usefulness to the society becomes a theme in the Caidin narrative. This is a theme shared with the McCaffrey novel, also, and it points to one of the ongoing conflicts in disability and technology narratives, that is, the tension between the self-representations of disability which are proposed by the disabled individual and the representations produced by the society.

Returning to the contested meanings of Miranda's prosthetic offered by Kirk and Miranda, it becomes apparent that reflexivity insists on contextualizing the social institutions and practices to which the cyborg aligns her or himself. Kirk's own "prosthetic" technologies, such as the communicator, the command and control technology of the bridge, even the ship, which occupies a strange in-between space as an aspect of Kirk's own "vision" as he looks out through its sensors, align him with the traditional masculine institutions of the government and the military.

Kirk's technologies are unmarked—and go unremarked—because they are seen as part of the “natural order” of society, specifically the democratic society. Such technologies become “cloaked” or transparent because they are categorized as being an aspect of “us.” Miranda, however, by aligning herself with the alien Kollos, has marked herself as “other.” In this paradigm, the networked consciousness of “us” is benevolent, while the networked consciousness of “them” is threatening. Consider how the ability to network individual consciousness with strange “others” is framed as paradoxically an evolutionary step up and a threat to the present social order in such stories as Theodore Sturgeon's *More Than Human* and John Varley's “The Persistence of Vision.” Thus, the prosthetic is a contested locus of meaning because it represents a material object through which an individual represents not only individual identity but the identity of the social group that individual is part of. Technology thus becomes a mode of representing whether the disabled person has been assimilated into either the “us” consciousness or the “them” consciousness (consider the threatening prosthetics of other science fiction characters such as Darth Vader or the Borg). If the eyes are a means for communicating the thoughts and identity of an individual, uncanniness is not so much a matter of the individual allowing some “other” entity to look out through her eyes, as which entity the individual allows to look out through her eyes.[8]

2.2 What Lies Beneath: The Uncanniness of Disability and Technology

In his short story “Cathedral,” Raymond Carver has his protagonist, a man who resents his wife's blind friend who has been invited to visit their home, say, “Everything I know about blindness I learned from the movies” (Carver 1990, 270). The protagonist thus makes a direct reference to mainstream media as being complicit in his limited knowledge and experience regarding blind people. Furthermore, the protagonist's own attitude of open resentment of the blind man who the protagonist feels is invading his home can be interpreted as a reflection of cultural attitudes

toward people with disabilities, who are often framed as incomprehensible alien “others” who insist on invading the public and private spaces of the able-bodied “normal” people. Carver’s story makes explicit the idea that media images often serve as the main mode by which the able-bodied culture experiences and becomes informed about people with disabilities. As in the case of Carver’s narrator, such images can reaffirm and even reinforce social practices stemming from the socially constructed framing of people with disabilities as being, to use Freud’s term, uncanny.

In his essay on the uncanny, Freud uses disability to illuminate his idea of the uncanny as those things which must be kept hidden. Freud points out that what is disturbing about the exposure of such mysteries—in the context of disability, these mysteries would involve the workings of the human mind and body—is that such exposures remind the (able-bodied) observer that such processes exist even within his own body.

The uncanny effect of epilepsy and of madness has the same origin. The layman sees in them the working of forces hitherto unsuspected in his fellow-men, but at the same time he is dimly aware of them in remote corners of his own being. (Freud 2006, etext)

In relating this idea of the uncanny to technology, the split between mainstream technology and “special” technologies for people with disabilities may be a reflection of other issues of definition, that is definitions of what a normative body should be and what the boundary should be between the normative body and the technologies it makes use of. Yet, in recent years, this distinction between the biological body and the technological body has become equally confused for all bodies, not just disabled ones. A disabled body is traditionally defined by its limitations and its reliance upon technology, as Friedrich Kittler points out in a discussion which relates Thomas Edison’s deafness to his invention of the phonograph

It was not coincidental that Edison...built the phonograph...he screamed into the bell-mouth not only because phonographs

have no amplifiers but also because Edison...was half-deaf. A physical impairment was at the beginning of mechanical sound recording—just as the first typewriters had been made by the blind for the blind, and Charles Cros had taught at a school for the deaf and mute.

Whereas (according to Derrida) it is characteristic of so-called Man and his consciousness to hear himself speak and see himself write, media dissolve such feedback loops. They await inventors like Edison whom chance has equipped with a similar dissolution. (Kittler 1999, 23-4)

The dissolution of physical limitations as boundaries between the self and the technology it uses is an aspect of scientific innovation, sublime in the sense of “transcending” and horrifying in the sense of “transgressing.” Ray Kurzweil, a technology innovator whose work has benefited both the mainstream and people with disabilities, often discusses his own work in terms of transcending biological limitations: “[W]hat’s unique and compelling about human beings is that we seek to surpass our limitations. Other people would rather celebrate our limitations, but we didn’t stay on the ground. We won’t stay within the limits of our biology...” (Jahnke 2004, online article).

Kurzweil’s words concerning biological limitations take on an uncanny connotation in regard to his status as one of the foremost thinkers in the topic of “the Singularity,” that is, “the moment when human intelligence can be digitized” (Doctorow 2005, etext). In an interview with Kurzweil, science fiction writer Cory Doctorow explains Kurzweil’s theory about the singularity thusly:

The Kurzweil Singularity goes like this: computers get better and smaller. Our ability to measure the world gains precision and grows ever cheaper. Eventually, we can measure the world inside the brain and make a copy of it in a computer that’s as fast and complex as a brain, and voila, intelligence.[9] (Doctorow 2005, etext)

Kurzweil’s words evoke a posthuman version of the Romantic techno-gothic, with its intertextuality between the fictional and scientific narratives. Like the uncanny boundary

crossings that occur between the networked consciousness of Miranda, Kollos, and Spock, the conceptualization of thought and personality as transferable media could not have been conceived of until media technologies such as radios, telephones, and computers had rendered such thought transfers ordinary. The everyday practices of regarding consciousness as something fluid and formless capable of being channeled and conducted can be witnessed in the fact that it is a trope which is just as popular in the narratives of naturalism and realism as in science fiction (though such narratives usually prefer to use this image implicitly through the use of analogy and metaphor, rather than explicitly through such information representation systems as physics, engineering, or biochemistry, as in SF). In his book *Haunted Media*, media scholar Jeffrey Sconce addresses how realist writing has demonstrated its own preoccupation with the boundary crossings of the able body through its use of technology:

Writing in the age of Victorian electrification, meanwhile, psychologist William James coined the now familiar phrase “stream of consciousness.”...Most recently, Raymond Williams provided media studies with the concept of flow, a term now in general critical circulation to describe the unending and often undifferentiated textual procession of electronic media and their reception in the home. The cultural articulation of “presence” around electronic media thus depends in large part on how the public imagination of a given historical moment considers these flows of electricity, consciousness, and information to be homologous, interchangeable, and transmutable....Such electrical possibilities for fusion and confusion, of course, remain central in describing both the wonders and horrors of an emerging cyberculture. (Sconce 2000, 8)

Sconce’s description of cyberculture as possessing both “wonders and horrors” located in its “possibilities for fusion and confusion” recall not only the confusion and fusion of the Kollos/Miranda/Spock triad, but Kirk’s confusion regarding the fusion, or incorporation, of Miranda and her prosthetic. Vivian Sobchack has pointed out how cultural theory has often failed, like Kirk, to fully grasp how an inorganic object can be incorporated organically into a human’s identity and abilities. I believe, however, that she underestimates how the prosthetic, as a material object and a theoretical concept, embodies cultural hopes and anxieties regarding the ways

technology, including those fields such as biotechnology and cognitive science, have revealed to public view the interior workings of our own physical bodies and brains. Evidence of this struggle over meaning is apparent in the fact that the very word “prosthetic” has contested meanings, not just within the domain of cultural studies, but from one domain to another. According to both disability and science and technology studies scholars,[10] the term prosthesis (the plural of prosthetic) used to be applied almost strictly to those surgical procedures or devices which literally filled a lack or gap in the human body. It is only during the twentieth century that its definition has undergone numerous changes, reflecting the increasing variety and sophistication of both the prosthetic devices and their users. While the defining characteristic of the prosthetic used to be “lack,” the newer definitions associate themselves with the idea of “augmentation,” as in technological devices that allow the human body and its senses to insert themselves into the environment. The domains of disability studies, cultural studies, science fiction, and mainstream culture all offer very different distinctions between what is or is not a prosthetic,[11] and these express very different ideas about how the body and identity are constructed. Even within the domain of disability studies, some scholars include biotechnology, such as drug and gene therapies, as prosthesis, while other scholars disagree with such a definition.

Clashes over the literal and material definition of prosthesis often arouse notable levels of discomfort and even anger, and I would suggest that these intensely emotional reactions indicate that it is because the prosthetic has become a liminal object. Much like the definition of the “freak” (that other trope so closely associated with disability through cultural and science narratives), the prosthetic has come to represent the boundary between human and alien, the familiar and the uncanny. Such cultural and personal anxieties are increasingly internalized as science and technology reveal us as uncanny aliens, even to ourselves.

The uncanniness of science fiction for the mainstream arises in part at least from the fact that it

shares its metaphors and terminology as much with the sciences as with the humanities. In turn, science has, at least from the time of H. G. Wells, borrowed its metaphors and tropes from science fiction. Katherine Hayles explores how, at least since the first wave of cybernetics, scientists like Norbert Wiener have used disabled bodies and their use of prosthetics for thinking about human-machine interfaces (refer to Wiener's numerous discussions of deaf people in works such as *The Human Use of Human Beings: Cybernetics and Society*). Such metaphors are just as likely to familiarize the uncanny as to defamiliarize the familiar. Second-wave cybernetics, in turn, not only continued to use examples of disability and prosthetics in considering human-computer interfaces, but sought to demonstrate that categories which maintained boundaries between disabled and abled bodies based upon their separate use of prosthetics were not as distinct and unambiguous as previously thought.

Of all the implications that first-wave cybernetics conveyed, perhaps none was more disturbing and potentially revolutionary than the idea that the boundaries of the human subject are constructed rather than given. Conceptualizing control, communication, and information as an integrated system, cybernetics radically changed how boundaries were conceived. Gregory Bateson brought the point home when he puzzled his graduate students with a question koan-like in its simplicity, asking if a blind man's cane is part of the man. The question aimed to spark a mind-shift. Most of his students thought that human boundaries are naturally defined by epidermal surfaces. Seen from the cybernetic perspective coalescing into awareness during and after World War II, however, cybernetic systems are constituted by flows of information. In this viewpoint, cane and man join in a single system, for the cane funnels to the man essential information about his environment. The same is true of a hearing aid for a deaf person, a voice synthesizer for someone with impaired speech, and a helmet with a voice-activated firing control for a fighter pilot (Hayles 1999, 84).

Such changing definitions continue through our current debates about technology and how it affects our view of ourselves as human. In his book *Flesh and Machine: How Robots Will Change Us*, Rodney Brooks, director of the MIT Computer Science and Artificial Intelligence Laboratory, addresses the cultural debate over technologies that lie both over and under the skin.

Recently, I was confronted with a researcher in our lab, a double leg amputee, stepping off the elevator that I was waiting for. From the knees up he was all human; from the knees down he was robot, and prototype robot at that—metal shafts, joints full of magnetorestrictive fluids, single-board computers, batteries, connectors, and wire harnesses flopping everywhere; not a hint of antiseptic packaging—everything was hanging out for all to see.

Researchers are placing chips in animal, and sometimes human, flesh and letting neurons grow and connect to them. The direct neural interface between man and machine is starting to happen. At the same time, surgery is becoming more acceptable for all sorts of body modifications...And while all this is happening, cellular-level manipulation of our bodies is becoming real through genetic therapies. (Brooks 2002, x).

Brooks's dizzying description of how technological augmentations and modifications of the human body can range from the invisible manipulations at the genetic level to the visible addition of retro-fitted limbs provides a Swiftian montage of perspectives of the human body. It is, however, Brooks's description of his fellow scientist, who walks through the public halls of the MIT AI Lab with his prosthetic works "hanging out for all to see," that offers the most vivid example of how prosthesis give material form to the biomorphic—that is, changing biological forms—incarnate in all human bodies, even when they are not the chimeras of human, machine, and animal represented by the most extreme examples. In a later chapter of his book, Brooks provides more description of Hugh Herr's own work (Herr being the cyborg Brooks saw at the elevator), and how Herr's work merges human, robotic, and animal parts. The section in which Brooks describes Herr's work is titled "Us As Them" (Brooks 2002, 213-4), conveying Brooks's message that any distinction between his body and Herr's is one of degree, not dual opposites. Indeed, Brooks's chapter titles, such as "We Are Special" and "We Are Not Special," play with a

number of the binary oppositions inherent in the themes of the Miranda Jones episode (though perhaps none evoke the human/alien binary as specifically as the chapter titled “Planetary Ambassadors”).

In considering how science fiction metaphors and tropes become disseminated into the theoretical ideas that become the technologies of tomorrow, one can perceive a possible reason for the popularity of science fiction amongst disabled readers. If people with disabilities represent a demographic group which, collectively, often has the most at stake, socially, economically, and politically, in cutting-edge technology, science fiction becomes a robust framework for working through the complex tensions between individual identity and cultural attitudes. Additionally, science fiction, even for the scientists, is the language in which people think and talk about technology. While the mainstream can afford to dismiss science fiction as “not real,” those who must acknowledge the everyday role technology plays in their lives look to science fiction as a simulation for testing the social and personal effects of future technology:

...it’s the science fiction community that creates and popularizes the language with which we name the future...In the hands of these postmodernist fiction purveyors, the simulacrum has an uncanny knack of becoming the “real” that other people must ultimately assimilate without the advance preparation the community affords its own members. (Bacon-Smith 2000, 1)

Bacon-Smith’s observation that science fiction provides the language for talking about technology can be enlarged upon to suggest that science fiction acts as a domain of inquiry for developing a set of tools such as vocabulary and methodologies necessary for the production of knowledge. The need for a useful and accessible language with which to develop such tools for thinking becomes, within the context of disability, a means for working through the personal and social effects of the technologies they embody. Indeed, cognitive scientist Andy Clark (whose book, *Natural Born Cyborgs*, contains its own share of science fiction references[12]) states that all humans embody technology due to the way in which technology becomes incorporated into

their thinking:

The human mind, if it is to be the physical organ of human reason, simply cannot be seen as bound and restricted by the biological skinbag. In fact, it has never been thus restricted and bound...The mind is just less and less in the head. If we do not always see this, or if the idea seems outlandish or absurd, that is because we are in the grip of a simple prejudice: the prejudice that whatever matters about my mind must depend solely on what goes on inside my own biological skin-bag, inside the ancient fortress of skin and skull. This fortress has been built to be breached...It is because we are so prone to think that the mental action is all, or nearly all, on the inside, that we have developed sciences and images of the mind that are, in a fundamental sense, inadequate to their self-proclaimed target. So it is actually important to begin to see ourselves aright—it matters for our science, our morals, and our sense of self. (Clark 2003, 4-5)

In light of Clark's suggestion of a cultural prejudice against the idea of the body as an object always compromised by technology, Miranda's prosthetic and Kirk's angry reaction to it can be interpreted as a manifestation of the culture's insistence that the prosthetics of people with disabilities remain in a separate category from those of the mainstream and able-bodied, and the insistence upon maintaining such distinctions helps preserve traditional cultural values regarding the body as whole and bounded. As in the face of Miranda's challenge to Kirk that, with her prosthetics she possesses the same, or better, abilities than his, culture, like Kirk, can only take the moral high ground and refuse to speak, sidestepping the issue of its own prosthetic devices. Thus, ultimately, science fiction offers an interpretive community for those who wish to explore the significance of their own prosthetics and morphing bodies. This could explain in part why science fiction fans as media consumers often seem to be the targets of open mockery on the part of the dominant culture, for the images of the strange, shifting bodies so rife throughout science fiction media echoes Miranda's challenge to Kirk regarding the definition of the body and the authenticity of its perceptions. It might well be, however, that it is another aspect of science fiction which typically draws negative comments from the mainstream that explains another link between disability and science fiction: the narrative structures of science fiction itself. I am not

referring here to the themes and tropes I have discussed previously, but the strange shifting perceptual perspectives which non-science fiction fans find so confusing about science fiction.

2.3 Communing With Caliban: Diversity and the Problem of Recognition

I have so far offered two modes for interpreting the character of Miranda: first, through the uncanniness of her eyes, and second, through the uncanniness of her prosthetic. There is a third mode for interpreting Miranda as a character, however, and that is related to Miranda's name. In Shakespeare's play *The Tempest*, Miranda is the daughter of Prospero, the magician. Miranda and Prospero had been shipwrecked on a magical island after her father had been exiled. They have two servants whom Prospero has enslaved with his magic: Ariel, a fairy creature who performs magic at Prospero's bidding, and Caliban, who does the hard labor. The contrast between the positions Ariel and Caliban occupy in Prospero's regard, and therefore in the society of the island, is connected to their physical forms. Ariel's airy form indicates it is a higher and more refined being, while Caliban's misshapen body and often incoherent language are the subject of much abuse from others.[13] The tempest of the play's title causes a second shipwreck, and a new group of humans are cast up onto the island. Miranda falls in love with Ferdinand, the young prince. Within the scope of Shakespeare's play, Miranda's falling in love with Ferdinand is one of the first steps on the path to reconciliation and reassimilation into the main society for both Miranda and her father Prospero (indeed, Prospero intimates that he initiated this reconciliation by having implemented his magic to create the tempest that caused the shipwreck).

Miranda's entire role within Shakespeare's play is to be a sort of sensory receiver, that is, to listen to her father's monologues and to respond to the oppositional forms of Caliban (whose description makes him sound much like the Creature from the Black Lagoon, an amphibious monster who tries to abduct the heroine) and Ferdinand (the handsome prince). Indeed, it is

Miranda's first sight of Ferdinand that causes her to declaim her most (and really, only) famous lines:

O, wonder!
How many goodly creatures are there here!
How beauteous mankind is! O brave new world,
That has such people in't!

Derived from the Latin word *mirari*, "to wonder at, to admire," Miranda's name also suggests her role as a mirror for reflecting the wonders of the human form and the beautiful representational forms humans can produce through their arts. Yet one of the oldest meanings of "mirror" (dating to the time of Chaucer's own writing), suggests the attribute of being a paragon, of having qualities worth patterning oneself upon. The transitive verb "mirror" further suggests the characteristic of reflecting the qualities of others in one's own being.[14]

But how does this relate to the Miranda in *Star Trek*? Consider a blind Miranda: how can she be a mirror for his human (and masculine) attributes? How can she, in turn, mirror the proper attributes in her own being? The problems are problems of recognition: Miranda can neither recognize her human lover nor recognize his superiority to such a monster as Kollo (whose name even vaguely echoes that of Caliban). If Miranda cannot recognize the form and attributes of being human, she may well make the wrong choice, choosing the monster over the man. The Caliban of Shakespeare's play is not intelligent or sophisticated enough to lure Miranda away, but also the monster Kollo is. His knowledge of literature and his appreciation of beauty are human attributes: not only is Kollo allowed to steal Shakespeare's Miranda's most famous lines, but his Romantic gesture of reciting Byron to Uhura makes Kollo human in his ability to follow the Platonic doctrine of appreciating beauty. Yet it is not only his own identity which is being complicated, for it is Spock's eyes that linger on Uhura, Spock's voice that recites the romantic lines to her, thereby compromising one of the main characteristics of Spock's identity, that is, that

Spock allows emotions to color his words and actions. This remains one of the most provocative aspects to using a disabled protagonist or disabled protagonists in a narrative: it is not just the disabled protagonist(s) whose identity is thrown off-balance.

It may well be that part of Kirk's anger at discovering Miranda's blindness is her insistence on choosing inappropriately,[15] that is, choosing to spend her life not just with an alien, but a monstrous alien at that, and that this possible error is linked to Miranda's "inauthentic" sensory equipment. After all, we as the audience know that Miranda should end up with the handsome prince, not the monstrous beast.

This preoccupation with form as an expression of truth evokes, as does the title of the episode, the final couplet of Keats's poem "Ode On a Grecian Urn":

'Beauty is truth, truth beauty,'—That is all
Ye know of earth, and all ye need to know.

These two lines, problematical as they have proven to literary critics, frame the paradoxes within Miranda's own narrative. Can she truly, as she claims, see Kollos's "inner beauty"? Are Kollos's thoughts truly so "sublime" that his ugliness of form can be overlooked as irrelevant? Should we still regard the alien nature of Kollos's form with some suspicion, and interpret his ability to invade the human form and consciousness as a potential threat? Can we ever truly believe Miranda will throw Ferdinand over for Caliban?

Such paradoxes seem to be merely postponed, rather than resolved, by the utopian message within the final scene of the episode. Miranda, on her way to take up residence on a new world which promises new configurations of the body and new modes of communication, pauses to exchange farewells with Mr. Spock. Miranda and Spock's parting words to one another are a

reaffirmation of the role of diversity in the universe, symbolized in the symbol Spock wears in honor of Miranda: “infinite diversity in infinite combination.”

Yet as much as the show speaks of diversity, one senses the implication that there are still limits to what should fall within the identifiable limits of “human,” and non-normative bodies, whether they are framed as “freak,” “disabled,” or “alien,” will always be used to mark those limits. In order for most bodies to be framed as “normal” and “superior,” after all, there must exist forms which demonstrate the opposite. Any suggestion regarding self-identifying or self-making poses serious threats to the social institutions and practices that are invested in the construction of the normal body.

Perhaps such uses of the disabled body and its technology as a mode of conveying resistance to the construction of the normative body explains why disabled bodies figure so prominently in science and science fiction narratives. Alaquere Roseanne Stone begins her book on technology and its role in her own identity with a meditation on how she fell in love with Stephen Hawking’s prosthetics[16] because it is through his use of technology that she came to recognize her own.

Stone goes on to summarize her thoughts on identity and technology by writing,

Stories of body and self and the communities they form make up much of the groundwork of our lives. I say bodies and selves not because we are children of Descartes, and must keep them separate...but because the coupling between our bodies and our selves is a powerfully contested site, densely structured, at which governments, industries, scientists, technologists, religious fanatics, religious moderates, media practitioners, and scholars fight for the right to speech, for a profoundly moral high ground, and not incidentally for the right to control the epistemic structures by which bodies mean. (Stone, p. 84)

If technology becomes a means by which we as humans indulge our Protean natures in order to satisfy the desire to transform ourselves, there arises the question of recognition, for if technology can be used to extend, or even enhance, the body, how shall we define the human as a whole,

single, and biologically organic body? What should we be looking for in the attribute of “human”? What sort of tests can we apply to use as evidence? And, as in the case of Miranda Jones and Kirk, what if the nature of being human is threatened by beings who are “more than” human? This question of recognition will be the subject of my next chapter.

Notes

1. The description of the alien body as being horrifying due to its formlessness was most memorably described by H. P. Lovecraft in his creation of Cthulhu (suggestive of the chthonic?), but also goes back to H. G. Wells himself. Compare Kirk’s description of Kollos to the description of the aliens given by the narrator in H. G. Wells’s *The War of the Worlds*: “Those who have never seen a living Martian can scarcely imagine the strange horror of its appearance. ... (Its features) were at once vital, intense, inhuman, crippled and monstrous” (Wells text).
2. For further discussion of how disability as lack of physical integrity is linked to a lack of mental or moral integrity, refer to *Narrative Prosthesis*.
3. For further discussion of the disabled body as gothic ruin, refer to “The Noble Ruined Body: Blindness and Visual Prosthetics, In Three Science Fiction Films” by Susan Crutchfield, from *Screening Disability: Essays On Cinema and Disability*, pp. 135-150.
4. *The Deformed Transformed* was one of Byron’s last works, often found to be problematical because, though Byron himself claims to have intentionally left it in a fragmented form, as a sort of gothic ruin itself, many critics claim it is “unfinished” and “incomplete.” The play makes explicit reference to cultural attitudes toward disability and physical form. For an in-depth article on this work, refer to “Unfixing Disability in Lord Byron’s *The Deformed Transformed*,” by Sharon L. Snyder, from *Bodies in Commotion: Disability and Performance*, Carrie Sandahl, editor, University of Michigan Press, 2005.
5. For a broader discussion of the intertextuality of medical and textual images of disability and the non-normative body, refer to Jane R. Goodall’s *Performance and Evolution in the Age of Darwin*, New York: Routledge, 2002.
6. For a broad discussion of cultural attitudes regarding how media and technology are ascribed with human attributes, refer to *The Media Equation: How People Treat Computers, Television, and New Media Like Real People and Places*, by Byron Reeves & Clifford Nass, Cambridge UK: Cambridge UP, 1996.
7. For a discussion of the feminine versus masculine gothic, refer to *Art of Darkness: A Poetics of Gothic*, by Ann Williams, Chicago: University of Chicago Press, 1995.
8. For an example of how gender itself can be the alien consciousness which looks out through

another being's eyes, refer to Kastle's *The Reassembled Man*, in which a man is "reassembled" by aliens after he experiences an accident, only to find he has been placed in a feminine rather than masculine body.

9. For more on Ray Kurzweil's thoughts on the Singularity, refer to *The Singularity Is Near: When Humans Transcend Biology* (Viking, 2005).

10. The following excerpt from the introduction to *The Prosthetic Impulse: From a Posthuman Present to a Biocultural Future*, Marquard Smith and Joanne Morra, editors (MIT Press, 2006), illustrates how the term "prosthetic" has changed in both context and scope:

Originally from the Greek, the word prosthesis entered the English language in around 1553 and was initially used, as David Wills informs us in his landmark book *Prosthesis*, in its grammatical sense, as "the addition of a syllable to the beginning of a word." It wasn't until 1704, Wills goes on to say, that a medical sense of prosthesis was employed to mean a "replacement of a missing part of the body with an artificial one." Already from these earliest instances in the discourses of grammar and of medicine, prosthesis offers itself up as an "addition" or a "replacement," and it is usually this dual meaning that persists to this day. It underpins considerations of prosthesis in the medical profession, in the spheres of mechanical engineering and design innovation, in the visual arts, and across the academic humanities and beyond. Pointing to an addition, a replacement, and also an extension, an augmentation, and an enhancement, prosthesis has become a staple in the armory of metaphors or tropes that are utilized by intellectuals, scholars, students, and practitioners who are concerned with interactions in general between the body and technology in modernity as they figure a conception of prosthetic lives in our posthuman times.

11. For an example, refer to pp. 2-3 of Katherine Ott's introduction to *Artificial Parts* in which she attacks the "vogue for prosthetics as found in psychoanalytic theory and contemporary cultural studies," where, she claims, scholars use the term "reductively" or "metaphorically," overlooking the material and historical context of the material object devised for people with disabilities.

12. Clark's book *Natural Born Cyborgs* begins like a cyberpunk manifesto with an epigram from William S. Burroughs's *Dead City Radio*:

The human skin is an artificial boundary: the world wanders into it, and the self wanders out of it, traffic is two-way and constant (Clark 2003, 1).

13. Byron's play fragment, *The Deformed Transformed*, which also draws attention to disability, society, and identity, contains a number of similarities to *The Tempest*, particularly in the opening scenes.

14. For more details on the etymology and usage of mirror, refer to the Oxford English Dictionary (May 15, 2006).

15. Consider the trope of the blind woman who is imperiled due to making the wrong choice in which man she chooses to trust, a trope explored most memorably in *Wait Until Dark* (1967), in

which the fragile, feminine Audrey Hepburn is terrorized by the sadistic Alan Arkin. This trope is related to another trope, however: that of the blind woman who falls in love with a physically ugly man with a “beautiful soul,” most recently used in the movie *Mask* (1985), though the silent film *The Man Who Laughs* (1928) may well be the definitive cinematic version of this trope. Conrad Veidt (*The Cabinet of Dr. Caligari*, *Casablanca*) plays the title character, Mary Philbin is cast in the role of the blind girl (Philbin also played the imperiled heroine opposite Lon Chaney’s *Phantom of the Opera*), and the evil vamp is played by Olga Baclanovastory (who also played the evil vamp in another disability film, *Freaks*). The movie is based on a Victor Hugo novel (the author who also wrote *The Hunchback of Notre Dame*), and the eerie rictus in which the title character’s face is set provided the inspiration for the physical appearance of Batman’s arch-nemesis, the Joker. All in all, this movie is an example of how images as much as tropes reoccur as patterns in representations of disability.

16. Stephen Hawking, in one of the most famous scenes from *Star Trek: The Next Generation*, is shown in a holographic poker game with Sir Isaac Newton and Albert Einstein at the beginning of the episode “Descent” (Season six, Episode 26). In this scene, Data is playing poker with holographic images of Hawking, Albert Einstein, and Sir Isaac Newton. (Newton was the first occupant of the Lucasian Chair of Mathematics at the University of Cambridge, the position Hawking himself presently occupies, and the same position Data would ultimately occupy in the final episode of *Star Trek: The Next Generation*, “All Good Things...”. This position was also held by a blind mathematician Nicholas Saunderson, during Isaac Newton’s lifetime, and Saunderson was largely responsible for Newton’s ideas being made popularly comprehensible through his own teaching at Cambridge.) Hawking is the only person in any *Star Trek* series to play himself. Yet the linking of Hawking and Data remains a complex multi-layered relationship within the discussion of identity and technology, for just as Data within the narrative of this episode explores the nature of his own identity as an engineered human, Stephen Hawking’s identity as both a scientist and a disabled individual is doubly mediated, that is, through the mediation of his technological voice and exoskeleton wheelchair and the mediation of the media image of his appearance, and he becomes encoded with a complex layering of additional aspects (one could easily argue Hawking is triply mediated, since, within the narrative of the television show, it is his hologram that actually appears; his physical body is not present). Indeed, Hawking’s image is one of the most popular representations of both science and science fiction, having made more television appearances than that first science superstar, Carl Sagan. Like Miranda Jones, it may well be that the technology that Hawking wears against his skin has become an aspect of the way many of us view our own technological bodies, our own science fiction identities.

For a lengthy list of the many media appearances, representations, and parodies of Stephen Hawking, including episodes on the television cartoon series *The Simpsons*, refer to the Wikipedia entry for Stephen Hawking: http://en.wikipedia.org/wiki/Stephen_Hawking

Works Cited

Aldrige, Alexandra. “Science Fiction and Emerging Values,” *The Intersection of Science Fiction and Philosophy*, Myers, Robert E., ed. Oxford: Greenwood Publishing Group, 1983.

Bacon-Smith, Camille. *Science Fiction Culture*. Philadelphia: University of Pennsylvania Press, 2000.

Brooks, Rodney A. *Flesh and Machines: How Robots Will Change Us*. New York: Pantheon

Books, 2002.

Byron, George Gordon. *The Deformed Transformed*. Etext available at http://lib.ru/POEZIQ/BAJRON/byron_deformed.txt (May 19, 2006).

Caidin, Martin. *Cyborg*. New York: Arbor House, 1972.

Carver, Raymond. "Cathedral" *Vital Lines: Contemporary Fiction About Medicine*, Jon Mukand, ed. Ballantine: New York 1990. pp. 270-284.

Clark, Andy. *Natural Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence*. Oxford: Oxford University Press, 2003.

"Descent, Part I" *Star Trek: The Next Generation*. Season 6, Episode 26. Original Air Date: 19 June 1993. Written by Ronald D. Moore; directed by Alexander Singer.

Doctorow, Cory. "Thought Experiments: When the Singularity is More Than a Literary Device: An Interview with Futurist-Inventor Ray Kurzweil." *Isaac Asimov's Science Fiction Magazine*, June 2005 (electronic version). To read a portion of this interview online, refer to http://asimovs.com/issue_0506/thoughtexperiments.shtml (May 18, 2006).

Freud, Sigmund. "The Uncanny." Etext retrieved from "Laurel Amtower" web site, Laurel Amtower, site maintainer. <http://www-rohan.sdsu.edu/~amtower/uncanny.html> (May 19, 2006).

Grosz, Elizabeth. "Naked," from *The Prosthetic Impulse: From a Posthuman Present to a Biocultural Future*, Marguard Smith and Joanne Morra, eds. Cambridge: The MIT Press, 2005.

Hayles, N. Katherine. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago: University of Chicago, 1999.

"Is There In Truth No Beauty?" *Star Trek* Season 3, Episode 62. Original air date October 18, 1968. Written by Jean Lissette Aroeste; directed by Ralph Senensky. Refer to the web site, StarTrek.com, for this episode: <http://www.startrek.com/startrek/view/series/TOS/episode/68784.html> (May 18, 2006).

Jahnke, Art. "Machine Dreams: An Interview with Ray Kurzweil." *CIO Magazine*, Oct. 15, 2004. <http://www.cio.com/archive/101504/interview.html> (May 18, 2006).

Kastle, Herbert D. *The Reassembled Man*. New York: Gold Medal, 1964.

Keats, John. "Ode On a Grecian Urn." Etext from "Minstrels Poetry Archive" <http://www.cs.rice.edu/~ssiyer/minstrels/poems/1604.html> (May 16, 2006).

Kittler, Friedrich. *Gramophone, Film, Typewriter*. Stanford University Press, 1999
—*Discourse Networks, 1800/1900*. Stanford University Press, 1992.

Kurzweil, Ray. *The Singularity Is Near: When Humans Transcend Biology*. Viking, 2005.

McCaffrey, Anne. *The Ship Who Sang*. New York: Walker, 1969.

Morgan, Jack. *The Biology of Horror: Gothic Literature and Film*. Southern Illinois University Press, 2002.

Ott, Katherine; Serlin, David; and Mihm, Stephen, eds. *Artificial Parts, Practical Lives: Modern Histories of Prosthetics*. New York: New York UP, 2002.

Purinton, Marjean D. "Byron's Disability and the Techno-Gothic Grotesque in *The Deformed Transformed*," from *Byron and Disability: special issue of European Romantic Review*, 12.3, summer 2001.

Sacks, Oliver. *A Leg to Stand On*. New York: Simon and Schuster, 1984.

Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Duke UP, 2000.

Sobchack, Vivian. "A Leg to Stand On: Prosthetics, Metaphor, and Materiality, from *The Prosthetic Impulse From A Posthuman Present to A Biocultural Future*, Marquard Smith and Joanne Morra, eds. Cambridge: MIT Press, 2006.

—*Screening Space: The American Science Fiction Film (Second edition)*. New Brunswick: Rutgers UP, 2001.

The Six Million Dollar Man. dir. Edward M. Abrams and Reza Badiyi. Harve Bennett Productions, Silverton Productions Inc., and Universal TV, 1974.

Star Wars. dir. George Lucas, 20th Century Fox and Lucasfilm Ltd., 1977.

Sterling, Bruce. Preface from *Mirrorshades* reprinted in *Storming the Reality Studio: A Casebook of Cyberpunk*, Larry McCaffery, editor. Durham: Duke UP, 1991. pp. 343-348.

Stone, Alaquere Roseanne. *The War of Desire and Technology at the Close of the Mechanical Age*. Cambridge: MIT Press, 2001.

Virilio, Paul; Julie Rose, translator. *The Vision Machine*. Bloomington: Indiana UP, 1994.

Wiener, Norbert. "Sound Communication with the Deaf." *Norbert Wiener: Collected Works with Commentaries*. Pesi Masani ed., vol. 4, pp. 409-11. Cambridge: MIT Press, 1985.

Wells, H. G. *The War of the Worlds*. Etext.
<http://www.gutenberg.org/etext/36> (May 18, 2006).

Williams, Ann. *Art of Darkness: A Poetics of Gothic*. Chicago: University of Chicago Press, 1995.

Chapter Three

Disability as Urban Ruin: The Techno-Gothic City as Body in *Blade Runner*

Consume my heart away; sick with desire
And fastened to a dying animal
It knows not what it is; and gather me
Into the artifice of eternity.
—“Sailing to Byzantium,” W. B. Yeats

3.1 Hephaestus’s Left Foot: Limping Through the City

Like many people, I have a habit of forgetting something when I leave the house in the morning. I will get halfway down the front walk, and then have to turn around and reenter the house, usually passing at least one amused housemate, because the thing I usually forget is my white cane. As I pick it up and go back outside, I typically mutter, “I forgot, I’m blind.”

Where does disability figure within identity? And how does technology intersect with this identity? I have implicitly been addressing these questions, but this chapter explicitly explores the struggle to maintain self-identity despite the stereotypes and strange identities others would impose upon the disabled individual. Such struggles occur within the context of forgetting and being forced to remember, and the contexts of such forgetting and remembering often exists in the movement between the private and public spaces. For me, it often feels that it is in the precise moment when I stand on the threshold between my private and public spaces and pick up the white cane that I become blind. I may think of my cane as a technology, a prosthetic, an extension of myself into the environment, but in the public view, it is the sign of my blindness, a way of marking my body’s status in the public sphere. The conflicting meanings the public and I give to my cane reflect the conflicting meanings we ascribe to my blindness, though I tend to forget those conflicts when I am not in the public sphere. The moment of remembering, the abrupt change in

my point of view, is an aspect of my physical movement from the inside to the outside.

I find myself fascinated by this sense of movement, by the liminality of my own disability as a boundary crossing, and the way in which the varied spaces I inhabit recognize or fail to recognize the identity of the disabled citizens such as myself who inhabit those spaces. How do the public spaces of the city reflect cultural images of disability? From the signs for The Children's Hospital posted on the trains to the broken elevators to the questions strangers ask me, the city manifests many images of disability. Science fiction, with its emphasis on built environments such as military outposts, spaceships, and futuristic cities, provides a particularly useful source for examining images of disability within the context of the built environment. These include *Metropolis* (1927), *Star Wars* (1977), *The Thing* (1982), and *Alien* (1979) and *Aliens* (1986). The bodies in these movies are often framed as binary oppositions of human/other, beautiful/deformed, healthy/diseased, whole/lacking. The film that I personally find the most notable for its complex imagery of disability and the built environment, however, is one which often surprises people to whom I suggest it, and that film is *Blade Runner*.

Blade Runner fascinates me for three reasons: (1) the sense of bodies moving between architectural spaces, (2) its referencing of Milton's and Blake's fallen angels, and (3) its fascination with both human and technological eyes.

In his book on *Blade Runner*, Scott Bukatman states, "*Blade Runner* is all about vision" (Bukatman 1997, 7). I would refine this statement further by suggesting that *Blade Runner* is a film about perspective and recognition. Perspective in this case has to do with location, that is, the particular vantage point from which each of us envisions the world, related as this envisioning or reenvisioning is to both physical movement and social status (or, our place in the world). Recognition has to do with how we identify and how we identify with other life forms, that is,

learning how to be “answerable for what we learn how to see” (Haraway etext). Thus, questions of perspective and recognition include not only “What am I seeing?” but “What am I not seeing?” and “What does the camera/microscope/monitor not show me?”.

In placing its subject of the replicants within the setting of the city, *Blade Runner* is as much about life within the engineered city as it is about engineered life. “*Blade Runner* reminds us that cinema, science fiction and modern urbanism were interwoven products of the same industrial revolution” (Bukatman 1997, 42). It is through the movement of the gaze (or in the cinematic equivalent, the movement of the camera’s gaze) that the observer experiences the world as an infinite unfolding of layered perspectives. Like one of the origami creations in *Blade Runner*, the city confuses perspective by presenting forms infinitely folding in upon and intersecting with one another. Science fiction, with its preoccupation with the city and its information systems, often focuses upon the city or other built environment as a body in which technology has complicated the boundaries between private/public, observer/observed, and inside/outside. Images that map the physical and social bodies of its citizens onto the body of the city are not limited to science fiction, however, and many of these images use disabled bodies to convey themes of isolation, contagion, or social disorder. One need only think of Victor Hugo’s *The Hunchback of Notre Dame*, Charles Dickens’s *A Christmas Carol* or Charlie Chaplin’s *City Lights* to discover how images of the disabled body are used to comment on the “health” of the city as a body. *City Lights* even offers a number of intriguing parallels to *Blade Runner* in its construction of the protagonist as an ambiguous body, for Chaplin’s Little Tramp complicates the disability narrative not only by his pursuit of the young blind woman, but by his own non-normative body: his unusual walk, his odd movements, and his use of a cane, all these characteristics frame his body as, if not explicitly disabled, then not entirely abled, either.

How do these images of the city as a body made up of other forms both organic and inorganic

relate to the form of the human body? In a lecture titled “Beauty and the Built Environment,” disability studies scholar Tobin Siebers refers to architecture as a built environment which can be constructed either in the physical world or the imagination: “anything that occupies physical space and anything that we might imagine in the mental spaces of our minds as having bulk, as having the ability to appear...and thereby change the emotions that we are feeling in their presence” (Siebers 2005, audio lecture).

In applying this definition to the architecture of *Blade Runner*, we discover how the spaces we live in, be they material, virtual, or imaginary,[1] affect reactions to, or “frame,” bodies viewed within those environments. This is one of the ways in which disability scholars claim disability is socially constructed, that is, by the built environments which seek, just as a movie setting does, to manifest or evoke abstract aesthetic principles. Architecture, as both an art and a technology, is not neutral, and does not exist apart from its effects upon those who inhabit it. “If aesthetics is about feelings elicited in some bodies by other bodies, it is necessarily about the organization of the built environment, since bodies are always somewhere when they act upon one another” (Siebers 2005, audio lecture).

From the opening shot of *Blade Runner*, with its vertical lines of industrial towers spitting out gouts of flame, we are presented with an architectural image that represents the simultaneous ordering and disordering aspects of technology within the setting of the city. It is easy enough, for instance, to imagine one of those industrial spaces as a machine shop where Hephaestus, god of volcanoes and technology that he is, limps amongst the infernal furnaces of his forge, engineering his own artificial humans.

This opening shot of the city follows a long descent from the sky to the cityline, its downward fall revealing the height and massive breadth of the city below. We see no living humans until four

and a half minutes into the movie, and these first two humans appear doll-sized within the vast deserted building they are in. Before either of these beings speaks, we have already sensed that they dwell in a techno-gothic urban ruin, where even the impressive Tyrell Corporation building has been left mostly derelict, framing the handful of beings who inhabit it as isolated from one another by both horizontal physical space and vertical levels that separate the social hierarchies. The pyramid design of the Tyrell Building recalls both ancient Egyptian tombs and the dead civilization which built them, while the name “Tyrell” evokes the famous fortified city of Tyre, whose towers fell before the onslaught of Alexander the Great in 332.

Though *Blade Runner* is much less explicit in its use of images of disabled bodies than was Philip K. Dick’s novel, *Do Androids Dream of Electric Sheep*, upon which the film was based, there are at least three major scenes where there are clues that disability frames this future L.A. as an urban ruin: (1) the scene in which we first see Roy, that is, his confrontation with the engineer who makes his eyes, (2) the scene where J. F. Sebastian, the genetic engineer who has helped build the replicants, realizes that Pris and Roy are replicants, and (3) the application of the Voight-Kampff Test upon Leon, another one of the replicants.

The scene in which the first blade runner, or “investigator,” applies the Voight-Kampff Test to Leon is the same scene I referred to earlier, that is, the scene that gives us our first glimpse of humans in this vast cityscape. Yet these two humans interact with each other not through direct communication but through a set of investigatory questions. Additionally, the investigator rarely looks directly at Leon but instead stares into the technological eye of the monitor that displays an image of Leon’s eye. To the investigator, the mediated image of Leon seems to be more real than Leon himself.

I find this examination scene resonates with my own experience with medical or rehabilitational

examinations. Because many of my own medical problems concerned the eyes, I find the Voight-Kampff Test's intense scrutiny of the eye very reminiscent of my own experiences with medical "investigators." It is the investigator's disinterest in communicating directly with Leon, however, which I find downright creepy. Like Leon does during his examination, my own attempts to draw the investigator's attention or conduct my own investigation as to how the seemingly arbitrary tests (as Leon asks, "Did you make up these questions or did they?") can determine so much about my identity rarely drew a flicker of interest from the technician. Like mug shots or fingerprints, the media messages seem to the investigative gaze to offer more evidence about who you are than any social interaction. Media studies scholar Paul Virilio points out how such investigatory technologies are substituted for the human eye: "the functions here of eye and equipment become confused, since by definition the resolution of the transmitted image is its instantaneous reduction" (Virilio 1991, 74). In other words, the technological test is reductive both in the fact that it cannot convey all the possible information available and also in the fact that the human investigator relies more on the technology than his own sensory and communicative interactions with the subject of study.

Yet such investigations, though they might occur in the private spaces of the medical office or the science lab, are contextualized within the realm of public knowledge. These investigations can become "public knowledge" through the ways in which the private investigation is accessed and viewed (quite literally at times, as in Deckard's case, through information monitors and the playing of recorded video and audio) by public institutions to judge and identify people as non-normative. As in the case of Deckard, it is only through direct experience with those identified as "other" that the investigator learns to cultivate a sense of skepticism about the omniscience of the technological record his fellow citizens place such faith in.

The next scene, in which we will first see Deckard, also explores the image of the city as urban

ruin, although this is an urban ruin characterized by excess rather than the emptiness of the previous scene. This is the first time we see the market, with its images of Japanese women and Coca-Cola icons. There are flashing red police lights, steam and smoke and an electronic image of a Chinese dragon spouting flames. The unhealthy-looking dark rain falls as the flashing lights on a blimp draw the gaze upward. The blimp blares its advertisement for emigration to the colonies: "A new life awaits you, a chance to begin again!" We see Deckard for the first time as his gaze flickers up from his newspaper only briefly before dismissing the noise and returning his attention to the newspaper. This is where Gaff finds him, and, though Deckard verbally protests being used by Gaff's superiors to "retire" Leon and the other replicants, Deckard almost immediately rises to follow after Gaff, who leans upon his animal-headed cane as he limps toward his flyer.

Gaff's cane is an unexplained but potent sign of disability, reminiscent as it is of Oedipus's cane or Tiny Tim's crutch. Yet the marketplace where Gaff finds Deckard also has other images of disabled bodies, such as the dwarfs who appear as random gawkers who seem to gain amusement by mocking Deckard. Indeed, Gaff himself seems to allude to these mocking jester-like characters when, taunting Deckard by giving him an origami chicken, he tells Deckard, "If you aren't cops you're little people."

Gaff's "us or them" comment provides another investigatory test for determining who should be recognized as human. The fact that this binary opposition excludes most of the crowd around him does not seem to disturb Gaff. Gaff's test, though less technological than the Voight-Kampff Test, serves the same purpose, which is to recognize and reaffirm his own humanity while assisting him to recognize the non-human status of those who are "other."

I am intentionally playing with the multiple meanings of "recognize" here, for it seems to me that

the nature of both the technological and non-technological test is to be intentionally exclusive, to literally locate beings in physical spaces which have been designated “other” even when that designation overlooks shared characteristics. The shared characteristic I am speaking of here is that of disability, for it seems if biological and cognitive integrity are the litmus test for disability, all the characters within *Blade Runner* can be read as disabled. The blimp’s advertisement for immigration to the colonies takes on an ominous implication when one realizes that all the people who inhabit this future L.A. have been “left behind.” This is a city after the Rapture, when all those with normative bodies have ascended to the colonies (this idea is stated much more explicitly in Dick’s novel, though there are many hints of it in *Blade Runner*). (Immigration makes an interesting science fiction parallel to spiritual ascension when one remembers that the Christian idea of the Rapture promises not just the ascent of the soul to God’s celestial city, but the ascent of the physical body itself.) This is a society that insists on using technology to develop metrics to define what is human, and the society imposes these metrics not only upon the replicants, but also the humans.

In its use of the body as determining social status, or literally, as a determinant of who inhabits what level of society, *Blade Runner* recalls not only the visual images of *Metropolis* but H. G. Wells’s novel *The Time Machine*. In both these works, humans are pictured as being part of the machine of the city itself, and these machines represent not only the industry of the city but the social machine that is constructed around it.

The importance of tests and technologies that can be used to investigate and locate bodies within social hierarchies thus emerges as a high-stakes attempt for each level to reaffirm its superior value over the level below. Such hierarchies, however, can only be maintained by repressing the recognition of similarities between the various levels of lower and higher, abled and disabled, human and replicant. Film critic Robin Wood suggests that this kind of repression of similarities

drives the need to locate those we can label “other”:

Closely linked to the concept of repression—indeed, truly inseparable from it—is another concept necessary to an understanding of ideology on which psychoanalysis throws much light, the concept of “the Other.” Otherness represents that which bourgeois ideology cannot recognize or accept but must deal with (as Barthes suggests in *Mythologies*) in one of two ways: either by rejecting and if possible annihilating it, or by rendering it safe and assimilating it, converting it as far as possible into a replica of itself. (Wood 2003, 66)

3.2 After the Fall: Evolutionary Anxieties and the Technologized Other

The test to determine who is “other” or “not human” says as much about the investigator as it does about the body being investigated. If the replicants embody everything the humans in *Blade Runner* reject about their own human identities, then it is not surprising that the humans wish to “retire” them. It also explains how the humans can feel no guilt at having designed sentient beings to do the jobs humans find to be (again the suggestion of social hierarchy) “beneath” them, or even morally questionable: manual laborer, soldier, prostitute, assassin. Such jobs have always been designated for those who are “less than human.”

Yet, as in the case of most disability narratives, *Blade Runner* goes back and forth in questioning whether the replicants are “less than” or “more than” human. Signals get crossed, messages get confused. The film even provides us with a mysterious messenger who seems bent on sending mixed messages. It may well be Gaff’s liminal disabled body that situates him as a messenger/trickster who moves between worlds, someone who knows more than he confesses to either his inferiors or his superiors. Gaff instead uses whimsical though puzzling origami figures to communicate hints about the nature of the humans and the replicants. These origami become part of the textured sensory experience of viewing *Blade Runner* and its own role as an

engineered object. Vivian Sobchack discusses the movie in terms of this sense of textured and always partially-obscured design:

The umbrellas carried by extras have lighted tips because the streets are so murky. The television monitors that have replaced traffic signals provide deliberately poor pictures. Skyscrapers are built on top of existing structures—and are shown on the screen in their hundreds of stories. ...*Blade Runner* is a movie that's not so much filmed as designed. (Sobchack 1997, 262)

Yet the information that is supposed to be conveyed through such designs seems to be losing integrity and coherence. In other words, it is not just the air that is murky or the information signals that are decaying, it is the degeneration of the basic building blocks of the humans left on Earth, their physical and genetic information, which is fading from the communication. More than that, the memory of what humanity is (as opposed to the attribute that can be tested for and measured) is also losing coherence. The struggle between the replicants, and this includes Rachel, and their human creators and counterparts becomes a struggle over identity and the contested claims of what being human means. Consider the scene in which Deckard tests Rachel, thinking her human, only to find she is a replicant. Deckard is confused as to how Rachel can be unaware of what he believes should be the most obvious thing about her. “She doesn’t know,” he protests to Tyrell, “How can it not know what it is?” and Tyrell replies smugly, “More human than human is our motto.” As Tyrell explains how he has created a “more human” replicant by developing a way of constructing identities for them, Deckard replies in wonder, “Memories. You’re talking about memories.”

Memories as identity play a part in the next scene where Roy Batty and Leon confront Hannibal Chew, the old man who has made their prosthetic eyes. As Leon and Roy prowl threateningly around the old man, he recognizes in them his own work: “You Nexus, hah? I designed your eyes.”

Roy allows that the eyes may belong to the technician, but the memories of what Roy has seen with those eyes belong to him: “Well, if only you could see what I’ve seen with your eyes.”

Roy’s play on words—another characteristic of the trickster figure—is another way in which messages get confused. It is through wordplay as much through the violence he commits that Roy rebels against the identity his makers would impose upon him. The first lines we hear Roy speak remind us that the fallen angels are characterized as much by the seductiveness of their words as by their rebellious natures. From the moment Roy speaks his variation on William Blake’s “America: A Prophecy” he aligns himself with the fallen angels. The exact lines read: “Fiery the Angels rose, & as they rose deep thunder roll’d / Around their shores, indignant burning with the fires of Orc...”. Yet Roy’s recitation begins “Fiery the angels fell...”. As Robin Wood notes,

Blake’s poem is a celebration of the American Revolution, a narrative about the founding of modern America...Orc leads the revolt against oppression; he is one of Blake’s devil-angels, descendent of Milton’s Lucifer as reinterpreted by Blake. (Wood 2003, 163)

While Wood interprets this change of movement within the poem from one of rising to one of falling as a reference to “the end of the American democratic principle of freedom, its ultimate failure...” (Wood 2003, 64), I would suggest that Roy, in returning to an Earth where his presence is a death sentence, is twice-fallen: once in his literal fall from the space and stars he remembers with such passion, and again in hastening his own death and the deaths of his friends.

I will address my interpretation of Roy’s reasons for returning to Earth later, but for now I wish to address the use of this action of falling. Blake, like Mary Shelley, borrowed the theme of the fall from Milton’s *Paradise Lost*. This action of falling was not merely a literary representation of the

point of view of the outsider, but the visual perspective of the outsider. The physical motion of the fall, the parabola of the descent, is reminiscent of the long descending opening shot that begins the action of *Blade Runner*. If Milton gave poetic form to the perspective of the fall, then that long descending shot from the stars to the city below gives visual form to the location of bodies in space. Yet this fall also conveys a sense of falling toward materiality, moving from a sense of weightlessness to one of being weighted down by the burden of our own bodies, of finding ourselves transformed from the ethereality of Ariel to the monstrous form of Caliban.

What if we read this fall as not merely a spiritual fall but a protest against the imperfect materiality of our own human bodies? Consider how Lucifer, Caliban, and Frankenstein's creature all confront their makers to say, If you punish me because of my imperfection, it is you who gave me this imperfect form. Roy, like his literary predecessors, returns from the wasteland to force his makers to look at him, to listen to his story, and to bear witness to the life he created from what they made. Thus, to some degree, while disability or bodily difference marks their bodies as less than or more than human, all these stories retell the story of bodies that are marked by physical and emotional suffering.

I wish to pause here to illuminate a point which may be somewhat confusing, namely, how can I suggest that Roy's body is disabled, when, as Milton describes Lucifer in *Paradise Lost*, "pleasing was his shape, /And lovely?" I would suggest that, although Roy's body is unmarked, the fact that his actions within the film are typically interpreted as being dictated by revenge against the normative humans places Roy firmly within the traditional role of the disabled revenge character. Like Melville's Captain Ahab and Shakespeare's Richard III, the most notable imperfection of Roy's body (his short lifespan) is all the reason most people require to interpret Roy as consumed by a desire for revenge. Indeed, so prevalent is the narrative motif that physical disease or deformity must result in the corruption of the soul or psyche that it has shaped the images of

cinema itself, which has too often used disability to dictate character. In a discussion of one of the very first films to create this visual language of the meaning of the disabled body, Frederick Ward's 1912 film of Shakespeare's *Richard III*, disability scholars David T. Mitchell and Sharon L. Snyder state,

Distortions of the physical surface provide a window onto the soul of motivation, desire, and psychic "health"—all aspects of character that would otherwise be difficult to narrate within film's representational repertoire. In this catalog, the mutilated-avenger motif stands out for its deployment of disability as direct, embodied motivation...a convention borrowed from the horror genre itself, where amputations, limps, and other disfigurements provide steady explanation for "deformed" psyches. (Mitchell and Snyder 2000, 97-8)

This representation of disability as a means for recognizing threat is one of the representations of disability which have managed to emerge both in science fiction and the mainstream. The gothic becomes the techno-gothic within the setting of the city or other engineered environment, but it is their disabled or partly-engineered bodies that mark such evil geniuses as Rotwang in *Metropolis* [2] and Darth Vader in *Star Wars*. Their mutilated bodies and machine prosthetics become symbols of both their distorted psyches and the dangerous worlds they have engineered. Thus, these "mutilated avengers" (Mitchell and Snyder 2000, 96) whose bodies are already marked by their own moral fall—a mark made by the material fall that resulted in their disabilities—threaten to bring about the fall of the entire world they inhabit.

It is true that Roy threatens to bring about a great fall, but he brings this threat to a civilization that has already fallen. The design of the city is reflected in the design of its inhabitants, and that includes the faulty design of both the replicants and the disabled humans who made them. In the scene where J.F. Sebastian smiles in recognition at Roy and confides, "There's a bit of me in you," he is speaking not only of Roy as an example of his, Sebastian's, genetic engineering work,

but the contagion of human mortality, the corruption of even the most perfect system that results inevitably in decay and ultimate death. Consider the bodies of the makers of the replicants, a trio of technological wizards: the wizened Chew, the prematurely aging Sebastian, and the myopic gaze of Tyrell with his Coke-bottle lenses. Roy and Pris and the other replicants are walking, talking expressions of the human desire for immortality. Remember that it was Victor Frankenstein's desire to exceed human limitations that produced his "monster," but also contaminated his creation with his own mortality. The horror and fear with which the makers view their creations is, in part, due to the forced recognition that they have truly created beings in their own image, and those beings are as mortal as they are.

3.3 Recognizing the Skin Job

In considering the replicants as engineered beings, the question arises of whether the replicants are capable of agency and creativity, or whether they are merely, as one of Deckard's fellow blade runners dismissively refers to them, "skin jobs." This pejorative term seems to indicate that, like the Terminator, the replicants are merely machines covered with a layer of skin. This would suggest that the replicants thoughts and acts are merely mechanical processes, evincing no sense of agency or emotion. (It is interesting to compare this idea of the mechanized, emotionally immature being with media portrayals of disabled people, who are also often performed as making awkward mechanical movements and expressing emotional immaturity.) Yet, as we watch Roy strut and fret his hour upon the stage, he seems to be the only player who runs through all the parts: dreamer, lover, madman, poet. He seems to be the only character who is truly sexy, because sex, that is, the real physically and emotionally experienced kind of sex, not the posed static centerfold kind of sex, is still the most dangerous game going. Sex, like creativity, threatens the complacency of the social order that dictates which roles we should play. Film critic Robin Wood has explored the ways in which repression of sexuality is an aspect of other forms of social

repression that ultimately reduce the human to the role of an automaton:

The “ideal” inhabitant of our culture is the individual whose sexuality is sufficiently fulfilled by the monogamous heterosexual union necessary for the reproduction of future ideal inhabitants, and whose sublimated sexuality (creativity) is sufficiently fulfilled in the totally non-creative and non-fulfilling labor (whether in factory or office) to which our society dooms the overwhelming majority of its members. The ideal, in other words, is as close as possible to an automaton in whom both sexual and intellectual energy has been reduced to a minimum...(Wood 2003, 64-65)

This brings me to one of the more interesting questions associated with the narrative of *Blade Runner*, that is, the question of whether Deckard is a replicant. Despite the popularity of using this question to interpret *Blade Runner*, I believe it actually masks another question that poses a much more radical idea, namely, what if Deckard isn't a replicant? If we try as hard to find evidence of Deckard being human as others have searched for evidence that Deckard is a replicant, what evidence can we locate to distinguish Deckard from a replicant? The answer is: very little. His lack of reactions, his laconic speech and expressionless face, are in direct opposition to Roy, whose eloquence is reminiscent of both Frankenstein's creature and Lucifer himself, who often seem to us the most human of the beings in their stories. Deckard is truly a skin job, an empty shell that can only pretend to resist the demands of his own owners.

One of the more disturbing possibilities revealed by Rachel's question to Deckard of whether he has ever taken the Voight-Kampff Test himself is that he might be human and still fail to possess as much empathy as he believes he does. The test itself provides a paradox, however, for, while it is considered to be a reliable metric for measuring empathy with the suffering of other living creatures, those who apply the test kill those who fail the test, thus seriously compromising their own claim to being human. (Note how those who construct themselves as humans possessing empathy use the euphemism “retire” instead of “kill,” much as past eugenics projects have used

euphemisms such as “cleanse” or “purify.”)

This question of empathy as a human attribute should also be applied to the scene where Roy confronts and ultimately kills Tyrell. Like Frankenstein’s creature, Roy has come to his maker to request “more life,” and his maker has turned down his request. While Roy’s murder of Tyrell by gouging out Tyrell’s eyes is often interpreted through the lens of Freud’s version of Oedipus (that is, as a struggle over authority which dictates the removal of the father), I would suggest that it is an older telling of Oedipus which provides the clue to interpreting this scene. In the play by Sophocles, Oedipus put out his own eyes after he failed to recognize the one person he should have recognized, his mother. Tyrell refuses to acknowledge Roy, refuses to show him compassion, but only deflects Roy’s request for life with a patronizing comment which basically says, be happy with what you have. It is also likely that Tyrell will continue to attempt to perfect his replicants, making a race of sentient beings doomed to slavery. In this light, Roy’s execution of Tyrell is more the act of an avenging angel rather than a monster bent on revenge. As Robin Wood says, “The struggle for liberation is not Utopian, but a practical necessity” (Wood 2003, 64).

In bringing this chapter to a close, I would summarize by suggesting that the technologies we use to recognize each other are ultimately mechanical processes, incorporating neither intuition nor empathy. These last two characteristics are human characteristics, and any test enacted through our social institutions and practices must itself be examined in order to avoid embodying cultural prejudices. As technological and biotechnological adaptations promise to transform all of us, to some extent, into beings with some degree of affiliation with the cyborg, the tests by which we recognize each other must evolve accordingly.

Notes

1. Virtual and imagined worlds such as those represented in online games or live role-playing games may also provide possibilities for images of disabled characters.
2. Rotwang also creates an engineered human in Metropolis, but, though many film critics comment on the implications of the engineered woman's gender, there is little mention that Rotwang originally named his creation Hel, which is the name of the Norse Queen of the Dead. The robot's association with death and the fact that she is another being who was "cast down" into the underworld suggests that she may, like Lucifer and Roy, be considered a "fallen" being.

Works Cited

Alien. dir. Ridley Scott. 20th Century Fox and Brandywine Productions, 1979.

Aliens. dir. James Cameron. 20th Century Fox, Brandywine Productions and SLM Entertainment Ltd., 1986

Asimov, Isaac. "The Bicentennial Man," in *Stellar Science-Fiction #2*, Judy-Lynn Del Rey ed., 1976.

Bergson, Henry. *Laughter: An Essay On the Meaning of the Comic* (etext).
<http://www.gutenberg.org/dirs/etext03/laemc10.txt> (May 19, 2006).

Blade Runner. dir. Ridley Scott. *Blade Runner* Partnership and The Ladd Company, 1982.

Blake, William. "America: A Prophecy" etext at
<http://www.bibliomania.com/0/2/81/199/frameset.html> (Jun 4, 2006)

Bukatman, Scott. *Blade Runner*. London: BFI publishing 1997.

City Lights. dir. Charles Chaplin. Charles Chaplin Productions, 1931.

De Certeau, Michele. "Walking In the City," in *The Practice of Everyday Life*, translated by Steven Rendall. Berkeley: University of California Press, 1984

Dick, Philip K. *Do Androids Dream of Electric Sheep?*. New York: Doubleday, 1968.

Dickens, Charles. *A Christmas Carol*. London: Chapman & Hall, 1844

Grosz, Elizabeth. *Architecture From the Outside*. Cambridge: MIT Press, 2001.

Haraway, Donna. "Situated Knowledges" from *The Reproductive Technologies* Web: RT21 (course Web site), Harvard University.
<http://www.hsph.harvard.edu/rt21/concepts/HARAWAY.html> (May 22, 2006).

Hugo, Victor. *The Hunchback of Notre Dame*. 1831.

Metropolis. dir. Fritz Lang. Universum Film A.G., 1927.

Milton, John. *Paradise Lost*. 1667.

Mitchell, David T., and Snyder, Sharon L. *Narrative Prosthesis: Disability and the Dependencies of Discourse*. Ann Arbor: University of Michigan Press, 2000.

Siebers, Tobin. *Lecture Topics in Disability Studies—Winter 2005*, February 11, 2005.
<http://www.umich.edu/~uminds/Rackham%20580/Semesters/rackham580W05.html>

Sobchack, Vivian. *Screening Space: The American Science Fiction Film*. Rutgers University Press, 1997.

—*Carnal Thoughts: Embodiment and Moving Image Culture*. University of California Press, 2004.

Thing From Another World, The. dir. Christian Nyby. Winchester Pictures Corporation, 1951.

Virilio, Paul. *The Vision Machine*, Julie Rose, trans. Bloomington Indiana UP, 1994.

—*The Lost Dimension*, translator Daniel Moshenberg. Semiotext(e), 1991.

Wells, H.G. *A Modern Utopia* (etext). <http://www.gutenberg.org/dirs/etext04/mdntp10.txt>. April 4, 2006.

—*Social Anticipations*. 1901.

Wood, Robin. *Hollywood From Vietnam to Reagan...and Beyond (Revised Edition)*. New York: Columbia UP, 2003.

Yeats, William Butler. "Sailing To Byzantium," from *The Tower* (1928). The Minstrels Poetry Archive. <http://www.cs.rice.edu/~ssiyer/minstrels/poems/21.html> (March 27, 2006).

Conclusion: Building the Science Fiction Body

Disability stories are rarely about disability.

Ironically, that means that even this work is not really about disability. Despite the seemingly increasing number of images of disability in fictional and nonfictional narratives both in mainstream and in SF media, the description of what disability actually is remains elusive, perhaps more so than ever before. Dichotomy still helps us create and organize categories for systems of thought, and thus “disability” has always been defined in terms of what it is supposedly not: able, normative, ordinary. Following that line of reasoning, the question should be a clear and simple one: What is a normal body? However, sometime during the mid- to late-twentieth century, that question could only be answered with more questions and the acknowledgement that any investigation of cultural concepts of “normal” resulted in a critique of the widespread social and political implications provoked by the original question. This larger set of questions was further complicated not only by new technologies—technologies that themselves redefined the boundaries of the “normal” and “able” body—but by the increasing awareness of identity politics that were attempting to redefine what the “normal” or “able” body should be in regard to skin color, gender, size, shape, and sexual preference. Thus, disability images became more common just at the point that traditional Romantic and liberal humanist concepts regarding the construction of the “able” or “normal” human body were being completely destabilized. Within the narrative of fantastic and speculative fiction, however, disability seemed to be able to signal the non-normative body in all of its possible manifestations, a literal demonstration that, as disability scholar Lennard Davis suggests, “...disability may turn out to be the identity that links other identities” (Davis 2002, 26-7). In examining these disability images within the context of science fiction narratives, certain consistencies begin to emerge.

(a) disability is consistently paired with one or more additional characteristics associated with portraying the “other.” Thus, rather than merely using disability as a lens for examining technology (or vice versa), technology becomes another way of characterizing the other while disability often demonstrates itself to be the main lens for examining other aspects of non-normativity, such as gender, sexuality, aesthetics of beauty or physical perfection, or the ways in which group identity is established as a basis for social relationships. As the lens through which otherness is examined rather than the object under examination, disability as a subject is often rendered invisible. This means that, though science fiction readers and viewers might identify with disabled characters within the narratives, images of disability inform us more about cultural attitudes regarding the construction of the other than about the lived experience of disability itself. Consequently, any message or meaning regarding the trope or theme of disability becomes inseparable from other tropes and themes such as the construction of the queer body, the liberal humanist ideal of the individual, or the discourse of the miraculous in science narratives. While the entwining of such tropes and themes has led to a higher level of positive reception of disabled characters amongst science fiction readers and viewers, it is not entirely clear that there is a strong identification with the characters as disabled individuals, or even that readers and viewers are distinguishing disability as a unique characteristic from among all the other non-normative characteristics used in defining what I shall refer to as the “science fiction body.” For instance, there is a widespread familiarity among science fiction fans with the many disabled characters who have appeared in the numerous incarnations of *Star Trek*, but the relationship between disability and technology within the context of culture—that is, what these collective images say about technology as a mode of normalizing the non-normative body—is still often perceived as being one which expresses the mainstream values of overcoming, compensating, or cure, rather than as the technology being inscribed with the cultural values of normativity. Disability is still often seen as a medical condition rather than an aspect of identity to be included under the aegis of “diversity” (indeed, when diversity is described, disability is often left out altogether), and this

lack of recognition of disability as an aspect of identity still influences the reception and interpretation of images of disability.

(b) Although my original concept was to address what I perceived as an increase in images of disability in science fiction media within the past two decades, in my attempt to locate the historical moment when disabled characters seemed to begin to appear more frequently and more sympathetically in science fiction, I found that the time period between the mid-1960s and the early 1980s defined the first generation of what some readers with disabilities have dubbed “crip fiction.” As the science fiction narratives I have discussed in this work specifically cover the period from 1968-1982, this period simultaneously corresponds to both the second wave of cybernetics as proposed by N. Katherine Hayles and the various civil rights movements which led to the emergence of identity politics within the humanities. Subjectivity and reflexivity thus became an aspect of writing and research in both the science and humanities during this period, and disability seems to have become an accepted mode of relating technology to the body in order to explore cultural values regarding physical and cognitive difference. The counterculture’s championing of non-normative bodies in turn influenced the cyberpunk movement that emerged in the early 1980s, and images of the postmodern or posthuman body went even further in blurring the distinction between technology as a means for adapting the disabled body and technology as a means of enhancing the body. Thus, technology subtly changed from being valued as a trope for demonstrating the cultural value of assimilating non-conforming bodies to a trope for representing the ability to literally reinvent oneself as a unique or anomalous body. At the same time, the increasing use of biotechnology—itsself a “cloaked” or invisible form of technology—in daily use amongst those who otherwise choose not to self-identify as disabled has resulted in a reevaluation of the dichotomy traditionally made in distinguishing disabled bodies from able bodies. Indeed, Lennard Davis has suggested that such disability discourse as linked to identity has moved from the construction of the postmodern body into what he refers to as the

“dismodern,” since all these other areas of identity politics have their origins in the same medical and science discourses that formulated non-normativity through the categorization and classification of beings that were “less than human” (Davis 2002, 27). Many of these categories and classifications were based upon cultural ideas of ability and agency. It is thus no surprise that the cyborg has become the archetype for the twenty-first century, expressing as it does a recognizable hybrid of the biological and technological body. Since the cyberpunk movement, however, the cyborg has also become an avatar, at least within the genre of science fiction, for the culture hero who exploits the benefits of science and technology to attain a self-created and self-determined body, that is, a body that expresses the owner’s sense of individual identity and power. These “freak” bodies remain one of the strongest connections between contemporary fantastic narratives and their roots in pulp fiction, gothic literature, and even the non-normative bodies of fairytales and mythology. This idea of the disabled or non-normative body as a signification of the culture hero is made by Lois Bragg in *Oedipus Borealis: The Aberrant Body In Old Icelandic Myth and Saga*, when Bragg suggests, “[H]uman societies, while perforce selecting their outcasts in the process of defining their norms, may regard those misfits not with fear, scorn, or impatience, as we do, but with awe” (Bragg 2004, 11). This strong connection with the non-normative body as culture hero explains some of the characteristics of what I have already referred to as “the science fiction body,” and it indicates that SF draws the association of the culture heroes with non-normative bodies from some of its earliest story roots.

(c) With an increased use of biotechnology and bioengineering being adopted by the mainstream, disability issues have emerged as the grey area in which as-yet-unresolved cultural values regarding technology are most hotly contested. Genetic counseling in relation to abortion, stem cell research, and doctor-assisted suicide are topics that are typically painted as morally distasteful but more justifiable when associated with disability. I use the term “associated” because even within nonfiction technological discourse that makes reference to disability, the

specific details regarding disability are rarely thoroughly defined, described, or deconstructed in specific detail. Thus, the technologies associated with the diagnosis or even cure of disability may be described in detail, even as conversation regarding the practical, political, or cultural aspects of disability are avoided. This sort of “cloaked” conversation is made apparent in articles such as one which, in addressing the subject of genetic testing and disabled infants, pointed out that the development of new technologies “sheds an uncomfortable light on contemporary expectations about childbearing and on how much control we believe we should have over the babies we give birth to,” yet “[t]he practice of terminating specific pregnancies, as opposed to aborting pregnancies so as not to have a child at all, is seldom discussed in its baldest terms” (Weil 2006).

In contextualizing these topics within larger discussions of genomics, eugenics, or prejudices against economic, ethnic, or racial groups, access to technology as a right or benefit emerges as a very real manifestation of which of its members a society considers to be valuable, and which it fails to value, even to the point of deciding who is a citizen to be given the rights and benefits of a citizen and who is not to be extended those rights and benefits. Technology thus becomes a focus for social justice, a theme prominently explored within science fiction narratives, and the further association of disability with technology becomes another means of inscribing resistance to cultural institutions and values which marginalize and disenfranchise certain social groups.

(d) One of the most fascinatingly consistent science fiction tropes is that in which disabled characters develop a technology that is used to establish non-traditional social groups through a “networked consciousness.” Like disabled bodies, these networked groups challenge the traditional liberal humanist ideal of the individual as existing as a whole and apart from other beings. These social groups also promote the formation of relationships beyond those of the traditional family group, or even the traditional community based on race, religion, etc., and instead use the characteristic of identifying as non-normative itself as a basis for group formation.

Such groups often use technology as a means for attaining social equality. A fantastic but almost equally popular related trope is the development of psychic abilities as a form of “communication technology” that offers a real-time link between individual beings separated by distance, thus promoting the idea that relationships can be maintained even when the individuals involved are not geographically close to one another. While in this latter trope psychic abilities can be read as a metaphor for wireless technology, it is also true that psychic abilities, like disability, become a means for marking the science fiction body as non-normative, once again returning to the non-normative body as a culture hero that offers resistance to the established institutions and channels of power, in this case, offering a radical alternative mode of communication.

(e) Most intriguing of all has been the indications of how well science fiction tropes and themes lend themselves to the form of memoir, perhaps particularly so for those writers exploring the intersection of identity politics and technology and the decisions they have had to make concerning complex health and medical issues. While new science fiction narratives have had protagonists with autism (*The Speed of Dark*, Elizabeth Moon, 2003) or multiple personality disorder (*Set This House in Order*, Matt Ruff, 2003), using science fiction narratives to comment on cultural values regarding physical and mental health has its foundation in the feminist and queer SF writers of the 1960s. Joanna Russ’s short story “The Dirty Little Girl” uses the genre of science fiction so that the narrator can construct a conversation with her own mind and body, which manifest as the little girl referred to in the title. What makes the little girl “dirty” is that she is supposed to remain unseen and unregarded, disregarded even by the body’s owner. The dirty little girl haunts the narrator because the narrator, a female academic, has tried so hard to fulfill her own impossible ideas of what “able” is that she ignores the pains and illness of her own body. Thus, the need to speak about the female body often expresses itself in terms of what is unclean, of illness and disease, while contradictorily, these images are perceived as manifestations of suppressing speech. Helene Cixous went so far as to associate the female with the monstrous

Medusa and the madwoman as a way of stating that there is no single category of female, no single definition of female sexuality or identity, and that the act of expressing this individual identity is itself akin to madness.

Where is the ebullient, infinite woman who...hasn't accused herself of being a monster? Who, feeling a funny desire stirring inside her (to sing, to write, to dare to speak, in short, to bring out something new), hasn't thought she was sick? Well, her shameful sickness is that she resists death, that she makes trouble. (Cixous 2004, 291-2)

(f) The same language that uses disease and disability as myth and metaphor for pathologizing the non-normative body is often used as a mode of representing cultural anxieties regarding technology in the twenty-first century. As the domains of biotechnology and genetic engineering promise that a greater number of the population will be living with technology worn next to, and even beneath, our skin, films such as *Blade Runner* and *Gattaca* paint dystopian pictures regarding where the cultural obsession with the perfect body may lead us. Technology itself is often described as an illness, a sign of mental or physical weakness, with concepts such as “virtuality” often being described, like disability, in terms of lack, or at most—much like a prosthetic limb—as a poor simulation for the “real thing.” Furthermore, cultural critics such as Paul Virilio have adopted the language of disability and disease to frame media technology in terms of invasion or even a kind of “secret invasion”—a phrase used most memorably by Susan Sontag in her extended essay “Illness As Metaphor” (Sontag 2001, 5). In the following quote, Virilio presents the idea that technology is the carrier for the physical invasion of the body by outside influences:

In the future, just as the geographic world was colonized by means of transportation or communication, we will have the possibility of a colonization of the human body by technology. That which favors the equipping of territories, of cities, in particular, threatens to apply to the human body, as if we had the

city in the body and not the city around the body. (Der Derian 1997, etext)

Other culture studies scholars such as Elizabeth Grosz offer subtly different descriptions of technology as invasion, but such discussions still frequently make the link between disability and technology. In the following quote in which she comments upon Virilio's statement, Grosz cites a newspaper article about an implant for blind people to suggest that such implants are part of a larger cultural trend that is transgressing the boundaries of inside and outside, private and public spheres:

[I]n a way it's not the city itself but culture that is compressed into the chip in the brain, and in this sense the city is in the subject as much as surrounding it. (Grosz 2001, 15)

Summary

When all of the points taken above are woven together, what emerges is a constellation of relationships between identity and technology, the rubric for a manifesto that links radical identities to new technologies as a mode of enacting social change. Science fiction represents a means of liberating science and technology from the controlled environment of the lab (an environment controlled not only in the sense of the scientist exerting control over the variables of the experiment, but social institutions controlling to a greater or lesser extent the experiment through such aspects as funding, distribution, legislation, etc.). Science fiction narratives recognize that disability literally embodies technology in its tension between normativity and difference, challenging the definitions of what is "less than" or "more than" human. The democratic society has a tradition of using science and technology to construct the "ideal

citizen,”[1] but the more pressure the society exerts upon its citizens to use technology to embody this ideal, the more those who fail to conform to such an ideal seek to challenge the premises such an ideal is founded upon. Science fiction narratives thus often use technology to construct the radical science fiction body which, though it adopts the new technologies, locates its purposes in a perspective other than assimilation into the mainstream. The disabled body as science fiction body could even be said to resemble the science fiction form itself, as both are perceived as being “less than” because they fail to conform (ironically, the process by which disabled individuals are taught to assimilate their non-normative bodies into society is referred to by rehabilitation teachers as “mainstreaming”).

After this attempt to determine at what point American science fiction first began to express a growing interest in using disabled characters within narrative, it is not surprising that this rise correlates to the period of the counterculture of the late 1960s and 1970s. John Varley’s short story “The Persistence of Vision,” set as it is within a deaf-mute commune, is one of the most notable of these stories. Yet what makes it most useful is that it serves as a nexus for connecting with similar stories: not only Theodore Sturgeon’s novel *More Than Human*, but H. G. Wells’s short story “The Country of the Blind.” All three of these stories focus on a self-organized group which develops its own technologies and forms of communication which, rather than rendering difference invisible by conforming the body to external concepts of “normal,” compliments difference by exploiting the strengths of such differences. At the same time, all three stories can be seen to conflate other forms of difference with disability, including differences of culture, race, gender, and attitudes about sexual and social freedom.[2]

Far from being forgotten within the canon of science fiction narrative, Varley’s “The Persistence of Vision” only seems to have grown in its influence over science fiction narrative and science fiction studies. Current SF writers such as Cory Doctorow and Charles Stross cite Varley as a

strong influence on their own writing, along with such scholars as Donna Haraway. In “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” Haraway cites Varley’s short story as the story that inspired her own extended exploration on vision and perspective. In particular, Haraway connects the idea of disability with that of “situated knowledge,” that is, the uniqueness of knowledge which emerges from personal experience. Furthermore, she establishes how such situated knowledge often exists in opposition to the “established” knowledge of institutions of authority. Once again, the radical aspect of disability is underscored.

Haraway’s essay is not merely a commentary on the radical nature of science fiction, but the radical possibilities of science itself, for, in contextualizing the anti-authoritarian perspective of science fiction within the ongoing discussion of how knowledge is situated within the domain of science, Haraway is evoking the ways in which the science fiction of the mid- to late-1960s paralleled the struggle going on within science itself. At the center of this struggle was the idea of reflexivity. Reflexivity challenged the scientific claim that knowledge could truly be objective. Such questions regarding objectivity may have been initially voiced by such scholars as Margaret Mead and her husband Gregory Bateson, but the implications were spun out within such science fiction narratives as Ursula Le Guin’s *The Left Hand of Darkness* and Anne MacCaffrey’s *The Ship Who Sang*, both of which pushed the envelope regarding just how radically different the science fiction body could be, and how such difference could influence perception, identity, and personal and social relationships.

While SF short stories and novels were consumed by individual readers, television, in its ability to reach a larger audience, offered the possibility of a shared world that framed a consistent perspective on non-normative bodies. Perhaps no other television show more memorably—if often ambiguously—explored in the 1960s television show *Star Trek*. In the episode I chose to

examine, “Is There in Truth No Beauty?” the viewer is presented with a triad of characters who each possess a non-normative body: Miranda Jones, a blind psychologist; Kollos, an alien who is described as possessing “sublime” thoughts but a physical form so hideous that it can drive a human insane; and Mr. Spock, the half-human, half-Vulcan science officer. It is not only the non-normative bodies of the triad that challenge traditional Romantic and liberal humanist values of disability and diversity (a word specifically highlighted within the narrative of the show): as in the John Varley story discussed previously, each member of the group can commune with each other mentally, even possessing the ability to link their minds in order to form a kind of networked consciousness. These characters are perceived as dangerous not only because they are each portrayed through the trope of non-normativity as lack or “less than human”: Miranda lacks the sense of vision, Kollos lacks an aesthetically acceptable physical form, and even Spock is framed as dangerous in that he simultaneously lacks but frequently wistfully longs for human emotions. The triad of non-normative characters is also portrayed as dangerous through the trope of excess, that is, their “more than human” ability to transgress the limitations of the “normal” physical body, that is, their ability to stage the secret invasion of another body. The trope of invasion of the mind and/or body is one of the most gothic elements still pervading both science and science fiction narratives. Disability scholar Marjorie Purinton refers to the use of gothic tropes such as those of lack and/or excess as “techno-gothic,” pointing out that the discourse of science emerged alongside that of the gothic and Romantic movements. The consistent linking of the trope of non-normative bodies with the trope of networked consciousness is possibly the most intriguing of these techno-gothic narratives, as it can be witnessed in many other fictional and non-fictional narratives regarding the use of technology to form dangerous groups that threaten the traditional culture, beginning with the computer “geek” (a word which has its origins in the non-normative body and the freak show) and continuing through the science fiction fan, who is often portrayed as not only having an excess of enthusiasm about technology but a body that fails to conform to “normal” standards regarding weight, hair, and social behaviors. Too much

technology itself is often culturally constructed as a threat, and it is usually constructed in very gothic terms of virtuality or lack.

The theme of virtuality or simulation as lack (specifically, a lack of humanity) is explored in the movie *Blade Runner*. As in the case of the *Star Trek* episode of "Is There in Truth No Beauty?" gothic themes predominate in the narrative. In addition, the film noir style of the film creates an overwhelming sense of derelict buildings and derelict bodies, providing the sense that this is a city in large part abandoned and left to decay. Though *Blade Runner* is much less explicit in its use of images of disabled bodies than was Philip K. Dick's novel, *Do Androids Dream of Electric Sheep?*, upon which the film was based, there are many clues that the humans left behind in this city are also derelict and slowly decaying. Yet from the opening scene of the film we witness technology being used to test and gather evidence regarding who is human. This test, the Voight-Kampff Test, is darkly ironic given that it is being applied by the members of a dying civilization. Yet for all the evidence they collect through surveillance, they are always distracted by the readouts and the photographic images; they no longer see what they should see, no longer recognize the replicants who resemble them. When Roy kills his creator by putting out his eyes, it recalls Oedipus's punishment for the crime of failing to recognize the people he should have recognized.

In closing, I would like to briefly mention a book published in 2003 that manages to include many of the elements I have touched upon in this work. Matt Ruff's novel *Set This House in Order* features a protagonist with multiple personality disorder. While the author states that he never intended the novel to be a realistic portrayal of multiple personality disorder,[3] the novel concerns itself with many of the same issues discussed within other narratives of disability, fiction and nonfiction, primarily that of creating and maintaining an identity, often in active resistance to the identity others would define us by. There are strong aspects of gender and

sexuality, even age, as identity. Additionally, the entire story operates within the context of built environments, as the creation of identity is presented in the context of building a house, but also in the references that equate the building of an identity to the built environments of virtual worlds and computer games. As in the case of all the stories discussed within this work, forms of communication feature prominently in the narrative, which is full of references to photographs, paintings, lists, memoranda, computer code, secret letters, and Morse code. Such communications not only allow for the sharing of images that convey individual memories to the group, but also allow for such individual thoughts and memories to become integrated into the shared world of the group. Indeed, the theme of transmission, of sending and decrypting communication, is what drives the book. At one point, a friend of the protagonist describes witnessing an instance of the protagonist having a conversation amongst his multiple personalities as “like watching someone receive a satellite transmission.” (Ruff 2003, 29). The trope of a networked consciousness, a shared group identity, features prominently in the novel, but instead of being projected outward amongst a group of separate physical bodies, the use of multiple personality disorder becomes a tool for exploring the theme of separate selves, and, as in the case of *Blade Runner*, the struggle to establish and maintain identity despite the often conflicting sense of the internal and external selves.

Considering the twenty-year difference between *Set This House in Order* and *Blade Runner*, the latest of the texts I discussed in this work, I believe that there are consistent themes that link disability and technology to SF, and that such consistencies reveal much about how culture views disability, technology, and the body.

In considering further research, I foresee two potential areas for exploring the link between disability and technology:

1. The growing use of disability to characterize the intersection of technology and radical bodies

in feminist and queer SF of the past two decades, and

2. The use of language associated with characterizing technology in terms of disability, in particular the idea of virtuality as either lack or excess.

While these two proposed areas for future inquiry may initially appear to be wildly divergent paths, I believe that they have proven to be paths relevant to mapping the geography of disability as it relates to the other “borderlands” of identity politics and how such radical identities challenge the definition of the normative body and, by extension, the normative definition of reality. Such challenges to normativity produce not only a means for interrogating the construction of the “other” in both fictional and nonfictional narratives, but also the language used to build artificial classifications of extraordinary and ordinary technologies, or rather, the technologies that are used to distinguish the disabled from the abled body.

Notes

1. Refer to *Romantic Monstrosities: Bodies In British Romanticism* by Paul Youngquist.
2. The wildly differing versions of H. G. Wells’s “The Country of the Blind” create a number of contradictory meanings around the story: The story as most readers have read it is the later version, in which Wells changed the ending and eliminated one of the most disturbing scenes, in which the commune of blind men decide that, if the able-bodied man who has literally fallen among them wishes to continue living as one of them, he must conform to their idea of what a body should be and allow his eyes to be put out. This procedure, framed as it is as a medical “cure,” makes the original version both more disturbing and more relevant to any discussion of disability and technology.
3. In an interview included in the back of his novel, Ruff explains his intentions thusly: “MPD is such a controversial subject that the idea of a ‘realistic’ portrayal seemed problematic at best. Early on, I decided to just concentrate on telling a good story; one that would be entertaining and thought provoking even for those readers who felt the basic premise was pure fantasy.”

Works Cited

Baum, Frank L. *The Patchwork Girl* (etext). <http://www.gutenberg.org/dirs/etext97/07woz11.txt> (June 3, 2006).

Bragg, Lois. *Oedipus Borealis: The Aberrant Body In Old Icelandic Myth and Saga*. Fairleigh Dickinson University Press, 2004.

Cixous, Helene. "The Laugh of the Medusa," from *Literature in the Modern World: Critical Essays and Documents Second Revised Edition*, Dennis Walder, ed. pp. 291-301. New York: Oxford UP, 2004. This is a revised version of "Le rire de la meduse," which appeared in *L'Arc* (1975), pp. 39-54.

Davis, Lennard J. *Bending Over Backwards: Disability, Dismodernism, and Other Difficult Positions*. New York: New York UP, 2002.

"Interview with Virilio," translated by James Der Derian.
<http://proxy.arts.uci.edu/~nideffer/SPEED/1.4/articles/derderian.html> (April 15, 2006).

Grosz, Elizabeth. *Architecture From the Outside*. Cambridge: MIT Press, 2001.

Purinton, Marjean D. "Byron's Disability and the Techno-Gothic Grotesque in *The Deformed Transformed*," from *Byron and Disability: special issue of European Romantic Review*. 12 (2001).

Resnick, Mike. "Kirinyaga," from *Kirinyaga: A Fable of Utopia*, pp. 11-32. New York: Del Rey, 1998.

Ruff, Matt. *Set This House in Order*. New York: HarperCollins Publishers, 2003.

Russ, Joanna. "The Dirty Little Girl" from *The Hidden Side of the Moon*. St. Martin's Press, 1988.

Sontag, Susan. "Illness as Metaphor & AIDS and Its Metaphors." Picador, 2001.

Weil, Elizabeth. "A Wrongful Birth?" *New York Times*, March 12, 2006.
http://www.nytimes.com/2006/03/12/magazine/312wrongful.1.html?_r=3&hpib=&oref=slogin&pagewanted=print&oref=slogin

Wells, H. G. "The Country of the Blind," originally published in *The Strand*, 1904. Revised in 1939, the later version can be found in *Selected Stories of H. G. Wells*, Ursula Le Guin, ed. Random House: New York, 2004. pp. 365.

Youngquist, Paul. *Romantic Monstrosities: Bodies In British Romanticism*. Minneapolis: Minnesota UP, 2003.