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READING AUTISTIC EXPERIENCE

by

NATALIE COLLINS TRICE

Under the Direction of Dr. Margaret Mills Harper

ABSTRACT

Within the field of Disability Studies, research on cognitive and developmental disabilities is relatively rare in comparison to other types of disabilities. Using Clifford Geertz's anthropological approach, "thick description," autism can be better understood by placing both fiction and non-fiction accounts of the disorder into a larger theoretical context. Applying concepts from existing works in Disability Studies to the major writings of Jacques Derrida, Julia Kristeva, Jacques Lacan, and Donna Haraway also proves to be mutually enlightening. This ethnographic approach within the context of analysis of literary texts provides a model by which representations of individuals who are cognitively or developmentally disabled can be included in the academy.

INDEX WORDS: Autism, Disability Studies, Cognitive Disability, Developmental Disability, Clifford Geertz, Thick Description, Fiction, Non-fiction, Jacques Derrida, Julia Kristeva, Jacques Lacan, Donna Haraway

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NATALIE COLLINS TRICE

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

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Georgia State University

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2008

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DEDICATION

I dedicate this project to my son, Kelton Trice, who has taught me about autism and so much more.

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I would like to thank my dissertation committee members (Dr. Meg Harper, Dr. Nancy Chase, and Dr. Calvin Thomas) for their enthusiasm for my project and their assistance in clarifying my ideas. I would also like to thank my family for their support during this process.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS v

INTRODUCTION 1

CHAPTERS

"Deconstructing Autism: Derrida and Developmental Disability" 19

"Remembering the Body: Kristeva's Genotext and Phenotext in Autism Texts" 58

"A Closer Look: The Lacanian Registers in Autism" 95

"Animals and Machines: Haraway and the Autistic Mind" 140

CONCLUSION 178

BIBLIOGRAPHY 183

Introduction

With incidents of autism skyrocketing since the mid-1990s, one in every 166 children in the United States, according to the Centers for Disease Control and Prevention (CDC), is now estimated to fall somewhere on the autism spectrum. While many family members of people with autism hope that an increase in awareness of the multi-faceted condition (which can include communication, behavioral, social, and sensory components) will lead to a cure, many high-functioning persons with autism (such as those with Asperger's Syndrome) argue that it is a particular way of being and not something in need of a cure. Dawn Prince-Hughes explains in her memoir about life with Asperger's Syndrome, *Songs of the Gorilla Nation*, "Much like the deaf community, we autistics are building an emergent culture. We individuals, with our cultures of one, are building a culture of many" (7). As both a community of activists looking for answers and a distinctive culture (not unlike Deaf culture) emerge, scholarly explorations of autism are positioned to emerge within the burgeoning field of disability studies, the newest form of identity politics. Autism gains clarity from and sheds new light on theories of language acquisition and subjectivity.

While autism has existed in every era and society, it was first diagnosed in the 1940s, almost simultaneously, in Baltimore, by Leo Kanner, and in Vienna, by Hans Asperger. In what Oliver Sacks, author of a collection of medical narratives titled *An Anthropologist on Mars*, calls "a nice example of historical synchronicity," both men independently described the condition and labeled it "autism," noting an inability to connect with others and a limited range of interests in autistic persons, as well as their repetitive, almost ritualistic, behavior (190). During the 1970s, Lorna Wing and other researchers working in the emerging field of cognitive psychology

in London identified a "triad of impairments," consisting of difficulties with social interaction, verbal and nonverbal communication, and imaginative play, which they felt to be "expressive of a single, fundamental developmental disturbance" (245-6). Temple Grandin also emphasizes in her first-person study of autism, *Thinking in Pictures*, the sensory component of the disorder, which can involve both under- and over-reactive sensory processing and a scrambling of different types of sensory input (58).

Grandin notes that the current diagnostic categories are autism, Asperger's syndrome, Pervasive Developmental Disorder (PDD), and disintegrative disorder. She explains, "Some consider these categories to be true separate entities, and others believe that they lie on an autistic continuum and there is no definite distinction between them" (45-6). Dawn Prince-Hughes discusses classic autism, also known as Kanner's Syndrome, in *Songs of the Gorilla Nation*. The symptoms of classic autism, the form of autism with which most people are familiar, include

> impairments in the use of nonverbal, expressive gestures (like facial expression and body posture), an inability to form social relationships with peers, a flat affect, delayed or absent development of spoken language, impaired ability to initiate or sustain a conversation, a preoccupation with restricted patterns of interest, a compulsion to perform specific routines or rituals, flapping or twisting, and a preoccupation with parts of objects. (28)

Prince-Hughes contrasts the classic form of autism with her own, Asperger's Syndrome, which differs in its lack of significant language or cognitive delays, including mastery of daily living skills. Individuals with Asperger's Syndrome do, however, share many of the same sensory and behavioral attributes with classic autism, including problems making or maintaining social

connections (29). Although Hans Asperger was researching the disorder decades earlier, the syndrome named for him was not added until the fourth edition of the definitive reference manual for psychologists, the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), in 1994. Thus, many adults with Asperger's Syndrome, like Dawn Prince-Hughes, were not diagnosed until adulthood and were forced to find creative ways to compensate for their condition (28). Temple Grandin explains in *Thinking in Pictures* that Pervasive Developmental Disorder (PDD) is often confused with Aperger's Syndrome because its symptoms are mild enough not to elicit one of the other diagnostic labels. Disintegrative disorder, on the other hand, accounts for some of the most serious cases of autism. Children with this form of autism develop typically until approximately the age of two. Then the child suddenly regresses, losing speech and other developmental achievements, which are often never regained. Individuals with disintegrative disorder are often the lowest-functioning people on the autism spectrum and are usually unable to live independently during adulthood (47-8).

The range of abilities for people on the autism spectrum can vary greatly. Dawn Prince-Hughes, who holds a doctorate in anthropology, points out that many high-functioning individuals like herself who have Asperger's Syndrome can be quite gifted intellectually. Temple Grandin addresses the severity of the disorder for persons on the lower end of the autism spectrum, who often are unable to speak and perform the simplest daily tasks like dressing themselves. She stresses that it is usually difficult to predict the eventual level of functioning at the time when most children are diagnosed as toddlers (52). Oliver Sacks, who includes medical studies of both Temple Grandin and Stephen Wiltshire, an autistic savant with exceptional artistic skills, in *An Anthropologist on Mars*, notes that despite their popularity in movies and other media, only about ten percent of autistic persons exhibit savant skills; however, their

presence in the autism community is certainly noteworthy (191). In the appendix to her novel for adolescents, *Al Capone Does My Shirt*, Gennifer Choldenko explains that like her own sister Gina, Natalie, the sister of her main character Moose Flanagan, is autistic. While effective treatments had not been developed when she was growing up or during the 1930s, when her novel is set, she is optimistic about the recent potential for early treatment with Applied Behavioral Analysis (ABA), which involves breaking down each task to be learned into smaller increments and rewarding success during each step with a favorite toy or edible treat. Choldenko reports, "The most encouraging statistics show that intense early intervention with applied behavioral analysis can help as many as half the children diagnosed with autism to achieve normal functioning" (225).

Oliver Sacks presents the debate regarding the connections among classic autism, Asperger's Syndrome, and the other disorders. While medical professionals currently consider the different conditions to lie on a continuum, no one is quite sure how they are connected at the biological level, or what causes autism in general, for that matter. Sacks refers to neurologist Isabelle Rapin who "stresses that the two conditions [autism as Asperger's] may be separate at the biological level even if they are sometimes similar at the behavioral level." What is clear is that the number of cases of autism is mysteriously on the rise. When Sacks wrote an *Anthropologist on Mars* in 1995, he cited the rate of incidence to be one in a thousand; that number has currently increased by six-fold. Traditionally, autism was considered to be more of a psychological disorder than a biological one. Perhaps a product of his times, Leo Kanner postulated that it was caused by a "refrigerator mother," who was often struggling to balance a career with motherhood, resulting, in his mind, in a level of detachment and lack of empathy for the young child. It was also common initially for other professionals to confuse autism with

childhood schizophrenia (247). However, most experts now believe that there is a biological component. Temple Grandin addresses the present controversy over the connection between common childhood vaccinations and autism. While this correlation has not been proven through scientific research, it is a common belief among many parents of autistic children who cite the onset of autistic symptoms at approximately the same time that the immunizations were given. Grandin bypasses the argument that certain ingredients in the vaccinations are to blame and hypothesizes, "If this is true it is likely that the vaccine interacts with genetic factors. Another possibility is immune system abnormalities which interfere with brain development" (52). Another perplexing fact about autism, which also points to a genetic component to the disorder, is that it is three times more common in boys than girls (45). Nonetheless, Oliver Sacks remarks in the introduction to Grandin's autobiography that while autism is a developmental disorder first diagnosed in childhood, it is a lifelong condition. He observes, "we almost always speak of autistic children, never of autistic adults, as if such children never grew up, or were somehow mysteriously spirited off the planet, out of society (11-2).

With the passage of the Americans with Disabilities Act (ADA) in 1990, disability studies has emerged as one of the newest fields of identity politics in the humanities. However, within this promising new field, the smallest number of studies address cognitive or developmental disabilities: only sixteen entries pertaining to autism and literature occur on the Modern Language Association's (MLA) International Bibliography. Several of those, such as Peter Cooley's "Autism, Autoeroticism, Auto-da-fe: The Tragic Poetry of Sylvia Plath," use the term as a metaphor for an extreme form of introversion in those who are otherwise typically functioning. Many of the entries which actually explore the condition, like "Bartleby and Infantile Autism: A Naturalistic Explanation" by William P. Sullivan, seem to display only a

textbook understanding of the disorder and diagnose a fictional character against a checklist of symptoms. In "Disability: The Next Wave or Twilight of the Gods?" Lennard J. Davis conjectures, "The fact that academics are high-functioning people without, for the most part, serious cognitive disabilities has presented a kind of barrier to the construction of an autonomous subjecthood for people with cognitive disabilities" (530). Cindy Lacom, in "'The Time is Sick and Out of Joint': Physical Disability in Victorian England," questions how the cognitively and developmentally delayed should be represented within the university. Lacom asks, "How should we think and talk about mental difference? Our academic enterprise privileges intellect, as is appropriate. But how should we properly account for human beings who are intellectually disabled?" (552). Academia privileges a *standardized* "intellect," able to perform certain types of analytical and interpretive tasks.

My dissertation explores the implications of the autistic individual on theories of subjectivity and language acquisition frequently studied in literature departments as well as in other areas of the humanities. The project is divided into four chapters, each devoted to a particular critical theorist (Derrida, Kristeva, Lacan, and Haraway), with points illustrated throughout using examples of fictional characters displaying symptoms of autism, such as Christopher Boone, the main character in Mark Haddon's *The Curious Incident of The Dog in the Night-Time*, as well as with examples from personal narratives of high functioning people with autism like Temple Grandin's *Thinking in Pictures* and biographical studies of lower functioning persons with the disorder written by their parents, teachers, and others. I also attempt to situate my work regarding autism into the larger context of disability studies, incorporating foundational works within the discipline, such as *Disability Studies: Enabling the Humanities*, a

collection of essays published by MLA and edited by Sharon L. Snyder, Brenda Jo Brueggemann, and Rosemarie Garland-Thomson.

My dissertation begins with a discussion of logocentrism as it is questioned by Jacques Derrida and as it pertains to autism. The central issue is not the relationship between writing and speech but rather verbal thinking and visual thinking as described by Temple Grandin in *Thinking in Pictures*. Derridean thought offers additional insight into autism as an auditory processing disorder, since the problems many autistic individuals face interfere with the practical implementation of the philosophical concept of differance, which depends on the ability to distinguish between different sounds and to practice deferral in the chain of meaning. For example, Lou Arrendale, the autistic main character in Elizabeth Moon's science fiction work, *The Speed of Dark*, describes his struggles with the tone, rate, and pitch of language. Furthermore, as a spectrum disorder, autism benefits from the examination of the limitations of binary thinking recognized by Derrida. Dawn Prince-Hughes incorporates the use of barred terms like "dis/order" and "dis/ability" in her autobiography, *Songs of the Gorilla Nation*. Usage of the backslash in each term represents the fine line that can separate "order" from "disorder" as well as "ability" from "disability." The unique punctuation within the middle of each word also shows that there can be an "order" within "disorder" and that "ability" can co-exist alongside "disability." Acknowledging the inherent connection between binary terms serves to restore the value of the perspective of atypical individuals like those with autism. Derridean thought in this regard offers a way to understand the experience of autism.

Chapter two of my dissertation focuses on the connection between autistic linguistic patterns and Julia Kristeva's ideas about the two dimensions of language comprising poetic expression, the semiotic and the symbolic. The semiotic dimension of language resides within

the *chora* or space connected to the maternal body. Barry Neil Kaufman describes the "two-steps forward, one-step back" nature of his son Raun's progress in *Son-Rise*, a first-person account of the therapeutic program designed for him by the same name, as slipping in and out of the "autistic womb" (164). Since the semiotic bears the traces of the language user's own body, it is interesting to note the correlation between the different levels of language proficiency and toileting abilities. Randall Eberhardt in Sue Miller's novel *Family Pictures* lacks solid language skills and is essentially incontinent as well. The symbolic, or structured aspect of poetic language, which is capable of existing apart from its referent, has parallels with echolalia, a phenomenon in which autistic individuals repeat words or phrases without any real comprehension of their meaning. While obviously a play on perceptions about their mental abilities as well, the title of Kamran Nazeer's *Send in the Idiots* comes from a phrase of unknown origin that Craig, a former classmate in a program for autism, would repeat at random. Kristeva's concepts of the symbolic and the semiotic are demonstrated in accounts of autism, thus providing another way to understand the disorder through a theoretical lens.

The third chapter of my dissertation addresses the usefulness of Jacques Lacan's conception of the Real, the Imaginary, and the Symbolic for understanding autistic experience. Personal accounts by autistic individuals often report difficulties with body boundaries; for example, Temple Grandin claims in *Thinking in Pictures* to be unable instinctually to feel where the back of her legs end and a chair begins. This vague bodily definition resembles the initial symbiotic state that Lacan termed the Real. After staring at his reflection in the mirror for an extended period of time, Barry Neil Kaufman's son Raun discovers himself in *Son-Rise*. This event can easily be compared to the phenomenon that Lacan called the Mirror Stage. Children who are diagnosed as autistic often have difficulty making the symbolic leap between the

signifier and the signified necessary for true language acquisition. Thus Temple Grandin explains in *Thinking in Pictures* that she had to learn consciously that objects have names and that words communicate. With their inward orientation, autistic individuals also exhibit an underdeveloped sense of desire (or motivation) to reach outside themselves to interact. Applied Behavioral Analysis (ABA), a system of rewards commonly used with autistic children to elicit their desire to perform important tasks, functions to motivate lower-functioning persons on the autism spectrum to make the advances necessary to reach Lacan's final developmental stage, the Symbolic, marked by tremendous linguistic and social gains. For instance, in Marti Leimbach's novel *Daniel Isn't Talking*, Melanie Marsh uses ABA techniques, rewarding her son with a small piece of chocolate when he attempts to communicate.

My concluding chapter explores the usefulness of Donna Haraway's writings about animals as companion species and cyborgs for understanding autistic experience and vice versa. Many experts now believe that children once described as feral, such as the Wild Boy of Aveyon, were autistic children who were abandoned by their families who were unable to care for them before effective interventions. Melanie Marsh, the protagonist in Marti Leimbach's *Daniel Isn't Talking*, discusses her son in these terms before he is helped by behavioral therapy. There does seem to be a special empathetic connection between autistic persons and animals in several texts, whether it be rooted in shared visual thinking or simplified emotional schemas, as Temple Grandin posits in *Thinking in Pictures*. Haraway's cyborg represents the connection between the technological and the human, a prevalent theme in the lives of many autistic people. Facilitated communication devices are sometimes used with lower functioning persons on the autism spectrum. Oliver Sacks discusses both the potential offered by this technology and concerns about its misuse in *An Anthropologist on Mars*. Higher functioning individuals with

autism often describe their thought processes in mechanical or computer terminology. Dawn Prince-Hughes shares in *Songs of the Gorilla Nation* that she strongly relates to Seven of Nine, a character who as a young girl was "assimilated" by the cyborg race called the Borg, on the science fiction television series *Star Trek Voyager*.

As demonstrated above, the theoretical applications made in each chapter are illustrated with examples from six works of fiction and six non-fiction texts about autism. (My method focuses mostly on autism-related plot elements and significant descriptions of the disorder, not structure or pacing or other aspects of fiction.) In Mark Haddon's *New York Times* bestseller *The Curious Incident of the Dog in the Night-time*, Christopher John Francis Boone, a fifteen-year-old adolescent with Asperger's Syndrome, is writing a novel about the mysterious death of his neighbor's dog, Wellington. Christopher's investigation accidentally uncovers the source of his parents' marital problems and leads him on a journey alone to London to find his mother. Cammie McGovern's *Eye Contact* is also a murder mystery, which begins as a nine-year-old autistic boy named Adam is found next to the body of Amelia, a ten-year-old girl with Pervasive Developmental Disorder (PDD), after the pair briefly disappear from school. Adam's single mother, Cara, must work with the police to help unlock the clues in his mind after he regresses, temporarily losing speech, after the traumatic experience. Elizabeth Moon's science fiction thriller *Speed of Dark*, set in the middle of the twenty-first century, focuses on Lou Arrendale, an autistic man who works for a pharmaceutical company using his strong visual abilities to recognize difficult patterns in data. Lou and his colleagues, who are also autistic, are pressured to undergo an experimental procedure developed by the company to cure autism.

Gennifer Choldenko's novel *Al Capone Does My Shirts*, written for sixth to eighth graders, is set on Alcatraz Island in 1935. When twelve-year-old Moose Flanagan, whose father

has taken a job at the prison located there, learns that his parents are unable to enroll his severely autistic sister Natalie in a school in San Francisco that they believe to be her last hope, he launches an ambitious scheme involving the prison's most famous inmate. Marti Leimbach's fictional account of autism, *Daniel Isn't Talking*, is loosely based on her experiences with her own autistic son. Leimbach's main character, Melanie Marsh, is an American living in England whose marriage falls apart when her son, Daniel, is diagnosed with autism and she becomes obsessed with finding a cure. However, romance eventually blossoms between Melanie and her son's play therapist, Andy, who knows how to help him. Sue Miller's novel *Family Pictures* revolves around the Eberhardt family, whose third child, Randall, is diagnosed with autism in 1954. Reflecting common beliefs about autism during that era, David, the psychiatrist father, blames Lainey, the mother, who has three more children in an attempt to compensate. As the Eberhardt children enter their teens in the iconic 1960s, their parents' marriage disintegrates.

Non-fiction accounts of autism are often written by professionals and family members of individuals with autism, particularly those describing children or lower-functioning people on the autism spectrum, who may have limited verbal abilities. Oliver Sacks first introduced Temple Grandin to the world in his series of medical narratives depicting different neurological conditions, *An Anthropologist on Mars*, a best-selling book. In addition to Grandin and five non-autistic subjects, Sacks devotes a chapter to Stephen Wiltshire, a teenaged autistic savant with amazingly mimetic artistic and musical abilities. In *Unraveling the Mystery of Autism and Pervasive Developmental Disorder*, Karyn Seroussi posits that autism is primarily an autoimmune disorder. Based on her own experiences after her son Miles was diagnosed as autistic and the research her scientist husband shares with her, Seroussi comes to the conclusion that most cases are triggered by the Measles Mumps Rubella (MMR) vaccination and can be

dramatically improved with a gluten and casein-free diet. Originally written in 1976, *Son-Rise* is the true story of Barry Neil Kaufman and his wife, Samahria, who refuse to believe that their son Raun, who has been diagnosed as autistic and mentally retarded, is unreachable. The couple successfully design an intensive program of therapy for their child, also called Son-Rise, which they now promote through their educational foundation.

Three of the non-fiction texts I examine are first-person narratives written by high-functioning individuals with autism, all of whom happen to have doctoral degrees. Perhaps the most famous person with autism, Temple Grandin, writes in *Thinking in Pictures* how both her visual thinking and empathy with animals have helped her to create more humane designs for one-third of all livestock facilities in the United States. Dawn Prince-Hughes, a noted anthropologist, writes in *Songs of the Gorilla Nation* about the difficult childhood that she experienced growing up with Asperger's Syndrome, which was not widely recognized at the time. After a difficult journey, which included dropping out of high school, being homeless, and making a living by dancing in a strip club, Prince-Hughes emerged from her autistic isolation through a unique connection forged with a family of gorillas, when she began visiting the zoo as an escape. In *Send in the Idiots*, Kamran Nazeer, a successful speechwriter and member of the British Civil Service, creates a series of biographical sketches of four former classmates in a program for autism in New York City. Nazeer also meets with the former director of the school and his teacher, who, impressed by his high level of functioning, refer to him as "cured."

Autobiography, or life writing, is as important in disability studies as it has been in other identity-based movements. In "Conflicting Paradigms: The Rhetorics of Disability Memoir," G. Thomas Couser states, "Most literary scholars would agree that autobiography has served historically as a sort of threshold genre for other marginalized groups" (78). What is at stake is

the opportunity for disabled individuals to correct socially common misrepresentations of themselves. In an early version of "Disability, Life Narrative, and Representation," printed in *PMLA* in 2005, Couser explains, "Historically, the cultural representation of disability has functioned at the expense of disabled people in part because they have not controlled their own images" (603). However, the past three decades have seen a dramatic increase in the number of both first-person and third-person portrayals of disabilities, including disorders like autism, which by their nature would seem to prevent first-hand accounts (603-4). In a later version of "Disability, Life Narrative, and Representation" included in the *Disability Studies Reader* in 2006, Couser notes that personal narratives written by individuals with autism have been called "autiebiographies" and that their numbers have increased dramatically in the past two decades: "Before 1985 these were virtually nonexistent; since 1985, nearly one hundred have been produced. (This number does not include the many narratives written by parents of autistic children)" (399). The recent proliferation of non-fiction accounts of autism reflects a greater willingness in high-functioning autistic persons (and those whose lives are peripherally impacted by the disorder) to speak out about their experiences. This phenomenon is simultaneously a product of and the reason for a growing awareness of the condition, also corresponding with a rise in the number of cases diagnosed.

According to Oliver Sacks in his Foreword to Temple Grandin's *Thinking in Pictures*, before her first book, *Emergence: Labeled Autistic*, was released in 1986, "there had never before been an 'inside narrative' of autism; unthinkable because it had been medical dogma for forty years or more that there *was* no 'inside,' no inner life, in the autistic, or that if there was it would be forever denied access or expression; extraordinary because of its extreme (and strange) directness and clarity" (11). Sacks proceeds to compare the two books, written ten years apart.

He discusses some of the shortcomings of her earlier narrative, which he attributes to a supposed, autistic inability to empathize with her audience:

> Writing did not come easily to her at first, not because she lacked verbal facility, but because she lacked an imagination of other minds, of the fact that her listeners were different from her, were not privy to the experiences, the associations, the background information in her own mind. There were strange discontinuities (people injected suddenly into the narrative without warning, for instance); casual reference to incidents of which the reader had no knowledge; and sudden, perplexing changes of topic. It is said by cognitive psychologists that autistic people lack a "theory of mind"—any direct perception or idea of other minds, or other states of mind—and that this lies at the heart of their difficulties. (14)

Sacks implies that Grandin's progress as a writer proves that autistic individuals, despite their developmental delays, do evolve throughout their lives.

Anthropologist Dawn Prince-Hughes challenges commonly held beliefs that all individuals on the autism spectrum are unable to communicate and do not have strong emotions. She posits that many autistic individuals express themselves in the privacy of their journals, which they are often unwilling to share with a largely unsympathetic world. Borrowing imagery from a branch of her chosen field, Prince-Hughes concludes, "And so a vast resource of knowledge about the diversity and beauty of autism rests on countless pages, like layers of archaeology, covered with the dust of fear" (31). Temple Grandin also refers to herself as an "anthropologist on Mars" in the chapter that Oliver Sacks devotes to her in his collection of medical narratives with the same name. Drawing parallels between anthropology and disability studies is not uncommon. Couser compares biographers who portray disability from a third-

person perspective to the work of ethnographers. He poses a series of rhetorical questions about the appropriate relationship between the author and the disabled subject:

> What sorts of relationships do memoir writers have to their disabled subjects, and how do these relationships inflect their narratives? To what extent do memoir writers mimic the ethnographic scenario in which the story of the other is written by a professional expert? What ethical questions arise when disability is narrated by a close relative or friend that do not arise in autobiography—at least not in solo autobiography? For example, what is the proper role of parents of disabled children? (113)

Furthermore, Couser also sees the purpose of first-person accounts of autism and other disabilities to be ethnographic in their inquiry into the influence of disability on identity, mode of expression, and culture:

> Françoise Lionnet has defined a term that may be useful in this context, "auto ethnography": "the defining of one's subjective ethnicity as mediated through language, history, and ethnographical analysis; in short, […] a kind of 'figural anthropology' of the self" (99). Simulated by the progress of the disability rights movement, disability autobiography is more likely in the future to take the form of autoethnography; that is, disability autobiography is more likely to explore the positive ways in which identity and life narrative are shaped by disability, the ways in which disability may create culture. (116)

In this vein, the methodology that I have utilized in my study of autism is comparable to the "thick description" espoused by cultural anthropologist Clifford Geertz in his most famous essay, "Thick Description: Toward an Interpretive Theory of Culture." Geertz comments that ethnography is essentially thick description. The ethnographer must learn to "read" the behavior

that he or she is observing, then transcribe those actions, as well as offer an interpretation of their meaning, within a particular context:

> The point for now is only that ethnography is thick description. What the ethnographer is in fact faced with . . . is a multiplicity of complex conceptual structures, many of them superimposed upon or knotted into one another, which are at once strange, irregular, and inexplicit, and which he must contrive somehow first to grasp and then to render. . . . Doing ethnography is like trying to read (in the sense of "construct a reading of") a manuscript—foreign, faded, full of ellipses, incoherencies, suspicious emendations, and tendentious commentaries, but written not in conventionalized graphs of sound but in transient examples of shaped behavior. (9-10)

Thick description and textual analysis are methodologically similar: "Analysis, then, is sorting out the structures of signification—what Ryle called established codes, a somewhat misleading expression, for it makes the enterprise sound too much like that of the cipher clerk when it is much more like that of the literary critic—and determining their social ground and import" (9). My dissertation offers what might be called a thick description of autistic behavior exhibited in both fiction and non-fiction autism texts, situating those behaviors within a larger context of language development and identity formation. Like Geertz, I assume that writings about autism, whether fiction or nonfiction, are interpretations. Geertz states that anthropological studies "are, thus, fictions; fictions, in the sense that they are 'something made,' 'something fashioned'—the original meaning of *fictiō*—not that they are false, unfactual, or merely 'as if' thought experiments" (15). I too treat autism texts using the tools of literary analysis. Further, I am cognizant that theory is also fiction in this sense. Hence, my dissertation brings theoretical

positions and conceptions into the same frame as the other texts. I do not "apply" theory to autism texts; rather, I bring both kinds of texts into what I hope is a productive dialogue.

Geertz points out that the subject matter of anthropology lies in both exotic locales and also in everyday artifacts such as books. He also emphasizes the fact that in an interpretation, content can never be completely separated from the form in which it is presented:

> Anthropologists have not always been as aware as they might be of this fact: that although culture exists in the trading post, the hill fort, or the sheep run, anthropology exists in the book, the article, the lecture, the museum display, or, sometimes nowadays, the film. To become aware of it is to realize that the line between mode of representation and substantive content is as undrawable in cultural analysis as it is in painting. (16)

Thus, for example, in the case of Mark Haddon's *The Curious Incident of the Dog in the Night-time*, stylistic elements, such as the literal-minded tone and numerous illustrations, which represent Christopher Boone's preference for logic over emotion and inclination towards visual thinking, offer as much information about autistic experience as the plot. Thus also, discoveries in psychology and cognitive sciences enable developments in critical theory of the sort that I examine. Haraway's cyborgs exist in a shared fictional space with television and also now visible autistic individuals.

Since autism is in part a communication disorder, which interferes with the individual's ability to participate in society, Geertz's "semiotic approach to culture" may not seem the most appropriate choice for examining autism texts. However, Geertz's objectives, to access the inner world of his subjects and learn to communicate with them, could not be more suitable, particularly for lower-functioning persons on the autism spectrum who are unable to verbalize their inner experiences. Geertz explains, "The whole point of a semiotic approach to culture is, as

I have said, to aid us in gaining access to the conceptual world in which our subjects live so that we can, in some extended sense of the term, converse with them" (24). The point of my analysis is the same: to communicate with subjects whose mental lives are fascinatingly different from those of most people.

"Deconstructing Autism: Derrida and Developmental Disability"

Logocentrism, the metaphysical idea that meaning is fully present in speech, is perhaps most often associated with the opening passage of the Gospel of John, "In the beginning was the Word. . . ," in which the Greek word *Logos* is commonly translated as *Word*. Logocentrism can also be interpreted to mean that speech is analogous to thought and central to language. Due to the principal role that Logocentrism has played in Western philosophy, it seems like an obvious place to begin a discussion of the ideas of Jacques Derrida. It also proves to be a strong starting point for an exploration of autism texts. Logocentrism appears to be on the minds of many autistic writers and characters and those people with whom their lives are connected. Kamran Nazeer, a high-functioning individual with autism and the author of *Send in the Idiots*, a series of biographical sketches of his former classmates with autism, evokes logocentrism in a comparison of the eccentricities displayed by those considered to be "geniuses" and those with a diagnosis of autism. Nazeer proclaims, "*In the beginning was the Word. And the Word was Genius*" (82). Sue Miller, author of the novel *Family Pictures*, also directly refers to the most well-known passage at the beginning of the Gospel of John. The oldest of the Eberhardt children, Mack, who romanticizes his severely autistic younger brother, Randall, notices a previously overlooked aspect of the Bible verses during a Christmas service:

> After they'd sat down, the minister came forward again and began to read: "In the beginning was the Word," he intoned majestically. "And the Word was with God, and the Word was God." Mack knew this passage by heart—he'd had to learn it for Sunday school, and it had always intrigued and puzzled him. He was startled, then, when it changed suddenly, when, in the middle, there were several lines he'd forgotten utterly,

> not about Jesus but about John… (329)

Mack is surprised by the presence of the human element, represented by John, in the midst of discussion of the divinity of the Word. Whether it be higher functioning individuals with autism who find it easier to process writing than speech or lower functioning people on the autism spectrum who think more in visual than verbal terms, the portrayals of autistic persons both uphold and extend Derrida's critique of logocentrism.

In *Dissemination*, Derrida examines the Platonic privileging of logos as a zōon, or a living being, in order to trace its historical pre-eminence over writing. He explains:

> In describing *logos* as a *zōon*, Plato is following certain rhetors and sophists before him who, as a contrast to the cadaverous rigidity of writing, had held up the living spoken word, which infallibly conforms to the necessities of the situation at hand, to the expectations and demands of the interlocutors present, and which sniffs out the spots where it ought to produce itself, feigning to bend and adapt at the moment it is actually achieving maximum persuasiveness and control. (79)

Not only is speech perceived to be more adaptable than writing, but it also retains its position of prominence through propagating the fear that writing will destroy memory and the need to hold experiences in the living mind. Derrida elaborates, "Thus, in both cases, on both sides, writing is considered suspicious and the alert exercise of memory prescribed. What Plato is attacking in sophistics, therefore, is not simply recourse to memory but, within such recourse, the substitution of the mnemonic device for live memory, of the prosthesis for the organ. . . ." (108). Deconstructing the reasoning that prefers speech to writing, Derrida proposes that writing, as a loss of immediacy, must precede speech for meaningful language to occur.

Derrida posits a protowriting that underlies all signification in its alternation of presence and absence at the cognitive level. Derrida explains in *Of Grammatology*:

> *There is nothing outside of the text* [there is no outside-text; *il n'y a pas de hors-texte*]. . . what one calls the real life of these existences "of flesh and bone," beyond and behind what one believes can be circumscribed as Rousseau's text, there has never been anything but writing; there have never been anything but supplements, substitutive significations which could only come forth in a chain of differential references, the "real" supervening, and being added only while taking on meaning from a trace and from an invocation of the supplement, etc. And thus to infinity, for we have read, *in the text*, that the absolute present, Nature, that which words like "real mother" name, have always already escaped, have never existed; that what opens meaning and language is writing as the disappearance of a natural presence. (158-9)

Due to the relative visual strengths of autistic individuals, many find that communication comes easier via writing than through speech. Temple Grandin explains in *Thinking in Pictures*, perhaps the most well-known autobiography about life with autism, that "Children with more severe auditory processing problems often learn to read before they can speak. They learn best if a written word is paired with an object, because many of them have very poor comprehension of spoken words" (55). Visual strengths can result in a type of mental writing that makes verbal thinking more accessible for autistic persons. Mark Haddon's protagonist in the best-seller *The Curious Incident of the Dog in the Night-Time* translates spoken words to written images in order to process them: "And it was strange because he was calling, 'Christopher…? Christopher…?' and I could see my name written out as he was saying it. Often I can see what someone is saying

written out like it is being printed on a computer screen, especially if they are in another room" (113).

Even highly verbal autistic adults like Temple Grandin can also rely on writing in order to help them process speech. Drawing parallels between the difficulties of learning a foreign language and the struggles many severely autistic children face trying to understand even their native language, Grandin explains, "As an adult my method for learning a foreign language may be similar to how a more severely impaired autistic child learns to understand language. I cannot pick words out of a conversation in a foreign language until I have seen them written first" (55). Dawn Prince-Hughes, the author of *Songs of the Gorilla Nation* about her life with Asperger's Syndrome, also uses the analogy of learning a second language to express the relative comfort with the written word experienced by many autistic people: "I have said in the past, and I have since heard it repeated by other autistic people, that written English is my first language and spoken English is my second" (26). Commenting on the recent explosion in the number of autobiographies written by other autistic writers, Prince-Hughes asserts, "Given that we seek the small and manageable, it is no surprise that many high-functioning autistic people, unable to communicate with others above the ringing swirl, shout across the canyons of reality by writing" (25-6). Lou Arrendale, who is more severely autistic than Prince-Hughes and the main character in Elizabeth Moon's *The Speed of Dark*, simply says, "It's hard to talk, sometimes, and much easier to write things down or draw them" (10).

According to most autism texts, the primary mode of thinking for autistic individuals seems to be visual. At the risk of establishing a new binary (more about this later), perhaps the dichotomy deserving more attention is not spoken as opposed to written but rather visual in contrast to verbal. The title of Temple Grandin's autobiography, *Thinking in Pictures*, captures

her visual abilities: “I THINK IN PICTURES. Words are like a second language to me. I translate both spoken and written words into full color movies, complete with sound, which run like a VCR tape in my head. When somebody speaks to me, his words are instantly translated into pictures” (19). Despite her higher functioning diagnosis of Asperger’s Syndrome, Dawn Prince-Hughes similarly describes her video-like memory in *Songs of the Gorilla Nation*: “When I close my eyes, I can play it back like a three-dimensional tape, replete with the smells, the sensations, and my feelings about it. I have always had this photographic or eidetic memory, and all of my many recollections of the past have a quality that makes them seem almost more real than the present” (16). Impressively, Mark Haddon’s novelistic exploration of autism in *The Curious Incident of the Dog in the Night-Time* leads him to the following description of Christopher Boone’s mental recall, which closely resembles Prince-Hughes’ and Grandin’s processes: “And when people ask me to remember something I can simply press **Rewind** or **Fast Forward** and **Pause** like on a video recorder, but more like a DVD player because I don’t have to Rewind through everything in between to get to a memory of something a long time ago. And there are no buttons, either, because it is happening in my head” (76). Barry Neil Kaufman and his wife, Samarhria, amazingly come to a similar conclusion about their young son, Raun, who initially lives exclusively inside his autistic world, in *Son-Rise*: “Sometimes we speculated about a third possibility: that the replay system in his mind of memories and past sensations was so vibrant and active that he stopped perceiving in order to watch his own internal picture show” (59-60).

In *Thinking in Pictures*, Temple Grandin does describe her difficult journey making the transition from being a solely visual thinker to learning to communicate through verbal language. Grandin appears to translate language, in a way, from the visual image in her mind to a

corresponding word. Therefore, concepts that have a strong visual correlation, like concrete nouns and action verbs, were easiest for her to grasp as a child. Regarding nouns, she explains, "Autistics have problems learning things that cannot be thought about in pictures. The easiest words for an autistic child to learn are nouns, because they directly relate to pictures" (29). She goes on to describe how she processes verbs: "I also visualize verbs. The word 'jumping' triggers a memory of jumping hurdles at the mock Olympics held at my elementary school. Adverbs often trigger inappropriate images—'quickly' reminds me of Nestle's Quik—unless they are paired with a verb, which modifies my visual image" (30). Because of her visual approach, abstract concepts like peace or honesty remain particularly hard for Grandin to comprehend, and she takes any symbolic language used to describe them quite literally:

> Growing up, I learned to convert abstract ideas into pictures as a way to understand them. I visualized concepts such as peace or honesty with symbolic images. I thought of peace as a dove, an Indian peace pipe, or TV or newsreel footage of the signing of a peace agreement. Honesty was represented by an image of placing one's hand on the Bible in court. A news report describing a person returning a wallet with all the money in it provided a picture of honest behavior.
>
> The Lord's Prayer was incomprehensible until I broke it down into specific visual images. The power and the glory were represented by a semicircular rainbow and an electrical tower. These childhood visual images are still triggered every time I hear the Lord's Prayer. The words 'thy will be done' had no meaning when I was a child, and today the meaning is still vague. Will is a hard concept to visualize. When I think about it, I imagine God throwing a lightning bolt. Another adult with autism wrote that he visualized "Thou art in heaven" as God with an easel above the clouds. "Trespassing"

> was pictured as black and orange NO TRESPASSING signs. The word "Amen" at the end of the prayer was a mystery: a man at the end made no sense. (33)

Despite the complications that visual thinking causes for processing verbal language, visualization should be recognized as another legitimate mode of human cognition.

Most people, even writers and the like who are verbally gifted, think in pictures from time to time, for example, when trying to consider the fastest way to drive from point *a* to point *b*. Grandin takes this principle a step further, positing a spectrum between visual and verbal abilities: "People throughout the world are on a continuum of visualization skills ranging from next to none, to seeing vague generalized pictures, to seeing semi-specific pictures, to seeing, as in my case, in very specific pictures" (28). Oliver Sacks, who describes Grandin and others in medical narratives included in *An Anthropologist on Mars*, refers to common occupations that rely heavily on visual perception: "Visual thinking in itself is not abnormal, and Temple was quick to point out that she knows several nonautistic people—engineers, designers—who seem able to 'see' what they need to do, to make designs in their mind and test them in simulations, just as she does" (284). Difficult as it may be for those of us who think for the most part in words to imagine living life primarily in visual mode, Grandin finds it just as hard to consider operating from a primarily verbal perspective: "Temple has always been a powerful visualizer. She was astonished when she discovered that her own near-hallucinatory power of visual imagery was not universal—that there were others who, apparently, had other ways to think. She is still very puzzled by this. 'How *do* you think?' she kept asking me" (266). Grandin has channeled her strong visual abilities into a career designing more humane handling facilities for livestock in the United States, which she describes in *Thinking in Pictures*:

> When a well-respected animal scientist told me that animals do not think, I replied that if

> this were true, then I would have to conclude that I was unable to think. He could not imagine thinking in pictures, nor assign it the validity of real thought. Mine is a world of thinking that many language-based thinkers do not comprehend. I have observed that the people who are most likely to deny animals thought are often highly verbal thinkers who have poor visualization skills. They excel at verbal or sequential thinking activities but are unable to read blueprints. (159-60)

Grandin is only one example of an autistic individual making a vocation or avocation of strong visual skills.

Lou Arrendale, Elizabeth Moon's protagonist in *The Speed of Dark*, has made a career out of his strong ability to recognize visual patterns as a side benefit of his autism. As would be expected, the real challenge for Lou is verbally conveying what he sees to his non-autistic colleagues:

> The symbols I work with are meaningless and confusing to most people. It is hard to explain what I do, but I know it is valuable work, because they pay me enough to afford the car, the apartment, and they supply the gym and the quarterly visits to Dr. Fornum. Basically I look for patterns. Some of the patterns have fancy names and other people find them hard to see, but for me they have always been easy. All I had to do was learn the way to describe them so others could see that I had something in mind. (6)

Stephen Wiltshire, the other autistic person depicted by Sacks in *An Anthropologist on Mars*, is an autistic (artistic!) savant, who is able to draw amazing renditions of people and places after a single look. Sacks portrays Wiltshire: "Stephen had not studied the house, had made no sketches, had not drawn it from life, but had, in a brief glance, taken everything in, extracted its essence, seen every detail, held it all in his memory, and then, in a single, swift line, drawn it" (205).

Although savants comprise only about ten percent of the autistic population, despite their abundant popularity in film and other media, their abilities are definitely noteworthy. When Mark Haddon's autistic main character, Christopher Boone, decides to write a book about the mysterious death of a dog in his neighborhood, the results, including a diagram of the street Christopher lives on and even reproductions of ATM screens and fabric patterns that have special significance for him, represent his visual thinking in innovative novelistic form. The groundbreaking March 2005 issue of *PMLA*, partially devoted to the fledgling field of disability studies, includes an article by Michael Bérubé called "Disability and Narrative," which analyzes *The Curious Incident of the Dog in the Night-Time* among other portrayals of disability, touching on the relationship between the formal elements of the novel and the strong visualizations of the autistic protagonist. Bérubé notes, "This metafictional attention to the production of the text, however, stems not from a Beckettian self-awareness about the potential for infinite regression involved in self-awareness but from a narrator's cognitive disability, rendered by Haddon as 'realistically' as humanly possible (and without a whiff of pity or horror—or maudlin sentimentality)" (574).

Although never formally diagnosed, the strong visual abilities (and social eccentricities) of Albert Einstein resonate with many people in the autism community and have led some to speculate that he might have had Asperger's Syndrome. Temple Grandin discusses Einstein in a chapter of *Thinking in Pictures* that warns against trying to eliminate autism and other psychological "differences" from the gene pool:

> Einstein also did poorly in school until he was sent to one that allowed him to use his visualization skills. He told his psychologist friend Max Wertheimer, "Thoughts did not come in any verbal formulation. I rarely think in words at all. A thought comes, and I try

> to express it in words afterwards." When he developed the theory of relativity, he imagined himself on a beam of light. His visual images were vaguer than mine, and he could decode them into mathematical formulas. (182-3)

While few of us possess the mental capabilities to discover a theory of relativity, the visual abilities of all children should be appreciated and appropriately nurtured.

Given the difficulties many autistic children have processing speech, many are mistakenly believed to be deaf before the autism diagnosis is made. Temple Grandin, in her survey of other accounts of autism in *Thinking in Pictures*, refers to Jane Taylor McDonnell, whose autistic son was initially thought to be deaf. Grandin writes, "Children with autism often appear to be deaf. They respond to some sounds and not to others. Jane Taylor McDonnell reported in her book *News from the Border* that her autistic son was suspected of being deaf to particular pitches and frequencies" (67). Donna Williams, quoted in a footnote to M. Lynn Rose's "Deaf and Dumb in Ancient Greece," "explains, in her account of her own autism, that she was 'meaning-deaf,' but, like many autistic children, was thought to be sound-deaf" (23). Despite the distinction, articles on Deafness and its visual language, Sign, have important implications for autism and the various ways that autistic persons try to communicate. As stated in a call for an examination of the consequences of linguistic theory for Sign, the obvious starting point is with Derrida, according to H-Dirksen L. Bauman in "Toward a Poetics of Vision, Space, and the Body":

> The exchange between theory and Sign should open, appropriately, with Jacques Derrida, for it is he who has brought the importance of nonphonetic linguistic modalities to the forefront of twentieth-century thought by severing the "natural" connection between the voice and language. The voice, Derrida believes, is more than a means of

communicating—it is the source for Western ideas of truth, being, and presence. (356)

Because of their auditory processing issues and relative visual strengths, sometimes autistic children are also taught basic Signs, which are alternately called Mands in the context of autism.

H-Dirksen L. Bauman claims that "as early as Plato's *Cratylus*, Western 'hearing' intellectuals have been aware of the manual languages of Deaf communities, but twenty-five centuries since Plato, we remain largely ignorant that our concepts of language and literature have evolved within a false dualism of speech and writing" (355). Bauman further postulates that this dichotomy between speech and writing has been missing something, namely, the visual aspect of communication:

> One could, perhaps, argue that speech and writing have been searching for their visual/spatial counterpart since Simonides of Keos' formulation that "poetry is speaking painting" while "painting is mute poetry," and extending through, among others, Horace's dictum *ut pictura poesis*, centuries of religious "pattern poetry," Blake's illustrations, Stein's cubism, Pound's ideograms, Olson's hieroglyphics, concrete poetry, performance poetry, ethnopoetics, video-texts, and virtual texts. These experiments have, in their various ways, sought to imbue speech and writing with the visual and spatial dimensions of images and the body. Have these experiments emerged out of a phantom-limb phenomenon where writers have sensed language's severed visual spatial mode and went groping after it? (355)

Signing/ Manding complicates the binary of speech and writing in autism communities as well as in Deaf ones.

Since autism is a processing-level disorder instead of a sensory-level impairment, the decision of whether to stress Signing/Manding; Picture Exchange Communication System

(PECS), which involves exchanging a visual representation of a preferred item for the item itself; or verbalization in the child's communication training is admittedly more complex than the choice to teach a Deaf child to Sign. As the ability to pick up different Signs or Mands (or even to proceed through the different levels of PECS) improves, autistic children usually do become more verbal because they are more capable of communicating in general and are able functionally to hear those around them speaking. For this reason a "Total Communication" approach, involving Signing/ Manding, PECS, and verbal communication simultaneously, is often used. However, sensitivity to the relative difficulty in learning verbal as opposed to visual communication for autistic children is needed. Parallels can be drawn between overeager educators, well intentioned though they may be, who focus disproportionately on producing speech in autistic children, especially at the early stages of communication, and deaf educators who have forced deaf children to attempt to speak rather than sign, much to the children's distress. The battle between oralist educators and sign advocates is well documented within the Deaf community. Douglas Baynton notes in "A Silent Exile on This Earth":

> More often, oralists emphasized the empathetic side of the metaphor. They insisted that their intent was to rescue deaf people from their confinement, not to attack them. Deaf adults, however, actively defended the space from which they were urged to escape and from which deaf children were supposed to be rescued. But just as deaf people resisted the oralist conception of their needs, oralists likewise resisted the portrayal of themselves by deaf leaders as "enemies of the true welfare of the deaf." (42)

It is understandable that parents of autistic children in particular would be eager to be able to communicate with their children verbally if it is their own primary means of communication. However, an unwillingness to explore the benefits of exposing the child to Signing/Manding or

PECS (even as a temporary means toward the end of increased verbalization), as some parents exhibit, shows a level of rigidity and bias toward speech over any other means of communication, even if a more visual approach could prove beneficial. An interesting spin is put on the situation when one considers the stigma that the ability to communicate orally often holds in the Deaf community. Carol Padden and Tom Humphries explain in "Deaf People," "Oral individuals are stereotypically represented as members of the establishment, as coming from hearing families that are inflexible about their children's behavior" (337). It is interesting to note that the name of the primary advocacy group for autism research begun by the vice chairman of General Electric, Bob Wright, and his wife, Suzanne, who are the grandparents of an autistic child, is called Autism Speaks. This type of bias correlates with the phonocentrism that Derrida so energetically opposes. H-Dirksen L. Bauman states, "Indeed, nowhere will one find a more vehement declaration of voice-as-presence than by reading the words of oralist educators" (358).

The connection between "phonocentrism" and "logocentrism" in the philosophy of Jacques Derrida is well documented by Bauman. But while Derrida is interested in exploring non-phonetic means of written language (such as hieroglyphics), he overlooks non-phonetic means of "speech" like Sign (or even PECS). Bauman observes:

> The privileging of the voice, which Derrida calls "phonocentrism," is the linguistic phenomenon that leads toward "logocentrism," the Western metaphysical orientation which perceives meaning to be anchored by the self-presence of identity. Against this tradition, Derrida recognizes that the voice has no natural primacy over nonphonetic forms of language and that the metaphysics of presence is infused with the free-play and undecidability of language. . . . When seen through deconstructive lenses, Sign dilates its sphere of influence from the sociopolitical site of the Deaf community to the entire

> history of Western "hearing" metaphysics. With its deconstruction of the voice-centered tradition, grammatology, one might say, initiates a "Deaf philosophy"—if it weren't for the fact that Derrida fails to engage theoretical issues of deafness or signing to any significant degree. (356)

H-Dirksen L. Bauman accuses Derrida of a bias against those who are not capable of the auditory processing of language or, at the least, of overlooking the implications of this segment of the population for his exploration of language:

> One may link this critical oversight as being symptomatic of not really *seeing* Deaf people, of tacitly acknowledging their absence from being. If this is so, this audist oversight reinscribes the very phonocentrism Derrida sets out to deconstruct. At the very least, one may accuse Derrida's grammatology of suffering from an undertheorized sociopolitical site because he neglects Deaf history. While he considers logocentrism to be "the most original and powerful ethnocentrism," (3) he does not follow this statement to its most severe sociopolitical manifestation: audism. (357)

What we are to understand to be missing is an exploration of the possibility of escaping logocentrism via a lack of participation in the phonetic world. Bauman asks, "Is resisting phonocentrism tantamount to resisting logocentrism? What are the phenomenological differences between 'being-in-the-deaf-world' and 'being-in-the-hearing-world'? Are Deaf persons—over ninety percent of whom are born in hearing families—really out of reach of logocentrism?" (357). But this line of questioning can be taken even further in the context of autism. If Deaf persons who depend on Sign to communicate are outside the influence of logocentrism, how much more so are those individuals at the most severe end of the autism spectrum, who think in movie clips instead of either verbal or visual language?

While Derrida does not go so far as to explore the opposition between visual and verbal thinking, he does take the uncommon step of privileging the visual in the writing of his neologism, *differance*, in which the difference between his coined term and the very word "difference" cannot be heard when spoken, only seen with the substitution of the "a" for the "e" when written. Derrida explains in "Differance," "We provisionally give the name *differance* to this *sameness* which is not *identical*: by the silent writing of its a, it has the desired advantage of referring to differing, *both* as spacing/ temporalizing and as the movement that structures every dissociation" (129-30). Despite the spelling distinction between differance and "difference," the origin of the new term does lie in the multiple facets of its predecessor. Derrida observes, "The verb 'to differ' [*différer*] seems to differ from itself. On the one hand, it indicates difference as distinction, inequality, or discernibility; on the other, it expresses the interposition of delay, the interval of a *spacing* and *temporalizing* that puts off until 'later' what is presently denied, the possible that is presently impossible" (129). Differance is essentially the protowriting that underlies all signification with its alteration of presence and absence that precedes spoken language. However, it is the spacing and temporalization inherent in differance which is incompatible with the auditory processing disorder component of autism, thus making it difficult for autistic individuals despite their relative ease with processing writing due to their relative visual strengths. Derrida explicitly traces the connection between the protowriting and differance:

> In order for it to be, an interval must separate it from what it is not; but the interval that constitutes it in the present must also, and by the same token, divide the present in itself, thus dividing, along with the present, everything that can be conceived on its basis, that is, every being—in particular, for our metaphysical language, the substance or subject.

> Constituting itself, dynamically dividing itself, this interval is what could be called *spacing*; time's becoming-spatial or space's becoming-temporal (*temporalizing*). And it is this constitution of the present as a "primordial" and irreducibly nonsimple, and, therefore, in the strict sense nonprimordial, synthesis of traces, retentions, and protentions (to reproduce here, analogically and provisionally, a phenomenological and transcendental language that will presently be revealed as inadequate) that I propose to call protowriting, prototrace, or differance. The latter (is) (both) spacing (and) temporalizing. (143)

Autistic individuals experience problems spatially separating the different phonemes that comprise speech and with the sequential timing involved in following the different strings of speech which comprise conversations.

After revisiting the work of Ferdinand Saussure, the father of modern semiotics, Derrida states in "Differance," "Saussure had only to remind us that the play of difference was the functional condition, the condition of possibility, for every sign; and it is itself silent. The difference between two phonemes, which enables them to exist and to operate, is inaudible" (133). In *Thinking in Pictures*, Temple Grandin attributes her ability to become proficiently verbal to her capacity to differentiate between two phonemes: "I was able to learn to speak because I could understand speech, but low-functioning autistics may never learn to speak because their brains cannot discriminate among speech sounds" (53). She uses Donna Williams as an example of someone who has difficulty sorting through the multiple auditory aspects of speech:

> In *Somebody Somewhere*, Donna writes, "As a child I had been echolalic and had difficulty learning the purpose and significance of language." She had problems with

> perceiving both the words and the intonation or tone of speech as a seamless whole. When she was young, she thought that the intonation of a voice *was* the words. If she listened to the intonation, she could not hear the words. (71-2)

This difficulty is paralleled in the complaints made by Lou Arrendale, the autistic main character in Elizabeth Moon's *The Speed of Dark*: "Why can't people just say what they mean, the words alone? Why do I have to fight with tone and rate and pitch and variation?" (12).

Derrida does distinguish himself from Saussure's semiology in "Differance" with his demarcation of grammatology, focusing on the protowriting behind the phonological distinctions needed for speech to be meaningful:

> Elsewhere I have tried to suggest that this differance within language, and in the relation between speech and language, forbids the essential dissociation between speech and writing that Saussure, in keeping with tradition, wanted to draw at another level of his presentation. The use of language or the employment of any code which implies a play of forms—with no determined or invariable substratum—also presupposes a retention and protention of differences, a spacing and temporalizing, a play of traces. This play must be a sort of inscription prior to writing, a protowriting without a present origin, without an *archē*. From this comes the systematic crossing-out of the *archē* and the transformation of general semiology into a grammatology, the latter performing a critical work upon everything within semiology—right down to its matrical concept of signs—that retains any metaphysical presuppositions incompatible with the theme of differance. (146)

For Derrida, processing spoken language requires a mastery of the necessary timing needed to hold onto, yet postpone interpretation of, a word until it is experienced in the context of other

words, as well as the simultaneous ability to maintain adequate spacing between the different phonemes attached to each word.

Derrida uses the term "temporalizing" for the first time in "Differance" in regards to the postponement needed to derive meaning from speech:

> the action of postponing until later, of taking into account, the taking-account of time and forces in an operation that implies an economic reckoning, a detour, a respite, a delay, a reserve, a representation—all the concepts that I will sum up here in a word I have never used but which could be added to this series: *temporalizing*. "To differ" in this sense is to temporalize, to resort, consciously or unconsciously, to the temporal and temporalizing mediation of a detour that suspends the accomplishment or fulfillment of "desire" or "will," or carries desire or will out in a way that annuls or tempers their effect. We shall see, later, in what respects this temporalizing is also a temporalization and spacing, is space's becoming-temporal and time's becoming-spatial, is "primordial constitution" of space and time, as metaphysics or transcendental phenomenology would call it in the language that is here criticized and displaced. (136)

In *Thinking in Pictures*, Temple Grandin addresses the timing issues that many autistic people face dealing with spoken language at the processing-level. She recalls a special test given to her by an audiologist which assessed her ability to manage the temporal elements of speech:

> A third test given by Joan Burleigh, called the binaural fusion test, showed that I have a distinct deficiency in timing sound input between my two ears. In this test a word is electronically split so that the high-frequency sounds go to one ear and the low-frequency sounds go to the other. When the low-frequency part of the word went to my right ear, I was able to hear 50 percent of the words correctly. When the low frequency was sent to

my left ear, I became functionally deaf and only got 5 percent of the words correct. (69)

The timing problems that Grandin and other autistic persons experience when trying to process speech interfere with the deferral needed to extract meaning from conversation.

Perhaps because of her difficulties with the sequencing component in spoken language, as well as her method of storing experiences visually in her memory without translating them into verbal descriptions, Grandin describes herself as an associative rather than a linear thinker. One memory will trigger another according to thematic similarities in their content rather than their chronological relationship to each other. She reports:

> If I let my mind wander, the video jumps in a kind of free association from fence construction to a particular welding shop where I've seen posts being cut and Old John, the welder, making gates. If I continue thinking about Old John welding a gate, the video image changes to a series of short scenes of building gates on several projects I've worked on. Each video memory triggers another in this associative fashion, and my daydreams may wander far from the design problem. (25)

Grandin believes that it is her ability consciously to cease this mental wandering that keeps her from getting lost in it. However, she thinks that "People with more severe autism have difficulty stopping endless associations" (25). Grandin borrows an example from Charles Hart in order to explain how seemingly unrelated ideas for a linear thinker can be connected in the autistic mind:

> More severely impaired people, who can speak but are unable to explain how they think, have highly associational thought patterns. Charles Hart, the author of *Without Reason*, a book about his autistic son and brother, sums up his son's thinking in one sentence: 'Ted's thought processes aren't logical, they're associational.' This explains Ted's statement 'I'm not afraid of planes. That's why they fly so high.' In his mind, planes fly

> high because he is not afraid of them; he combines two pieces of information, that planes fly high and that he is not afraid of heights. (25-6)

This associative thought pattern only further reinforces difficulties with the temporal element in differance because the ability to observe the connection between past and future is disrupted. In "Differance," Derrida posits, "Differance is what makes the movement of signification possible only if each element that is said to be 'present,' appearing on the stage of presence, is related to something other than itself but retains the mark of a past element and already lets itself be hollowed out by the mark of its relation to a future element" (142). When a word automatically prompts memories which are only topically related, as is the case in associative thinking, it is difficult for the autistic person to sustain his or her attention to the linear progression of phrases and sentences, in which the meaning of a single word emerges both from the context of preceding words and must be deferred until its relation to the words that follow is revealed, which Derrida maintains is necessary for differance to take place.

In *Unraveling the Mystery of Autism and Pervasive Developmental Disorder*, Karyn Seroussi speaks in general terms of the benefits of auditory integration therapy which can combat the painful cacophony of sounds often experienced by autistic children who are unable to sort through the noises that they hear: "Since some autistic children are sensitive to sound, auditory integration therapy was developed to ease the confusing signals of the auditory centers. It was thought that this helped such children to think more clearly by learning to filter external noise more efficiently" (46). Temple Grandin specifically mentions Berard auditory training in *Thinking in Pictures*, one of the first attempts at auditory intervention on which many other programs are based:

In the book *Sound of a Miracle*, Georgie Stehli describes how her life changed when a

> procedure called Berard auditory training greatly reduced her incredible sound sensitivity. It was a relief for her no longer to be terrified of sounds such as that made by surf on a beach. The auditory training consists of listening to music that is electronically distorted at random intervals for two thirty-minute periods for ten days. The machine also contains filters to block the frequencies where hearing is supersensitive. For about half the people who try it, it has helped reduce sound sensitivity, and for some people it has reduced buzzing and other noises in the ears. It is not a cure for autism, but it can have beneficial effects. (77)

These programs minimize the auditory processing difficulties that autistic individuals face. While the technology behind current training varies from sophisticated sound booths to use of precision headphones in a home setting, computers will surely play an increasing role as this line of intervention develops.

Although a work of science fiction set several decades from now, Elizabeth Moon's protagonist in *The Speed of Dark*, Lou Arrendale, describes a computer program which greatly improved his ability to process speech and that resembles current auditory therapies for those with autism:

> I can remember the time before I was exposed to the computer-assisted primary language—learning program . . . when the sounds that came from people's mouths seemed as random—no, more random—than a cow mooing and moaning in the field. I couldn't hear many consonants—they didn't last long enough. Therapy helped—a computer stretched the sounds out until I could hear them, and gradually my brain learned to capture briefer signals. But not all of them. To this day, a fast-talking speaker can lose me, no matter how I concentrate. (43)

Early interventions that Lou Arrendale received, such as this computer-based auditory program, allowed him to improve his competency with differance and position him towards the middle to higher end of functioning on the autism spectrum.

The very nature of autism as a spectrum disorder (between high-functioning Asperger's individuals to low-functioning persons with autism) leads to a discussion of binary thinking. Binaries are on the mind of science-fiction author Elizabeth Moon. The title, *The Speed of Dark*, refers to a nonsensical but philosophical musing that the speed of dark must be faster than the speed of light in order for darkness to precede light and for light to have somewhere to go. Lou Arrendale posits, "'Light has a speed. Dark should have a speed. Opposites share everything but direction'" (323). Derrida's examination of binaries begins with differance. He writes in "Differance":

> We could thus take up all the coupled oppositions on which philosophy is constructed, and from which our language lives, not in order to see opposition vanish but to see the emergence of a necessity such that one of the terms appears as the differance of the other, the other as "differed" within the systematic ordering of the same. (148)

In "Disability, Rhetoric, and the Body," James C. Wilson and Cynthia Lewiecki-Wilson position the dyad able-bodied/disabled, which often correlates with normal/abnormal, in the context of other identity-based pairings, encompassing gender, race, and class, that privilege one term over the other. But, interestingly, within those other identity-related binaries, the central and the marginalized term essentially reduce to the pairing with which we are concerned, able-bodied/disabled (or normal/abnormal):

> The category of disabled, as it functions in the binary opposition of normal/abnormal, comprises all the excluded, different Others (including gender and racial/ethnic

> differences). Thus, without entering into disputes about which kind of marginalization began first (gender, race, class, or disability), one can see disability as the critical theoretical category of difference at work in these mutually constituted marginalizations. Ab/normal marks the irreducibility of otherness, the necessary gap or interval producing, for Aristotle, "humans" (free men) and deviant Others. (14)

Usage of the barred term, ab/normal, even visually captures the process of production responsible for the creation of all binaries—the exclusion or casting out of the less desirable term as a means or purifying or protecting the initial, defining one.

Dawn Prince-Hughes uses barred terms similarly in her autobiography, *Songs of the Gorilla Nation*. Usage of the terms "dis/order" and "dis/ability" capture the order that can be present within a disorder and the ability that can co-exist alongside a disability. Prince-Hughes writes, "But even with my experience with the gorillas, I am still a person with a neurological dis/order, and like others, I have been forced to carefully cover and compensate, so that it takes other people awhile to notice that I have profound difficulties—another factor that often delays diagnosis" (31-2). Later, she comments, "Traveling to a place far away and very different is daunting even for people without a dis/ability, but for me I knew it would be nothing short of a rite of passage" (161). The slash provides an observable boundary (or wall if you prefer) outside which the marginalized (or scapegoated) term is cast. Derrida returns to Plato in order to examine this internal/external dynamic. He argues in *Dissemination*,

> It is not enough to say that writing is conceived out of this or that series of oppositions. Plato thinks of writing, and tries to comprehend it, to dominate it, on the basis of *opposition* as such. In order for these contrary values (good/evil, true/false, essence/appearance, inside/outside, etc.) to be in opposition, each of the terms must be

> simply *external* to the other, which means that one of these oppositions (the opposition between inside and outside) must already be accredited as the matrix of all possible opposition. And one of the elements of the system (or of the series) must also stand as the very possibility of systematicity or seriality in general. (103)

In *Epistemology of the Closet*, queer theorist E.K. Sedgwick diagrams this process, including all the resulting implications:

> [C]ategories presented in a culture as symmetrical binary oppositions—heterosexual/homosexual, in this case—actually subsist in a more unsettled and dynamic tacit relation according to which, first, term B is not symmetrical with but subordinated to term A; but, second, the ontologically valorized term A actually depends for its meaning on the simultaneous subsumption and exclusion of term B; hence, third, the question of priority between the supposed central and the supposed marginal category of each dyad is irresolvably unstable, and instability caused by the fact that term B is constituted as at once internal and external to term A. (9-10)

Interestingly, George H. W. Bush used "wall" imagery, inspired by the fall of the Berlin Wall, as his choice metaphor at the signing of the ground-breaking Americans with Disabilities Act in 1990. James C. Wilson and Cynthia Lewiecki-Wilson note in "Disability, Rhetoric, and the Body" that,

> When George Bush signed the 1990 Americans with Disabilities Act, he used a metaphor engendered by the end of the cold war and the fall of the Berlin Wall to mark the occasion: "And now I sign legislation which takes a sledgehammer to another wall, one which has, for too many generations, separated Americans with disabilities from the freedom they could glimpse, but not grasp." (4)

But this deconstruction of binaries can be taken a step further, when the very definition of the term "disabled" or even "autistic" becomes destabilized.

Recent events have served to undermine the term "disabled." In "Gutting the Golden Goose: Disability in Grimms' Fairy Tales," Beth Franks attributes this relative definitional fluidity to ADA as well as the Individuals with Disabilities Education Act (IDEA), which increased the numbers of "special needs" students included in general education classrooms, under the provision calling for services in the "least restrictive" environment. Franks says, "With the advent of the Americans with Disabilities Act, the move to include all children in public education, and the creation of new fields such as disability studies, disability has destabilized. It is now fluid and mutable, no longer easily disregarded or dismissed" (244). Even though he is a student in the British school system, Mark Haddon's main character in *The Curious Incident of the Dog in the Night-Time,* Christopher Boone, who has Asperger's Syndrome, questions his own classification as Special Needs:

> everyone has special needs, like Father, who has to carry a little packet of artificial sweetening tablets around with him to put in his coffee to stop him from getting fat, or Mrs. Peters, who wears a beige-colored hearing aid, or Siobhan, who has glasses so thick that they give you a headache if you borrow them, and none of these people are Special Needs, even if they have special needs. (43-4)

Jim Swan in "Disabilities, Bodies, Voices" concedes, "Of course, it does not mean that 'we are all disabled' (a platitude that Mairs dismisses as mealymouthed). What it does mean is that terms like *disabled* and *nondisabled* are not binary opposites but, instead, describe variable positions on a multidimensional gradient" (293). As older, more familiar words break down, there is inevitably an impulse to look for new terms to capture new ways of looking at a topic. Swan

notes that,

> For instance, pairing *disabled* and *nondisabled* avoids the troubling implications of *disabled* and *normal* (see Davis, *Enforcing*), but it still projects an all-or-nothing, binary division between disability and its opposite, while in fact the relation that people actually experience is a continuum and a mixture of impairments and abilities, which is probably why we have so much trouble naming the opposite of *disabled*. Nondisabled? Temporarily enabled? Normate? (But *ableist* by analogy to *sexist* and *racist* seems apt.) Even the widely accepted phrase "persons with disabilities" still invokes a set of binary oppositions. (285-6)

Oliver Sacks, known for his case studies describing autistic persons Temple Grandin and Stephen Wiltshire among others in *An Anthropologist on Mars*, questions exactly how far the autism spectrum should extend. He states:

> It is also unclear whether this continuum should be extended to include the possession of isolated "autistic traits"—peculiar, intense preoccupations and fixations, often combined with relative social withdrawal or remoteness—such as one encounters in any number of people conventionally called "normal" or seen, at most, as a little odd, eccentric, pedantic or reclusive. (247)

If clear lines cannot typically be drawn to show where a disability begins and ends, how much more difficult is it to define the diagnostic criteria for a disorder when its major symptoms are behavioral and not physically visible. Lou Arrendale, the protagonist in *The Speed of Dark*, who has a diagnosis on the autism spectrum, speculates, "Everyone needs some regularity; everyone enjoys series and patterns to some degree. I have known that for years, but now I understand it

better. We autistics are on one end of an arc of human behavior and preference, but we are connected" (243).

Autism texts seem particularly focused on self-stimulatory behaviors that both autistic and non-autistic individuals exhibit. Melanie Marsh, the mother in Marti Leimbach's *Daniel Isn't Talking*, explains, "A 'stim' is whatever someone is doing to distract themselves. Jumping up and down, nodding the head back and forth, or humming continually. These are stims you see in autistic people, but we all have stims. I bite the ends of pens, for example" (148). In his memoir *Son-Rise*, Barry Neil Kaufman observes similarities in the actions of his (initially) severely autistic son, Raun, and what is considered to be more typical behavior. This connection gives Kaufman further insights with which to design Raun's intervention plan. He remarks:

> These self-stimulating activities, which he controlled, also had their own built-in sensory feedback. In many ways, they parallel the comfort or delight most of us might feel when humming to ourselves or rocking in a rocking chair or snapping our fingers continuously to music. These, too, are self-stimulating behaviors, though widely viewed as socially acceptable, and most people do not engage in such activities in "apparent" excess. (59)

When re-united with his former autistic classmate, André, about whom Kamran Nazeer is writing a biographical sketch in *Send in the Idiots*, the two young men amuse themselves, along with André's non-autistic sister, Amanda, by creating a game in which they keep score of the number of self-stimulatory behaviors each engages in during a night on the town. Nazeer explains:

> Over the course of the evening, we developed a rule that whenever someone started a compulsive activity, someone else slapped his or her hand. Amanda was less prone to it than André or I. For example, I began introducing extra bends into a straw at one point,

> really focusing on this quite hard, and Amanda slapped my hand just before André could. We kept score. André led throughout though I wasn't far behind. It was 15-10-4 by the end. I got Amanda once as she tugged on her right sleeve. She complained that this wasn't compulsive. I pointed out that she did it roughly every five minutes. André got hit by both of us each time he brushed something off one of his shoulders" (37).

Although Amanda does display fewer self-stimulatory behaviors than her fellow competitors, Nazeer catches her pulling repeatedly on her shirt sleeve. Passages such as these show that sometimes the difference between what is considered to be "normal" and "abnormal" behavior can be a matter of quantity instead of quality.

What it means to be "normal" is a recurring theme in various works on autism. Karyn Seroussi shares in *Unraveling the Mystery of Autism and Pervasive Developmental Disorder* that her perceptions of "normal" were lost after her son, Miles, received an autism diagnosis. Commenting on a remark made by her husband, Alan, she relates:

> "Now maybe things will get back to normal," he said.
>
> But things did not.
>
> Soon we forgot what normal was. (27)

Elizabeth Moon does a great job examining the various reactions to "normalcy" experienced by different autistic characters in her sci-fi thriller *The Speed of Dark*. Set in the mid-twenty-first century, Lou Arrendale, Moon's main character, is part of a middle generation of autistic people who functions at a moderate level. He was supposedly born after many successful behavioral and educational interventions were developed but before the supposed genetic causes of the disorder were discovered and gene therapy techniques were developed to eliminate the condition in infancy. Moon's narrator comments, "If Lou had been younger, he'd not have suffered. He might

be normal," but then immediately undermines the term, commenting, "whatever that means" (57). Lou, himself, is touched by the similarities between a textbook description of the way a "normal" mind works and his own job responsibilities:

> It is on the last page of that chapter that I find a sentence so overwhelming that I have to stop and stare at it: "Essentially, physiological functions aside, the human brain exists to analyze and generate patterns."
>
> My breath catches in my chest; I feel cold, then hot. That is what I do. If that is the essential function of the human brain, then I am not a freak, but normal. (191)

However, some of Lou's autistic friends are less concerned than he is with being "normal." Linda makes a proud declaration, which is followed by a humorous aside: "'I don't want to be normal,' Linda says, 'I am who I am. I'm happy.' She does not look happy. She looks fierce and determined" (39). In fact, Linda and others in the novel have a sense of humor about the term: "'Normal' is a dryer setting,' Chuy and Linda say together. They grin briefly" (91).

Individuals on the higher functioning end of the autism spectrum, particularly those classified as having Asperger's Syndrome, may not be noticeably autistic at a first meeting. Oliver Sacks comments of Temple Grandin in his introduction to her autobiography, *Thinking in Pictures,* "Indeed, when I first met Temple, in August of 1993, I found her so 'normal' at first (or so adept in simulating normality) that I had difficulty realizing that she *was* autistic—but during the course of a weekend together this was to come through in innumerable ways" (14). However, the more Sacks gets to know Grandin, he learns that it takes a good deal of conscious effort for her to give the impression of "normalcy," even for brief amounts of time. He explains in his own chapter devoted to her in *An Anthropologist on Mars*, "'Normality' had been revealed more and more, as we spoke, as a sort of front, or façade, for her, albeit a brave and often brilliant front,

behind which she remained, in some ways, as far 'outside,' as unconnected, as ever" (275). While it is for each person to decide how he or she wants to present himself or herself to the world, it seems at times to border on exhausting for Grandin, as well as Dawn Prince-Hughes, to live up to society's expectations for "normal" behavior. In *Songs of the Gorilla Nation*, Prince-Hughes states, "I am glad that I am so successful at appearing normal (whatever that is), but I also wish at times people knew how hard I work at it. So much goes on that other people can't see" (2). Interestingly, given the interaction between disability studies in general and other identity-based movements, Prince-Hughes takes advantage of phrasing with which we may be more familiar in the context of discussions of race. She comments, "I developed a lifetime pattern of using my intelligence to find ways to appear normal—to 'pass'" (165). Also, having "come out" as a lesbian earlier in life, Prince-Hughes' memoir at points reads as a "coming out" as a proud person on the autism spectrum who does not always visibly appear to be one.

Perceived parallels with other identity-based civil rights groups, in addition to others which fall under the broad category of disability like the Deaf community, have led to the formation of several autism rights groups like the Autistic Self Advocacy Network and Aspies for Freedom. However, these associations have proven to be quite controversial. While Marti Leimbach shows respect for their intentions in her novel *Daniel Isn't Talking*, her main character Melanie Marsh, who is Daniel's mother, sees little connection between these organization, which are comprised of individuals who are high-functioning enough to even form these alliances, and her son who is struggling with basic skills like toilet training and language acquisition. She argues:

> Some mothers appear to make a badge out of autism, behaving as though it is not a disability but a "difference" and that we shouldn't be seeking to cure these children.

> Understanding is what is in order, they cry, a broader mind, an enlightened perspective. What you know about such people is that they have a child who functions very well, who may have Asperger's syndrome and not full-blown autism, and that they have probably not scrubbed feces from their carpet, or watched their child cry and rock in what looks like agony because he cannot speak. These people annoy me a little, although I admire how they cope, admire their presence of mind, their fearless defenses of their children. But we've walked different paths, and they are talking about mine as though they've been there, which they have not, and will not. (250)

Opponents of these groups, like Melanie, show concern that they will detract focus from important research which might result in treatments that would make the lives of lower-functioning people on the autism spectrum (and admittedly their caretakers) easier. Perhaps, contrary to expectation, Kamran Nazeer, who is high-functioning enough to write a biographical work about his childhood classmates with autism, *Send in the Idiots*, opposes these groups. He recounts a conversation with his former school friend, Craig, who now, co-incidentally, also works in politics as Nazeer does. (Rebecca and Ira are the teacher and school director, respectively, whom Nazeer credits with much of Craig's and his own progress.) He shares the following:

> Craig told me about a meeting that he attended once. It was the monthly get-together of an organization founded, essentially, on the basis that people like Rebecca and Ira were trying to eradicate a distinctive way of being and that there was a need to stop them. According to this heterodoxy, autism was not a developmental disorder. People who were autistic suffered no lack; their symptoms were not shortcomings, but simply the characteristics of the autistic individual, and the way of life and the style of thought of the

autistic individual were as valid as what clinicians defined as "normal." (208-9) Nazeer maintains the privileging of "normal" behavior, believing that it is within the reach of not just some people who are on the autism spectrum but rather all persons considered to be autistic. He explains, "The view that autism has to be defended as a distinctive way of being originates, I think, from the same core belief: that autistic people don't really get better. And so instead of trying to measure up to societal norms, autistic people should be permitted to maintain their own" (227).

An exploration of what it means to be "normal" is at the heart of the disabilities studies project. Lennard Davis, author of the foundational work *Enforcing Normalcy*, has called for a re-naming of the field in order to better reflect this concern. As Rosemarie Garland-Thomson mentions in "Integrating Disability, Transforming Feminist Theory," "Lennard Davis suggests that the term *normalcy studies* supplant the name *disability studies*, in the way that *gender studies* sometimes succeeds *feminism*" (268). However, Cindy Lacom, in "'The Time is Sick and Out of Joint': Physical Disability in Victorian England," cautions, "But we limit ourselves if we explore disability primarily in terms of this normal-abnormal binary, important as that is, because disability is everywhere, even in those disciplines and discourses and institutions where it seems absent" (547). In an often quoted passage from *Extraordinary Bodies*, Rosemarie Garland Thomson suggests using the term "normate," in reference to the theoretical individual who displays all of the privileged markers in our society (i.e., male, white, straight, able-bodied), as a starting point to breakdown reductive binaries, which in actuality represent complex and intricately connected subject positions. She posits, "Naming the figure of the normate is one conceptual strategy that will allow us to press our analyses beyond the simple dichotomies of male/female, white/black, straight/gay, or able-bodied/disabled so that we can examine the subtle

interrelations among social identities that are anchored to physical differences" (8). Lennard Davis opens the *Disability Studies Reader* with the following passage:

> To understand the disabled body, one must return to the concept of the norm, the normal body. So much of writing about disability has focused on the disabled person as the object of study, just as the study of race has focused on the person of color. But as with recent scholarship on race, which has turned its attention to whiteness, I would like to focus not so much on the construction of disability as on the construction of normalcy. I do this because the "problem" is not the person with disabilities; the problem is the way that normalcy is constructed to create the "problem" of the disabled person. (3)

However, Robert McRuer warns in "Compulsory Able-Bodiedness and Queer/ Disabled Existence" that attempting to define the normate will be no easy task. He argues, "Yet the desire for definitional clarity might unleash more problems than it contains; if it's hard to deny that something called normalcy exists, it's even harder to pinpoint what that something is" (91).

One way that the privileging of "normalcy" has been reinforced in modern, Western society is through the case study. Leonard Cassuto, in an essay titled "Oliver Sacks and the Medical Case Narrative," examines how the pathological is positioned against the normate in the context of medical science: "It was in this setting that the case study took its place as the narrative tool designed to convey medical knowledge, typically by juxtaposing the particular case against the general, the average, the expected—or the normate" (120). While Oliver Sacks may initially appear to uphold the status quo in *An Anthropologist on Mars*, on closer inspection, he blurs the dividing lines between "normal" and "abnormal," creating an "uncanny" effect. The following passage describes his impressions of both a school and a summer camp that he visited for autistic children:

> At one such school, as I approached, I had seen some children in the playground, swinging and playing ball. How normal, I thought—but when I got closer I saw one child swinging obsessively in terrifying semicircles, as high as the swing would go; another throwing a small ball monotonously from hand to hand; another spinning on a roundabout, around and around; another not building with bricks but lining them up endlessly, in neat, monotonous rows. All were engaged in solitary, repetitive activities; none was really playing, or playing with any of the others. Some of the children inside, when not in classes would rock back and forth; some would flap their hands or jabber unintelligently. Occasionally, one of the teachers told me, a few of the children would have sudden panics or rages and scream or hit out uncontrollably. Some of the children would echo any words that were spoken to them. One boy apparently had an entire television show by heart and would "replay" it all day, complete with all the voices and gestures, and even sounds of applause. At Camp Winston, an attractive six-year-old boy had been given a pair of scissors and was cutting minute "H's," a fraction of an inch high, each perfect, from a piece of paper. Most of the children looked physically normal—it was their remoteness, their inaccessibility, that were so uncanny. (251)

Sacks's usage of the adjective "uncanny," particularly in close proximity to other words like "terrifying" and "scream," is a bit unsettling, especially in a description of children. Stories of boys and girls playing with bricks (but lining them up monotonously rather than building with them) and cutting with a pair of scissors (but instead of doing art projects, creating one tiny "H" after another) seem both like everyday activities of childhood and bizarre behavior at the same time. These scenes are both recognizable and unfamiliar thus making them difficult to mentally process. However, the blurring of binaries like "normal" and "abnormal" often does create a

degree of discomfort, at least initially. Another destabilizing technique used by Sacks is the juxtaposition of his own personal eccentricities against common autistic behaviors. Analysis of the title *An Anthropologist on Mars* captures this shift in focus. Temple Grandin refers to herself, within the chapter Sacks devotes to her, as "an anthropologist on Mars." Yet, the title of the book itself is borrowed from the phrase, and it is Oliver Sacks, not Temple Grandin, who is traveling from community to community describing individuals with various neurological "disorders." So the question arises: who is really the "anthropologist on Mars," Temple Grandin or Oliver Sacks? An earlier work by Oliver Sacks, *A Leg to Stand On*, is also included in Leonard Cassuto's "Oliver Sacks and the Medical Case Narrative," as evidence of Sacks's mission to deconstruct the genre of the case study. The same can be said of his accounts of autism in *An Anthropologist on Mars*. Cassuto writes:

> *A Leg to Stand On* makes the nature of Sacks's project especially clear: he's deconstructing the case study. His wonder narratives merge self and other—and thus doctor and patient. They erode the authority boundary that modern medicine erected as part of its professionalization. They lay open the opposition between the particular and the general that is a foundation of standard case-study narrative. They dismantle the assumptions—one might say the myths—of medical determinacy and precision that underlie the oppressive form that the case study has taken since its emergence in modern medical practice. (125)

Sacks goes beyond the dissection of the body of work known as medical narratives. He turns his gaze towards the formation of normalcy itself. Cassuto, playing with Sacks's labeling of himself as an anthropologist, draws upon post-colonial theory to contrast the descriptive approach of an ethnographer, who aspires to be objective (but who can never entirely be so) with that of the

colonialist who attempts to impose cultural norms on his subjects: "Unlike the colonialist who supports the construction of the normal without questioning it, Sacks is deconstructing normality—through the display of himself on the stage and his framing of uniquely wondrous disabilities" (127).

Quoted in an article by Shelley Tremain called "On the Government of Disability," Sandra Harding shows the manufactured nature of all binary oppositions:

> In the terms of this dichotomous thinking, the former term of each respective pair is privileged and assumed to provide the *form* for the latter term of the pair, whose very recognition is held to depend upon (that is, *require*) the transparent and stable existence of that former term. In the terms of this dichotomous thinking, furthermore, any thing (person, object, or state of affairs) that threatens to undermine the stable existence of the former term, or to reveal its artifactual character (and hence the artifactual character of the opposition itself) must be obscured, excluded, or nullified. (189)

Therefore, disabled people and all others labeled "abnormal" have historically been suppressed because they highlight the contrived nature of privileged terms like "able-bodied" and "normal." In *Extraordinary Bodies*, Rosemarie Garland Thomson writes, "Although the idea of abnormality as an interpretive frame for physical disability displaced such rationales as divine punishment or moral corruption, the dichotomy of normal/abnormal nevertheless devalues disability rather than defining it in its own terms" (114). While Garland Thomson traces the dyad "normal" and "abnormal" back to both the origin of social Darwinism and the birth of modern statistics in the nineteenth century, Lennard Davis follows the etymology of the word "normal" back to the same period. He explains in "Bodies of Difference: Politics, Disability, and Representation" that "before the early-to-mid-nineteenth century, Western society lacked a

concept of normalcy. Indeed, the word *normal* appeared in English only about 150 years ago, and in French fifty years before that. Before the rise of the concept of normalcy, there appears not to have been a concept of the normal; instead the regnant paradigm was one revolving around the word *ideal"* (100-1).

For Davis, the dichotomy deserving of examination is that of the "norm" versus the "ideal." He conjectures in "Constructing Normalcy,"

> If we rethink our assumptions about the universality of the concept of the norm, what we might arrive at is the concept that preceded it: that of the "ideal," a word we find dating from the seventeenth century. Without making too simplistic a division in the historical chronotope, one can nevertheless try to imagine a world in which the hegemony of normalcy does not exist. Rather, what we have is the ideal body, as exemplified in the tradition of nude Venuses, for example. This idea presents a mytho-poetic body that is linked to that of the gods (in traditions in which the god's body is visualized). This divine body, then, this ideal body, is not attainable by a human. The notion of an ideal implies that, in this case, the human body as visualized in art or imagination must be composed from the ideal parts of living models. These models individually can never embody the ideal since an ideal, by definition, can never be found in this world. When ideal human bodies occur, they do so in mythology. So Venus or Helen of Troy, for example, would be the embodiment of female physical beauty. (4)

In contrast to the "ideal," to which no mere mortal is supposed to conform, Davis positions the "norm," which subjects the masses to strict expectations of ability. Davis argues:

> The concept of a norm, unlike that of an ideal, implies that the majority of the population must or should somehow be part of the norm. The norm pins down that majority of the

> population that falls under the arch of the standard bell-shaped curve. This curve, the graph of an exponential function, that was known variously as the astronomer's "error law," the "normal distribution," the "Gaussian density function," or simply "the bell curve," became in its own way a symbol of the tyranny of the norm. Any bell curve will always have at its extremities those characteristics that deviate from the norm. So, with the concept of the norm comes the concept of deviations or extremes. When we think of bodies, in a society where the concept of the norm is operative, then people with disabilities will be thought of as deviants. This, as we have seen, is in contrast to societies with the concept of an ideal, in which all people have a non-ideal status. (6)

Having a developmental disability (or delay, as it is often considered), autistic children are often measured on IQ tests and other evaluation instruments against the typical performance for children who share their chronological age. The autistic children are then given a lower "developmental" age for their cognitive or communicative abilities, which are defined against the "norm," rather than allowing the children the freedom to perform at the level at which they are able within the infinite range of possibilities for their chronological age. While efforts at "inclusion" have increased in recent years, the children are still classified as "Special Education" students, marginalized within the education system, and an Individual Education Plan (which arguably all children should have) is created for them establishing appropriate goals and objectives for their level of functioning.

Michael Bérubé puts a refreshing spin on the term "normal" in the "Afterword" to MLA's *Disability Studies: Enabling the Humanities*, subtitled "If I Should Live So Long." He expresses hope that "someday soon, perhaps, disability studies will be widely understood as one of the normal—but not normalizing—aspects of study in the humanities, central to any adequate

understanding of the human record" (343). But, even within disability studies, developmental disabilities like autism are often under-represented in the world of academia, which privileges high-functioning cognitive ability. It is important that this segment of the population be represented in discussions about human experience. Not only does deconstruction provide a useful approach for understanding autism texts, but a language-processing disorder like autism also offers valuable insights into the work of linguistic theorists like Jacques Derrida. Autism texts both challenge and expand our understanding of important concepts like logocentrism, differance, and binary thinking.

"Remembering the Body: Kristeva's Genotext and Phenotext in Autism Texts"

Historically, the body has been grossly ignored by thinkers in the West. Jim Swan explores the consequences of the "Cartesian tradition of a mind/body split" for the disabled subject in "Disabilities, Bodies, Voices." Swan echoes Horst Ruthrof's appeal for a "'somatic turn' to answer the 'linguistic turn' of thirty or forty years ago. He insists that 'any semantics which is to give a satisfactory explanation of how we grasp our world by means of language must find a niche for corporeality' and that 'without the non-verbal, language is empty'" (287). Swan believes that disability studies, with its focus on bodily difference, provides an opportunity to rethink physicality. Swan asks, "How does it stand apart from other instances of historically silenced groups making themselves heard? The answer, I think, is the particular viewpoint that disability studies brings to an understanding of the body—an understanding that writing is not only *about* the body but o*f* and *from* the body too." Swan adopts a mantra first put forth by Nancy Mairs in "Carnal Acts" as his own, "No body, no voice; no voice, no body" (284).

In "Disability in Theory," Tobin Siebers posits that there is a growing awareness among philosophers and literary critics that the theoretical argument that every aspect of reality is linguistically constructed is insufficient to account for physical experience. Siebers points out that "Judith Butler, for example, has recently made the case that constructionism is inadequate to the task of understanding material bodies" (174). Ignoring the corporeal aspects of human experience is a "luxury" unavailable to the physically disabled who must deal with their bodily limitations on a daily basis. According to David Mitchell and Sharon Snyder in "Narrative Prosthesis and the Materiality of Metaphor," disability poses a challenge to linguistically biased models which attempt to explain every facet of human existence. Mitchell and Snyder contend,

"disability serves as the *hard kernel* or recalcitrant corporeal matter that cannot be deconstructed away by the textual operations of even the most canny narratives or philosophical idealisms" (206). Re-inserting the body into theoretical discussion fleshes out our understanding of language and acknowledges an important dimension of human existence.

Remembering that there is a physical dimension to human experience leads to an acknowledgement of the richness of the lives of autistic individuals (who have a language processing disorder), which is denied them under theoretical models that argue that reality is linguistically constructed. Michael Bérubé refers to the work of Kenny Fries in his "Afterword" to *Disability Studies: Enabling the Humanities* in order to remind us of the corporeality behind the word *remember*. Bérubé writes, "we need to remember (*body, remember*, to steal a phrase from the title of Kenny Fries's memoir) that there's a *there* there, that the biological materiality of the body is susceptible to a finite (and sometimes severely delimited) number of constructions" (341). The sensory component in autism spectrum disorders, which can lead to developmental delays in a variety of areas, including language acquisition, also provides a unique opportunity to observe the interface between the physical self and different modes of expression. Contrary to Jim Swan's assertions in "Disabilities, Bodies, Voices," the body does not require spoken language to communicate, and not every member of a culture is able to speak. Swan states:

> *Nonverbal*, however, does not mean unvoiced. To speak of the body at all is to bring it into language, to voice it. But, as body, as a biology of hungers and pleasures, energy and fatigue, metabolic routine, disruption and repair, the body is mute. To speak, the body requires mastery of a language, a mastery that belongs routinely and unremarkably to any member of a culture. (It does not require a theory and an academic degree). (286)

Even lower-functioning persons on the autism spectrum, who do not possess functional speech, communicate through their bodies.

In *Revolution in Poetic Language*, Julia Kristeva stresses the role that the body plays in linguistic development and meaningful communication. Prior to the acquisition of language, the infant is physically and psychically connected to the mother's body, existing in the maternal space that Kristeva refers to as the *chora*. In this symbiotic state, the baby's needs are theoretically met by the mother without requiring expression; however, the newborn "communicates" by acting on bodily impulses like crying. In order for the young child to assume an autonomous identity, he or she must undergo a *thetic* break away from the mother's body through weaning and a dependence on her to provide basic bodily care during toilet training. As this distance is established, the toddler must develop some form of language in order to express his or her needs. Until the preschooler has achieved some degree of mastery over speech, he or she is still able to assert him or herself through the elimination of bodily wastes, a phenomenon that Kristeva labels *abjection*. Even after the individual has been successfully weaned and toilet trained, he or she must still retain traces of the *choric* impulses, which constitute the living energy of the *genotext*, Kristeva's name for the process by which meaningful language is born. Otherwise, the *phenotext*, the term Kristeva uses for the syntactical structure of language, exists only as a skeleton, devoid of life.

According to Kristeva, the *chora* consists of the bodily energy that serves as a precursor to language. She writes:

> Discrete quantities of energy move through the body of the subject who is not yet constituted as such and, in the course of his development, they are arranged according to the various constraints imposed on this body—always already involved in a semiotic

> process—by family and social structures. In this way the drives, which are "energy" charges as well as "psychical" marks, articulate what we call a *chora*: a nonexpressive totality formed by the drives and their stases in a motility that is as full of movement as it is regulated. (25).

In order for intentional expression to occur the energy of the *chora* must be both channeled into language and the subject must move away from the *chora*. Kristeva explains, "Our discourse—all discourse—moves with and against the *chora* in the sense that it simultaneously depends upon and refuses it. Although the *chora* can be designated and regulated, it can never be definitively posited: as a result, one can situate the *chora* and, if necessary, lend it a topology, but one can never give it axiomatic form" (26). Kristeva's understanding of the *chora* comes from Plato's *Timaeus*, in which he uses the term in regards to the maternal space in which Forms arise. Initially, the child does not possess a perception of himself or herself separate from the mother and depends on a symbiotic relationship with her in order to have his or her needs met:

> Plato himself leads us to such a process when he calls this receptacle or *chora* nourishing and maternal, not yet unified in an ordered whole because deity is absent from it. Though deprived of unity, identity, or deity, the *chora* is nevertheless subject to a regulating process [*réglementation*], which is different from that of symbolic law but nevertheless effectuates discontinuities by temporarily articulating them and then starting over, again and again. (26)

According to Kristeva, while the child is in the *choric* state, he or she is not capable of symbolization and, therefore, spoken language. He or she still communicates through crying, babbling, facial expressions, and overall body language:

> The *chora* is a modality of significance in which the linguistic sign is not yet articulated

> as the absence of an object and as the distinction between real and symbolic. We emphasize the regulated aspect of the *chora*: its vocal and gestural organization is subject to what we shall call an objective *ordering* [*ordonnancement*], which is dictated by natural or socio-historical constraints such as the biological difference between the sexes or family structure. We may therefore posit that social organization, always already symbolic, imprints its constraint in a mediated form which organizes the *chora* not according to a *law* (a term we reserve for the symbolic) but through an *ordering*. What is this mediation? (26-7)

The sensitive mother (and other caregivers) are able to listen to or read the child's cues in order to learn his or her wants and needs, which will later need to be articulated.

Barry Neil Kaufman uses the trope of the autistic womb on numerous occasions in his memoir *Son-Rise*. Kaufman, whose therapeutic program, initially designed for his once severely autistic son Raun, is based in unconditional acceptance of the child, describes a young volunteer, Marie, who struggles with the regression Raun exhibits during an illness: "She wanted to feel good about his withdrawal—to allow him this slide backward (or forward) into the autistic womb. She knew, as we had all come to learn, that, if we had expectations for him to fulfill, we set ourselves up for directing him toward specific goals and for creating our own disappointments" (159). Despite the unconditional approach, Kaufman seems elated when his son returns to his previous level of functioning after the temporary setback. He questions:

> What happened? What did it mean? His withdrawing and then returning. Had he pulled back into his autistic world and, perhaps, compared it with his evolving new feelings and experiences? Had he realized that he had unearthed within himself the power to choose between a secluded autistic womb and the stimulating, loving, and interactive world we

tried to present? (164).

Furthermore, Kaufman uses childbirth imagery when describing Raun's gradual emergence from the metaphoric womb of autism into the world. Kaufman refers to himself and the other family members and volunteers who are working with Raun as "midwives": "Although we initiated activities, all of the games and interactions took place only with his permission. If he expressed a different interest, we followed and assisted, ever-present midwives to his unfolding" (112). When Raun does experience an explosion in his linguistic capabilities, Kaufman portrays his son as having been "pregnant" with language, like Kristeva's "discrete quantities of energy" in the body, which ultimately break free, as the child channels them, as if through a vocal birth canal, into language: "The words gushed from him like water bursting through the cracks in a broken dam. It was as if he had been pregnant with those words for so many weeks, and finally, today, he gave birth to language" (140).

Kristeva further describes the *chora*, or semiotic, as a space that is both unintelligible and rhythmic: "Indifferent to language, enigmatic and feminine, this space underlying the written is rhythmic, unfettered, irreducible to its intelligible verbal translation; it is musical, anterior to judgment" (29). Vocal emissions, like babbling, emerge from various autistic persons and characters, which are nonsensical but fulfill a bodily impulse. Karyn Seroussi, whose memoir *Understanding the Mystery of Autism and Pervasive Developmental Disorder* promotes the idea that autism is related to an intolerance of gluten and casein, describes the changes in her son Miles when his diet is altered. Seroussi relates, "When we had removed dairy products, Miles's silence had changed to language that consisted of a constant stream of meaningless jargon. It sometimes sounded like real language, or like a foreign language. His voice rose and fell melodically, but the words were unintelligible" (58). Even after he is able to carry on simple

conversations, Stephen Wiltshire reverts to a state suggestive of the *chora* when he gets overly excited. Chris, Stephen's teacher who encourages his artistic abilities, describes his "babbling" for Oliver Sacks in *An Anthropologist on Mars*. Sacks relates, "his language had developed a good deal since the early days, and there were times, Chris said, when he would get excited and almost babble" (204). In Sue Miller's *Family Pictures*, Nina Eberhardt speaks at times of her severely autistic brother, Randall as if he were a beloved family pet. Miller uses the curious word *moo* in regards to the sounds that Randall makes, which are reminiscent of the nonsensical vocal emissions that can emanate from the *chora*. Miller writes, "Randall saw the car and mooed joyously. He let go of David's hand and began to run toward it" (111). Miller not only uses the word to describe Randall's behavior when he is happy, but also when he is upset. She depicts the noise Randall is making when his father arrives at the house after his mother has been injured in a fall: "as David shut the front door, he saw Randall huddled in the corner behind it; he was aware suddenly of the rhythmic mooing that had charged the scene with meaning from the moment he'd stepped in" (218).

In addition to *babbling* and *mooing*, other authors describing autistic behavior use the word *groaning*. Christopher Boone, Mark Haddon's adolescent protagonist in *The Curious Incident of the Dog in the Night-time*, describes his coping behavior of getting close to the ground, re-creating the *choric* space, and his related groaning after a misunderstanding with a police officer. Christopher explains, "I rolled back onto the lawn and pressed my forehead to the ground again and made the noise that Father calls groaning. I make this noise when there is too much information coming into my head from the outside world" (7). Kamran Nazeer depicts the lives of his former classmates, who are also autistic, in *Send in the Idiots*. Speaking of his childhood friend André, Nazeer reports, "he didn't join an ordinary school until he was ten years

old. Even then his use of language was limited and sometimes he groaned very loudly when he could not express himself" (10). Nazeer also visits the parents of an autistic young woman named Elizabeth with whom he had also gone to school and who had committed suicide a few years earlier. Nazeer is struck by the presence of the television playing in the background, even when trying to discuss the tragic event with her father. Nazeer relates what he learns about its significance:

> He had explained, in that first conversation, that the television had always been kept on because Elizabeth made noises. She spoke better and better with each year, but she still made noises. Whenever she became even slightly distressed, she made noises from the back of her throat. It was something that she couldn't control. So they left the television on, so that she didn't feel embarrassed about the noises, so that they weren't ever the only sound in the room. (143-4)

Because of an underdeveloped mastery of their bodies, Elizabeth and other autistic persons exhibit unrestrained vocal impulses, which are suggestive of the unconstrained flow of bodily energy in the *chora*.

Barry Neil Kaufman is partial to the word *humming* in *Son-Rise* to describe his son Raun's nonsensical, vocal utterances that are, like Kristeva's description of the *chora*, both "irreducible to its intelligible verbal translation" and "musical." A humming sound, which Kaufman calls eerie, emerges from Raun when he appears to be lost inside himself. Kaufman writes, "His little body moved with the swing, but his mind and focus of attention seemed elsewhere. Sometimes, he looked keenly at a point of sunlight reflecting off the seesaw in the distance. At other times, his eyes appeared glazed and fixed, as if he were blind. A strange, almost eerie, humming sound came from his throat" (15). Given Plato's configuration of the

chora as a maternal space, it is not surprising that it is Kaufman's wife and Raun's mother, Samarhia, who realizes how to reach her son, amongst the back and forth movement, by harmonizing with the notes that he is making. Kaufman remembers, "Finally, Raun shifted his eyes. He dropped his gaze to some vague spot in space directly in front of him. Then he began to rock back and forth rhythmically. An eerie humming sound echoed from his throat—two notes timed to match each forward and backward movement. Samarhia rocked with him now and sang in harmony with his song" (65). Samarhia, along with Raun's oldest sister Bryn, who is also a motherly figure for him, take the lead showing the rest of his immediate and extended family how to connect with him. The group joins Raun in an impromptu "jam" session:

> Raun banged his fork on the table and began to hum. Samahria and Bryn joined him by banging their forks and humming with him. Thea and Vikki also sounded their participation. I watched for a while, mute and fascinated. The mood changed quickly and everyone settled comfortably into their communal embrace. Then, as if drawn by an irresistible urge, I began to sing with them. Harmonies developed. A cadence was established. Our hands banged a primitive hypnotic beat on the table as the volume grew. And grew. I could feel the intensity of my breathing increase as I hummed louder. The pitch heightened as the chorus grew more rambunctious. Soon, we were all shouting at the top of our lungs. Raun stayed with us, as he looked, alert and dazzled, from one face to another. The raging earth music went on until, without anyone apparently giving a signal, we all suddenly stopped, except for Raun. Left singing alone at an incredible volume, he smiled so broadly that his eyes disappeared. Then he, too, suddenly stopped. After a ten-second silence, we all began to laugh. With this nightcap of softer and less regimented music, we ended our eventful day. (135-6)

Kaufman himself remembers the lesson when Raun begins to regress during an illness. Powerless, the only thing that he can think to do is to accompany his son as he hums. Kaufman relates:

> While I watched him, feeling confused and helpless, he began to position his fingers in front of his eyes and flap them. Then he rocked back and forth on the floor, making the same eerie humming sounds he used to make almost five months earlier. I sat down in front of him and joined in his movements. I tried to duplicate his sounds, interrupting myself at times just to talk to him. (155)

Once Raun recovers, Kaufman and his wife resume their efforts to encourage Raun's independence. The couple decides to take a much needed romantic weekend, leaving Raun with babysitters who also serve as Raun's therapists on a regular basis. Despite his familiarity with his caretakers, and not unlike the typically developing young child when left overnight, Raun panics when he realizes that his mother is not there. However, now Raun is able to comfort himself by rocking side to side, perhaps recreating the *choric* space, and humming the songs that he has learned from his mother, evoking her presence. Kaufman depicts the scene in which Raun questions his babysitter:

> Raun looked at her and posed the same question, "Mommy?"
>
> A query or a statement? Perhaps a prayer. The absence of his mother haunting him. Riveting his attention. Raun then closed his mouth as Samahria had taught him and began to hum. He rocked from side to side, soothing himself. Like a recording on play-back Raun began to sing the repertoire of songs that he had learned from his mother. (173)

Music remains a meaningful way for Raun to interact with his mother. The importance of the connection that music provides cannot be overestimated when considering an impairment with a

social component. Samahria patiently tries to teach her son to play "Three Blind Mice," repeating the same three notes over and over. As the duo works together, they remain interconnected in a musical and maternal space, evocative of the *chora*:

> She responded to each of his efforts, again and again, playing with a flourish the first three notes of "Three Blind Mice." He duplicated the notes exactly as she played them. Hands moving across the keyboard. A mother and her child—experimenting, imitating, enjoying. Loving each other. They were like the wind moving through the air—so much a part of each other. (150)

Raun's humming develops from an impulse over which he appears to have no control to an important means of connecting musically with his loving family.

Sue Miller uses a variety of other words in *Family Pictures* in reference to the noises, reminiscent of *choral* discharges, made by Randall Eberhardt, an essentially nonverbal young man. Miller's terms, which include *crooning, chanting,* and even *singing,* resemble Kristeva's descriptions of the *chora* as both "rhythmic" and "indifferent to language." Largely set during the heyday of Frank Sinatra and the Rat Pack in the 1960s, Sue Miller interestingly uses the word *crooning* to refer to the sounds that Randall makes. She relates Randall's mother Lainey's observations of him one evening: "Randall pushed back from the table, crooning under his breath. He got up and moved toward the living room, calmed by food and slower now than earlier. Lainey turned for a moment to watch him" (71). Lainey has learned to entertain Randall by humming to him. Randall reaches back toward her by crooning along. Randall's older brother, Mack, is embarrassed when he accidentally eavesdrops on this intimate moment between his mother and her other son: "Then he could hear Lainey's off-key voice humming 'The Whiffenpoof Song'—an encore, he realized—and, after a long moment, Randall's melodic

wordless crooning joining her. He felt a sudden sense of shame, as though he were watching some private, sacramental act. He turned and went down the hall, flicking off the light" (220). Although Randall's "singing" includes no meaningful language, Miller uses the word nonetheless, along with *chanting*, to describe the nighttime noises Randall makes, which Mack also unintentionally hears. Since sleep problems are not uncommon for autistic people, Lainey has already developed a strategy with which to soothe her son. Miller describes the sleepless situation from Mack's perspective.

> Randall had waked in the night. Mack had heard him through the air duct that snaked up behind the walls. He was rocking on his mattress, chanting, the steady *whump* of his head on plaster a gentle shudder in the house. After a few minutes, their mother's muted voice, more tender than it ever was in daily life, rose into Mack's room too. Slowly the rocking, the strange singing, stopped. (139-40)

Miller also uses the word *singing* at Christmas time in regards to Randall's voiced excitement, not over the present which his parents have thoughtfully selected for him, but rather for the ribbon with which it is wrapped. Miller portrays the holiday scene: "Liddie unwrapped Randall's gifts for him. David and Lainey had given him an outsize gyroscope. Liddie set it spinning and held it out before him. It seemed to David that Randall smiled, watching it, though he quickly went back to a coiled ribbon he'd pulled from the heap of tissue and trash, breathily singing his pleasure as he twirled it" (85).

Unable to communicate with Randall through conversation, his family learns to connect with him through music. In an attempt to "discuss" Randall's day with him, Lainey sets the school events to the tune of a familiar song, as the pair rock together on the front porch. Miller presents the melodic moment,

> Lainey began to sing him a song about what he'd done that day, to the tune of "Danny Boy."
>
> Oh, Randall boy, you went to school with Mikey.
> When Mikey came, you jumped into his bus.
> He drove you there, with Monica and dah dah Len.
> You played with sand, with water, and with paints. (185)

Randall's father, David, who has separated from Lainey for a period of time, feels awkward trying to interact with his son after Lainey falls and hits her head and David must return to the house and care for Randall while she recovers. David borrows from Lainey's technique, making up a nursery rhyme-esque song, with lyrics that perhaps have a deeper meaning for the divided family, to comfort his pubescent son: "He turned back to Randall. His mind was blank; and then from nowhere came the silly lyrics: 'We are poor little lambs who have gone astray, baa, baa, baa. " (219). As children, Randall's sister Nina, through whom much of the novel is told, "punishes" her brother by singing a song that he cannot stand. Miller describes the situation from Nina's perspective,

> What she was seeing was Randall, howling suddenly when the arm dropped on a record he didn't like—the first few notes identifiable to him, before there was melody or word. Long before Nina would have known what the music was. And once she had stepped into the living room and there he was, rocking from foot to foot, seemingly happy. He was holding one of his arms across his face with the other, so he could chew slowly on his sleeve. She had felt such a wave of disgust, of rage at him, that she would have hit him if she had had the nerve. Instead she stepped very close to him and began to sing "Au Clair de la Lune," a song he hated. His mouth had ovaled in pain, his eyes had shut tight, and

> he began to whimper along with her, trying to ride over her noise. (373)

The relative ease with which Randall can process music provides a bridge for his family members to reach out to (or to torment) him which speech can not supply.

Autistic persons may have an easier time with music than with speech because singing is processed in a different part of the brain than spoken language. The steady rhythm behind most musical pieces also makes for a more predictable pattern, which eases auditory processing difficulties. Temple Grandin explains in *Thinking in Pictures*:

> Therapists have learned from experience that sometimes nonverbal children can be taught to sing before they can speak. In some people the brain circuits used for singing may be more normal than the circuits used for speech. Possibly the song rhythm helps to stabilize auditory processing and block out intruding sounds. . . .Therese Joliffe's parents told her that when she was a child, she would speak when certain music was played. I used to hum to myself to block out bothersome noise. (72-3)

Grandin writes about the unique cadence to the speech of many higher functioning persons with autism, which has been described in literary terms by Professor Ralph Mauer. She writes, "There have been no formal studies on the effect of music, but therapists have known for years that some autistic children can learn to sing before they can talk. Ralph Mauer, at the University of Florida, has observed that some autistic savants speak in the rhythm of poetic blank verse" (191). Grandin also mentions the perfect pitch that many autistic individuals possess, which can open up career opportunities. She remarks that "Piano tuning is another job they are good at, because many people with autism have perfect pitch" (107). In fact, Oliver Sacks records part of a conversation with Grandin, in his chapter devoted to her in *An Anthropologist on Mars*, about her own abilities, "She has absolute pitch, she added (this is normally very rare, but is relatively

common in people with autism), and a precise and tenacious musical memory" (286). Sacks also discusses the burgeoning musical abilities of Stephen Wiltshire, a teenaged autistic savant, who until recently has been better known for his ability to produce drawings that are near photographic in their accuracy. Apparently, Stephen possesses a similar talent for replicating music, although it seems to create a more visceral reaction in him than his pursuits in the visual arts. Sacks writes,

> It had been clear to all of us, for years, that Stephen had an immense ability to reproduce instrumental sounds, voices, accents, intonations, melodies, rhythms, arias, songs—complete with words or lyrics when need be—an effortlessly large and accurate auditory memory. And, significantly, he liked music, too; it moved him with an almost physical pleasure, almost more, I think, than drawing did. (237)

Noting the proclivity for detail that most autistic persons share, Kamran Nazeer includes in *Send in the Idiots* that his school friend Elizabeth was able to make money as an adult giving piano lessons to children. He explains that she "could play a piece of music straight through immediately after hearing it for the first time" (68-9).

Music seems to provide a level of meaning for many people on the autism spectrum that cannot be reached through words. Temple Grandin in *Thinking in Pictures* discusses the religious sentiments that she is only able to experience through music. Grandin describes both her own experiences and those of another design engineer who is also autistic:

> For many people with autism, religion is an intellectual rather than emotional activity. Music is the one exception. Some people feel much more religious when their participation is accompanied with extensive use of music. One autistic design engineer I know said that religious feeling is utterly missing for him, except when he hears Mozart;

> then he feels an electrifying resonance. I myself am most likely to feel religious in a church when the organist plays beautiful music and the priest chants. Organ music has an effect on me that other music does not have. (190-1)

Grandin tries to explicitly describe the effect that Gregorian chants have on her. She appears to become more relaxed as she rides the "waves" of the music: "Music and rhythm may help open some doors to emotion. Recently I played a tape of Gregorian chants, and the combination of the rhythm and the rising and lowering pitch was soothing and hypnotic. I could get lost in it" (191).

Music is an important coping mechanism for Dawn Prince-Hughes. She writes in *Songs of the Gorilla Nation* about a traumatic move during her childhood. (Autistic children are often more attached to places than people, and a hallmark of the disorder, with its temporal components, is difficulty with transitions, no matter how large or small.) "Singing" was a way for Prince-Hughes to deal with her grief:

> The house was sold. I said good-bye (literally) to the irises in the backyard, the doghouse, the garden, the underground water tank. I went down and said good-bye to my tribal settlement. I went into the cave under the road and sang a nonsensical song to express my grief. I insisted on being the last person to leave the inside of our home. I stood alone in it and said good-bye to a whole life and the living thing that was my house. (49)

Two of the most important things in Prince-Hughes's life are evidenced in the title of her autobiography, singing and her work with gorillas. She discusses one of the most pivotal moments in her adult life, when she received the phone call that her beloved friend, the first gorilla and living being with whom she had ever really connected, had died. Her reaction was to sing a hymn of gratitude for his life: "The next day I was listening to an old hymn when the

phone rang. I looked out on the morning, fresh from its emergence from the night. I heard the song both in my ears and in my soul: *How can I keep from singing*?" (158).

Reminiscent of the *chora*, the world is a musical place for many persons with autism. However, due to their sensory processing issues, it is sometimes difficult for autistic individuals to sort through the different sounds. Even after he has achieved a certain level of language proficiency, Karyn Seroussi's son, Miles, tells her in *Unraveling the Mystery of Autism and Pervasive Development Disorder* about the music that can engulf him. She records his comments, "'You know, Mommy, the world is full of sounds,' he said. 'When I listen to them, I realize that the sounds make patterns, and the patterns all turn into music in my head. Sometimes when you call me, I don't hear you because I'm listening to the music'" (192). When Cara, the protagonist in Cammie McGovern's novel *Eye Contact*, learns that her son Adam, who is on the autism spectrum, is temporarily missing from school, she reflects on different tactics she has used to find him in the past. In addition to paying attention to any random yet musical sounds which might have attracted him, she also knows to listen for his humming, which reminds her of the sounds a bird might make. McGovern writes, "She knew the panic, the speed with which he could disappear, but she also knew, intuitively, how to find him: Stop. Listen hard for his humming, his tiny throaty bird noises, or for what he must have heard—music maybe, or the low compelling purr of a machine come to life" (10-1). Cara relates the challenges her son faces in separating the noises that surround him. She explains, "The sounds are everywhere, too many for Adam to sort out. The *hummzzzzz* of the lights. The *kitchita, kitchitaa* of a Xerox machine that he would find and stand beside if he could because he loves Xerox machines" (30).

Temple Grandin draws a parallel between the sensory jumbling and the toileting issues experienced by many lower functioning people on the autism spectrum. She describes this

related lack of control:

> The world of the nonverbal person with autism is chaotic and confusing. A low-functioning adult who is still not toilet-trained may be living in a completely disordered sensory world. It is likely that he has no idea of his body boundaries and that sights, sounds, and touches are all mixed together. It must be like seeing the world through a kaleidoscope and trying to listen to a radio station that is jammed with static at the same time. (58-9)

In *Revolution in Poetic Language*, Kristeva describes "the relations (eventually representable as topological spaces) that connect the zones of the fragmented body to each other." She posits, "This type of relation makes it possible to specify the *semiotic* as a psychosomatic modality of the signifying process; in other words, not a symbolic modality but one articulating (in the largest sense of the word) a continuum: the connections between the (glottal and anal) sphincters in (rhythmic and intonational) vocal modulations" (28-9). Although a more apt parallel might be drawn between verbal incontinence, like babbling, and the incontinence related to urination and defecation, Melanie Marsh makes the intuitive connection between muteness and lack of control over elimination processes in Marti Leimbach's novel *Daniel Isn't Talking*. Melanie discusses with her son's therapist her fears that Daniel will regress and lose his emerging verbal skills: "I rely on him to reassure me that Daniel won't return to mute, won't become one of these children who must move from child-sized diapers to adult diapers, the sort that go round as incontinent old men" (145).

Tobin Siebers discusses the prejudices that society maintains against its members who are unable to control their own bodily functions. While the quotation is referring to persons with physical impairments, it provides a starting point for a discussion of the perceptions of inferiority

that plague people with developmental disabilities or sensory processing issues, which can interfere with the mastery of toileting skills:

> The inequality threatening people with these kinds of disabilities at every instant derives from a body politic—the real physical expectation that all people beyond a certain age will perform their own bodily hygiene. What sea change in social attitudes about the body could bring an end to this expectation? Crudely put, unless all adults have their ass wiped by someone else, unless the caregiver cannot wipe his or her own ass, the people who alone require this service will be represented as weak or inferior. (179)

Autism texts violate traditional taboos by discussing the sometimes uncontrolled bodily functions of people on the autism spectrum. The character Melanie Marsh describes in relatively graphic details the process of trying to toilet train her autistic son, Daniel. Melanie also shares her secret weapon, chocolate, which she uses as a reward:

> Three hours later we come downstairs. We've played cars, blown bubbles, had picnics with train engines, made Donald Duck play hide-and-seek with Pluto. Daniel has peed twice in the toilet and produced one rather hard poo. Once he realized what was at stake—chocolate—and what was never going to appear—his diaper—he found it less difficult to comply. (206)

Sue Miller portrays the discomfort that Randall Eberhardt's own father, David, feels assisting him in the bathroom in her novel *Family Pictures*. Randall, who is extremely low functioning and is essentially nonverbal, still requires the help that the typical toddler would need with the toilet, despite the fact that he has reached puberty. Miller writes of the father-son experience,

> "Okay, let's try this," he said. He unwound some toilet paper, wadded it, and held it out to Randall. The boy seemed to wake. He took it, arched his back, and reached around

> behind himself to wipe, slowly and carefully. "Good boy," David whispered. "Good job." Three times David wadded the toilet paper. Three times Randall wiped at himself as laboriously as a little child just learning how. All the while, David whispered his praises. (247)

Perhaps because of his underdeveloped social inhibitions, Mark Haddon's adolescent protagonist in *The Curious Incident of the Dog in the Night-Time*, Christopher Boone, who has a higher-functioning form of autism, freely discusses the fact that he slightly wets himself when he is anxious. Combined with his need for order, Christropher resists using the messy public restroom on a train to London:

> And then I wanted to go for a wee, but I was on a train. And I didn't know how long it would take us to get to London and I felt a panic starting, and I started to tap a rhythm on the glass with my knuckles to help me wait and not think about wanting to go for a wee, and I looked at my watch and I waited for 17 minutes, but when I want to go for a wee I have to go really quickly, which is why I like to be home or at school and I always go for a wee before I get on the bus, which is why I leaked a bit and wet my trousers. (161-2)

In *Eye Contact*, Cammie McGovern's main character, Cara, discusses toileting issues with Olivia, the mother of another autistic child, Amelia, who as she became more self-aware was ashamed of the fact that she had bathroom accidents. McGovern records the conversation between the two parents:

> "…She wasn't always continent, exactly."
>
> Cara nods. "Adam has accidents, too."
>
> "It used to be she didn't care. Then recently she started being very embarrassed." She hesitates. "And secretive. Some days she came home without any underpants on, and I

> would ask her what happened and she wouldn't tell me." (188)

Open discussion of toileting difficulties related to autism shows how that particular challenge fits into the larger context of the disorder. Perhaps it may also serve to lessen the stigma associated with a lack of control over urination and defecation when it coincides with a physical or cognitive impairment.

Kristeva associates the *chora* with both the oral and anal stages, which proceed the Oedipal phase and language acquisition. Because the child does not psychically separate from his or her mother until the Oedipal stage, the oral and anal drives involve both the uncontrolled impulses and unfettered energy flow of the *chora.* As the child progresses, her or she experiences the dual inclination to both preserve the symbiotic bond with his or her mother and to disengage from her and establish a degree of autonomy. Resolution of this internal conflict, which involves mastery of both the oral and anal instincts and their related body parts, furthers the child's sensorimotor development. In addition, for the relationship between the child and his or her mother to evolve from a symbiotic to a social one and for the impulses of the *chora* to be organized into symbolic language, a psychological separation must occur. Kristeva states,

> Drives involve pre-Oedipal semiotic functions and energy discharges that connect and orient the body to the mother. We must emphasize that "drives" are always already ambiguous, simultaneously assimilating and destructive; this dualism, which has been represented as a tetrad or as a double helix, as in the configuration of the DNA and RNA molecule, makes the semiotized body a place of permanent scission. The oral and anal drives, both of which are oriented and structured around the mother's body, dominate this sensorimotor organization. The mother's body is therefore what mediates the symbolic law organizing social relations and becomes the ordering principle of the semiotic *chora.*

(27-8)

Since autism is a developmental disability, autistic children often struggle with the developmental tasks of the oral and anal phase, delaying the sensory, social, and linguistic gains that follow their mastery.

Depictions of the difficulties faced during the oral and anal stages are prevalent in autism texts. The latest edition of Barry Neil Kaufman's memoir *Son-Rise* includes interviews with other families that have successfully used his methods. The first step in the Son-Rise program calls for family members and other caregivers to join in the child's autistic behaviors, to penetrate the wall of isolation and to lay the groundwork for the child to model the behavior of others by having his or her own behavior modeled first. One mother, Janine, describes how she joined her son, Justin, who had not yet emerged from the oral stage, in chewing up toys: "He went through all kinds or different stages in the program. For six months straight, all he wanted to do was eat toys. So we sat and chewed them with him. Boy, did we chew up a lot of little toy people" (318). Dawn Prince-Hughes, in contrast, claims in *Songs of the Gorilla Nation* that she did not go through an oral stage. That seems to be related in her mind, among other things, to the fact that she did not like to be held as a young child. Prince-Hughes explains, "Some things that I remember seem small to me: I had scarlet fever before I was three months old, I had an unusually strong reaction to bright lights and loud noises, I had no oral stage (the thought of putting objects in my mouth revolted me), and I did not like to be held" (16). Oliver Sacks cites Temple Grandin describing what appears to be the difficulty she experienced transitioning from the oral to the anal phase. Grandin vividly describes her explosive behavior: "Normal children use clay for modeling; I used my feces and then spread my creations all over the room. I chewed up puzzles and spit the cardboard mush out on the floor. I had a violent temper, and when

thwarted, I'd throw anything handy—a museum quality vase or leftover feces. I screamed continually" (254). Grandin also mentions her out-of-control behavior as a toddler in her autobiography *Thinking in Pictures*. Grandin seems to connect her former behavior, defiantly smearing her bowel movements with her hands, with her lack of speech and her inclination to withdraw from her mother's touch:

> I was my mother's first child, and I was like a little wild animal. I struggled to get away when held, but if I was left alone in the big baby carriage I seldom fussed. Mother first realized that something was dreadfully wrong when I failed to start talking like the little girl next door, and it seemed that I might be deaf. Between nonstop tantrums and a penchant for smearing feces, I was a terrible two-year-old. (43)

Marti Leimbach describes Daniel's anal retentiveness and related protest behaviors in her fictional narrative *Daniel Isn't Talking*. Like Grandin, Daniel also exhibits a tendency to play with his own feces, in order to make his mark on the world he cannot otherwise control. Daniel's mother, Melanie, explicitly describes her son's autistic behaviors: "When I say that Daniel is autistic, what I mean is that he reaches into his diaper and smears his feces across the backs of chairs, the glass doors that lead to the garden, the tiles of the fireplace. . . . He refuses point-blank to use a toilet and will scream and hit anything in front of him if you try to convince him to sit on one" (131). Lainey, the matriarch in Sue Miller's novelistic exploration of autism, *Family Pictures*, wonders about the Oedipal implications of laying next to her severely autistic and pubescent son, Randall, in order to get him to sleep. However, she realizes that with such an extreme developmental delay, Randall will probably never even emerge from the oral and the anal stages. Miller presents Lainey's thought process:

> He breathed with his mouth open. His breath fell moist on Lainey's face under the tented

> covers. It smelled sweetish and minty. What would Freud say to this? she wondered. Mom as bedmate. Encouraging Oedipal feelings. Sick. But what was the difference with Randall? If he'd ever had one Oedipal feeling about her, she'd have wept for joy. But Randall lived safe from neurosis. He'd escaped Freud. (189)

Indeed, many persons on the lower-functioning end of the autism spectrum never progress beyond the oral and the anal stages.

According to Kristeva, the pre-Oedipal drives, both the oral and the anal impulses, correspond to the energy discharges that occur in the *chora* or the semiotic phase. In the semiotic, while the child has not attained symbolic capabilities, he or she engages in what Kristeva calls the "psychosomatic modality of the signifying process" through the "processes of displacement and condensation" onto "external" "objects" and "subjects," in this case, bodily wastes. This abjection corresponds with the *thetic* rupture, the point at which the child breaks away from the symbiotic relationship with the mother and assumes a subjective identity. Once the *thetic* phase has been achieved, as the child channels its bodily energies into purposeful elimination, then the stage is set for the diversion of *choric* impulses into language. Kristeva describes this *thetic* development in *Revolution in Poetic Language*:

> We shall call this break, which produces the positioning of signification, a *thetic* phase. All enunciation, whether of a word or of a sentence, is thetic. It requires an identification; in other words, the subject must separate from and through his image, from and through his objects. This image and objects must first be posited in a space that becomes symbolic because it connects the two separated positions, recording them or redistributing them in an open combinational system. (43)

Until that time, when linguistic skills emerge, the child sometimes relies on urination or defecation as a means of expression.

This phenomenon is frequently described in autism texts. Oliver Sacks, in the introduction to Temple Grandin's autobiography *Thinking in Pictures*, describes her habit as a nonverbal child of throwing feces during a fit. Sacks paints a picture of her once chaotic world:

> Here we can see, and relive, what it was like for Temple as a child—the overwhelming sensations of smell and sound and touch she could not blot out; how she would scream, or rock, endlessly, disconnected from others; or, in a sudden tantrum, fling feces around; or (with uncanny concentration, and a complete shutting out of the world) fix her attention for hours on a few sand grains, or the whorls of her fingers. (12-3)

In *Daniel Isn't Talking*, once Melanie Marsh's son, Daniel, has learned to say a few simple words, she believes that he is ready for toilet training. Enlisting the aid of Daniel's play therapist and her close friend, Andy, Melanie embarks on a marathon training session in the bathroom:

> "Here it comes!" I say.
>
> "Toilet!" cries Andy.
>
> "Nappy!" screams Daniel.
>
> I scoop Daniel up and sit him on the toilet, where he yells at me, grabbing bits of my hair and pulling, kicking so that I have to duck.
>
> "Stop laughing," I tell Andy.
>
> He smiles, shakes his head. "You might like a new shirt," he tells me. Daniel has peed all down my front. (205)

Daniel's behavior resembles the advances of the *thetic* phase, in which the child projects *choric* material into the world via his or her bodily waste as a means of expression. During latter developmental stages, words and phrases will be substituted for urine or feces as the energy of the *chora* is more efficiently channeled into language.

Even when Mark Haddon's main character, Christopher Boone, is fully verbal and capable of controlling his bodily functions, he regresses sometimes and wets himself as a form of objection, unconcerned with social protocol. Dissatisfied with the cleanliness of the school bathroom, even after his teacher has scrubbed it for him, Christopher wets himself and seems unfazed when he must wear a spare item of clothing home. Christopher discusses the accident in matter-of-fact terms: "So I said I wasn't going to go into the toilets because there was poo on the floor and it made me feel uncomfortable to think about it, even though Mr. Ennison had come in and cleaned it up. And I wet my trousers and I had to put on some spare ones from the spare clothes locker in Mrs. Gascoyne's room" (103). In a letter to Christopher explaining why she believes he is better off without her and why she has moved to London, Christopher's mother describes a tantrum that he had in a store when he felt that it was too crowded. The scene ends with Christopher urinating on himself and his mother not knowing how to remove him from the situation by herself. "*And Mr. Land was really nice about it but there were boxes and bits of broken bowl on the floor and everyone was staring and I saw that you had wet yourself and I was so cross and I wanted to take you out of the shop but you wouldn't let me touch you*" (107). After Christopher is reunited with his mother, they move into a small apartment together, and he is required to use a communal bathroom at the end of the hall. Christopher goes ahead and wets himself if his mother has not cleaned the toilet first or if he is forced to wait or if too many people are around. Christopher explains his policy:

> So we moved into a room in a big house that was made of red bricks. And the bed was in the same room as the kitchen and I didn't like it because it was small and the corridor was painted brown and there was a toilet and a bathroom that other people used and Mother had to clean it before I used it or I wouldn't use it and sometimes I wet myself because other people were in the bathroom. (216)

Urination "accidents" are a way for Christopher Boone to assert himself when a situation is not to his liking.

In *Revolution in Poetic Language*, Kristeva posits the existence of two different types of texts. The first, the genotext, encompasses the bodily drives in the semiotic, including their relationship to the mother in particular, as well as the movement toward symbolization. Kristeva defines the term:

> In light of the distinction we have made between the semiotic *chora* and the symbolic, we may now examine the way texts function. What we shall call a *genotext* will include semiotic processes but also the advent of the symbolic. The former includes drives, their disposition, and their division of the body, plus the ecological and social system surrounding the body, such as objects and pre-Oedipal relations with parents. (86)

The second type of text, the phenotext, differs from the genotext in its emphasis on structure, grammar, and the rules of communication. The phenotext, in its stability, lacks the flexibility of movement present in the genotext, which consists of the energy flow of the semiotic *chora*. Kristeva contrasts the two types of texts.

> The phenotext is a structure (which can be generated, in generative grammar's sense); it obeys rules of communication and presupposes a subject of enunciation and an addressee. The genotext, on the other hand, is a process; it moves through zones that have relative

> and transitory borders and constitutes a *path* that is not restricted to the two poles of univocal information between two full-fledged subjects. (87)

For the purposes of our discussion, if the genotext roughly equates with the babbling of essentially nonverbal individuals on the lower end of the autism spectrum, the phenotext corresponds with the rigidity exhibited by autistic persons at the middle of the continuum who engage in echolalia, the repetition of words or phrases with little to no comprehension of their actual meaning.

In *Send in the Idiots*, a series of biographical sketches about his former classmates with autism, Kamran Nazeer situates echolalia in the larger context of repetitive behaviors that autistic persons engage in to create order or coherence in their world. Nazeer explains: "Echolalia, or the constant, disconnected use of a particular word or phrase, is one example of rhythmic or repetitive behavior, a trait common among autistic people and often described as the desire for local coherence" (3-4). Cammie McGovern provides descriptions of the different forms of echolalia in her novel *Eye Contact*. These examples are given through the observations of her main character, Cara, who draws distinctions between the different echolalic behaviors that her son Adam exhibits. McGovern contrasts immediate and delayed echolalia in a conversation between Cara and an old friend:

> "There's immediate echolalia, where he repeats the last thing you've just said. Usually that's a way of processing or affirming what's been said. I ask, 'Adam, you want a cookie?' and he says 'Cookie?' which means yes. But there's also delayed, where it comes later, sort of a playback mode. Sometimes it's lines from movies, or things teachers have said. He tends to repeat warnings a lot, or rules. I think it's his way of remembering them." (134)

Temple Grandin theorizes that individuals who engage in echolalia are often at the mid-point of the autism spectrum. Grandin draws a correlation between the degree of echolalia and the child's auditory processing capabilities. "Children who are echolalic—who repeat what they hear—may be at a midpoint on the sensory processing continuum. Enough recognizable speech gets through for them to be able to repeat the words" (54). She uses Donna Williams as an example of an autistic person who engages in echolalia in order to process what is being said to her. Grandin describes Williams's coping strategy: "Autistic children with echolalia help themselves understand what has been said by repeating it; Donna Williams stated that if she didn't repeat the words, she only understood 5 to 10 percent of what was said. Children with echolalia appear to have severe speech perception problems" (71-2).

Examples of echolalia are numerous in autism texts. The title of Kamran Nazeer's non-fiction work, *Send in the Idiots*, comes from a phrase that his childhood friend, Craig, would echo during circle time at their school program for autism. Nazeer relates, "During Ms. Russell's readings, Craig's echolalia became focused on the phrase 'Send in the idiots.' No one could work out where he got it from, and no one could stop him from using it" (4). The plot of Cammie McGovern's murder mystery, *Eye Contact*, depends on the belief that Adam, a little boy with autism, has witnessed the crime and records everything he hears in his mind as if it were a tape recorder, just as Temple Grandin compares her brain to a VCR with video-like memories in *Thinking in Pictures*. Adam's mother Cara waits for Adam to echo back a snippet of conversation or some other piece of important information, even if Adam himself does not understand its significance. Then she shares it with Lincoln, the detective: "Later, she straightens the kitchen, gathering her thoughts before she calls Lincoln to tell him—that if Adam didn't *see* anything, he *did* hear something, and his brain is like a tape recorder with a playback mode. He

can remember anything he's ever heard, and now he has remembered something" (109). Oliver Sacks's portrayal of Stephen Wiltshire, a teenaged autistic savant, includes several accounts of Stephen, who is otherwise conversational, echoing back information when he does not comprehend its meaning. When Sacks and Stephen's literary agent, Margaret, question him about a unique visual perspective, specifically on a trip to San Francisco, why a road that he is observing winds back and forth rather than appearing to be straight, Stephen can not grasp that it is on a sharp incline and merely echoes Margaret's explanation that it is "steep" back to her: "We had asked him earlier why Broderick snaked, instead of going straight up. He could not say, or see, that it was because of its steepness, and when Margaret said 'steep' to him, he just repeated it, echolalically" (229). Lou Arrendale, an autistic young man in Elizabeth Moon's science fiction novel *The Speed of Dark*, believes that his psychiatrist underestimates his abilities. Moon depicts Lou's frustration with the woman who is supposed to help him:

> I know some of what she doesn't know. She doesn't know that I can read. She thinks I'm hyperlexic, just parroting the words. The difference between what she calls parroting and what she does when she reads is imperceptible to me. She doesn't know that I have a large vocabulary. Every time she asks what my job is and I say I am still working for the pharmaceutical company, she asks if I know what *pharmaceutical* means. She thinks I'm parroting. The difference between what she calls parroting and my use of a large number of words is imperceptible to me. She uses large words when talking to the other doctors and nurses and technicians, babbling on and on and saying things that could be said more simply. (2)

Although Lou's therapist is mistaken in her belief that he is mindlessly repeating words and

phrases, she is representative of many professionals who attempt to curb the echolalic tendencies of autistic individuals.

Although echolalia does not qualify as functional speech, it can play an important role in language acquisition. Believing that the behavior qualifies as verbal practice, Grandin notes,

> Dr. Doris Allen, at the Albert Einstein Hospital in New York, emphasizes that echolalia should not be discouraged, so as not to inhibit speech. The child repeats what has been said to verify that he heard it correctly. Research by Laura Berk, at Illinois State University, has shown that normal children talk to themselves to help them control their behavior and learn new skills. Since autism is caused by immature brain development, it is likely that echolalia and self-talking, which occur in older autistic children, are the result of immature speech patterns. (54)

Even though Barry Neil Kaufman realizes in *Son-Rise* that his son Raun's echolalia does not qualify as meaningful communication, he does see it as the first major breakthrough after all of the informal speech therapy that has been attempted with Raun in their home. Kaufman describes Raun's emergence from muteness to the repetition of sounds:

> This week also marked his beginning to mimic words, giving us the first reward for our verbal cues and emphasis on language. Raun started to repeat words said to him, though always using the same tone, pitch, and accent. He mouthed them like a parrot. But had he digested and assimilated them? No! He used them randomly, disconnected from any object or event. Rather than verbalizing the word *light* to indicate a fixture, a lamp, or the brightness he desired, Raun babbled the word when he rocked or rolled a ball. The words had no meaning. Like many other autistic children, Raun became echolalic, repeating words exactly as he heard them rather than using them meaningfully to communicate.

> Yet, even though he did not communicate verbally, his parroting of words was indeed an amazing first step. Perhaps echoing sounds was his way of holding what he heard before his mind's eye in order to extract its meaning, not unlike the student who repeats the teacher's question in order to hear it again and absorb it. (88)

While Raun remains echolalic, Kaufman holds on to the hope that just as in other areas of learning, imitation can lead to the mastery of new skills. Kaufman remembers that "Raun's echolalia continued. He never used words with meaning fully or purposefully. An enigma. Yet, since imitation was essential to his learning, his echolalia might lead to the development of meaningful speech" (121). In fact, Raun is eventually able to gain functional communication.

As Kaufman describes it, echolalia can include not just the replication of words and phrases but also the "same tone, pitch, and accent" used by the original speaker. However, more often than not, echolalia involves repetition without emotion. Kaufman recalls the lifeless tone to much of Raun's speech during his echolalic phase: "During our nightly discussions at the dinner table and afterward, we talked incessantly about his echolalia. We wanted everyone to be supersensitive to all his communications and also encourage his mimicking, even though it had not as yet acquired any meaning. He spoke his words flatly, often addressed to the walls while his eyes remained vacant" (93). Oliver Sacks describes Stephen Wiltshire's tendency to regress back to echolalia, particularly when he is tired, in *An Anthropologist on Mars*. As he enters adolescence, Stephen is capable of carrying on simple conversations. However, when he is fatigued, his communication consists solely of mimicked words and phrases, which are suggestive of the rigid structure of the phenotext if isolated from the fluid energy of the genotext: "As a child he had shown echolalia when spoken to, echoing the last word or two of whatever other people said, and this still occurred, typically when he was tired or regressed. Echolalia

carries no emotion, no intentionality, no 'tone' whatever—it is purely automatic and may even occur during sleep" (233). At times, Sacks depicts Stephen as being full of the life and vigor associated with the semiotic *chora* in the genotext. At others, Stephen exhibits only the linguistic structures that constitute the phenotext. Sacks describes Stephen's reactions during these periods as robotic. "There were times when he was animated and interested in his surroundings and could do brilliant, funny impersonations and cartoons; and there were times when he would revert to the deepest autism and respond, if at all, like an automaton, echolalically" (216-7). Amusingly, Stephen, who is an autistic savant, claims that *Rain Man* is his favorite movie. In the 1988 drama (directed by Barry Levinson), self-absorbed Charlie Babbitt (played by Tom Cruise) learns that he has a brother named Raymond who is an autistic savant (portrayed by Dustin Hoffman) when their father dies and leaves the bulk of his multi-million dollar estate to Raymond. Stephen can quote extensively from the movie and at times seems to do so randomly and regardless of the current situation. At times Dustin Hoffman's character, very like Stephen himself, seems to serve as a meaningful reflection of his own "inner self." At others, what might be described as Stephen's own *choric* energy leaves his body, and Sacks uses the dramatic word "possessed" to describe the way Stephen is taken over by lines from the script:

> Then, at a still higher level, there was his reproduction of *Rain Man*, in which he reproduced or represented entire characters, their interactions, conversations, and voices. He often seemed nourished and stimulated by these, but at other times taken over, possessed and dispossessed, by them.
>
> Such a "possession" may occur at many levels and may also be seen in people with postencephalitic syndromes or Tourette's syndrome. An automatic mimicry can occur in these, a reflection of a low-level physiological force overriding a normal mind and

> personality. Such a force may determine the more automatic aspects of autistic mimicry, too. But there may also be, at higher levels, a sort of identity hunger—a need to take off, take on, take in, other personas. (234)

Sacks questions, "Was his repetition of *Rain Man*, for that matter, just a literal playback, a mimicry of echolalia, or was it charged with a sense of the significance of the film?" (240).

In addition to movie clips, television advertisements are a common source of material for autistic individuals who engage in echolalia. Grandin postulates, "This may explain why some autistic children use commercial jingles as an attempt to communicate. The pairing of a visual cue and a sung slogan makes a rhythmic and visual impression." (73). Melanie Marsh, Marti Leimbach's main character in *Daniel Isn't Talking*, relates a story told to her by her son's play therapist, Andy:

> One of the children Andy works with, an eight-year-old, used to run through the house repeating, "Have a break, have a Kit Kat," "Have a break, have a Kit Kat." Hundreds and hundreds of times he uttered this same slogan, often under his breath until it was only a hoarse whisper. Yesterday he came out with "Have you been hurt in an accident? Call 0800 treble five treble nine. That's 0800 treble five treble nine." And he hasn't mentioned Kit Kats since. (146)

Dawn Prince-Hughes recalls her own preference for the Doublemint gum ads in *Songs of the Gorilla Nation*. The trademark use of twins in the brand's commercials allowed for the repetition of slogans and images that appealed to Prince-Hughes's sense of order. She recalls the double "pleasure" and "fun" that these advertisements brought her:

> When I had learned all the words that my family could think of, I began speeding around and around the hallway repeating conversations verbatim or singing my vast repertoire of

> commercial jingles. The Doublemint gum advertisements were my favorite because when they ran on TV or the radio, many elements of the commercial were repeated twice, either visually in the case of the television, or spoken on the radio. I loved the repetition and the symmetry of these commercials. (19)

In *Family Pictures*, the character Nina Eberhardt remembers, oddly enough, her severely autistic brother Randall's mimicking of a slogan for cigarettes (of all things) as one of the major achievements of his childhood: "And then the list of his accomplishments. Tapping his mouth, unfurling his fingers over and over, rocking for half an hour at a time, spinning objects with great dexterity. Once he said, 'Lucky Strike means fine tobacco.'" (21).

Many autistic individuals, who exist primarily at the periphery of society, can only mimic the culture to which they only marginally belong. While echolalic phrases are suggestive of the syntactical structure of the phenotext, they are devoid of symbolic meaning for the speaker and, therefore, only allow for superficial participation in the social order with which the phenotext is associated. Much of Kamran Nazeer's discussion of echolalia in *Send in the Idiots* surrounds his childhood friend and former classmate in a program for autism, Craig. Craig picked up several phrases from his father, a successful businessman, even though he did not understand what they actually meant. Nazeer recounts one of their teacher's favorites:

> Craig was the classmate who introduced the phrase "Send in the idiots" to our sessions with Ms. Russell. It wasn't his only instance of echolalia. His father was a senior executive with a Fortune 500 company and frequently led seminars and made speeches. It was something he took seriously. He'd often walk around the house practicing from flash cards. Craig picked up phrases that his father used and repeated them in our classes. I don't remember these, but Ms. Russell said that her favorite was "enhanced

> functionality," that she would laugh every time Craig said "enhanced functionality," even after several weeks, even though she got looks from the other teachers. (97-8)

Among the parent interviews which have been added to the latest edition of *Son-Rise*, one mother, Janine, recalls her son, Justin, who had an ability to recite an audiotape about the most famous *Sesame Street* character, Big Bird, in its entirety while still lacking the ability to make the most simple requests or expressions of affection.

> So his first speech, for example, he memorized from a storybook tape he had listened to. His first words were: "Don't Cry, Big Bird. Story by Sarah Roberts. Pictures by Tom Lee." While they diagnosed him, he sat there in the examination room saying, "Thirty, twenty-nine, twenty-eight, twenty-seven, twenty-six," and so on. He never said, "Mommy" or "cookie" or "juice" or "I love you." (315)

While Justin is able to repeat the format of the title page and a numeric sequence (suggestive of the structure of the phenotext), he is not able to channel the emotional bond with his mother or physiological impulses like hunger (evocative of the semiotic in the genotext) into language.

In contrast, Marti Leimbach's fictional portrayal of an autistic boy and his devoted mother in *Daniel Isn't Talking* includes one of Daniel's first uses of functional speech. When Melanie, Daniel's mother, first hears her son say, "I love you," she is afraid that he is only imitating her words. Awkwardly, she tries to question Daniel further even though his language comprehension is still limited:

> "I love you," he says. Is he repeating what I say as an echo, the way a parrot might? Or does he mean it?
>
> "Why do you love me?" I ask him. An inane question no child can answer.
>
> "You like trains," he says. Does he have the pronouns correct? Or does he mean that *he*

likes trains?

I point to my chest. “Me?” I ask. My heart lights up as he nods. (249)

Daniel’s profession of love includes both a grammatically correct and socially appropriate expression of appreciation, while still retaining an energetic affection for his mother, further evidenced by his use of body language to clarify his intentions. Kristeva contrasts the genotext and the phenotext in *Revolution in Poetic Language* while exploring their interrelatedness: “The genotext can thus be seen as language’s underlying foundation. We shall use the term *phenotext* to denote language that serves to communicate, which linguistics describes in terms of ‘competence’ and ‘performance.’” (87). The different levels of language proficiency found in autism texts are evocative of both the *choric* energy, released in babbling and representative of the genotext, as well as the empty repetition of words and phrases associated with the social structure, perhaps noteworthy in echolalia and corresponding to the phenotext. Kristeva argues that it takes both the genotext and the phenotext for true signification to happen: “The signifying process therefore includes both the genotext and the phenotext; indeed it could not do otherwise. For it is in language that all signifying operations are realized (even when linguistic material is not used), and it is on the basis of language that a theoretical approach may attempt to perceive that operation” (87-8). The importance that Kristeva places on the body in order for signification to occur complicates terms such as *nonverbal* and *preverbal* in regards to persons on the autism spectrum with severe speech/language impairments; it also ultimately reunites, as Swan advocates, the “somatic” and the “linguistic” in both the theoretical and the practical domains.

"A Closer Look: The Lacanian Registers in Autism"

Autism provides an opportunity to observe the ideas of Jacques Lacan regarding human development more thoroughly than in a typically developing child. The developmental delays experienced with autism allow each stage, or register, as Lacan sometimes calls them, to be seen in "slow motion," as it were. While progress for individuals with developmental delays may take place in a "two steps forward, one step back fashion" and all persons with developmental differences may not reach the highest developmental stages, connections between the developmental process of those with disabilities like autism and the typically developing child show that while development may take place at different paces, and thus, not along the expected trajectory, autistic persons do experience the same developmental stages as other children and are therefore not categorically different.

The "three registers of human reality" noted by Lacan are the Real, the Imaginary, and the Symbolic. Each register will be addressed individually in this chapter as it relates to autism. While Lacan's later work focuses more on how the three orders are linked, moving away from the privileging of the Symbolic and defining the Real and the Imaginary in relation to it, the order of progression does seem to flow from the Real to the Imaginary and then on to the Symbolic during childhood development. According to Lacan, a unified sense of self, reflected in the usage of the first-person "I," does not form until the stage following the Real, which is alternately called the Mirror Stage and the Imaginary due to its dependence on the child's identification with his or her own image reflected in the mirror. Lacan posits in "The Mirror Stage as Formative of the *I* Function":

The jubilant assumption [*assomption*] of his specular image by the kind of being—still

> trapped in his motor impotence and nursling dependence—the little man is [sic] at the *infans* stage thus seems to me to manifest in an exemplary situation the symbolic matrix in which the *I* is precipitated in a primordial form, prior to being objectified in the dialectic of identification with the other, and before language restores to it, in the universal, its function as subject. (76)

Lacan believes that the Real is a holdover from the neonatal condition, which he attributes to the birth of the child before it is completely physically developed. Lacan explains,

> In man, however, this relationship to nature is altered by a certain dehiscence at the very heart of the organism, a primordial Discord betrayed by the signs of malaise and motor uncoordination of the neonatal months. The objective notions of the anatomical incompleteness of the pyramidal tracts and of certain humoral residues of the maternal organism in the newborn confirm my view that we find in man a veritable *specific prematurity of birth*. (78)

Lacan associates the child's initial lack of bodily cohesiveness with the incomplete period of physical formation in the mother's womb.

What Lacan calls "primordial Discord" and the "humoral residues of the maternal organism" are reminiscent of a great deal of interesting imagery in autism texts surrounding symbiotic connections between mother and child, blurred body boundaries, and overall fragmented perceptions. For example, Melanie Marsh, Daniel's mother and the main character in Marti Leimbach's *Daniel Isn't Talking*, depicts the symbiotic relationship that can extend beyond birth between mother and child. Given the developmental delays involved in autism and the inherent resistance by the inwardly oriented child to re-position itself outwardly toward the world, the symbiotic connection maybe more difficult than usual to sever and the autistic child

may take longer to detach from his or her empathetic mother. When questioned by her meddling mother-in-law, Melanie responds with a pithy retort:

> "Why don't you put that child down?" says Daphne now, looking with mild disapproval at her sleeping grandson.
>
> "He's attached to me," I whisper, at which she gasps. (28)

The intrinsic bond in breast-feeding is particularly hard for Melanie to disrupt. Initially unaware that Daniel is autistic, Melanie is unable to ignore his intense protests to her attempts at weaning him: "While Stephen and Emily discuss what exactly a grandparent is and how Stephen is Granny's little boy from a long time ago, I quietly lift my shirt and let Daniel find whatever milk might be left in my breasts. He is nearly weaned, but not quite. I have tried—believe me I have—but among my weaknesses are children's tears" (36).

Unhappy in her marriage and having given up her own career to start a family, Melanie's primary focus is her children. Her relationship with Daniel and his sister, Emily, are the most fulfilling ones in her life, and in the beginning, she has difficulty setting boundaries between her children and herself:

> All I can think about is how so many of the mothers practiced "controlled crying" and found suitable nannies, while I gave myself wholly to every whim of my children. This method of child rearing is a mistake according to those who think we should tame toddlers and thwart manipulating preschoolers, but I took pleasure in the sanguine, parasitic, and entirely innocent fashion with which my children enveloped me. (53)

Use of the word "parasitic" is particularly striking, but once Daniel is diagnosed as autistic, Melanie explains to her therapist that the connection between a parent and a developmentally disabled child who may never achieve full independence goes beyond the usually intense bond

between parent and child. She says of the typical parent-child relationship, "You love him and he loves you. No, it's more than that. He's part of you, like your arm or your face. He lays claim to you and counts you as his, as he might his own foot. But if you *should* die, you know that someday he will grow up anyway" (73). However, knowing that her son will never fully "grow up" and will always need her only magnifies Melanie's sense that her life is not entirely her own.

Temple Grandin describes in *Thinking in Pictures* the problems she experiences intuitively in feeling where her body begins and ends. She explains, "People with autism sometimes have body boundary problems. They are unable to judge by feel where their body ends and the chair they are sitting on or the object they are holding begins, much like what happens when a person loses a limb but still experiences the feeling of the limb being there" (41). Dawn Prince-Hughes expresses similar difficulties knowing her physical limits in *Songs of the Gorilla Nation*. She remembers,

> my parents were often frustrated with me because I would "walk through" or "look through" people as if they weren't there. This phenomenon had more to do with my unawareness of where my body began and ended than with awareness of other people's boundaries. It was as if I understood the edges of other people—disjointed as they sometimes were—but I myself had no such edges. (29)

Using Lacan language, we might posit that prior to achieving the bodily cohesiveness of the Mirror Stage, Prince-Hughes was able to visually ascertain the boundaries of other people's bodies, while she struggled with the more difficult task of developing a proprioceptive awareness of how the different parts of her own body functioned in relation to one another and to other people in her environment.

As represented in the title of her autobiography, Prince-Hughes strongly relates to the gorillas with whom she works in her career as an anthropologist, researching biological and cultural evolution. She has learned much about acceptable social behavior through the prolonged observation that studying primates allows her. Even in adulthood, after Prince-Hughes has presumably experienced the Mirror Stage and formed a unified sense of self, she struggles to maintain that solidity and, so to speak, prevent slippage back into the Real. On a practical level, the enclosures in which the gorillas are kept exclude much of the sensory input that can be overwhelming for Prince-Hughes to process. On a psychological level, the fences serve as a mirror of sorts, functioning as a visual and tangible reminder of her own material limits and reinforcing her bodily sense of self, which is always threatened by the possibility of regression and thus, dissolution. She explains, "Containment silently reminded me of my physical boundaries—never solid and always in danger of disappearing—and kept me safe from the sensory onslaught of the outside world" (127).

In addition to the boundary issues that many autistic people experience delineating their own bodies from their surroundings, internal boundary problems can also lead to difficulty. Temple Grandin illustrates this point in *Thinking in Pictures* with a description of an autistic young man for whom touch, hearing, and sight can become intermixed. Grandin writes,

> In people with severe sensory processing deficits, vision, hearing, and other senses mix together, especially when they are tired or upset. Laura Cesaroni and Malcolm Garber, at the Ontario Institute for Studies in Education in Canada, interviewed a twenty-seven-year-old male graduate student with autism. He described difficulty hearing and seeing at the same time as his sensory channels got mixed up. Sound came through as color, while touching his face produced a soundlike sensation. (76)

Kamran Nazeer uses the word "synesthesia" in *Send in the Idiots* in reference to this particular phenomenon. The same term is also used in literary studies to represent the poetic technique in which different sensory images are intertwined, creating a hallucinatory effect. Nazeer reports, "There is a high incidence of synesthesia too—that is, the correlation of certain sounds, tastes, or textures, with colors. Simultaneously, the ability of autistic individuals to categorize or process this information is more limited" (68-9). Dawn Prince-Hughes admits in *Songs of the Gorilla Nation* that she has experienced this sensory jumbling herself. She comments on the discomfort this mixing of sensations has caused her: "Other sounds, though quiet, would be painful to me and make me see colors, after which I would fight a metallic taste in my mouth" (24). With lines blurred both distinguishing self from environment and also separating kinds of sensory input, which allows people to interact with our surroundings, it is no wonder that autistic persons must work harder than most to prevent their world from reverting to chaos. Therese Joliffe is cited by Temple Grandin in *Thinking in Pictures*:

> Reality to an autistic person is a confusing interacting mass of events, people, places, sounds and sights. There seem to be no clear boundaries, order or meaning to anything. A large part of my life is spent just trying to work out the pattern behind everything. Set routines, times, particular routes and rituals all help to get order into an unbearably chaotic life. (76)

Without adequate means to keep sensory input properly sorted, the world can appear to be a place of disorder for many people on the autism spectrum. Habitual behaviors can re-instill a sense of structure into the lives of autistic people, who have difficulty maintaining the defined selfhood that comes with the ordering of the Mirror Stage.

Sensory-processing difficulties can also result in fragmented perceptions. Instead of different types of sensory information functioning together, sometimes autistic individuals have a hard time forming a cohesive whole out of their experiences. In contrast to Joliffe's body boundary problems, Donna Williams not only has a splintered sense of her physical self but also of the world around her, according to Grandin: "Donna Williams describes a fractured perception of her body in which she could perceive only one part at a time. Similar fracturing occurred when she looked at things around her. She could only look at one small part of an object at a time" (66). In *Songs of the Gorilla Nation*, Dawn Prince-Hughes portrays the confusing (but sometimes beautiful) swirl of colors and shapes that surround her. She explains, "I lived in a kaleidoscope those years. I was looking down a narrow tunnel at broken, colored fragments of people and dreams, turned toward a too-bright sun as I rolled from place to place, one eye blind" (67). This fracturing seems to reach new levels of intensity during times of stress for her. She partially remembers a childhood incident involving an insensitive teacher:

> I often couldn't take in people as whole entities, even when I was relatively relaxed. Now the threatening and disembodied pieces of my teacher swirled around me, attacking from every angle. I was caught in a whirlwind of horrible sensory information and unrelenting criticism. I needed my mother and knew that this demon, in the form of flying, taunting parts, had the power to keep her from me. I don't remember how it ended. (43)

Until the exact cause of autism is discovered, it is difficult to account for this fragmentation response, which, at least to some degree, resembles post-traumatic stress disorder. Parents and educators of autistic children are sometimes hesitant to pursue this line of comparison, afraid of a resurgence in popularity of past psychological explanations for autism, rooted in accusations of abuse or neglect, which have overwhelmingly been disproved. (Bruno

Bettleheim's theory of the so-called "refrigerator mother," who was accused of emotional frigidity and, therefore, blamed for her child's autistic behaviors, is particularly notorious.) However, it is possible that autism coincides with an unusually high degree of sensitivity in the individual's immune system or adrenalin response. It is possible that an "over-reaction" to immunizations (or other environmental challenges) or startling sensory input in general might result in regression to an earlier developmental stage (or failure to develop beyond it).

Prince-Hughes's fragmented sensibility made some school subjects harder than others. She recalls, "Math did not describe anything to me," asking "if people themselves were often disconnected parts—sometimes one, sometimes many—how could I hope to quantify the rest of the world?" (46). In *Son-Rise*, Barry Neil Kaufman describes closely observing his severely autistic young son, Raun, in order to design an appropriate intervention program for him. Kaufman hypothesizes, "He could not form a coherent entity out of his experiences. The magic was not there. No organized whole, just fragmented pieces. It was as if he maintained a primitive expectation of help but never thought to seek it from any source; maybe he was also unaware of what he wanted until it arrived in his view" (60). Realizing that Raun's perceptions were highly fragmented, Kaufman decided that the information and activities he wanted to teach his son had also to be broken down into tiny pieces in order for Raun to process them. Kaufman asserts, "Until he could take hold of the world by himself, we would be there each and every moment feeding it to him, redefining it for him, chopping it into digestible parts, breaking it into sections and fragments to be reassembled in the interior of his mind" (61).

As in other literature from the Post-modern era, descriptions of external fragmentation function within autism texts to symbolically represent an internal psychological state lacking in continuity. Despite Kaufman's largely successful efforts, there are times when Raun pushed

back, breaking things in frustration in order to make the outer world match his own inner fragmented experiences. Kaufman recounts, “Grabbing the edge of the puzzle, he threw it full force and watched it break apart as it hit the wall. Splintered pieces flew in every direction. Fireworks for the amusement of one little person. He knocked his blocks down and started throwing them into the air” (173). As with portrayals of post-traumatic stress disorder, fiction writers commonly incorporate tropes of broken objects or shredded paper in order to portray the inner disorder experienced by characters with autism. However, unlike most individuals with post-traumatic stress disorder, many people with autism do not have the verbal facility to process their experiences (which can lead to psychological growth or at least an increased ability to cope), and they thus remain in a perceptual state of inner fragmentation, reminiscent of the Lacanian Real. In Cammie McGovern’s murder mystery *Eye Contact*, Adam, the autistic son of the protagonist, Cara, wants to break objects in order to relieve the pressure he feels when expected to serve as a witness to a crime he is thought to have seen. (His body boundaries also seem to dissipate under this stress). McGovern writes, “He wants to break something. Breaking a glass breaks this circle of noise going in and out. He can’t breathe, but he must be breathing because the sound is still there. He can’t feel his arms or his legs, can’t feel where they are, if he even has them anymore” (142). In the adolescent novel *Al Capone Does My Shirts*, Natalie, the autistic sister of Gennifer Choldenko’s main character, Moose Flanagan, becomes upset in one scene and destroys both the piece of cake that has been given to her and the plate upon which it rests. Natalie also moves her arms and legs erratically as if they are each detached from her body. Moose describes her distress: “She takes the cake, mashes it in her hand and throws the plate against the wall, busting it into a million pieces. Her whole body is moving in all directions, as if each limb has its own plan” (169). Melanie Marsh, the mother in *Daniel Isn’t Talking*, is

just starting to come to terms with the fact that her son is not developing in the typical manner when she observes him destroying his art supplies: "Daniel will not draw, will only break the crayons in half, rip the paper. I tell myself he is young yet. A voice inside me says, 'Wait and you'll see!' But the voice isn't real and the boy won't even scribble on paper. This is part of the trouble" (7). In addition to reflecting Daniel's inner world, the broken crayons and ripped paper also parallel Melanie's own inner division as she struggles to come to terms with the situation, perpetually engaged in a symbiotic relationship with her son, evocative of the Lacanian Real.

The act of shredding paper, demonstrated by various autistic characters, allows for a certain degree of control over their environment, which is otherwise perceived as random and chaotic. Moose Flanagan reports that his sister Natalie has a proclivity for tearing paper in *Al Capone Does My Shirts*. After their mother struggled to get Natalie into a school that she believed would help her progress, Natalie only wanted to shred paper all day, lost in her fixation. Moose remembers, "And then there was a school where my mom taught music classes for free until they let Natalie in. And when they did, Natalie just sat in the fancy classroom tearing bits of paper into tiny pieces" (67). Natalie even destroys her own art work, little paper moons she has worked hard to create, when she gets upset. Moose watches in dismay: "I look down at the book again, and then I hear paper ripping. Natalie is tearing up the moons she's made one by one, her chin jerking wildly down to her collarbone and up. Down and up. Her eyes are beginning to storm over. Little torn pieces of paper float through the air, scattering everywhere" (182). In Sue Miller's *Family Pictures*, Randall Eberhardt, who is extremely low-functioning, "seeks revenge" on his sister Nina by tearing up her homework. She describes her reaction on entering the scene of the crime: "When I went back into the dining room, Randall stood over the table, letting little pieces of torn paper flutter to its surface from his hand. It took me a few seconds to realize that

the brightly colored confetti was" (25). Unlike Randall Eberhardt, who is trapped in the "discord" of the Real, the higher-functioning Natalie Flanagan seems to have some control over her ability to leave it, evidenced by an emerging self-awareness indicative of the Mirror Stage. However, during times of distress, the Real provides a safe haven for her to escape from the world.

Authors of autism texts commonly equate the Real with mystical experience. It is up to the reader to decide whether this comparison is an irrational coping mechanism, an intentional projection of meaning onto a difficult situation, or a true reflection of autistic individuals encountering the divine. In *Civilization and Its Discontents*, Freud, whose work Lacan spent much of his career interpreting, equated the "oceanic feeling" of oneness with the universe experienced during meditative states with a regression to the initial symbiotic state between child and mother, which Lacan places in the Real, during which ego boundaries are nonexistent. Temple Grandin in *Thinking in Pictures* draws a comparison between her childhood experiences closely observing sand at the beach and the religious practices of monks. She posits:

> As I turned in the rental car and checked in at the gate, I thought about the similarities between the wonderful trancelike feeling I had had while gently holding the cattle in the chute and the spaced-out feeling I had had as a child when I concentrated on dribbling sand through my fingers at the beach. During both experiences all other sensation was blocked. Maybe the monks who chant and meditate are kind of autistic. I have observed that there is a great similarity between certain chanting and praying rituals and the rocking of an autistic child. I feel there has to be more to this than just getting high on my own endorphins. (205)

Like Grandin, Barry Neil Kaufman interprets the repetitive behaviors and meaningless

verbalizations of his son in his personal narrative as meditation and chanting. He comments, "Playfully, we referred to him as our little Buddha from another planet. He appeared delightfully happy and meditative when we rocked on the kitchen floor or continuously sang a two-note serenade" (53).

In *Son-Rise*, Kaufman presents himself as a deeply creative and intuitive individual. Kaufman attributes a kind of power to his son when he reverts to the "malaise" of the Real. He claims, "Raun's silent aloneness had a peculiar kind of power, as if he could drop into a deep meditative place from which no one could distract him" (16). Son-Rise, the intervention program originally designed for Raun, stands out from other autism interventions in its child-centered focus. While many aspects of the Son-Rise methodology have been criticized for being too idealistic, like asking the adult therapists to mimic the autistic behaviors in order to build a bridge with the child, there is a certain wonder and appreciation for his or her unique point of view that isn't readily visible in other philosophies. This valuing of the child's perspective creates a positive atmosphere for learning. Kaufman explains, "When he withdrew, an eerie quiet enveloped him. The playroom suddenly became a cathedral. Loving interaction between our sweet son and us came to an abrupt halt, and space opened in which we could all pause. The silence became a prayer. An act of reverence" (148).

Although Sue Miller's novel *Family Pictures* pieces together memories from different members of the Eberhardt family, it is primarily told from the perspective of Randall's younger sister, Nina. She describes her brother:

> Randall sat in their midst, more beautiful than the first two, but immobile. At two, he still didn't walk. He didn't speak except when whole sentences, out of context, dropped from his mouth as though someone invisible were using him as a ventriloquist's

> dummy. He seemed possessed, my mother had said. Enchanted. Under a spell. (10)

When Randall's older brother and sister, Mack and Liddie, witness him sticking his hand into a fire, Mack is struck by the muted response that Randall displays to what should have been extremely painful burns. Captivated by television images of Buddhist monks setting themselves on fire in protest to the Vietnam War, Mack draws a parallel between Randall's under-responsiveness and the monks' mastery of pain:

> If Mack and Liddie hadn't seen it, no one would have known until later—until they saw the raw flesh, the blisters—that it had happened. When Mack asked his father about it afterward, his father said that Randall *did* feel the pain at one level. But that his psychological makeup meant that he'd retreated from his body, from reality, so that he didn't react as we did.
>
> Maybe the Buddhists retreated like that, Mack thought. (152)

Randall is placed in an institution for the mentally disabled when his parents become too old to properly care for him. Each family member must work through his or her ambivalence about visiting Randall, and some go more often than others. On a rare visit, Nina stays only a short period of time, uncomfortable in the monastic-like setting. Miller writes, "Nina felt as though she were wandering around the grounds of some strange religious order. She stayed only an hour or so, and when she left, her throat ached from talking nonstop the whole time" (367). While in many forms of meditative practice the goal is to "lose oneself," autistic individuals who seem to be trapped in the Real (and have yet to experience the Mirror Stage) lack the *I* function, and therefore, a unified sense of self. Furthermore, higher functioning individuals on the autism spectrum seem to have an easier time "regressing" back to the egoless state of meditation despite reaching the Imaginary or even the Symbolic stages than their typically developing counterparts.

This absence of a clearly defined selfhood is evidenced in the difficulties mastering use of the pronoun "I" experienced by many autistic children. Confusion of the "you" and the "I" may be attributed to the initial absence of boundaries separating self and other between the nursing child and his or her mother in the Real. This confusion over the first-person pronoun can persist even after rudimentary language skills begin to emerge. Oliver Sacks quotes Freeman Dyson describing Jessy Park, a young autistic woman with no objective notion of herself, in a footnote in *An Anthropologist on Mars*: "she has no concept of her own identity, she doesn't understand the difference between 'you' and 'I'—she uses pronouns almost indiscriminately. And so her universe is radically different from mine" (229). Perhaps surprisingly given her own later achievements, Sacks describes Temple Grandin's similar issue: as a child, "she mixed all her pronouns up, not able to grasp the different meanings of 'you' and 'I,' depending on context" (271). In Cammie McGovern's *Eye Contact*, when Adam, the autistic son of Cara, the main character, is under stress, he regresses and loses his ability to use pronouns in the proper context. Cara says of Adam, "Nine years old and in a panic, he still reverses his pronouns, still echoes words of comfort exactly as they've been given to him" (9). Progress is measured for Natalie Flanagan with her usage of the first-person pronoun. Natalie's brother, Moose, relates, *"We're working on pronouns*. My mom said this. Pronouns. Natalie, who never called herself anything but Natalie my whole life, just called herself 'I'" (170). Natalie's use of the second-person pronoun, "you," also improves when her mother finds a therapist who is able to reach through to her. This breakthrough is particularly important when she uses it to refer to her mother if viewed as indication that Natalie is separating psychologically from her. Mrs. Flanagan exclaims, "But never *you*—not *Mommy—you*, a pronoun. I've been trying to get Natalie to use pronouns her

whole life. And feelings . . . she said something she felt. Natalie is communicating with us . . . this is so important!" (157).

Lacan argues that an integrated notion of self, represented by the use of the first-person pronoun, develops during the Mirror Stage in the Imaginary, when the child first recognizes his or her own reflection as belonging to himself or herself. Lacan sets the scene for this primal drama by describing the child's first encounter with itself in the mirror:

> a nursling in front of a mirror who has not yet mastered walking, or even standing, but who—though held tightly by some prop, human or artificial (what, in France, we call a *trotte-bébé* [a sort of walker])—overcomes, in a flutter of jubilant activity, the constraints of his prop in order to adopt a slightly leaning-forward position and take in an instantaneous view of the image in order to fix it in his mind. (75-6)

Typically, physical and cognitive abilities develop along parallel lines. Sometimes, however, in autistic children, motor achievements, like walking, will occur at a faster pace than mental ones, such as speech acquisition. No longer needing physical support, Raun's initiation into the Imaginary is captured in the following account of his unaided approach towards the mirror in his parents' bedroom. His father remembers:

> One evening, before we put Raun to bed, we sat with him in our bedroom and watched him walk around and play with our shoes. Suddenly, passing in front of the mirror, he became captivated by an image he saw there. Although he had certainly passed by the mirror many times, tonight something notably different happened. He stopped, startled by his own image. For the first time, he appeared mesmerized by a commanding form—the full length reflection of himself.
>
> He surveyed his image cautiously. He moved back and forth from left to right. He walked

> directly to the mirror and touched his reflection nose to nose. His eyes beamed like electric lights. He moved out of the path of the mirror, then slowly looked back into it. As he did, he met his own face, saw his own eyes. He moved directly forward again, touched his belly to the belly of the child in the mirror, then tipped his head to the mirror as the twin facing him duplicated his movement with absolute precision. Suddenly, he emitted a wild, unfamiliar shout—a cry of incredible excitement and joy. He began to grunt and laugh with elation. Raun Kahlil had discovered himself. (Kaufman 95-6)

Although Raun's verbal abilities do not explode immediately following this first meeting with his mirror image, he does exhibit a higher degree of mastery over his body (including the creation of a game with his mother, involving spinning in circles and playfully bumping into her) and a more unified sense of purpose in his therapeutic work (for example, exhibiting more determination in the matching and placement of wooden puzzle pieces).

Cammie McGovern's novel *Eye Contact* includes an extraordinary depiction of the Mirror Stage, which is a pivotal moment in the plot. Having witnessed the death of a classmate who was murdered in the woods behind their school, Adam, an autistic child, is expected to serve as a witness for the police. However, this traumatic experience has caused Adam to regress, and to lose temporarily his already limited verbal abilities. While the police attempt to question him, Adam's mother, Cara, watches from behind a two-way mirror, expecting that he will try to smash it. As previously noted, Adam's impulse when his thoughts become too chaotic is to relieve the pressure by breaking something and to create continuity between his inner turmoil and the external world. McGovern portrays the scene at the police station:

> He stands up without answering and moves over to the mirror. Usually Adam hates mirrors; once, he broke one that a speech therapist was using, but now Cara watches, her

> breath held in anticipation of catastrophe, some revisitation of his morning outburst. *He's going to throw himself against it, shatter the glass*, she thinks, but this is nearly the exact opposite, a quieting of his whole body, one finger outstretched with the silent concentration it would take to catch dust. His hand opens and he presses one palm, then the other, to the mirror, hard so the flesh lines look like a starfish's underbelly inching along the glass tank wall. She would stop this now, but his face is serene, intrigued by this strange rectangle, this mirror that isn't really a mirror. She leans in; if he can see through this thing, her face is right here, so close he could touch it. Maybe he smells her, or hears her heart beat. She almost whispers, *Adam*, and then his mouth opens. "Hair," he says. (157)

As Adam stares into the mirror, he is able to gather himself, and with the uttering of a single word, breaks the silence. While Cara's motherly instinct is to reach through the glass and to stop the line of questioning, it is precisely because there is a mirror, a barrier between mother and child, severing the symbiotic bond, that Adam is able to collect his thoughts and offer a long-awaited clue.

Lacan's conception of the Mirror Stage goes beyond a bodily sense of cohesiveness to a more subjective identity as the child continues to develop. Lacan defines the "Mirror Stage" extensively in his essay "The Mirror Stage as Formative of the *I* Function":

> the Mirror Stage is a drama whose internal pressure pushes precipitously from insufficiency to anticipation—and, for the subject caught up in the lure of spatial identification, turns out fantasies that proceed from a fragmented image of the body to what I will call an "orthopedic" form of its totality—and to the finally donned armor of an alienating identity that will mark his entire mental development with its rigid structure.

(78)

In his chapter devoted to Stephen Wiltshire, an adolescent autistic savant, in *An Anthropologist on Mars*, Oliver Sacks quotes Stephen's agent, Margaret, who encourages his artwork. Margaret notes that as Stephen has gotten older he looks in the mirror more often. Not surprisingly, this corresponds with a growing awareness of how he is perceived by others as well as a more individual sense of fashion. Sacks reports Margaret's observations: "He never seemed to notice mirrors when he was younger, Margaret said, but now he is always checking himself, preening before them. He has developed very decided tastes in clothing: 'I like western-style jeans, light blue, garment washed, and shirts…and black western boots'" (235). Intriguingly, Dawn Prince-Hughes uses mirrors metaphorically right at the beginning of her autobiography, *Songs of the Gorilla Nation*. She writes, "These gorillas, so sensitive and so trapped, were mirrors for my soul as it struggled behind bars, gawked at by the distorted faces of my world, taken out of a context that was meaningful and embracing. They taught me songs about themselves, about meaning and context, about the world, and about me" (3). As a young person, Prince-Hughes struggled with her self-esteem, primarily because of the symptoms of her then undiagnosed Asperger's Syndrome. However, Prince-Hughes finds herself once she discovers the similarities between her own behavior and that of the gorillas, whom she is able to observe more closely than she can people.

Obviously, Lacan's theory of a Mirror Stage relies on visual capabilities. However, as previously discussed, autism has a sensory processing component, and it is not unusual for the different sensory channels to get crossed. Often, certain types of sensory input will be clearer than others. While the visual is usually more developed than the auditory in autistic individuals, sometimes the other senses (touch, taste, and smell) are dominant. Kamran Nazeer introduces the

phrase “local coherence” in *Send in the Idiots* to represent his own practice of running his finger along a familiar object in order to gather himself. “Local coherence” roughly corresponds with the Mirror Stage, only depending on the sense of touch. Just as in the Mirror Stage a unified concept of selfhood develops when the individual visually identifies with his or her image reflected back to him or her in a mirror, one coping strategy that many autistic persons utilize when "things seem to be falling apart" is to "pull themselves together" in a tactile way by repeatedly stroking an important personal item with which they closely identify or even touching a particular body part over and over. Nazeer observes that his autistic friend, André, has similar habits:

> Earlier, I mentioned the way that autistic people regularly seek local coherence . . . I rarely go out without a crocodile clip in my pocket, though recently my cell phone has begun to substitute for it. I play with the clip for something to focus on while I try to do something harder, like explain to a friend why I didn’t return her call. I noticed, as the night progressed, that André. . . ran his finger repeatedly along the edge of the bar. He spun the ice in his glass. He brushed imaginary things off his shoulder. (37-8)

In addition to his experience discovering himself in the mirror, Raun Kaufman gains a clearer idea of his physical limits as an infant and young toddler by being allowed more time to explore his body through touch while partially or completely unclothed. His father believes that this practice helped Raun to clarify his sense of self:

> Most children are continually draped in diapers, clothing, and shoes. They never have much opportunity to come to know their bodies at an early age. However, this type of exploration of his body helped Raun solidify a more specific and definite concept of “me.” Although he didn’t articulate this gain verbally, he seemed to sense the boundaries

> of his body better and to explore the space around him with more confidence. Truly, he had discovered a new toy—himself. Sometimes, for ten or fifteen minutes, he would glide his fingers slowly and gently across his belly. Alert and inquisitive. (149)

Adam's mother, Cara, explains in Cammie McGovern's novel *Eye Contact* that as a three-year-old, Adam would wake up in the middle of the night in a panic because of his fragmented bodily sensations. Through his mother's touch, Adam is able to regain his composure. Unable to see his head and face as he can other body parts, like his hands and stomach, the weight of Cara's arm resting across his neck, touching his chin, reassures Adam that they are, in fact, still attached:

> As a three-year-old, he used to wake up at night and cry until she lay down beside him, one arm draped like a scarf around his neck, giving him a way to feel his own chin, to know that his head was still on. This has always been the body part he most needs reminding of. His hands he can see; his legs, his stomach. But how can he be certain his face is still there? (37-8)

As an adult, Dawn Prince-Hughes has had to come up with her own strategies in order to avoid feeling she is coming apart. She explains in *Song of the Gorilla Nation*, "I often must move my legs or feet constantly and vigorously to keep myself 'intact'" (216). Temple Grandin describes in *Thinking in Pictures* the self-injurious behavior that can occur when autistic people become detached from their own bodies. Once again, she turns to Donna Williams to illustrate an important point, the coping mechanisms that some autistic individuals must develop in order to prevent injuring themselves. Grandin states, "Donna tapped rhythmically and sometimes slapped herself to determine where her body boundaries were. When her senses became overloaded with painful stimuli, she bit herself, not realizing that she was biting her own body" (66).

Beginning to develop a subjective sense of self, the remaining register after the Imaginary, according to Lacan's framework, is the Symbolic, the order in which language acquisition expands. In "The Instance of the Letter in the Unconscious," Lacan briefly addresses "the role imputed to the index finger pointing to an object as an infant learns its mother tongue, or in the use of so-called concrete academic methods in the study of foreign languages [*langues*]" (415). The absence of pointing is one of the first signals in many autism texts that something is different about a child's development. Karyn Seroussi describes in her personal narrative, *Unraveling the Mystery of Autism and Pervasive Developmental Disorder*, just how sobering it was to realize that her son, Miles, was not pointing like other children she knew who were his same age. She writes, "Just what was it about pointing that was so special? I recognized that it was a child's request for shared attention, his way of saying 'I want you to see what I'm seeing.' Miles did not seem to care about things like that. . . . What I didn't realize at the time was that the absence of pointing is one of the defining characteristics of autism" (30). According to Karyn Seroussi, whose mission in writing her book is to promote the now common gluten-free/casein-free diet for individuals with autism, Miles was developing typically until receiving his DPT vaccination at eighteen months. (He also had an adverse reaction three months earlier to his MMR shot).

Claims that autism is linked to common childhood vaccinations is a medically controversial but often expressed sentiment in recent years by parents of autistic children. While Barry Neil Kaufman's memoir, *Son-Rise*, was written decades earlier than Seroussi's text and does not share the same complaints about vaccinations, he also believes that his own son, Raun, was developing "normally" until an ear infection rapidly spread when he was four weeks old. Furthermore, when Raun was a year old, he began to exhibit increased auditory sensitivity.

Kaufman notes that later that year, "Instead of acquiring language, he had become mute. Even his prelinguistic pointing or gesturing ceased to exist" (14). Like Seroussi's, Kaufman's concern is not necessarily that Raun has yet to develop speech, but rather that he shows no interest in interacting with others. Kaufman explains, "Our concern was not simply that he did not use the spoken word, but that he offered no communication by sound or gesture, no expressed wants, likes, or dislikes. He never pointed toward anything he desired" (17). Kaufman perceives his uncommunicative son withdrawing deep inside himself. He waits for Raun to develop the ability to point, which he believes holds the potential to pierce through the wall of autism: "Raun Kahlil slid often behind an invisible veil; though only inches separated us, he seemed a thousand miles away. And still no prelinguistic language—no pointing or gesturing to indicate desires—developed" (74).

While pointing is typically a "naturally" developing precursor to language acquisition, parents in both fictional and non-fictional accounts of autism purposefully try to teach their children how to point in order to trigger further attempts at communication. Karyn Seroussi recalls how her husband, Alan, decided to work with Miles in order to teach him to point: "Another thing that Alan did with him worked in a fascinating way. Using the logic 'if autistic children do not point, then teaching Miles to point will cause him to not be autistic,' Alan set off on a crusade to teach Miles this skill" (52). At first, her husband's efforts only produce superficial results. While Miles does learn fairly quickly to make the physical gesture, his understanding of the purpose of pointing doesn't immediately follow. Seroussi describes the moment when Miles seems to make the connection for the first time:

> "Imitating our pointing isn't really pointing, though," I remarked. Alan had started telling people that Miles could point, but we spent weeks saying "Point to the cup!"

without an appropriate response.

> Then one day Miles was riding in a shopping cart and spotted a toy cow, then pointed to it excitedly. Alan was so happy, he bought the cow for Miles without thinking twice. (53)

The character Melanie Marsh also tries to teach her son, Daniel, how to point for similar reasons in Marti Leimbach's *Daniel Isn't Talking*. For extra motivation, Melanie uses the only real toy in which Daniel has any interest, his train. She explains, "I put the train up on the curtain rail and take Daniel's hand, arrange it into a pointing shape, and get him to point at the train himself. As soon as he points, I give him the train. It works every time. Soon he's pointing for biscuits, milk, his disc-shaped objects, which I plant all over the house in high places" (118). Daniel's attempts to point are his first real breakthrough after the diagnosis is made. They provide much needed hope for Melanie during a difficult time: "Right now, this second, I'd say we are the happiest we've been in a long time. Because Daniel is pointing. Or trying to" (90). Pointing signals a change of focus from a "self-centered" orientation (one's own image in the mirror) to an interest in the language driven, social structure.

For autistic children, difficulty displacing their gaze from the end of a parent or caregiver's finger to the object to which that person is attempting to call attention equates with problems making the symbolic leap from the words that they hear spoken around them to the items they are meant to identify. While all children must learn to make this connection, it is not surprising that it would seem effortless in most cases to someone like Temple Grandin who has struggled with autism-related verbal difficulties: "Unlike normal children, who naturally connect language to the things in their lives at a remarkable rate, autistic children have to learn that objects have names. They have to learn that words communicate" (54-5). Grandin refers to Jim Sinclair, who maintains in his own book about autism that speech therapy had little impact on

him because he did not grasp the underlying concept behind communication:

> Jim Sinclair also had to learn that spoken words had meaning. He described the difficulties he experienced in *High-Functioning Individuals with Autism*, explaining that "speech therapy was just a lot of meaningless drills in repeating meaningless sounds for incomprehensible reasons. I had no idea that this could be a way to exchange meaning with other minds." (72)

Even after Dawn Prince-Hughes learns to speak, she doesn't always understand that words can be used in different contexts and for a variety of purposes. She recalls an incident in *Songs of the Gorilla Nation* in which she was bullied as a child, but she never realized that she could tell her family about what was happening to her: "I never told my parents about it. It didn't occur to me that I could communicate about things that happened. I simply wasn't able to understand that use of words" (43). Given Prince-Hughes's childhood problems distinguishing her own body boundaries from those of others, it is not surprising that she did not realize the numerous purposes that language could serve to bridge the gap between self and other.

Although autistic individuals often have a hard time making the symbolic leap necessary to enter into language (and those who do often get lost within the social structure), Lacan posits in "The Instance of the Letter in the Unconscious" that "language, with its structure, exists prior to each subject's entry into it at a certain moment in his mental development" (413). James C. Wilson and Cynthia Lewiecki-Wilson borrow a phrase from Michael Berube in their essay, "Disability, Rhetoric, and the Body," when describing the linguistic system into which their son, who was born with hydrocephalus, arrived. Both parents observe, "Within minutes of his birth, our son entered what Michael Berube calls the social apparatus of disability, composed of interconnecting systems and a network of institutions, each with its own well defined area of

influence and each validated by a professionally codified rubric or rhetoric" (11). Even if the disabled individual, according to the nature of his or her impairment, is unaware of his or her potential participation in this cultural network via language, he or she is linguistically pre-positioned within its context, through representations of persons with disabilities. Rod Michalko and Tanya Titchkosky write, "All of us possess some idea of disability provided to us by how our society collectively represents it" (214). Lacan refers to slavery in "The Instance of the Letter in the Unconscious" in reference to the subject's inscription within language. He argues, "And the subject, while he may appear to be the slave of language, is still more the slave of a discourse in the universal movement of which his place is already inscribed at his birth, if only in the form of his proper name" (414). Whether or not a severely autistic individual is more or less of a "slave" within this linguistic system than a nonautistic person is an interesting point to ponder. Due to their language impairment, autistic persons are obviously less impacted cognitively and emotionally by the symbolic matrix in which they reside (despite the fact that they are, at the least, affected second-hand by the linguistic environment that influences their family members). However, with their reduced communication abilities, they have less control over the linguistic milieu that contains them.

The "social model of disability," which originated in the 1970s in the United Kingdom with the Union of the Physically Impaired Against Segregation (UPIAS), posits that it is society which causes disability by creating or maintaining barriers that restrict full access for the physically disabled person, thus resulting in his or her marginalization. Tom Shakespeare borrows from a statement made by the UPIAS in "The Social Model of Disability": "In our view, it is society which disables physically impaired people. Disability is something imposed on top of our impairments, by the way we are unnecessarily isolated and excluded from full

participation in society. Disabled people are therefore an oppressed group in society" (198). Shakespeare discusses the most important components of the social model: "the distinction between disability (social exclusion) and impairment (physical limitation) and the claim that disabled people are an oppressed group" (198). Shakespeare also provides the new definition of disability given by UPIAS: "the disadvantage or restriction of activity caused by a contemporary social organisation which takes little or no account of people who have physical impairments and thus excludes them from participation in the mainstream of social activities" (198). The responsibility is thus placed on society to accommodate each of its citizens, rather than expecting the impaired to attempt to change in order to fit into their surroundings. Shakespeare later explains that "The problem of disability is relocated from the individual, to the barriers and attitudes which disable her. It is not the disabled person who is to blame, but society. She does not have to change, society does. Rather than feeling self-pity, she can feel anger and pride" (200).

The United Nations drew similar distinctions in terminology in the 1980s. However, it added a third term in the mix, "handicap," which in this context, is defined by the social ramifications for the person with an impairment and his or her ability to access the environment. The U.N. document, referred to by Susan Wendell in "Toward a Feminist Theory of Disability," considers an "impairment" to be "any loss or abnormality of psychological, physiological, or anatomical structure or function," whereas a "disability" includes "any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being" (244). A "handicap" differs in that it is

> a function of the relationship between the disabled persons and their environment. It occurs when they encounter cultural, physical or social barriers which prevent their

> access to the various systems of society that are available to other citizens. Thus, handicap is the loss or limitation of opportunities to take part in the life of the community on an equal level with others. (244)

Some business owners and operators of other public places complained after the passage of the Americans with Disabilities Act (ADA) in 1990, which required wheel chair ramps and Braille markings on elevators, among other provisions for the "handicapped." However, accommodating physical and sensory impairments is relatively easy when compared to creating a more accessible environment for persons on the autism spectrum. Tom Shakespeare observes,

> Moreover, physical and sensory impairments are in many senses the easiest to accommodate. What would it mean to create a barrier free utopia for people with learning difficulties? Reading and writing and other cognitive abilities are required for full participation in many areas of contemporary life in developed nations. What about people on the autism spectrum, who may find social contact difficult to cope with: a barrier free utopia might be a place where they did not have to meet, communicate with, or have to interpret other people. With many solutions to the disability problem, the concept of addressing special needs seems more coherent than the concept of the barrier free utopia. Barrier free enclaves are possible, but not a barrier free world. (201-2)

Addressing the communicative aspect of autism is admittedly difficult when so much of functioning in a social environment depends on spoken and written language (although adding more picture symbols to signs, menus, and so forth, might be a relatively easy place to start). Accommodating the aspect of autism which involves an impaired ability to interpret social cues, even for relatively high-functioning individuals on the autism spectrum, is nearly impossible when society, by definition, includes other people. Removing the barriers in their surroundings

would essentially mean eliminating all other persons from "public" places. Perhaps awareness of social differences is a more reasonable objective.

Lacan posits that in the Symbolic realm, the individual must express his or her needs in the language of the Other in order for those needs to be met. The person's needs are alienated from him or her in the sense that they must be put into words, rather than the individual maintaining a primitive expectation that his or her needs will automatically be met, as the child anticipates in the symbiotic state of the Real. Lacan hypothesizes in "The Signification of the Phallus" that there occurs

> a deviation of man's needs due to the fact that he speaks: to the extent that his needs are subjected to demand, they come back to him in an alienated form. This is not the effect of his real dependence (one should not expect to find here the parasitic conception represented by the notion of dependency in the theory of neurosis), but rather of their being put into signifying form as such and of the fact that it is from the Other's locus that his message is emitted. (579)

Lacan argues that the demand goes beyond the particular need the child is trying to have satisfied in any given situation. What is really being demanded is the loving attention of the mother, whom he now perceives as an Other, following the severing of the symbiotic connection. The child still believes the mother to be capable of meeting all of his or her needs but now perceives this potential fulfillment to be a "privilege," since he or she no longer maintains the same expectations as in the symbiotic stage. This development, related to the Oedipus Complex, sets the stage for the child to be denied the immediate satisfaction of his or her needs, pushing him or her to verbalize them. Lacan explains in "The Signification of the Phallus,"

> Demand in itself bears on something other than the satisfactions it calls for. It is demand

> for a presence or an absence. This is what the primordial relationship with the mother manifests, replete as it is with that Other who must be situated *shy of* the needs that Other can fulfill. Demand already constitutes the Other as having the "privilege" of satisfying needs, that is, the power to deprive them of what alone can satisfy them. The Other's privilege here thus outlines the radical form of the gift of what the Other does not have—namely, what is known as its love. (579-80)

The phallus consists in this context not of the biological penis as Freud posited, but rather of the love that the child demands of the mother, whom he or she still believes to be capable of satisfying all of his or her needs.

When the Logos, the spoken "name" of the father, intercedes, preventing the immediate satisfaction of the child's needs, desire springs from the space between the child's demand for love and the immediate satisfaction of those needs. Lacan accounts for this division: "This is why desire is neither the appetite for satisfaction nor the demand for love, but the difference that results from the subtraction of the first from the second, the very phenomenon of their splitting (*Spaltung*)" (580). Because of this separation, which allows room for desire to occur, the child himself must engage in speech in an attempt to get his or her needs met. Lacan hypothesizes, "The phallus is the privileged signifier of this mark in which the role [*part*] of Logos is wedded to the advent of desire" (581). At a certain point, the child begins to believe that in order for his or her demand for love to be met, he or she must actually become the phallus, the object of the mother's desire, and starts to act accordingly. But because of the inherent distance between any perceptions of the desired object and the real thing, the mother will never fully be satisfied with the child's attempts to be the phallus nor ultimately could the child ever truly be satisfied with his or her mother's satisfaction. Lacan explains in "The Signification of the Phallus,"

> If the mother's desire *is* for the phallus, the child wants to be the phallus in order to satisfy her desire. Thus the division immanent in desire already makes itself felt by virtue of being experienced in the Other's desire, in that this division already stands in the way of the subject being satisfied with presenting to the Other the real [organ] he may *have* that corresponds to the phallus, for what he has is no better than what he does not have, from the point of view of his demand for love, which would like him to be the phallus. (582)

Therefore, this dynamic continues unfulfilled, in which the child repeatedly attempts to express his or her needs, further developing language skills, and performs in various ways to try to please his or her mother, cultivating socially appropriate behaviors.

As the "law" of the father (which is not necessary connected to the biological father) intercedes in the relationship between mother and child, the child is not only forced to verbalize his or her needs, but societal prohibitions against the child's taboo desire for his or her mother force certain linguistic elements to become repressed. Thus, the unconscious is born. Psychoanalysis is the attempt to discover the metonymic elements of the signifying chain that have been denied and to retrieve them through metaphoric substitution. By recovering the subconscious associations between words through the probing of figurative language, the psychoanalyst is able to re-discover buried memories in the patient through the return of suppressed linguistic connections. Also, in "Signification of the Phallus," Lacan claims,

> What is at issue is to refind—in the laws that govern this other scene (*ein anderer Schauplatz*), which Freud, on the subject of dreams, designates as the scene of the unconscious—the effects that are discovered at the level of the chain of materially unstable elements that constitutes language: effects that are determined by the double

> play of combination and substitution in the signifier, according to the two axes for generating the signified, metonymy and metaphor; effects that are determinant in instituting the subject. (578)

When the child ultimately discovers that the mother does not possess the phallus, and therefore, cannot fulfill his or her every need, castration occurs, inevitably resulting in symptomatic or structural changes in the child's psyche. Lacan states,

> Clinical work shows us that the test constituted by the Other's desire is decisive, not in the sense that the subject learns by it whether or not he has a real phallus, but in the sense that he learns that his mother does not have one. This is the moment in experience without which no symptomatic consequence (phobia) or structural consequence (*Penisneid*) related to the castration complex can take effect. This seals the conjunction of desire, insofar as the phallic signifier is its mark, with the threat or nostalgia based on not-having [*manque à avoir*]. (582)

Thus, the individual attains a new level of autonomy with the closure of the Oedipal stage, although his or her psychological makeup has forever been altered.

Autistic children, with their inward orientation, are not as likely as other children to make a demand for love or experience desire for the Other. Often they are self-centered, in the most literal sense of the word, expecting that their needs will immediately be met. Since the autistic child is not particularly concerned with the mother's phallus, the impulse to try to be the phallus for the mother is sometimes absent. In Gennifer Choldenko's *Al Capone Does My Shirts*, Moose Flanagan compares himself to his autistic sister, Natalie, who does not exhibit an internal desire to please others. Moose admits, "Sometimes it seems easier to be Natalie. People force her to do stuff. I have to force myself" (42). Furthermore, autistic persons have difficulty to varying

degrees comprehending that other people may have thoughts different than their own and speculating what those thoughts may be. Problems comprehending a "theory of mind" can interfere with the child's ability to anticipate what his or her mother may desire, subverting attempts to be the phallus for her. In *Thinking in Pictures*, Temple Grandin describes a test designed to ascertain the degree of difficulty that autistic individuals face with this interpersonal concept:

> Uta Frith, a researcher at the MRC Cognitive Development Unit in London, has found that some people with Kanner's syndrome are unable to imagine what another person is thinking. She developed a "theory of mind" test to determine the extent of the problem. For example, Joe, Dick, and a person with autism are sitting at a table. Joe places a candy bar in a box and shuts the lid. The telephone rings, and Dick leaves the room to answer the phone. While Dick is gone, Joe eats the candy bar and puts a pen in the box. The autistic person who is watching is asked, "What does Dick think is in the box?" Many people with autism will give the wrong answer and say "a pen." They are not able to figure out that Dick, who is now outside the room, thinks that the box still contains a candy bar. (47)

Although it has yet to be proven, some neuroscientists have speculated that difficulties with "theory of mind" and other autistic symptoms, may be related to differences in mirror neurons in the brain, which allow individuals to learn new skills by mimicking the behavior of others. Inability to copy the behavior of the biological father or any other person who functions as the phallus, or object of desire, for the mother can also interfere with the autistic child's linguistic, not to mention social, development. In *Son-Rise*, Barry Neil Kaufman remembers his initial concerns regarding the potential consequences of his son's inability to imitate others: "As

he poured his energy into manipulating objects, he remained aloof and separate from people. He did not observe them. And, unlike other children, he did not imitate them. Therefore, we saw his learning would be severely curtailed and, in many instances, simply not occur at all. Language acquisition, which also depends upon listening and imitating, would be profoundly affected" (56).

There appears to be a correlation between linguistic development in persons with autism and their ability to follow societal rules. As the "law" of the father disrupts the symbiotic connection between mother and child, forcing the child to articulate his wants and needs, he or she is also subjected to social taboos regarding desire which prohibit certain behaviors. In Marti Leimbach's novel, *Daniel Isn't Talking*, Daniel's mother, Melanie, connects his disruptive behavior in front of a salesperson in a shoe store to his difficulty in communicating: "'I'm terribly sorry,' I tell her, and that is true. I am. I ought to have intervened faster, explained that Daniel is autistic, that he cannot quite abide by the rules of the world the way we can—we who have more ordinary neurology, less intrusive thoughts, more facile communication" (220). For higher-functioning persons on the autism spectrum, including those with Asperger's Syndrome, who are fully verbal, there is a high degree of dependence on following the rules in any given situation, as if the castration process, in which the child not only internalizes that he or she will never be the perfect phallus for the mother but that she in fact does not have a phallus herself, is incomplete. Temple Grandin speaks about her own reliance on social regulations, as well as those of other high-functioning autistic persons, to order her actions: "For people with autism, rules are very important, because we concentrate intensely on how things are done. I always took the rules seriously and won the confidence of my teachers. People who trust me have always been a big help. But many people have difficulty deciphering how people with autism understand

rules. Since I don't have any social intuition, I rely on pure logic, like an expert computer program, to guide my behavior" (103). Grandin has devised a system, which includes the categories "really bad," "sins of the system," and "illegal but not bad," to classify different regulations in order to ascertain which rules can be bent, or even broken, and the ones with which she must never tamper. Meanwhile, Dawn Prince-Hughes has developed her own schema for regulating her actions based on the behavior of primates, which she has been able to observe more thoroughly than other human beings. She explains in *Songs of the Gorilla Nation*, "Because I need a set of absolute rules in order to function and do what I believe is morally correct, I take as my code silverback ethics and a sense of gorilla responsibility" (218).

Momentarily setting aside the possibility of visual cognition referred to in the title of Grandin's autobiography, *Thinking in Pictures*, certain aspects of consciousness are admittedly limited in non-verbal persons with autism. In *Send in the Idiots*, Kamran Nazeer addresses the limitations to his own conscious abilities prior to his linguistic development. Nazeer writes,

> . . . the philosopher Daniel C. Dennett believed that acquiring a language is a *necessary precondition* for consciousness. Although prelinguistic children may stare intently, grasp at most things that they can reach, although they will yelp if they are hurt, they are not conscious. There is no subject to grasp these sensory data, to turn them into experiences . . . . Obviously Dennett couldn't prove this, but did I begin to make out his case? I retained hardly any details at all from the time when my language abilities were too limited to engage the stuff of the world around me. (180)

Despite her persistent difficulties with figurative language, Temple Grandin achieved a high degree of verbal proficiency by the time she reached adulthood. Even so, Oliver Sacks reports that she told him she does not have an unconscious because of differences in her physiological

and emotional makeup. Not surprisingly, Sacks, a physician, is at first incredulous of Grandin's claim but then attempts to evaluate her statement scientifically and objectively:

> . . . she does not have an unconscious, she says; she does not repress memories and thoughts, like normal people. "There are no files that are blocked. I have none so painful that they're blocked. There are no secrets, no locked doors—nothing is hidden. I can infer that there are hidden areas in other people, so that they can't bear to talk of certain things. The amygdala locks the file of the hippocampus. In me, the amygdala doesn't generate enough emotion to lock the files of the hippocampus."
>
> I was taken aback and said, "Either you are incorrect or there is an almost unimaginable difference of psychic structure. Repression is universal in human beings." But having said it, I was not so sure. I could imagine organic conditions in which repression might fail to develop, or be destroyed, or be overwhelmed. (286-7)

Differences in consciousness, rooted in varying degrees of linguistic ability, and the possible impact of physiological factors on the development of the unconscious, even in highly verbal individuals with autism, highlight the need for innovative approaches to the psychological treatment of persons with autism spectrum disorders.

Despite the important insights that an application of Lacan's registers (the Real, the Imaginary, and the Symbolic) offer for an increased understanding of autism, the efficacy of psychoanalysis, or the "talking cure," is compromised for persons on the autism spectrum, particularly for persons with limited verbal abilities. After all, Lacan posits in "The Instance of the Letter in the Unconscious" that "it is the whole structure of language that psychoanalytic experience discovers in the unconscious" (413). On several occasions in *Daniel Isn't Talking*, the fictional mother, Melanie Marsh, expresses frustration with the inadequacy of psychoanalysis to

help her autistic son, who has severe speech delays. She becomes particularly angry when she visits a government-funded clinic where the only treatment being offered for autism is based in psychoanalysis. Melanie, who believes that there is a biological basis for autism, interrogates the therapist and intern with whom she meets: "So why psychoanalyze him? Let me ask you this: would you psychoanalyze him if he had something wrong with his heart or lungs or kidneys?" (77). She points out the obvious logical fallacy in attempting to help her son talk through his feelings when he cannot even speak:

> As for charging the National Health Service a hundred pounds an hour to uselessly speculate on what might have caused a developmental crisis in Daniel, I say, "I think the taxpayers should know what you are doing here. Certainly, you're not *helping*. Why don't we use the money to find someone who can teach Daniel to *talk*? Surely even *you* can see that being mute has disadvantages."
>
> "We *do* help them to talk," says the real shrink. "We help them to say the difficult things about the way they *feel*."
>
> "Is that right?" I say. "The difficult things? Well, right now little Daniel here, who is coming up for three, cannot say 'Mama.' In fact, he can't recognize his own name in conversation as far as I can tell. I think you might find yourself hard pressed to get him to express complex phobias." (77)

Obviously, before the language of the unconscious can be probed through psychoanalysis, a certain level of verbal proficiency must develop.

Furthermore, since Lacan claims in "The Instance of the Letter in the Unconscious" that "psychoanalytic experience consists in nothing other than establishing that the unconscious leaves none of our actions outside its field," its appropriateness for individuals like Temple

Grandin, who maintains that she does not have an unconscious, despite her advanced linguistic abilities, is also questionable (428). She remembers in *Thinking in Pictures*,

> As I grew older, the people who were of the greatest assistance were always the more creative, unconventional types. Psychiatrists and psychologists were of little help. They were too busy trying to psychoanalyze me and discover my deep dark psychological problems. One psychiatrist thought if he could find my "psychic injury," I would be cured. The high school psychologist wanted to stamp out my fixations on things like doors instead of trying to understand them and use them to stimulate learning. (98-9)

Seemingly, without an unconscious, Grandin has no "psychic injuries" (although the possibility of exploring the repressed significance of visual images, like doors, via art therapy, or some other visual means, is intriguing.) Even though the implications of Kamran Nazeer's comments about psychoanalysis in *Send in the Idiots* are not quite as dramatic as those of Grandin, Nazeer also questions its efficacy for even the highest functioning persons on the autism spectrum with their advanced verbal capabilities:

> Psychologists find it difficult to help autistic individuals, for a variety of reasons. Craig and I both saw psychologists throughout our teens but we were relatively high-functioning and, though our autism was the primary reason we were referred to psychologists, being autistic also meant that we were already thinking harder than most teenagers about how we related to other people and why we acted the way we did. (157-8)

With their penchant for logic over emotion, even individuals with milder versions of autism, including Asperger's Syndrome, are likely to already be analyzing their problems with social interactions in search of solutions.

While psychoanalysis does not appear to be the most effective treatment for most individuals on the autism spectrum, another branch of psychology, behavioral psychology, has been successful in stimulating the desire of lower functioning persons on the autism spectrum to perform a number of important developmental tasks with the ultimate goal of facilitating their linguistic progress. Melanie Marsh, the main character in *Daniel Isn't Talking*, addresses the concerns her own psychoanalyst, Jacob, has regarding her treatment choices for her son Daniel, who has recently been diagnosed with autism:

> Jacob is not a fan of this new therapy idea for Daniel. Behavioral psychology conjures up for him the idea of mild electrical currents and boxed rats. He keeps asking me how this is going to affect Daniel's emotional health if his mother is constantly challenging him to produce sound, holding out a chip of chocolate as a reward for his efforts. Better than what his emotional state will be if he goes through the world unable to speak or understand, is my fast reply. (136)

Behavior modification techniques have drawn criticism because they are believed to impose certain behaviors onto the autistic child against his or her will. James I. Charlton comments in "The Dimensions of Disability Oppression" that "It is possible to identify numerous ways that students with disabilities are controlled and taught their place . . . behavior modification for emotionally disturbed kids, training skills without knowledge instruction for significantly mentally retarded students and students with autistic behavior" (223). However, earlier methods involving shock therapy and other aversive techniques have lost favor in the autism community, as they have in other areas of psychological treatment. Recent interventions for autistic children based in behavioral modification are geared toward stimulating desire through the use of positive reinforcers. Temple Grandin describes the Lovaas techniques, developed at UCLA in the 1960s,

upon which most behavioral interventions that are now used with autistic children are based. She explains, "The Lovaas method pairs words with objects, and the children are rewarded with praise and food when they correctly match a word with an object" (53-4).

Discrete trial, an alternate name for the Lovaas approach, breaks the requested task down into smaller steps in order for the autistic mind, with its tendency towards fragmentation, to grasp them. In *Understanding the Mystery of Autism and Pervasive Developmental Disorder*, Karyn Seroussi initially hesitates to use discrete trial, "the 'behavior modification' that [she] had thought sounded so distasteful," with her autistic son Miles, but eventually discovers it to be "humane, surprisingly simple, and remarkably elegant." Seroussi explains, "The concept behind discrete trial teaching is to break down behavior into small increments, and teach them in small, discrete trials. Each skill must be mastered before moving on to the next one" (47). This "errorless learning" provides a strong foundation for progress. Offering a concrete reward presents a tangible incentive for the autistic person who has difficulty with object permanence. Cara, the main character in Cammie McGovern's novel *Eye Contact*, recalls the advances her autistic son, Adam, made when presented with edible reinforcers: "Before this he had never put more than three words together, and then he only did it with prompts and rewards, marshmallows and gummy worms, when he found his words and got them out" (19). Even after he has outgrown discrete trials, Stephen Wiltshire, an autistic savant and accomplished artist, seems to operate according to that paradigm. Oliver Sacks describes Stephen's motivation during his newly commenced music lessons in the chapter devoted to him in *An Anthropologist on Mars*: "He seemed hungry for more. 'Let's do sevenths now,' Evie said, and Stephen nodded and chortled as if he had been promised a chocolate" (238).

Applied Behavioral Analysis (ABA), of which the Lovaas program is one form, figures prominently in Marti Leimbach's *Daniel Isn't Talking*. As previously discussed, Melanie Marsh initially enjoys the "parasitic" relationship that she has with her son Daniel, but she eventually becomes concerned when he does not begin to detach from her as a toddler. After reading a book on ABA, Melanie takes away Daniel's favorite toy, interfering with the expectation that his needs will automatically be met. She then models the word that Daniel will need in order to express his desire for the object: "The only way I can get him to pay any attention to me at all is by stealing his Thomas the Tank Engine and holding it above my head. When finally he stops screaming and lunging for Thomas, I put a car on the little plastic table in front of us, and say 'car,' and put his hand on it. Then I let his hand go and I give him the train as a reward" (113). Melanie begins to use a variety of reinforcers, withholding the preferred item until the requested task has been performed. She also uses discrete trial methods, dividing every activity into manageable portions to counter problems with sequencing. Melanie explains, "'You motivate them by using whatever they like: chocolate, toys, whatever. And you break down every goal into tiny chunks'" (122).

Perhaps unexpectedly, there is a love story at the heart of *Daniel Isn't Talking*. When Melanie's husband, Stephen, cannot cope with Daniel's autism diagnosis, he leaves her for a former lover. Over time, Melanie develops feelings for Daniel's play therapist, Andy, who eventually takes on a fatherly role in the lives of her children. Andy functions as the "name" of the father both as the object of Melanie's desire and with the additional ABA techniques that he teaches her. When Daniel begins to seek out Melanie's attention, she requires that he actually say her name before his demand for love is satisfied. Melanie explains, "He must say 'Mama' if he wants my attention. Tugging at my hand without the essential word will get him nowhere. When

he says 'Mama,' however, I pick him up, twirl him, let him lead me wherever he cares to go" (135). Daniel's relationship with his mother eventually becomes one of reciprocity rather than symbiosis. He attempts to act as the phallus for his mother, performing the task that she desires, in hopes that he will receive the toy that he desires, the phallus that his mother controls. Melanie describes Daniel's efforts:

> And when he completes the entire puzzle, out comes a battery-operated Thomas with a headlamp, which goes like blazes across the wooden floor. This battery-powered version only comes out at the end of the puzzle—it's a "reinforcer,"which means that it is only used during therapy sessions. Daniel loves it. He grins with anticipation throughout the whole process of making the puzzle. (147-8)

Melanie successfully uses ABA techniques to undo the symbiotic connection with her son and to help Daniel develop ways of getting his own wants and needs met.

Although Applied Behavioral Analysis is a relatively new term, the basic principles have been used to work with autistic individuals in the past. Barry Neil Kaufman's first person narrative *Son-Rise*, originally written in the 1970s, describes the process of designing an intervention program. Kaufman worries about the traditional operant conditioning techniques about which he has read: "I studied behavior modification, whose proponents ignore causality and meaning in favor of restructuring these children's lives by designing a thorough and complex system of rewards and punishments. Was theirs an exercise in robotizing these children?" (23). Rather than impressing the therapist's will on the child, Kaufman favors a "child-centered" approach in which the child's curiosity is cultivated in order to entice him or her to emerge from his or her own unique inner world to explore the outer one:

> But we did not want just to train Raun or robotize him or to use force or the threat

> of punishment as others before us had tried to do rather unsuccessfully with other youngsters like him. We wanted to draw out the sap, to fertilize the seed, and watch it flower and bear fruit. We wanted to allow him his own personal dignity and encourage him to discover his own enriching garden. We wanted to help him reach the limits of his own possibilities, not impose on him standards from outside. (61-2)

Kaufman is reluctant to force his son to participate in the world at the risk of traumatizing him. His version of behavioral intervention involves making connections with his son that will generate Raun's desire to go beyond himself: "Hopefully, we could open some windows to his world and provide new opportunities. But Raun would have to generate his own fuel, his own wanting. To venture outside himself into a less charted and less predictable environment would require such daring and deep, deep motivation" (63).

Kaufman realizes that the first step for his son includes both disrupting the expectation that his needs will be met effortlessly and establishing the most basic form of communication, eye contact. Kaufman and the rest of Raun's intervention team, which is comprised of both family members and volunteers, briefly withhold bites of food from Raun until he makes eye contact with them They also model the word that Raun will need to use to express his desire for food in the future:

> We would always feed him now with our eyes at the level of his, creating more opportunities for him to look directly at us. Each time we put food into a spoon, he watched the process and followed the food as we moved it. We brought the spoon to our face and held it for a few seconds in front of our eyes. As he looked past the food at our gaze, we looked back at him and smiled, saying "eat" and then giving the food to him. We viewed these moments of contact as critical. Additionally, we wanted to demonstrate

> our usefulness in helping him to nourish himself. Each meal meant about thirty eye contacts—thirty opportunities for him to find us through his maze. (68)

Kaufman hopes that his son will begin to make the connection between gaining the attention of his caregivers and getting his desires met. Kaufman states, "We wanted to show him that he could manipulate people to get more of what he wanted—show him that wanting, in itself, could be productive and fun" (73).

Raun's mother, Samahria, utilizes a "sabotage" technique, commonly used by speech therapists, when she pretends not to understand that Raun wants something to drink. Once Raun works through his frustration that his mother will not automatically satisfy his needs, he offers the verbal approximation for water that his mother has modeled for him:

> Raun stood by the sink crying. Samahria talked to him. She showed him the spoon, then a fork, then the sponge, and finally an empty glass. Raun, each time, reacted by crying more intensely. Finally, she filled the glass with water and gave it to him. As he settled down, Samahria said, "Water, Raun. Here's 'wa.' Say 'wa,' Raun. Here it is, 'wa.'"
>
> Raun gulped it down. Later in the day, he returned to the same spot and started the same procedure once again. Samahria acted out her usual confusion. Raun persisted. The intensity of his crying grew. Samahria knelt beside her son, loving him as she watched him contort his face and press his fingers to his lips.
>
> "What do you want, Raun? C'mon honey, tell me. What do you want?"
>
> Suddenly, twitching his eyes as if he were harnessing all the strength and power in him, Raun blasted a word through his vocal chords and filled the room with his clear and loud voice. The little boy, who the experts said would never talk in a meaningful way,

> shouted: "WA." (139)

Raun's success marks his entry into the Symbolic realm. Although Raun does not articulate the entire word, his utterance exhibits an understanding of speech as a way to communicate desire and a willingness to reach outside of himself to do so.

From this point forward, Raun's parents and other caregivers continue to attempt to harness his desire, offering both edible and non-edible reinforcers in order to motivate him to perform requested tasks. However, the choice whether or not to participate always belongs to Raun:

> Raun propelled himself forward, motivated from within. He initiated a major portion of his contact with us in all his sessions. During the times when he withdrew or became preoccupied, we reverted to using food as a stimulus. However, in many instances, we used secondary pleasures as a lure to involve him. Often, noting that he loved to jump on our home trampoline, to be tickled, and to go on excursions outside the session room, we would suggest the possibility of doing one of these activities as a trade for his participation in a learning sequence with words, numbers, or colors. He could then decide whether he wanted to involve himself in the activity we proposed. Most often, he participated immediately. Occasionally, he remained aloof. (148)

The consideration Kaufman shows for Raun's wishes results in a greater demand for his father's loving attention. He notes regarding his son, "His solicitation for physical interaction and contact increased daily. More piggyback rides, jumping up and down, more tickling and rolling together on the bed" (177). Kaufman's approach to behavioral modification, the Son-Rise program created for Raun and since used with countless other children with autism, shows an unusual degree of respect for each child and his or her unique potential.

Autism texts allow the psychoanalytic scholar to observe more closely the Lacanian registers as they unfold over an extended period of time in the lives of individuals with developmental delays. Conversely, a Lacanian analysis of autism texts can help the reader to better understand commonly used metaphors for autistic behavior. Admittedly, there are differences in the way that autistic individuals travel down the developmental course, which can include both forward and backward movement as progression is sometimes mixed with regression. Furthermore, according to their level of functioning, autistic persons do not necessarily complete the entire developmental sequence. However, the developmental stages that they do experience roughly equate with the Lacanian registers, and following the advancement of children with autism as they emerge to varying degrees from the undefined Real, experience the Mirror Stage, and then potentially make the symbolic leap into language proves that autistic persons are on the same developmental path as other human beings as they journey through life.

"Animals and Machines: Haraway and the Autistic Mind"

Eighteenth-century thinkers, including Jean-Jacques Rousseau, were fascinated by seemingly feral children. The most famous of these children was the "Wild Boy of Aveyron," who was later given the name Victor. Kamran Nazeer describes Victor in his non-fiction account of autism, *Send in the Idiots*:

> The "Wild Boy of Aveyron," named Victor after he was found, was one of the most famous—though, according to Ira, "dubious"—examples of a feral child. He was discovered in the late eighteenth century in the forests of Aveyron, France, and became a fixture in the royal court. There are accounts of state occasions where he bounded around the room, shed his clothes, climbed trees, and gulped berries from shrubs on the grounds. He had no manners and conception of them. (209)

David T. Mitchell and Sharon L. Snyder, in "Compulsory Feral-ization: Institutionalizing Disability Studies," attribute this fascination with the feral child to both Romantic notions of the individual as a blank slate until influenced by culture and early theories of evolution, which first posited that human beings were derived from animals. Mitchell and Snyder explain,

> This savage existence represented the opportunity to test out the Romantic notion of individuals as blank slates—a surface on which culture inscribed itself in shaping a self. The Wild Boy, who was later named Victor by Itard because of the boy's presumed pleasure at hearing the sound of the vowel *o*, promised to solidify pre-Darwinian theories of evolution that premised humans as derived from animals. (628)

Recently, disability experts have argued that feral children were actually children with developmental delays who were abandoned by families unable to properly care for them. Nazeer

defers to the opinion of Ira, the former director of the school program he attended for autistic students:

> Ira also believed that stories about feral children were stories about children with developmental disorders. However, these were not children who grew up in the wild and therefore had developmental problems; they were children who were left in the wild because of their difficulties. Parents despaired, led them into the woods, departed, and the accounts that we have of feral children are accounts of those children who survived long enough to be found; many more of these so-called feral children will have perished, she conjectured, stabbing at the air with her fingertips, usually within days of being abandoned. (202)

According to this theory, Victor, the "Wild Boy of Aveyron," was most likely an autistic child who had been abandoned in the forest by his family only to meet an unlikely fate as a source of entertainment and speculation at the royal court.

Disability studies activists have taken up the theme of feralization for a number of reasons. Mitchell and Snyder caution medical and educational practitioners against insisting that the disabled individual recognize his or her shortcomings, something of which the developmentally delayed or cognitively impaired may not always be aware, and attempting to fix what the person with disabilities does not necessarily want to have fixed. Using Victor as their example, Mitchell and Snyder report,

> What became immediately obvious. . . was that there existed considerable distance between Victor's desires and those of the diagnostic institution. As the Jamaican writer Michelle Cliff explains in her essay "A Journey into Speech" (1988), "I felt, with Victor, that my wildness had been tamed—that which I had been taught was my wildness"(57).

> In other words, Victor not only was being trained in the manners and customs of the moderns but also was being taught his savagery—a barbarism that he had not recognized before his ingestion in the classification of feral. (630-1)

At the same time, Mitchell and Snyder warn scholars in the developing field of disability studies against lashing out from a theoretical distance at those same professionals who attempt to offer practical assistance on a daily basis to the disabled. The authors equate this form of criticism with "biting the hand that feeds," illustrating their point with an incident from Victor's life in which he literally bit the hand of Jean Itard, the scientist who tried to work with him, out of frustration:

> Here we come directly into contact with the advent of compulsory feral-ization—as with disability culture, disability studies must be tamed because it is undisciplined and, as one *New York Times* article put it, would "bite the hands that would feed [it]" (Martin). In fact, Newton tells a story where Victor grows so frustrated by his efforts to have his desires recognized as legitimate that he viciously bites Itard's hand in a moment of rage (125). (632)

Perhaps the balanced (and most fair) approach involves helping disabled individuals develop ways to get their own wants and needs met, rather than creating extraneous expectations for them to meet.

Given the historical precedent, it is potentially shocking to hear the character Melanie Marsh refer to her autistic son, Daniel, as having "seemed at times as feral as a wolf boy" in Marti Leimbach's novel *Daniel Isn't Talking* (207). However, Donna Haraway argues in "A Manifesto for Cyborgs" that in recent decades the line between people and animals has become blurred:

> By the late twentieth century in United States scientific culture, the boundary between human and animal is thoroughly breached. The last benchheads of uniqueness have been polluted if not turned into amusement parks—language, tool use, social behavior, mental events, nothing really convincingly settles the separation of human and animal. And many people no longer feel the need of such a separation; indeed, many branches of feminist culture affirm the pleasure of connection of human and other living creatures. Movements for animal rights are not irrational denials of human uniqueness; they are clear-sighted recognition of connection across the discredited breach of nature and culture. (10)

Developmental disabilities, like autism, provide an important opportunity to explore the relationship between people and animals. Furthermore, acknowledging the interconnectedness between humans and other living beings counters perceptions of autism as a totally isolating disorder.

Animal imagery is frequently used to portray individuals on the autism spectrum. In Sue Miller's novel *Family Pictures*, Randall Eberhardt's father, David, becomes frustrated by his pubescent son's need for toileting assistance in the middle of the night. Miller writes, "he felt incapable of any more patience or tenderness. And it wasn't that he was angry at Randall or blamed him. In so many ways he was the same sweet animal-child he'd always been. His clubbed penis, his beard, his pubic hair, all were like terrible accidents that had happened to him" (247). When Randall's parents are too old to care for him properly and must place him in an institution, his mother, Lainey, regrets betraying her son. Miller depicts Lainey's remorse as the mother and son wait for the train, which will permanently take him away from the only home he has ever known:

> She cried because he seemed like a trusting, cheerful pet who's being taken to the pound and understands nothing of that.
>
> He was holding Lainey's hand as they stepped out into the soft spring air, and he barked joyfully at the sound of a train rattling past. (253)

Barry Neil Kaufman discusses the parallels between his autistic son, Raun, and his initially untrained horse, Kahlil, in his personal memoir *Son-Rise*. Raun's middle name is actually Kahlil, after his father's beloved animal. Kaufman reflects on their similarities with appreciation during an afternoon ride:

> Once he was harnessed, I found in Kahlil more than I had ever imagined—a lightning spirit and old soul character with the freedom and daring to live energetically in the springtime of his life. Consistent with nature. And now, how odd to find much of this horse in my special son. Like this statuesque animal, Raun too had a profound beauty that others judged problematic and wanted to discard. Parallels.
>
> When I bought him, Kahlil was barely saddle broken. His only obvious talent was his capacity to go forward at great speeds. Although not an accomplished rider, I trained him myself. I wanted us to learn together. After I had read about eighteen books on the subject, we began slowly and with great difficulty. Even the stable owner and his wife, who helped me, felt Kahlil was a different and difficult animal, not easily controlled. But when he looked at me with his exotic eye, I saw his beauty and sensitivity. Echoes of the future. One day, when my special son would look at me, instead of noticing what others call different and difficult, I would see the beauty and sensitivity I had learned to see in Kahlil. (145-6)

Oliver Sacks's description of Temple Grandin in his collection of medical narratives, *An*

Anthropologist on Mars, leads to a comparison between her earliest autistic behaviors and those of a "trapped animal." The sensitivity, which Kaufman calls "beautiful" in his son Raun, stands in sharp contrast to the heightened sensations that Sacks refers to as "excruciating" for Grandin, causing her to "claw" at her own mother:

> At six months, she started to stiffen in her mother's arms, at ten months to claw her "like a trapped animal." Normal contact was almost impossible in these circumstances. Temple describes her world as one of sensations heightened, sometimes to an excruciating degree (and inhibited, sometimes to annihilation): she speaks of her ears, at the age of two or three, as helpless microphones, transmitting everything, irrespective of relevance, at full, overwhelming volume—and there was an equal lack of modulation in all her senses. (254)

Grandin draws upon parallels between herself and animals in both her career designing livestock handling facilities and in her autobiography, *Thinking in Pictures*.

Grandin claims to think primarily in pictures rather than in words. She explains to Sacks the usefulness of this trait when working with animals, who do not think in language, either. Sacks records part of his conversation with her in the final chapter of *An Anthropologist on Mars*: "'If you're a visual thinker, it's easier to identify with animals,' she said as we drove to the farm. 'If all your thought processes are in language, how could you imagine that cattle think? But if you think in pictures . . . '" (266). In his foreword to Grandin's first-person narrative about life with autism, *Thinking in Pictures*, Sacks describes her "cow's eye view," which also happens to be the title of a later chapter. While Grandin also sees similarities between her thought process and a computer (more about this later), Sacks emphasizes her more "organic" qualities:

> She feels that "thinking in pictures" gives her a special rapport with cattle, and that her

> mode of thinking is, albeit at a much higher level, akin to their own mode of thinking—that she sees the world, in a sense, with a cow's eye. Thus though Temple often compares her own mind to a computer, she roots herself, and her own way of thought and feeling, in the creaturely and the organic. (16)

Grandin recalls the lengths that she went to when she first began working with cattle to discover potentially frightening aspects of their experiences at the stockyards:

> I credit my visualization abilities with helping me understand the animals I work with. Early in my career I used a camera to help give me the animals' perspective as they walked through a chute for their veterinary treatment. I would kneel down and take pictures through the chute from the cow's eye level. Using the photos, I was able to figure out which things scared the cattle, such as shadows and bright spots of sunlight. (20)

Grandin's career depends not only on the strong visualization skills that she shares with cattle but also on similarities in their sensory processing.

Grandin presents herself in *Thinking in Pictures* as a highly logical person, yet she claims to feel empathy for the cows with which she works, an empathy based in similar ways of processing sensory information. Much of her success designing humane handling equipment for cattle can be attributed to her ability to tap into their pain and suffering, while not getting overwhelmed by her own emotions, when visiting different livestock facilities:

> However, I am not just an objective, unfeeling observer; I have a sensory empathy for the cattle. When they remain calm I feel calm, and when something goes wrong that causes pain, I also feel their pain. I tune in to what the actual sensations are like to the cattle rather than having the idea of death rile up my emotions. My goal is to reduce suffering

> and improve the way farm animals are treated. (92)

In large part, Grandin connects her ongoing struggles with anxiety to her hypersensitive hearing. She believes that in both regards she may more closely resemble animals that are hunted in nature, like cows, than other human beings. Therefore, Grandin is able to listen for sounds that might startle the cattle and eliminate them: "Being autistic has helped me to understand how they feel, because I know what it is like to feel my heart race when a car horn honks in the middle of the night. I have hyperacute senses and fear responses that may be more like those of a prey-species animal than of most humans" (155). Grandin compares the similar reactions between children on the autism spectrum and cattle when the placement of an object in their environment is disturbed. Both autistic individuals and cows rely on neatness in their surroundings to keep their inner world in order:

> The reaction of cattle to something that appears out of place may be similar to the reaction of autistic children to small discrepancies in their environment. Autistic children don't like anything that looks out of place—a thread hanging on a piece of furniture, a wrinkled rug, books that are crooked on the bookshelf. Sometimes they will straighten out the books and other times they will be afraid. (146)

Grandin also addresses the tactile sensitivities that both autistic individuals and animals can share. She discusses the use of mild pressure as a means of desensitizing both groups:

> The application of physical pressure has similar effects on people and animals. Pressure reduces touch sensitivity. For instance, gentle pressure on the sides of a piglet will cause it to fall asleep, and trainers have found that massaging horses relaxes them. The reactions of an autistic child and a scared, flighty horse are similar. Both will lash out and kick anything that touches them. Wild horses can be desensitized and relaxed by

pressure. (83-4)

In fact, Grandin has used her engineering skills to build a piece of equipment to soothe herself, which she refers as her "squeeze machine." When Grandin lies down in the apparatus, she is comforted by the uniform pressure that is applied to her entire body. The design for this therapeutic device is based on similar chutes, which cattle pass through as they make their way through a handling facility. Grandin remarks, "My connection with these animals goes back to the time I first realized that the squeeze machine could help calm my anxiety. I have been seeing the world from their point of view ever since" (142). Grandin sums up the sensory similarities between cows and people with autism for Oliver Sacks. In *An Anthropologist on Mars*. Grandin makes auditory, visual, and tactile comparisons:

> "Cattle are disturbed by the same sorts of sounds as autistic people—high-pitched sounds, air hissing, or sudden loud noises; they cannot adapt to these," Temple told me. "But they are not bothered by low-pitched, rumbling noises. They are disturbed by high visual contrasts, shadows or sudden movements. A light touch will make them pull away, a firm touch calms them. The way I would pull away from being touched is the way a wild cow will pull away—getting me used to being touched is very similar to taming a wild cow." (265)

These sensory processing parallels, between autistic individuals and cattle, also create similar psychological responses.

Oliver Sacks is struck by the placement of two badges, representing Grandin's diverse professional affiliations, next to each other on an initial visit to her home to interview her for a chapter of *An Anthropologist on Mars*. He comments when Grandin takes him on a tour of her house:

> I was amused to see, side by side, an I.D. from the American Meat Institute and one from the American Psychiatric Association. Temple has published more than a hundred papers, divided between those on animal behavior and facilities management and those on autism. The intimate blending of the two was epitomized by the medley of badges side by side. (262)

Grandin explores the psychological resemblances between individuals on the autism spectrum and different types of animals in *Thinking in Pictures*. She has experienced panic attacks much of her adult life, which only recently have been adequately controlled through medication, and attributes this problem to a hyperawareness of her surroundings, similar to many animals that would be classified as prey. She states, "I now realize that because of the autism, my nervous system was in a state of hypervigilance. Any minor disturbance could cause an intense reaction. I was like a high-strung cow or horse that goes into instant anti-predator mode when it is surprised by an unexpected disturbance" (111). Because autistic persons often exhibit repetitive behaviors similar to individuals diagnosed with obsessive-compulsive disorder, Grandin refers to Judith Rapoport's book about that condition, in which recurring actions are connected to outmoded animal impulses. Grandin paraphrases, "Judith Rapoport suggests in *The Boy Who Couldn't Stop Washing* that obsessive-compulsive disorders, where people wash their hands for hours or repeatedly check whether the stove is off, may be the result of an activation of old animal instincts for safety and grooming" (94). Autism is often noted for its lack of emotional affect. However, Grandin speculates, "Sometimes I think my emotional life may appear more similar to those of animals than humans, because my feelings are simpler and more overt, and like cattle, I have emotional memories that are place-specific" (92).

Dawn Prince-Hughes also shares her difficulties with anxiety in *Songs of the Gorilla Nation*, which partly explain why she identifies so much with the gorillas with whom she works. Prince-Hughes claims, "I have often felt like them: an anxious animal in a zoo" (224). Prince-Hughes's descriptions of herself as a child make her sound as if she were at least partially feral. Ironically, it is through observing the social structures of gorilla communities that she is able to learn to fit into a group. She opens her autobiography with a synopsis of her story: "It is about how I moved full circle from being a wild thing out of context as a child, to being a wild thing in context with a family of gorillas, who taught me how to be civilized. They taught me the beauty of being wild and gentle together and as one" (1). Prince-Hughes's career as an anthropologist working with primates allows her the opportunity to stare directly at other living beings as they interact and to piece together analytically the social expectations that allude her intuitively. She portrays her earliest experiences at the zoo observing the gorillas: "They were so subtle and steady that I felt like I was watching people for the first time in my whole life, really watching them, free from acting, free from the oppression that comes with brash and bold sound, the blinding stares and uncomfortable closeness that mark the talk of human people" (93). Prince-Hughes remembers an earlier "relationship" with a herd of untamed horses that she would spend hours watching as a child after a traumatic move. She recalls, "After the move the only redeeming thing that stands out about this time was a herd of old Morgan horses that had been let go to roam wild in the hundred acres across the road from the trailer. My relationship with them and the emotional sustenance it gave me was a foreshadowing of the closeness I later had with the gorillas" (49). The pivotal moment in Prince-Hughes's life occurs after she has received adequate training to work directly with the gorillas. One day, as she is placing pieces of fruit on a ledge, between the bars of a cage, for an impressive male gorilla named Congo to eat, she is not

fast enough for his liking, and Congo grabs her finger, looking into her eyes, and her life changes in an instant: "A gorilla touched me, and I connected to a living person as I had never done before" (5). She remembers, "*This is what it is,* I thought. *This is what it means to love and be loved. This is what it is to touch and look at another person and feel its meaning. This is what it is to not be alone in the vastness of the space we hurtle through among the coldness and the dying. This is what it is to live*, I thought" (6).

Christopher Boone, Mark Haddon's main character in *The Curious Incident of the Dog in the Night-time*, also struggles with social interactions as a teenager with Asperger's Syndrome. When a dog is mysteriously killed in his neighborhood, Christopher sets out to solve the crime and is inspired to write a novel about the situation. Christopher is drawn to the relative simplicity of interactions with dogs rather than interacting with other human beings. He explains their four basic dispositions: "I like dogs. You always know what a dog is thinking. It has four moods. Happy, sad, cross and concentrating. Also, dogs are faithful and they do not tell lies because they cannot talk" (3-4). Because Christopher has great difficulty reading other people, he is not always sure whom he should trust. He prefers the relative loyalty and straightforward behavior of canines: "I also said that I cared about dogs because they were faithful and honest, and some dogs were cleverer and more interesting than some people" (6).

Because animals play such an important role in her life, Temple Grandin must account for them in her spiritual musings. She discusses her beliefs with Oliver Sacks in *An Anthropologist on Mars*. "Later, Temple told me that she believed in some sort of existence after death (even if it was only as 'an energy impression' in the universe). Intensely conscious of animals' emotions, their 'humanity,' she had to grant them some sort of immorality, too" (279). Sacks relates in his foreword to Grandin's autobiography, *Thinking in Pictures*, "for Temple,

clearly, there is a continuum of experience extending from the animal to the spiritual, from the bovine to the transcendent" (16). Ever the scientist, Grandin incorporates quantum physics into her ideas about life after death. In the last chapter of her personal narrative, Grandin discusses her logical approach to metaphysical matters, applying her conclusions not only to human beings but to all living creatures. She postulates, "If quantum theory really is involved in controlling consciousness, this would provide a scientific basis for the idea that when a person or animal dies, an energy pattern of vibrating entangled particles would remain" (201). Grandin approaches her job designing equipment for stockyards with great reverence and places her career into a larger context of traditional slaughter practices. She writes in the concluding passage of her narrative:

> Almost all cultures have slaughter rituals. When you read a modern English translation of Deuteronomy and Leviticus, it becomes obvious that the temple was also the town slaughterhouse. American Indians showed respect for the animals they ate, and in Africa the use of rituals limited the number of animals killed. In the book *The Golden Bough*, J. G. Fraser describes slaughter rituals practiced by the ancient Greeks, Egyptians, Phoenicians, Romans, and Babylonians. Both Judaism and Islam have detailed slaughter rituals. Killing is kept under control because it is done in a special place, according to strict rules and procedures.
>
> I believe that the place where an animal dies is a sacred one. There is a need to bring ritual into the conventional slaughter plants and use it as a means to shape people's behavior. It would help prevent people from becoming numbed, callous, or cruel. The ritual could be something very simple, such as a moment of silence. In addition to developing better designs and making equipment to insure the humane treatment of all

> animals, that would be my contribution. No words. Just one pure moment of silence. I can picture it perfectly. (206)

Grandin's spirituality, which does not directly equate with any one religion, draws from many different traditions. She correlates quantum physics largely with the Hindu concept of karma. Therefore, she tells Oliver Sacks in *An Anthropologist on Mars* that she makes a point of always behaving morally when she enters a facility where animals are being killed, "'You've read about action at a distance, or quantum theory,' she said. 'I've always had the feeling that when I go to a meat plant I must be very careful, because God's watching. Quantum theory will get me'" (296).

Dawn Prince-Hughes's spiritual beliefs are also shaped by her interactions with animals. She relates in *Songs of the Gorilla Nation* how working with gorillas led her to a deeper understanding of her own repetitive actions, common among autistic individuals. She explains the different purposes that ritualistic behaviors can serve:

> Later, while observing the gorillas, I began to understand ritual and its power a bit more. I had had the advantage of watching my gorilla family in ritual activity, sometimes as a reaction to their confinement but often born of a spiritual, an aesthetic, even an educational need. At this time I learned the value and beauty of ritual. When I was a child, however, it was just an annoyance for my family. (19)

When Prince-Hughes is led for the first time behind the closed doors of the gorilla enclosure, into an area for employees only, she is struck by the profound importance of what will be her first direct interaction with the gorillas. She recalls her deep sense of awe: "I felt as though I were being led to see some wondrous things, like the bones of the first person or the first evidence of other life in the universe. It was holy" (109). Prince-Hughes's beliefs could most accurately be described as mystical. Mysticism provides both the motivation to go beyond her

own autistic isolation to commune with the sacredness in the world around her, while still honoring her impulses to withdraw into her own rich inner world. Prince-Hughes has been inspired by the spiritual habits of the gorillas:

> I had never been a religious person. I felt uncomfortable in most churches, finding no comfort in those buildings. Perhaps, I thought after watching these gorillas and coming to love them and learn from them, I needed to expand into God rather than being enclosed by a church. On reflecting upon gorilla ritual, I realized that my conception of God—as a great spirit living in things that could absorb me as I flung myself outward—was probably much the same as a gorilla's experience of God.
>
> A God that can contain you as you expand into tree, sky, and rain can certainly draw your being into a pinpoint of concentration. The expansive and the tiny—we are made in its image. It is our nature.
>
> I was familiar with the spirit that drew me in. I had long been criticized for my ability to close the world off and focus my mind like a laser. I learned to admire the gorillas' ability to focus with the same intensity at times, and therefore I began to feel positively about this ability in myself. There is a certain beauty in seeing, as the saying goes, the universe in a grain of sand. There is also beauty in seeing a tiny universe, ripe with possibilities, unfold before you. (152-3)

Dawn Prince-Hughes sees numerous parallels between the spiritual practices of human beings and gorillas because she perceives them both to be innate primate behavior.

Dawn Prince-Hughes's identification with gorillas goes beyond her intellectual awareness that they are a related biological species to humans. Prince-Hughes believes that gorillas are people too. She portrays her initial amazement (and excitement) in *Songs of the*

Gorilla Nation on this realization. "I noticed how alike the gorillas and I were. Sometimes I was filled with joy, and I wanted to shout, 'There are other real and gentle people among us! Human people are not alone! Look! Look!'" (94). Prince-Hughes's understanding of herself includes not only an awareness that she is a primate but also the idea that she is a gorilla too. Her work with these animals fits into a larger journey of self-discovery: "I wanted to know myself both as a person and as a primate, both as a free and as a trapped thing, both as a gorilla and as a human person wanting to know gorillas" (96). Prince-Hughes's work with primates has led to her role as an activist for their preservation. Part of her strategy is to convince other human beings that apes match the definition of what it means to be a person. She asserts,

> As I hope I have shown in the story of my personal transition, apes fulfill all of the criteria that currently define personhood: self-awareness, comprehension of past, present, and future; the ability to understand complex rules and their consequences on emotional levels; the ability to choose to risk those consequences, a capacity for empathy, and the ability to think abstractly. (206)

The dividing line for Dawn Prince-Hughes between humans and animals is pleasantly blurred.

Other autism texts address the futility of trying to maintain clear definitional categories. Christopher Boone's preference for logic at all times leads him to different spiritual conclusions than Dawn Prince-Hughes in Mark Haddon's novel, *The Curious Incident of the Dog in the Night-Time*. However, his views about human beings and animals closely resemble hers. Christopher speculates, "And people who believe in God think God has put human beings on the earth because they think human beings are the best animal, but human beings are just an animal and they will evolve into another animal, and that animal will be cleverer and it will put human beings into a zoo, like we put chimpanzees and gorillas into a zoo" (165). Oliver Sacks is baffled

by Stephen Wiltshire, the autistic savant that he portrays in *An Anthropologist on Mars*. Stephen is able to produce amazingly accurate mimetic representations both artistically and musically. He also engages in echolalia occasionally, mindlessly repeating words and phrases around him. Sacks feels that any terms that he could use to describe Stephen are ultimately inadequate: "Stephen is neither an ament, nor a computer, nor a *Homo erectus*—all our models, all our terms, break down before him" (241). Donna Haraway presents this lack of definitional clarity as a positive development in her most famous work, "A Manifesto for Cyborgs": "This essay is an argument for *pleasure* in the confusion of boundaries and for *responsibility* in their construction" (8). Haraway believes that, paradoxically enough, by honoring our widespread connections to both animals and machines we might develop a more humane worldview. This acknowledgement of our interrelatedness is for Haraway essentially feminine: "Perhaps, ironically, we can learn from our fusions with animals and machines how not to be Man, the embodiment of Western logos. From the point of view of pleasure in these potent and taboo fusions, made inevitable by the social relations of science and technology, there might indeed be a feminist science" (31).

Haraway's major contribution to the critical field is her conception of the cyborg. She situates the term in relation to both the human and the animal. She writes in her manifesto, "The cyborg appears in myth precisely where the boundary between human and animal is transgressed. Far from signaling a walling off of people from other living beings, cyborgs signal disturbingly and pleasurably tight coupling" (10). Haraway takes the significance of the cyborg beyond apocalyptic scenarios. The cyborg now stands for an acceptance of incomplete and multi-faceted notions of selfhood:

From one perspective, a cyborg world is about the final imposition of a grid of control on

> the planet, about the final abstraction embodied in a Star War apocalypse waged in the name of defense, about the final appropriation of women's bodies in a masculinist orgy of war. From another perspective, a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints. (13)

Haraway's cyborg offers a new freedom from traditional and limiting perceptions of ourselves. Haraway presents the cyborg as a means of disrupting old binaries: "Cyborg imagery can suggest a way out of the maze of dualisms in which we have explained our bodies and our tools to ourselves" (39).

Rosemarie Garland Thomson turns to Donna Haraway in her discussion of physical disability in *Extraordinary Bodies*. Thomson asserts that often for the disabled person the idea of a cyborg identity is not merely symbolic but a lived reality. Thomson points out that with the use of various prosthetics the disabled person's life can become intertwined with technology:

> Whereas the notion of a hybrid self might act as a guiding metaphor for those who consider themselves nondisabled, for people with disabilities such hybridization is often consonant with actual experience. The disabled person always fuses the physically typical with the physically atypical. The disabled body is also often merged with prosthetics such as wheelchairs, hearing aids, or white canes. (114-5)

In the preface to *Embodied Rhetoric*, James C. Wilson and Cynthia Lewiecki-Wilson explore the various roles that technology can play in practical arguments about disabled experience. Technology in this situation can mean anything from universal design elements, which can render public places more accessible for the physically impaired, to electronic innovations, which can make communication easier for the speech impaired:

> Arguments about disability or the place of the disabled are embodied in social spaces and cultural practices (e.g., curb cuts, wheelchair ramps and lifts, or the lack thereof), embodied in pedagogies, expressed through bodies and adaptive technologies (ASL, voice synthesizers, adapted computer keyboards), as well as in a variety of discourses both within and beyond those traditionally classified as rhetoric. (x)

Nirmala Erevelles, in the essay, "In Search of the Disabled Subject," presents a vision of the individual with disabilities, too often the object of ridicule, as a near mythical figure, in his or her use of machinery to manage various impairments. Erevelles considers this portrayal of the disabled person as a heroic crosser of boundaries, "One could therefore argue that the disabled subjects transgress the boundaries between human/nonhuman/machine to seek a pleasurable survival as a border-crosser in the ironic political myth of a cyborgean materiality" (97). Donna Haraway observes that in the Post-modern era, traditional binaries like human and machine are breaking down. Our lives are so reliant on technology that it is hard to say where the human ends and the machine begins. Haraway uses two striking examples, one perhaps somewhat humorous, the video-game addict, and the other not so much, a severely disabled character from a story by Anne McCaffrey, who is highly dependent on technological assistance from birth:

> High-tech culture challenges these dualisms in intriguing ways. It is not clear who makes and who is made in the relation between human and machine. It is not clear what is mind and what body in machines that resolve into coding practices. Insofar as we know ourselves in both formal discourse (e.g., biology) and in daily practice (e.g., the homework economy in the integrated circuit), we find ourselves to be cyborgs, hybrids, mosaics, chimeras. Biological organisms have become biotic systems, communications devices like others. There is no fundamental, ontological separation in our formal

> knowledge of machine and organism, of technical and organic.
>
> One consequence is that our sense of connection to our tools is heightened. The trance state experienced by many computer users has become a staple of science-fiction film and cultural jokes. Perhaps paraplegics and other severely handicapped people can (and sometimes do) have the most intense experiences of complex hybridization with other communication devices. Anne McCaffrey's *The Ship Who Sang* explored the consciousness of a cyborg, hybrid of girl's brain and complex machinery, formed after the birth of a severely handicapped child. Gender, sexuality, embodiment, skill: all were reconstituted in the story. Why should our bodies end at the skin, or include at best other beings encapsulated by skin? (35-6)

A dependence on technological advances further entrenches the identity of the disabled person as a cyborg.

In *Thinking in Pictures*, Temple Grandin discusses a highly debated use of assistive technology, which attracted much attention in the mid-nineties when her book was written. Because severely autistic people, who are often nonverbal, can experience great difficulty organizing sensory information and their responses to it, the technique, called facilitated communication, requires a caregiver to provide varying degrees of physical contact, allowing the autistic individual to coordinate his or her movements enough to tap out a message on a keyboard. Grandin describes the procedure,

> A controversial technique called facilitated communication is now being used with nonverbal people with autism. Using the technique, the teacher supports the person's hand while he or she taps out messages on a typewriter keyboard. Some severely handicapped people have problems with stopping and starting hand movements, and they

> also have involuntary movements that make typing difficult. Supporting the person's wrist helps to initiate motion of the hand toward the keyboard and pulls his fingers off the keyboard after he pushes a key to prevent perseveration and multiple pushing of a single key. Merely touching the person's shoulder can help him initiate hand movements. (57)

As Oliver Sacks explains in a footnote in *An Anthropologist on Mars*, as is often the case within the autism community, there is widespread disagreement between parents (and educators) and the medical establishment on the efficacy of the practice. Much of the skepticism surrounds questions about the degree to which the facilitator affects the message communicated with his or her physical involvement. Sacks calls for a balanced inquiry into the potential of the method.

> The reported range of effects is very great, from minor releases of simple communications in some patients to entire autobiographies seemingly emanating from previously mute children. These reports have been the subject of almost evangelistic enthusiasm, among many parents and teachers of autistic children on the one hand; and of wholesale dismissal by the medical profession, on the other. It has been difficult to arrive at a calm judgment in the overcharged atmosphere of claims and dismissals; while some instances of FC have been shown to be entirely factitious—the result of unconscious suggestion by the facilitator—and others must be suspect, there remains a nucleus of apparently bona fide phenomena that deserve a careful and openminded scrutiny. (249)

The autobiographies to which Sacks refers draw attention to another issue, the limited possibilities for some highly disabled individuals to share their experiences with the world. G. Thomas Couser addresses the impact of collaboration and assistive technologies on the genre of autobiography in "Signifying Bodies: Life Writing and Disability Studies." Couser encourages scholars

> to consider collaboratively produced narratives of disability. One reason to include this form of life writing is that it affords an opportunity to question what might otherwise be taken for granted—the accessibility of autobiography as a genre to disabled people. Assistive technology—such as voice-recognition word-processing software—makes the print medium much more accessible to people with some disabilities, but there are other conditions (e.g., neurological impairments) that this technology does not so readily compensate for. And some severe disabilities may effectively prevent individuals from representing themselves in this medium. (114)

Therefore, the stories of the lowest-functioning persons on the autism spectrum must be told second-hand by their parents or professionals.

Of course, it is unlikely that individuals who struggle to communicate their basic wants and needs are overly concerned with the accessibility of particular literary genres. For this reason, highly theoretical approaches to disability, like the application of Donna Haraway's understanding of the cyborg to disabled experience, have elicited criticism. For example, Tobin Siebers disputes the notion that the cyborg is disabled. The writer questions the portrayal of technology as always being a source of empowerment for the disabled individual rather than acknowledging that it can often be a cause of frustration. Siebers also fears that idealizing the disabled individual as a cyborg will curb attention away from the very real discrimination and oppression that people with disabilities face. Siebers argues, "Haraway is so preoccupied with power and ability that she forgets what disability is. Prostheses always increase the cyborg's abilities; they are a source only of new powers, never of problems. The cyborg is always more than human—and never risks to be seen as subhuman. To put it simply, the cyborg is not disabled" (178). Nirmala Erevelles expresses Marxist concerns that the cyborgean dream is not

economically accessible to all disabled individuals. In reality, it takes money to obtain the technologies which offer a degree of freedom from some impairments. It is also unlikely that members of lower socio-economic classes would have the exposure to needed information to know even what technologies exist (for example, certain alternative communication devices), let alone how to use them:

> For example, those disabled people who face economic deprivation on a daily basis seldom have access to the technology that can offer their "unlivable" bodies the cyborgean possibilities that poststructuralists extol. When only the bourgeois subject can have access to such emancipatory possibilities, emancipation itself becomes a divisive force, (re)inscribing the very class divisions it seeks to dismantle and therefore renders the emancipatory project of the cyborgean space ineffective. By locating their emancipatory practices within the space of the social imaginary, as opposed to the actual materiality of economic conditions, poststructuralists continue to uphold a utopic vision of emancipation that can never be achieved because it exists within the realm of fantasy. (98-9)

However, even if cyborgean configurations of disability do not always reflect the everyday realities of the disabled person, they are valuable given the mechanical or computer imagery with which many higher functioning autistic persons often describe themselves.

A variety of mechanical metaphors are used to describe the thought processes of people with autism and other aspects of autistic identity in both fiction and non-fiction accounts. Grandin describes her own reading habits, in which she converts words into film images or creates a photographic memory of the whole page for later reference, pulling up the text when needed as if on a teleprompter. Grandin explains in *Thinking in Pictures*, "When I read, I

translate written words into color movies or I simply store a photo of the written page to be read later. When I retrieve the material, I see a photocopy of the page in my imagination. I can then read it like a TelePrompTer" (31). Grandin compares the process that she has gone through trying to find the right medication to control her anxiety issues to working on an automobile engine. While she found all of the "fine tuning" to be somewhat disturbing, Grandin is thankful to finally have found a prescription that works for her. She writes in her review of the limited biological interventions for autism,

> Manipulating my biochemistry has not made me a completely different person, but it has been somewhat unsettling to my idea of who and what I am to be able to adjust my emotions as if I were tuning up a car. However, I'm deeply grateful that there is an available solution and that I discovered better living through chemistry before my overactive nervous system destroyed me. (118)

Oliver Sacks's depiction of Grandin in *An Anthropologist on Mars* reflects her own description of her visual thinking. Grandin often compares her mind to a collection of videotaped memories through which she has been able to study appropriate social interactions. Sacks relates a conversation with Grandin about her mental library: "She had built up a vast library of experiences over the years, she went on. They were like a library of videotapes, which she could play in her mind and inspect at any time— 'videos' of how people behaved in different circumstances" (259-60).

Christopher Boone also uses a cinematic simile and other mechanical metaphors to portray his own way of processing experience in Mark Haddon's *The Curious Incident of the Dog in the Night-time*. Christopher has channeled his movie-like recall into accurate dialogue and detailed descriptions when writing his own novel. Christopher also clarifies that his internal

films are multi-sensory, including smell, for example, in addition to sights and sounds. "My memory is like a film. That is why I am really good at remembering things, like the conversations I have written down in this book, and what people were wearing, and what they smelled like, because my memory has a smelltrack which is like a soundtrack" (76).

Dawn Prince-Hughes utilizes mechanical imagery more in regards to her emotional and sexual well-being, rather than her mental makeup, in *Songs of the Gorilla Nation*. She expresses her unfulfilled desire for a real human connection before meeting her partner Tara:

> But sometimes I longed for someone to find the key that would finally bring me out of the sexual machinery that I had built around my emotions and make me feel. I wanted someone to help me forget where I was; to help me let go. I wanted to be in love with one special someone and give them my heart and my life between breaths and between heartbeats. (87)

Modern technology provides the figurative language to express outmoded notions that human beings are mindlessly "wired" to seek sexual pleasure, are solely baby-making "machines," and are genetically "programmed" for particular gender roles irrespective of individual identity traits. In "A Manifesto for Cyborgs," Donna Haraway writes,

> The new technologies affect the social relations of both sexuality and reproduction, and not always in the same ways. The close ties of sexuality and instrumentality, of views of the body as a kind of private satisfaction- and utility-maximizing machine, are described nicely in sociobiological origin stories that stress a genetic calculus and explain the inevitable dialectic of domination of male and female gender roles. These sociobiological stories depend on a high-tech view of the body as a biotic component of a cybernetic communications system. (28)

Difficulties making interpersonal connections due to problems interpreting social cues have traditionally been a challenge for autistic individuals but are also increasing for other members of our society due to the decreased number of face-to-face interactions that accompany technological advances. Ironically, autistic persons, including those with Asperger's Syndrome, like Dawn Prince-Hughes, often benefit socially from indirect means of communication like email and online social networking sites where the need to understand facial expressions and control tone of voice is absent.

Autistic writers also take advantage of computer imagery to describe themselves. On numerous occasions in *Thinking in Pictures*, Temple Grandin compares her video-like memory to that stored on a CD-ROM disc, which she is able to search rapidly through and replay as needed. Grandin chooses this simile because she has difficulty integrating her experiences to create generalizations: "Being autistic, I don't naturally assimilate information that most people take for granted. Instead, I store information in my head as if it were on a CD-ROM disc. When I recall something I have learned, I replay the video in my imagination" (24). Grandin lacks the intuition to know how to react in a social situation. Instead, she quickly searches through her database of experiences in order to find one that is comparable and then figures out how to respond based on past experience: "After many years I have learned—by rote—how to act in different situations. I can speed-search my CD-ROM memory of videotapes and make a decision quite quickly" (138). Grandin also tells Oliver Sacks in *An Anthropologist on Mars* that while she is able to search through her collection of memories fairly quickly, she is not able to divide them up to find efficiently the specific piece of information that she needs. Grandin must run every scenario exactly as it stored: "My mind is like a CD-ROM in a computer—like a quick-access videotape. But once I get there, I have to play that whole part" (282). Grandin also

compares her exceptionally strong visual abilities in *Thinking in Pictures* to sophisticated computer graphics programs. As with this special 3-D software, Grandin is able to rotate engineering designs in her mind in order to examine them before they are built. She refers to the movie *Jurassic Park*, which incorporated state of the art technology at the time of its release and when Grandin's autobiography was written:

> My imagination works like the computer graphics programs that created the lifelike dinosaurs in *Jurassic Park*. When I do an equipment simulation in my imagination or work on an engineering problem, it is like seeing it on a videotape in my mind. I can view it from any angle, placing myself above or below the equipment and rotating it at the same time. (21)

Whether discussing how she stores and retrieves memories or how she creates and modifies engineering designs, Temple Grandin's computer comparisons almost always reflect her visual thinking.

Two important characters from fictional depictions of the autism spectrum also use computer metaphors to explore how their minds work. When trying to describe his strong visual processing, Christopher Boone uses the image of a computer screen in *The Curious Incident of the Dog in the Night-time*. Christopher confidently explains, "And when we look at things we think we're just looking out of our eyes like we're looking out of little windows and there's a person inside our head, but we're not. We're looking at a screen inside our heads, like a computer screen" (116). When Christopher becomes overwhelmed, particularly in a crowded place, he experiences a sensory meltdown, which he equates with a computer crashing. Christopher copes with the situation by closing his eyes and putting his hands over his ears to block out external stimuli. He is then able to gather himself, which he compares to rebooting a

computer:

> And sometimes when I am in a new place and there are lots of people there it is like a computer crashing and I have to close my eyes and put my hands over my ears and groan, which is like pressing **CTRL + ALT + DEL** and shutting down programs and turning the computer off and rebooting so that I can remember what I am doing and where I am meant to be going. (143-4)

Lou Arrendale, the protagonist in Elizabeth Moon's science-fiction thriller, *The Speed of Dark*, refers to computer chips and software in order to explain how two people with autism can think differently. Even though Lou's friend, Joe Lee, is also on the autism spectrum he is younger than Lou and received more effective interventions as a child. Lou postulates, "If we were computers, Joe Lee would have a different main processor chip, with a different instruction set. Even if two computers with different chips do use the same software, it will not run the same" (13). Throughout the novel, Lou is very hard on himself and is extremely concerned with being normal. Lou comes across a description of autism as a cognitive disorder, which leads him to compare his own mind to a defective computer. Lou never feels as if he is functioning well enough, despite the many therapeutic treatments he has received, a condition which he associates with new software that cannot really fix a flawed hard drive: "The books said that the problem with autism was in the brain, and that made me feel like a faulty computer, something that should be sent back or scrapped. All the interventions, all the training, were like software designed to make a bad computer work right. It never does, and neither did I" (167).

As Oliver Sacks struggles to understand his autistic subjects, Stephen Wiltshire and Temple Grandin, in *An Anthropologist on Mars*, he is aided by comparisons to machines in general and computers specifically. Almost every moment of autistic savant Stephen Wiltshire's

life is preserved in accurate detail in his mind. However, these memories are not organized in any coherent fashion or categorized into any overarching concepts. Sacks compares Stephen's intellect to two machines:

> I thought of his perception, his memory, as quasi-mechanical—like a vast store, or library, or archive—not even indexed or categorized, or held together by association, yet where anything might be accessed in an instant, as in the random-access memory of a computer. I found myself thinking of him as a sort of train himself, a perceptual missile, traveling through life, noting, recording, but never appropriating, a sort of transmitter of all that rushed past—but himself unchanged, unfed, by the experience. (218)

Sacks reports that Temple Grandin perceives herself as having a mechanical mind:

> Both as a person struggling to understand herself and as a scientist exploring animal behavior, Temple is constantly exercised by her own autism, constantly seeks models or similes to understand it. She feels that there is something mechanical about her mind, and she often compares it to a computer, with many elements in parallel (a parallel-distributed processor, to use the technical term), seeing her own thinking as "computational" and her memory as computer files. (288)

Perhaps, contrary to expectation, Grandin's "computer" thinking helps her understand human relationships more effectively. Because autism is a social disorder, among other things, Grandin is unable intuitively to grasp the unspoken rules in an interpersonal situation or to feel the energy that can flow between individuals during conversations and other interactions. Instead, she must analyze other people's perspectives and attempt to create a formula in order to figure out how to respond appropriately. Sacks questions her about this process in *An Anthropologist on Mars*:

> What is it, then, I pressed her further, that goes on between normal people, from which she feels herself excluded? It has to do, she has inferred, with an implicit knowledge of social conventions and codes, of cultural presuppositions of every sort. This implicit knowledge, which every normal person accumulates and generates throughout life on the basis of experience and encounters with others, Temple seems to be largely devoid of. Lacking it, she has instead to "compute" others' intentions and states of mind, to try to make algorithmic, explicit, what for the rest of us is second nature. (270)

Although Grandin's logical approach helps her to cope in most social situations, her responses often seem stilted.

Grandin comes to an important realization about how she experiences emotion differently from other human beings during a dinner party. She is surprised to find out that other people's emotions do not automatically follow a logical chain of thought, as if on a flow chart, but are much more holistically interconnected. She relates her valuable discovery in her memoir, *Thinking in Pictures*,

> Recently I attended a lecture where a social scientist said that humans do not think like computers. That night at a dinner party I told this scientist and her friends that my thought patterns resemble computing and that I am able to explain my thought processes step by step. I was kind of shocked when she told me that she is unable to describe how her thoughts and emotions are joined. She said that when she thinks about something, the factual information and the emotions are combined into a seamless whole. I finally understood why so many people allow emotions to distort the facts. My mind can always separate the two. Even when I am very upset, I keep reviewing the facts over and over until I can come to a logical conclusion. (138-9)

Despite her significant breakthroughs, Grandin's social behavior can still seem robotic, and perhaps, at times, otherworldly.

In the chapter titled "Dating Data" in *Thinking In Pictures*, Grandin relies heavily on examples from the numerous *Star Trek* series in order to discuss the sometimes unusual social mannerisms of individuals on the autism spectrum. Various autistic authors and protagonists identify with different characters from the television shows in their mission of self-discovery. Grandin explains how a particular episode of the original series helped her to understand how some people make decisions based on their emotions while she is ruled by her logic like the iconic Mr. Spock. She describes the favorite episode:

> Many people with autism are fans of the television show *Star Trek*. I have been a fan since the show started. When I was in college, it greatly influenced my thinking, as each episode of the original series had a moral point. The characters had a set of firm moral principles to follow, which came from the United Federation of Planets. I strongly identified with the logical Mr. Spock, since I completely related to his way of thinking.
>
> I vividly remember one old episode because it portrayed a conflict between logic and emotion in a manner I could understand. A monster was attempting to smash the shuttle craft with rocks. A crew member had been killed. Logical Mr. Spock wanted to take off and escape before the monster wrecked the craft. The other crew members refused to leave until they had retrieved the body of the dead crew member. To Spock, it made no sense to rescue a dead body when the shuttle was being battered to pieces. But the feeling of attachment drove the others to retrieve the body so their fellow crew member could have a proper funeral. It may sound simplistic, but this episode helped me finally understand how I was different. I agreed with Spock, but I learned that emotions will

often overpower logical thinking, even if these decisions prove hazardous. (131-2)

Although Grandin does display an appreciation for the need to ritualize death in her proposal of a moment of silence to mark the slaughter of each animal in the stockyards, she can not relate to allowing strong feelings to override rational thought in times of danger.

Grandin is a huge fan of both Mr. Spock and his successor on the *Next Generation* series, Data, an android with whom she also strongly relates. Oliver Sacks reports his initial conversation with Grandin in his foreword to *Thinking in Pictures*. In their first meeting, "She spoke repeatedly of the android in 'Star Trek,' Data, and how she identified with him as a 'purely logical being'—but how, too, like him she was wistful about being human" (15). Sacks elaborates on this wistfulness in his portrayal of Grandin in *An Anthropologist on Mars*. Grandin is a devoted student of "normal" human behavior, yet despite her attempts to mimic it, she feels as if it still lies beyond her reach. Sacks recounts another portion of their original discussion:

> "I can really relate to Data," she said as we drove away from the farm. She is a "Star Trek" fan, as I am, and her favorite character is Data, an android who, for all his emotionlessness, has a great curiosity, a wistfulness, about being human. He observes human behavior minutely, and sometimes impersonates it, but longs above all, to *be* human. A surprising number of people with autism identify with Data, or with his predecessor, Mr. Spock. (275)

Grandin shares in the "Dating Data" chapter of *Thinking in Pictures* that she has chosen to remain celibate because many of the intricate details of dating allude her and she has decided to refrain from putting herself in situations where she could be taken advantage of due to her naivety. Grandin does discuss, however, some of the awkward, albeit primarily innocent, overtures that she has received by males on the autism spectrum, as a quasi-celebrity, giving

lectures within the autism community: “Likewise, men who want to date often don’t understand how to relate to a woman. They remind me of Data, the android on *Star Trek*. In one episode, Data’s attempts at dating were a disaster. When he tried to be romantic, he complimented his date by using scientific terminology. Even very able adults with autism have such problems” (133). The character Christopher Boone is also a fan of *Star Trek: The Next Generation*. However, he identifies most with another important character for very different reasons. In addition to the other computer symbolism that Christopher uses to describe visual thinking, he incorporates a *Star Trek* simile: “Because people can see the screen inside their head and they think there is someone in their head sitting there looking at the screen, like Captain Jean-Luc Picard in ***Star Trek: The Next Generation*** sitting in his captain’s seat looking at a big screen” (118).

Dawn Prince-Hughes has been most affected by Jeri Ryan’s portrayal of the character Seven of Nine on the *Star Trek: Voyager* series. Prince-Hughes actually goes so far as to thank the actress and the creators of the character in the acknowledgements to *Songs of the Gorilla Nation*. Prince-Hughes expresses her gratitude: “I thank the creators of *Star Trek* and Jeri Ryan for giving life to the character of Seven of Nine: where the gorillas showed me how to begin to embrace my humanity, Seven showed me where to draw the line and constantly reminded me that I’m beautiful the way I am” (vi). In the *Star Trek* universe, Seven of Nine is part of the “collective,” or culture of beings, known as the Borg. As a young child, she was absorbed into their race and became half human and half machine, one of the cyborgs that Haraway claims are everywhere in recent science fiction, “creatures simultaneously animal and machine, who populate worlds ambiguously natural and crafted” (8). Perhaps, Prince-Hughes's affinity for Seven of Nine can partly be attributed to her attraction to mysticism. Seven of Nine's existence

as part of the Borg collective is suggestive of spiritual practices that stress the interconnectedness of all beings and focus on the sacrifice of the individual ego to a life force greater than itself. Prince-Hughes relates,

> Neurotypical humans, I have learned, have a deep fascination with, and an attraction/ repulsion response to, the kind of figure I presented. I have long been an abiding fan of the Seven of Nine character in the *Star Trek Voyager* series, as I identify strongly with her. Originally a young girl who was "assimilated" by a race known as the Borg, who evolve and expand by absorbing other beings into their single-minded and efficient collective, she is molded into an organism who is part machine and part human. She thinks very rationally with the focus and harmony of the collective, which uses her talents for conciseness and intellectual efficiency to the utmost until she is "rescued" by the captain of *Voyager*. The captain is determined to "restore her humanity." The pain she subsequently endures is heartbreaking. She has no inherent understanding of social protocol, the importance of valuing the happiness of the individual over the whole, or why the isolation of individuality is prized over efficiency and pragmatism. I have related to her every falter and crushing defeat. I believe we share the same brand of innocence and wisdom.
>
> Like Seven of Nine, I find that I am only part "human" and very much something altogether different; I am overwhelmed by the social demands of "normal life"; and I am lonely. I often don't understand why people do the things they do, like the things they like, and remain unaware of the grossest social contradictions. I don't understand the strange rituals associated with attraction or why people are obsessed with certain physical characteristics. (84-5)

While Anne Cranny-Francis in "The Erotics of the (Cy)Borg" and Viviane Casimir in "Data and Dick's Deckard: Cyborg as Problematic Signifier" connect Seven of Nine and Data, respectively, to Haraway's cyborg, neither critic addresses the fact that both characters are frequently listed on websites as fictional characters with autistic traits.

When Donna Haraway refers to the politics of the cyborg as a "struggle for language and . . . against perfect communication," her words take on additional meaning in the context of portrayals of a language disorder like autism. Haraway asserts in "A Manifesto for Cyborgs" that

> Writing is pre-eminently the technology of cyborgs, etched surfaces of the late twentieth century. Cyborg politics is the struggle for language and the struggles against perfect communication, against the one code that translates all meaning perfectly, the central dogma of phallogocentrism. That is why cyborg politics insist on noise and advocate pollution, rejoicing in the illegitimate fusions of animal and machine. These are the couplings which make Man and Woman so problematic, subverting the structure of desire, the force imagined to generate language and gender, and so subverting the structure and modes of reproduction of "Western" identity, of nature and culture, of mirror and eye, slave and master, body and mind. (34)

Cyborg imagery reflects the practical reality of many lower-functioning individuals on the autism spectrum who depend on assistive technology to help them communicate and to meet other needs. It also provides an apt metaphor for many higher-functioning autistic people to express how they perceive their own minds to be mechanical in nature. This hyperawareness of many individuals on the autism spectrum of their dual nature as both person and machine (as well as human and animal) highlights the blurring of boundaries between all identity categories for anyone living in the technological age.

Cyborg imagery is about survival for Haraway, not through some mythical return to a fictional wholeness (or able-bodiedness), but through the same technology and other identity markers that position the disabled person as different from the norm. Writing in the 1980s, on the verge of a new millennium, Haraway presents the cyborg as an alternative to traditional apocalyptic visions:

> Cyborg writing must not be about the Fall, the imagination of a once-upon-a-time wholeness before language, before writing, before Man. Cyborg writing is about the power to survive, not on the basis of original innocence, but on the basis of seizing the tools to mark the world that marked them as other. (33)

For Haraway, the cyborg metaphor is more than a tool for understanding literature. She criticizes the Edenic myth that humans were once innocent and are seeking to return to a fictional wholeness. Haraway associates the Genesis story with the notion that the purpose of life is to become an individual and independent of other people. In her equation, the "Fall" equals the development of writing as a debased form of the original completeness of speech. Haraway argues that within this framework war is mistakenly justified as the inevitable result of the tension between individuals serving their own self-interest, and that romantic love and sexuality are idealized as the only means of solace. Haraway also questions the salvatory offering of return to mythical perfection while discounting the practical (and perhaps less savory) aspects of life. Haraway believes that within this context women (and other marginalized groups) are either romanticized or degraded but, regardless, seen as less "human" due to their infantilization and the continuation of ideology and practices which encourage their dependence on the assistance of others. Haraway emphasizes,

> This is not just literary deconstruction, but liminal transformation. Every story that begins

> with original innocence and privileges the return to wholeness imagines the drama of life to be individuation, separation, the birth of the self, the tragedy of autonomy, the fall into writing, alienation; i.e., war, tempered by imaginary respite in the bosom of the Other. These plots are ruled by a reproductive politics—rebirth without flaw, perfection, abstraction. In this plot women are imagined either better or worse off, but all agree they have less selfhood, weaker individuation, more fusion to the oral, to Mother, less at stake in masculine autonomy. (34-5)

Haraway sees another path to identity which does not involve a self-image projected on to the individual of a fragile humanity whose origins supposedly can be traced to Adam and Eve, the archetypal Man and Woman. Haraway thinks that the figure of the cyborg reflects real, modern day women and men whose identities are in actuality an amalgamation of multiple factors, including their relationship to machines. What were once oppressed peoples refuse to be marginalized, to disappear from view, no matter how many times social commentators try to stress their vulnerability. These groups are now appropriating science fiction and other types of writing for their own purposes, which have, for too long, been held outside of their reach. Haraways proposes,

> But there is another route to having less at stake in masculine autonomy, a route that does not pass through Woman, Primitive, Zero, the Mirror Stage and its imaginary. It passes through women and other present-tense illegitimate cyborgs, not of Woman born, who refuse the ideological resources of victimization so as to have a real life. These cyborgs are the people who refuse to disappear on cue, no matter how many times a "Western" commentator remarks on the sad passing of another primitive, another organic group done in by "Western" technology, by writing. (35)

Autistic persons do not necessarily fair well within the context of the Western metanarrative. In general, disability is associated with the inferior term in the binary of wholeness versus lack. Speech, which holds the privileged position over writing in Logocentrism as the embodiment of presence, can be difficult for people with a language processing disorder like autism to attain. While other marginalized groups in the West have been devalued through tactics of infantilization and the propagation of socio-economic factors that can further dependence on others, the developmentally disabled are often dismissed because of delays that can interfere with the development of an autonomous selfhood and prevent independent living into adulthood. Haraway's image of the cyborg offers an alternative vision of modern identity as a complex hybrid of human and machine, which resonates with the lived experience of lower-functioning persons on the autism spectrum who rely on assistive technology and provides an apt metaphor for their higher-functioning counterparts to describe their wholly logical approach to life. While the production of written narratives was once thought to be beyond the reach of all autistic persons, first-person accounts of the disorder are now common, and people on all points of the autism spectrum are now widely represented in both fiction and non-fiction texts.

Conclusion

When I began this dissertation, the project itself was somewhat "autistic," in the sense that as I started the research phase, I was primarily concerned with how to mobilize the existing disability studies scholarship and to utilize theory as a means of better understanding autism itself through its representations in both works of fiction and non-fiction. However, this method quickly revealed itself to be unnecessarily isolating—perhaps autistic in another sense. Rather than remaining so focused on autism, I discovered a wealth of possibilities in exploring a reciprocal relationship between autism texts and disability studies in general, as well as broader theoretical approaches to language acquisition and the development of subjectivity within the humanities. Just as autistic persons have the potential to emerge from their inner worlds and to connect with the larger universe surrounding them, studies of autism hold the possibility of building mutually beneficial associations with many other disciplines.

One area of research that warrants further exploration is the impact of autism on entire families. While notions of the disabled as special teachers of sentimental lessons on empathy and compassion are obviously antiquated, having a family member with autism can change a parent's or sibling's outlook on life as well as present the possibility of a lifetime of care for those autistic persons who do not function at a high enough level to live independently in adulthood. Texts such as Barry Neil Kaufman's *Son-Rise* capture the experiences of the parents of an autistic child while Sue Miller's novel *Family Pictures* relates the story of five siblings growing up with an autistic brother. The most important relationships that the majority of autistic individuals form are with their relatives; this holds true even beyond the years of chronological childhood. Due to

their developmental delays, many persons with autism never fully individuate psychologically from their families of origin, even if they do not always live with a family member.

Furthermore, while popular references to autistic children as being "Indigo children," supposedly functioning at a higher spiritual frequency in parallel to the color spectrum, arguably romanticize a potentially serious disability, autistic persons themselves offer many intriguing spiritual musings about their relationship to a higher power in their first-person narratives. Temple Grandin, for example, takes a somewhat metaphysical approach to quantum physics, and Dawn Prince-Hughes is drawn to mystical concepts as a means to motivate herself to connect with the larger world. The inward orientation inherent in autistic individuals results in a detachment to varying degrees from the commotion of the material world. Moreover, the proclivity for logic over emotion in many of the highest functioning persons on the autism spectrum allows for an interesting juxtaposition of the scientific and the spiritual. The relation between autism studies and religion or philosophy also offers rich possibilities for further study.

As the number of persons diagnosed with an autism spectrum disorder continues to increase rapidly, representations of the condition are growing at an exponential rate within the mass media. One curious phenomenon is the "coming out" of various celebrities who have an autistic child. Perhaps, most well-known of these is actress Jenny McCarthy, whose *New York Times* best-selling book *Louder than Words* about life with her autistic son Evan makes her an unusual expert on the subject. Not surprisingly, many of these widely successful accounts of autism (particularly those emerging from Hollywood) offer perhaps unrealistic hopes for a "cure" or something approximating it. These popular representations of developmental disability beg for a cultural studies approach. Taking a cue from Rosemarie Garland-Thomson's work with representations of physical disability, further examinations of the advertisements and general

fundraising tactics of Autism Speaks, the largest advocacy group for the disorder, could unpack significant layers of cultural meaning. For example, the recent appearance of a catalog of toys appropriate for "differently-abled children," available at Toys R' Us, is suggestive.

Within disability studies in the humanities, there is more work to do on the relationship between autism and other forms of disability for the purpose of advocacy as well as the appropriateness of utilizing the medical model of disability with regard to autism spectrum disorders. As previously noted, most of the existing work within disability studies focuses on physical and sensory disabilities. Traditionally, people who fall into one or both of those categories have sometimes resisted being grouped with persons with cognitive and developmental disabilities, arguing that despite their impairments, at least their mental faculties are intact. However, noting the experiences that are common to all people with disabilities could prove to be advantageous in furthering advocacy. Furthermore, depending on one's perceptions of autism as a biological condition to be cured or a psychological difference to be appreciated (or something in between), connections could be made with first-person narratives relating experiences with other highly-publicized medical conditions like Leila Peltosaari's *Dancing with Fear*, an exploration of breast cancer, or *Witness to AIDS* by Edwin Cameron (despite the obvious difference that autism is not a potentially fatal illness), for advocacy purposes.

My dissertation includes an ethnographic approach to disability studies, incorporating thick description of autistic traits depicted in memoir and fiction. Moreover, from Jacques Derrida's differance to Donna Haraway's cyborgs, I bring literary theory and concepts into the same interpretive framework as autism texts. I do not apply Julia Kristeva's two dimensions of poetic language or Jacques Lacan's three registers of human existence to portrayals of autism;

instead, I have attempted to create a mutually beneficial conversation between studies of autism and theoretical texts.

While this study has placed autism within a theoretical framework related to language use and psychological development, which are at the core of autistic experience, there are certainly rich connections to be tapped with other areas of identity politics, such as gender, queer, and post-colonial studies. For example, to cite two well-known concepts, parallels can be drawn between Adrienne Rich's lesbian continuum and the autistic spectrum onto which all persons arguably fall and Gayatri Spivak's notion of the subaltern, who is positioned in an inferior status due to an inability to speak out, could be profitably applied to the lowest-functioning persons with autism who are largely non-verbal. These political readings widen the implications of this study into the realm of the classroom. I hope in the near future not only will more representations of disabled persons be presented to students but that discussions of human development and lived experiences will be expanded to include those of persons with autism. This reminder that there are multiple ways of being in the world might serve to loosen, or at least make visible, many expectations of normal behavior. Further research regarding pedagogical practices that could further those goals is urgently needed.

According to the social model of disability, it is society that creates disability through the marginalization of individuals with impairments. Investigating depictions of the real relationships that autistic persons forge as well as representations of people with autism within literature and popular culture challenges notions of autism as a totally secluding disorder. As we study the connections between accounts of individuals on the autism spectrum and those who are said to have other forms of disability, in addition to the intersection between autism texts and various theoretical and political discourses, autism studies can emerge from a position of

isolation to one of inclusion. It is my hope that this study will serve as a model for longer explorations of the mutually advantageous insights of autism texts and other scholarship devoted to disability as well as general theoretical approaches. Much more work is needed to foreground a variety of perspectives within the autism community and across disciplines.

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