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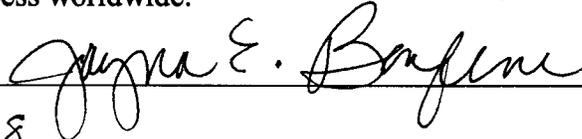
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ALICE IN WONDERLAND: THE ETHICAL AND SOCIAL
IMPLICATIONS OF AUTISTIC ADULTS IN THE LEGAL SYSTEM

A Thesis
Submitted to the Faculty of
The School of Continuing Studies
In partial fulfillment of the requirements for the
Liberal Studies Degree Program

By

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ALICE IN WONDERLAND: THE ETHICAL AND SOCIAL IMPLICATIONS OF AUTISTIC ADULTS IN THE LEGAL SYSTEM

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ABSTRACT

Neuroscience has dramatically increased our understanding of the brain's biological structures and processes. As we discover more about how our brains work, social and ethical implications emerge with our increased knowledge. While we cannot physically locate self-consciousness in the brain, we are still aware that our minds possess this capacity. Self-consciousness requires the ability to reflect on one's mental state and Autism spectrum disorder (ASD) is a neurological disorder that specifically impairs this ability.

In autism, there is a deviation in the developmental process between the brain and the self-awareness we associate with the mind. The mind of an autistic adult either lacks, or has an impaired ability to think about itself or the mind of others. The consideration and anticipation of the thought processes of others is an essential component in social interaction. It allows us to communicate, cooperate, and learn from each other. The autistic adult suffers with an acute diminishment of ability in these areas.

While most of the literature in the field of autism is focused on autistic children, I am interested autistic adults who, like Alice in Wonderland, must

navigate a society that is often ill-equipped to deal with their needs. In this project, I examine the literature on “theory-of-mind” and studies about the neurological causes of the disorder. I review recent court cases and other literature on adults with autism and the legal system. Using a philosophical and ethical framework, I also delineate how we ought to treat individuals with autism who are unaware of their own criminal or anti-social behavior. Autistic adults present dilemmas for the legal system as their responses and reactions may confuse even the most seasoned legal officials. When autistic adults interact with the legal system, measures should be taken to avoid misinterpreting their behaviors and characteristics. Through my review of the literature, I highlight the challenges facing adults with autism in navigating a society ill-equipped to meet their needs. Specifically, with respect to the legal system, I conclude that autistic adults require special consideration and that a just society should make allowances for those with diminished pathological capacity.

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Abbreviations Used

ASA Autism Society of America

ASD Autism Spectrum Disorder

CDC Centers for Disease Control and Prevention

DTI Diffusion Tensor Imaging

fMRI Functional Magnetic Resonance Imaging

MRI Magnetic Resonance Imaging

PET Positron Emission Tomography

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Definitions

Autism Spectrum Disorders - A neurobiological diverse group of conditions with a consistent, diffuse pattern of abnormality across several areas of behavior. Individuals with these disorders do not exhibit merely slow or limited development, but rather a development that is atypical in the pervasive but diffuse areas of functions affected. Three main clusters of behaviors characteristic of autism include the following: (1) social abnormalities, especially a lack of social reciprocity; (2) language abnormalities, with deviant communication features and limited development of language; and (3) rigid, stereotyped, repetitive patterns of unusual behavior.

Asperger's Syndrome - A psychiatric disorder, most often noted during the early school years, characterized by impairments in social interaction and repetitive behavior patterns.

Diffusion Tensor Imaging (DTI) – Principally used to image white matter in the brain, DTI is a magnetic resonance imaging (MRI) technique that enables the measurement of the restricted diffusion of water in tissue.

Floortime – A method of interacting with a child at his current developmental level to facilitate further development, and emotional and intellectual growth. It is designed to help children with autism overcome their symptoms more effectively than trying to change the symptoms.

Functional Magnetic Resonance Imaging (fMRI) - Magnetic Resonance Imaging (MRI) measures the blood flow related to neural activity in the brain or spinal cord.

Grey Matter – A major component of the central nervous system, consisting of nerve cell bodies, glial cells, capillaries, and short nerve cell extensions and processes.

Magnetic Resonance Imaging (MRI) - A noninvasive diagnostic technique that produces computerized images of internal body tissues and is based on nuclear magnetic resonance of atoms within the body.

Positron Emission Tomography (PET) - A technique used to evaluate the activity of brain tissues. PET scanning is used as a research tool in schizophrenia, cerebral palsy, and similar types of brain damage.

Definitions (continued)

Sensory Integration – Treatment involving specific sensory activities intended to help a person with autism regulate his or her sensory response. The outcome of these activities may be better focus, improved behavior, and even lowered anxiety.

Theory of Mind – A phrase used to describe the innate ability to attribute mental states to both one's self and others, and the realization that others may have different mental states than one's self.

White Matter - Type of neural tissue in the brain and spinal cord composed primarily of myelin-covered axons.

Introduction

Neuroscience has dramatically increased our understanding of the brain's structure and processes. Today's neuroscientists are discussing topics that have traditionally been for philosophers and theologians to ponder: self-consciousness, morality, and decision-making capacity. As we discover more about how our brains work, social and ethical implications emerge with our increased knowledge.

Certain mechanisms in the brain are made visible through brain imaging technology such as positron emission tomography (PET) or functional magnetic resonance imaging (fMRI). While we cannot physically locate self-consciousness on the brain as we can the area for language, we are still aware that our minds possess this capacity. Self-consciousness entails the ability to reflect on one's mental state. Autism spectrum disorder (ASD) is a neurological disorder with a specific impairment underlying this ability. In this thesis, the term autism is used to describe all individuals on the autistic spectrum, even though most of the studies and literature utilized are based on those who are higher functioning, as low functioning individuals or those with mental retardation have a more limited range of activities and behaviors. Thus, autism provides a model to investigate the very nature of sense of our self. Indeed, there are studies underway to determine exactly where the autistic brain differs from the normal brain, with hopes to unlock the secrets of self-consciousness.

In autism, there is a deviation in the developmental process between the brain and the mind. The mind of an autistic adult either lacks, or has an impaired ability to think about itself or the mind of others. This ability is often referred to as the “theory of mind.” The ability to mentalize allows us to predict the behavior of others. Considering and anticipating the thought process of others is an essential component in social interaction. It allows us to communicate, co-operate, and learn from each other.

The Problem

In his book *An Anthropologist on Mars*, Oliver Sacks notes that it is strange how people speak of autistic children, and not about autistic adults, “as if the children themselves somehow just vanished from the earth.” (p. 246) Like *Alice in Wonderland*, autistic children grow up and have to navigate a society that is often ill-equipped to deal with their needs. Often, autistic adults learn to compensate by learning via a routine or developing habitual associations. Of course, no life can be without interruption of a routine; the unpredictability of life is what makes it so exciting and yet so frustrating. For autistic adults, however, a change in routine can throw an entire life off balance.

The legal system greatly influences our daily lives, and places limits on our behavior. We give up certain rights in order to maintain the social contract. At some point, most adults will interact with the legal system as a witness, a victim, or possibly a criminal suspect. Autistic adults present dilemmas in the legal

system as their answers and reactions may baffle even the most seasoned officer. When autistic adults interact with the legal system, measures should be taken to avoid misinterpreting their behaviors and characteristics as evidence of guilt, indifference, or lack of remorse. They may simply fail to understand the situation.

Some autistics could be in legal trouble without even realizing they have committed an offense. Offenses such as making threatening statements, inappropriate sexual advances, and physical outbursts would typically generate punishment. However, reasonable and valid this may seem, it does not take into account the particular issues that challenge autistic adults. Problems with sensory overload, poor social awareness, and the inability to deal with changes in routine or structure make society very difficult to navigate for someone with autism. While the autistic adult might have committed the offense, the intent might well have been anything other than to do harm.

Project Overview

In this project, I examine how we ought to treat individuals with autism who are unaware of their own criminal or anti-social behavior. Chapter 1 explores how adults with autism differ from normal adults in their ability to navigate society. In Chapter 2, I review the scientific literature that demonstrates the biological and neurological roots of the disorder, a departure from our understanding of autism 50 years ago when mothers were to blame for the

disorder. Philosophical and cognitive theories that explain of the disorder, particularly “theory of mind,” are analyzed and discussed in Chapter 3.

Chapters 1 through 3 set the stage for the remaining chapters. Chapter 4 discusses the roles an autistic individual may play in the legal system, as witnesses, victims, or suspects of a crime. I outline the ethical implications of autistics and the legal system in Chapter 5, as well as the social implications. Finally, I will consider what actions a just society ought to take to assist those whose mental capacity is diminished. This study has larger implications as well: with neuroscience advancing and brain scans telling the location of our pleasure receptors and language ability, criminal culpability may be accessed through brain scans. Ought a just society assess culpability by providing a brain scan to every criminal suspect? What are the implications of our increased knowledge?

Methods

In undertaking this project, I approached the subject from a variety of disciplines: philosophy, cognitive psychology, neuroscience, sociology, and law. The literature is rich in describing how autistics differ from normal adults in navigating life. Each of these disciplines contributes to my argument about how we ought to treat those with diminished ability in the legal system. Analysis of recent scientific theories as to how the autistic brain differs will relate the reader to the complexity of the human brain. Philosophical approaches assist in our understanding of what it means to lack a connectedness to others and cognitive

theories interact with philosophical theories and also offer a non-scientific explanation of how the autistic brain diverges from the norm. For the chapter on the legal system, interviews with police, attorneys, and families rounded out the literature on autistics and the legal system.

Goals

My goal for this project is to highlight the challenges facing adults with autism in navigating a society ill-equipped to meet their needs. Specifically, with respect to the legal system, I want to show that an autistic adult needs special consideration while in various roles: witness, victim, and suspect. I argue that a just society makes allowances for those with diminished pathological capacity.

I. Alice in Wonderland: Autistics in Society

What is the use of a book, without pictures or conversations? – Alice (Carroll, 2000)

One hundred years ago, autism was not recognized at all. It was first identified in 1943 by Dr. Leo Kanner of Johns Hopkins Hospital in Baltimore, Maryland. At the same time, in Germany, Dr. Hans Asperger, described a milder form of the disorder that is now known as Asperger's Syndrome. Both men gave the disorder the name autism, defined by the presence of certain behaviors. The word autism comes from the Greek word *autos*, meaning self and autism translates loosely as the state of being unto one's self.

In the 1950s and 1960s, it was thought autism was caused by psycho-social conditions, primarily, maternal coldness. (Time, 1960) It is likely that physicians and psychologists in that era utilized Freudian psychology in their analysis. According to Sigmund Freud, many psychological issues in adulthood stemmed from childhood trauma. As a child passes through the various stages of development, there is a chance that the child may linger in one stage longer, causing incompleteness of psycho-social development and fixations based on the overstayed stage of development (e.g., oral fixations are a result of a lingering first stage of development). Childhood memories and repressions may disturb mental balance in adulthood and thus, the problems of childhood are therefore the problems of the adult. (Freud, 1994) For Freud, repression is the

precondition to neurosis. We are most happy when the things we do make sense to us and we have mental clarity.

At the time, autism was believed a form of mental illness and thus, it made sense to equate this illness with childhood trauma, caused by a parent. (Adding to this, the mother did the vast majority of the care giving in this era, ensuring her blame.) Fortunately, by the 1970s, this theory was no longer accepted and new ways to look at the disorder have developed as its signs are more recognizable and its prevalence has sky-rocketed.

Today, autism is the fastest-growing disability in the U.S. and has a rising diagnosis rate of 10-17% each year, according to the Centers for Disease Control and Prevention's (CDC) Autism Information Center. As many as 1 in 150 children are autistic. Of the approximately 4 million babies born every year, 24,000 of them will eventually be identified as autistic. (CDC, 2007) An article in the Washington Post on April 2, 2008, World Autism Awareness Day, as proclaimed by the United Nations General Assembly, noted that if the rate holds, by 2016, nearly 1.5 million American adults are expected to have autism. (Davis, 2008) As autistic children grow older and their ranks increase, their parents will also grow older and the burdens on society will be greater.

Recent studies suggest males are more 4 times more likely to developing autism than females. In the United States alone, 1 out of 94 boys are presently suspected of being on the spectrum. However, females with autism often have a

more severe form of the disorder than their male counterparts. (CDC 2007, Baron-Cohen, 2003)

Even the best research minds cannot agree on answers to the questions what causes autism and why it is on the rise. Genetics is likely involved as many families have more than one sibling affected. The environment may also play a role, but no one knows for sure what that role may be. For instance, the state of New Jersey has the highest autism rate in the country: 1 in 94 children are affected. (Layton, 2008) There may be some clues across the state that further testing may uncover about the disorder.

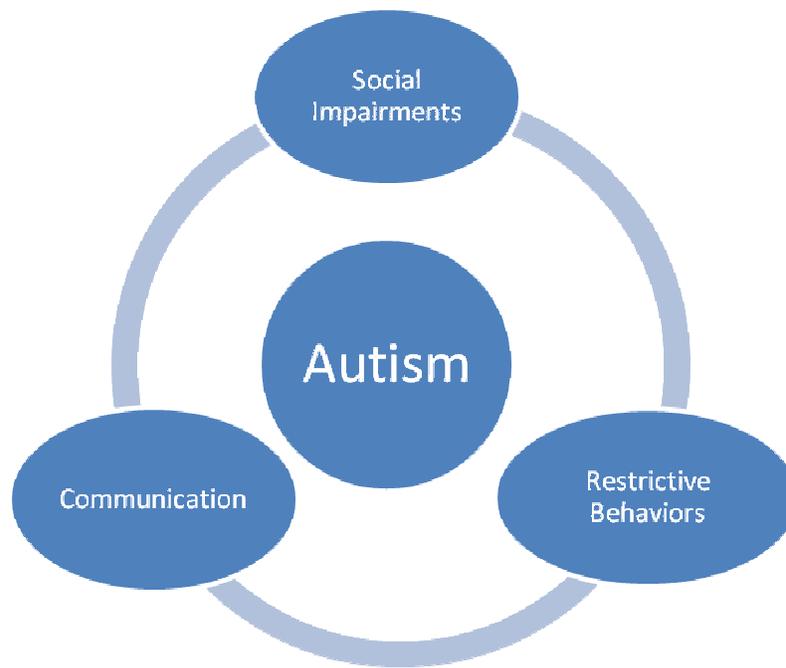
Some autism advocacy organization and parent groups believe that vaccines may cause autism. Nearly 5,000 families are seeking compensation for autism or other developmental impairments they blame on vaccines and thimerosal, a mercury-based preservative. Others blame the disorder as an after effect of multiple immunizations. (Layton, 2008) In March 2008, a Georgia family won a court case in a special vaccine court against the federal government for their daughter's autism. The girl had an underlying mitochondrial condition that predisposed her to metabolic disorders. The court concluded that the vaccines aggravated her rare condition that resulted in a brain disorder "with features of autism spectrum disorder." (Young, 2008)

Autism is referred to as a spectrum disorder - meaning the symptoms can occur in any combination and with varying degrees of severity. It is also a lifelong

disability. The characteristic behaviors of ASD may or may not be apparent in infancy (18 to 24 months), but usually become obvious during early childhood (24 months to 6 years). Autism affects individuals in every country and region of the world and knows no racial, ethnic, nor economic boundaries. (Autism Society of America (ASA), 2008)

We now understand the disorder as a complex neurological disorder, and perhaps environmental (e.g., heavy metal toxicity, chemical exposure) as well. Persons with autism are affected in primarily three ways, often referred to as the triad of impairments: social interaction, communication, and restrictive behaviors. In social interaction, autistics typically have problems working co-operatively, and difficulty understanding and navigating relationships and emotions. Autism is usually accompanied by difficulty processing verbal information and difficulty understanding sarcasm, body language, and gestures. Autistics often take statements at their literal value. Lastly, restrictive behaviors further limit the autistic individuals' ability to interact with their environment. These restrictions include a difficulty with a change in a routine or a need for repetitive behavior such as finger-flicking. (Frith, 1989)

Figure 1. Three-pronged view of autism



There are other factors commonly associated with autism such as abnormal sleep patterns. Hyper or hypo-sensitivities to stimuli may also manifest themselves. For example, some autistics respond inappropriately to noise and will cover their ears at normal noise levels. Others may avoid certain foods because they do not like the texture or cannot arrange it properly on a plate. Unraveling all of the possible symptoms of the disorder is quite the Sisyphean task. There is no set agreement from the medical community on what constitutes a symptom of autism, outside the triad of impairments.

There is no cure for autism but continued research has provided a clearer understanding of the disorder and has led to better treatments and therapies.

Studies have shown that appropriate interventions can positively change autism's associated behaviors. Early intervention can significantly improve the quality of life for individuals with autism. Studies suggest that early intervention services can greatly improve outcomes for children with autism. (Hastings and Symes, 2002) However, the vast majority of individuals on the autism spectrum – even high-functioning ones - will continue to exhibit some symptoms in varying degrees throughout their lives.

With early treatment, most children with autism learn to relate better to others. Treatment for autism involves special behavioral training that rewards good behavior, and also teaches them social and communication skills. Approximately 50 percent of autistics are non-verbal. (ASA, 2008) They learn to communicate through speech language therapy, and integrate with their environments in a more positive way through occupational therapy and sensory integration. Social skills are often taught through a relationship-play approach known as floortime, a method of interacting with a child at his level, often by literally getting on the floor to meet the child where he is developmentally. (ASA, 2008)

In some cases, biological treatment such as medication to reduce aggression, hyperactivity, or mood disorders are necessary. Special diets or vitamin supplements may also be a part of a comprehensive treatment plan. Exactly what type of treatment depends on the symptoms, which are different for

each individual and may change over time. The autism spectrum is such as range that a treatment that clearly helps one person may not help another.

DSM-IV-TR – Asperger’s and Autistic Disorder

Examining and analyzing the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, 1994) may shed light on the essential impairments indicative of Asperger’s Disorder (Appendix A) and Autistic Disorder (Appendix B). They are listed separately in the DSM-IV-TR. Asperger’s syndrome is classified as a separate diagnosis from autism, but it is still considered an autism spectrum disorder. The primary distinction between the definitions of autism and Asperger’s Syndrome is that autism involves a significant speech delay by the age of 3 or 4 and is less common in those with Asperger’s. There is some debate over whether Asperger’s is truly different from classical autism or if autism is a continuum with Asperger’s at one end and severe autism accompanied with retardation at the other.

The clinical definition of autism found in the DSM-IV-TR is classified under the Pervasive Developmental Disorder (PPD) umbrella, characterized by severe impairment in a various areas of development. Autism is distinguished by a triad of disorders: extremely abnormal communicative ability, social interaction difficulties, and a markedly restricted repertoire of interests. It is important to recall these deficits because they tend to be the defining features of the disorder.

Their symptoms can take the form of a lack of nonverbal behaviors such as gestures (e.g., a raise of the eyebrow) and the inability to look into another person's eyes. Pretend play is nearly impossible because the autistic individual lacks imagination and takes statements too literally. There is a lack of reciprocal social engagement and thus, friendship is difficult to sustain. Indeed, persons with autism may act as though they do not want any friends as they do not respond to social cues like smiling or make eye contact. Sensitivity to stimuli may cause a person with autism to draw back when touched or startled. Also, because the disorder has a wide range, some autistics are withdrawn and passive; others may be hyperactive or aggressive.

As the DSM-IV-TR guidelines are in no way precise, different people with different affects may be labeled autistic. The three key impairments, the triad, are the distinguishing markers of the disorder and this purposeful lack of specificity was written to account for the wide-range in symptoms and functionality of people with autism. The spectrum's range is so vast that it may be an insurmountable task to devise a single approach to dealing with the disorder. The difference between a severely autistic person and a mildly autistic person may actually be greater than the difference between a high-functioning autistic person and a completely normal individual. There is a debate in the field over which element in the triad – social, communication, or obsessions – is critical to complete understanding of autism. Perhaps, even, it is all three impairments

together that are critical. Regardless of the debate, the DSM-IV-TR is the accepted standard for a classification of autism or Asperger's.

Impairment Across the Spectrum

According to the United States Census, 49 percent of men and women with disabilities between the ages of 16-64 are in full or part-time employment, compared to almost 64 percent of the general population. (United States Census Bureau, 2000) Approximately 35 percent of adults with autism are employed. (ASA, 2008) As adults, some autistic individuals select occupations that involve routines that don't require a great deal of social interaction. Remaining deficits can interfere with the achievement of job status related to their educational level. Some adults with autism have jobs in areas such as data entry, medical transcription, janitorial services, piano tuning, or computer analysis. Others may work in supported or sheltered employment. (ASA, 2008)

One example of "typical" employment for an adult with autism was highlighted by the Autism Society of America, Oakland County, Michigan Chapter. Jonathan works in supply department of Gross Pointe Public Schools and has been for the past 8 years. His boss says he arrives around the same time every day, checks his email and reads the news for a half hour and then gets to work. Jonathan is very much into his routine and gets very disturbed if the routine is disrupted. When Jonathan first started his job, he made loud outbursts but in time learned to control them. This transition was not without assistance:

Jonathan had a full-time job coach for the first two years. The coach still assists on a part-time basis. This is a success story.¹ Many on the spectrum are unable to cope with the stressors of employment, let alone find a job.

Autistic adults rarely live on their own. They are typically cared for by a parent or another relative. Many group homes don't accept people with autism because their behavior often requires individualized care. In Davis's Washington Post article, she mentions that in her home state of Massachusetts, adults with Asperger's syndrome are not eligible for state-funded housing and care. (Davis, 2008) They are too "high-functioning."

Oliver Sacks highlighted the remarkable case of Temple Grandin, PhD, a Professor of Animal Science at Colorado State University, and business woman, who also happens to have autism. In the same book, An Anthropologist on Mars, Sacks tells us Stephen's story, a more "typical" case of autism, who possessed a true artistic talent. Stephen created best-selling books of his beautiful drawings, but was socially immature, making loud outbursts at inappropriate times. (Sacks, 1995)

Temple Grandin lectured at the University of California's M.I.N.D. Institute on February 14, 2007, and shared her experiences with autism and how her thinking is different from most other autistics. One may wonder how she is able to give such a lecture and she credits her tenacious mother who recognized her

¹ The ASA Oakland County Chapter posted about Jonathan and his working arrangement on YouTube.com It may be viewed at: <http://www.youtube.com/watch?v=erFrlz9HNMg>.

daughter's special needs and began intensive therapy before she was 3. Prior to the interventions, Temple was mute. She would "sit in a corner and rock."
(Grandin, 2007) Grandin's teacher was very gentle but insistent and she eventually broke through. In her lecture, Grandin pointed out "that sharing, social rules, and table manners were taught in the 1950s. Because of this disciplined upbringing, I can function as an adult." (Grandin, 2007) She went on to express concern about autistic children today. Her worry is that they will be pigeon-holed as autistic and never have the opportunity to push themselves into a different kind of life.

Also in her lecture, she cautioned parents, physicians, and educators not to confuse sensory problems in the autistic child with bad behavior. "The school bell drove me batty." (Grandin, 2007) "Loud noises were also a problem, often feeling like a dentist's drill hitting a nerve. They actually caused me pain. ... A sound that caused me pain may be pleasurable to another child. One autistic child may love the vacuum cleaner, and another will fear it. Some are attracted to the sound of flowing, splashing water and will spend hours flushing the toilet, while others wet their pants in panic because the flushing sounds like the roar of Niagara Falls." (Grandin, 1995, pg 67)

Her success – both as an individual and even more so as an autistic individual – is accounted for by "tricks" she's employed. Temple describes her thought process as the result of a rule generated from a great deal of experience

searching for relevant correlated cues that would tip her off that a certain situation is a token of a type. In her own book, she described how she thought in pictures and to make sense of human interaction, she uses her video-catalogue-like memory to recall and replay past events. She replays one of her “tapes” and figures out what is going on in a social situation based on past experience.

(Grandin, 1995) This is something that even young children do naturally and automatically. In her 2007 lecture, she shared with the audience that she did not know that there were eye signals (winks, a roll of an eye, etc.) until she was 50 years old! (Grandin, 2007)

While Grandin can survive and navigate the social world, she does not understand social cues as normal people do. Even though her end point may be the same as a normal adult, she takes a comparatively circuitous cognitive process. There are also areas where she still struggles and much of the time feels like “an anthropologist on Mars.” (Sacks, 1995, pg. 259)

To illustrate this, Grandin related a story about a situation that happened early in her career, while working to redesign a cattle yard. Apparently, some of the men who worked there resented the intrusion of an autistic woman and during her first weeks on the job, her redesigned machines and systems were not operating as they were supposed to, if at all. While Grandin was aware that of the resentments after being warned about them, she did not sense that she wasn’t welcome. She couldn’t sense who did not welcome her. Instead, to find out who

was sabotaging her, Grandin compiled all of the times her machines and systems malfunctioned and cross-checked them with the shift rosters to delineate the saboteur. (Saks, 1995)

This story is important because we “normals” often sense when someone does not like us. We know when we are unwelcome or have said something that we should not have said. We rely on social cues like body language to help us decipher the intentions of others. For Grandin, she had to be told there was resentment and then logically deduce who the one was causing her harm.

Social Intelligence

One of the key impairments in autism is social interaction. One proposed reason is that something in the mind of autistic individuals recognizes other people as objects. They cannot interact socially because they cannot comprehend another person as a person. Cynthia Johnson and David Raiksen conducted a study that found young children with autism appear to be delayed in their ability to categorize objects and, in particular, to distinguish between living and nonliving things. (Johnson and Raiksen, 2006) This provides cognitive explanation for the inability to recognize the goals and motivations of others.

The authors found that the children with autism performed at the same level as children half their age (18 to 22 months) in categorizing objects. Children with autism could understand the relationship between certain parts and motion,

like legs and walking, but ignored other important characteristics, such as the fact that some things with legs are alive and move deliberately toward other objects.

Uta Frith described the social impairment of the autistic as “an extreme form of ego-centrism with the resulting lack of consideration for others.” (Frith, 2004, p. 676) Unlike the typical behavior of a selfish person only concerned with what is in his or her best interests, the disregard of others and ego-centrism exhibited by an individual with autism is not deliberate. Indeed, a particular behavior may very well not be in the best interest of the person with autism, and may cause significant difficulty in forming interpersonal relationships. Individuals with autism may feel baffled by their relatives’ frustration with their ego-centrism because they are not capable of putting themselves in someone’s shoes. The golden rule is meaningless as there is no reciprocity. Frith also noted that social impairment is more evident in the real-world than a hypothetical or controlled laboratory environment because in reality, social cues are often subtle and responses to the cues are required to be fast.

Making friends and establishing intimate relationships is a key developmental life stage for young adults. This is an area of challenge for adults with autism. Although they may desire a relationship, they tend to approach others in an inappropriate physical or verbal manner or to misread subtle cues or body language. In addition, the actions of an autistic adult may be misinterpreted as sexual overtures when that may have not been the intent.

On the flip side, the autistic adult may not be aware of his or her own actions. Adults with autism may describe themselves as having friends when we would define such a relationship as that of an acquaintance. Patricia Howlin, in her book, Autism: Preparing for Adulthood, describes the problem as a naïve assumption on the part of the autistic adult of what constitutes a friend. She writes, “If someone speaks in a friendly tone, or wishes them good morning on a daily basis, this may be mistaken as a token of much greater intimacy. Individuals who were simply being kind or polite may become the focus of the autistic person’s wish to have a friend, and may be pursued unremittingly because of this.” (Howlin, pg. 63)

In one example of this, a young woman with autism, Susie, took the bus to a college course and met another young woman at the bus stop. In the course of conversation, Susie found out the other woman’s name and other personal information. Susie often waited for the woman to come home from work, would follow her home, and often call her once she got home. When it was explained the behavior must stop, Susie insisted the other woman was her friend. (pg. 63)

In another case, a young man with autism, Danny, would go to his local bar to chat with young women. The bartender asked him to stop coming to the bar because he was harassing women customers. Danny could not understand this; he thought the young women truly enjoyed his company and conversation. The young women were too polite to complain directly to Danny and he was also clueless to their annoyance. (pg. 64)

In many cases it is what the person with autism does wrong, it is the context in which it is done. At a very early age, children can interpret social cues that aid them to make an appropriated reaction to the situation at hand. Autistics often never learn how to interpret social cues. Further, behaviors that were once passable as an autistic child (e.g. certain gestures, facial expressions) may no longer be acceptable as an adult in society. For example, Howlin tells the story of Sarah, who, as an autistic child, had a very poor appetite and whose mother would encourage her to eat from other people's plate when she found something palatable. While this may have been considered precocious or cute in a child, now Sarah is a college student who often reaches across the cafeteria table to pick something off of another's dish. (pg. 71)

While an autistic adult may have gone through a rigorous social integration or social skills training process, there are other problems when trying to integrate other modes of communication. Gestures may be stiff or all too exaggerated for the situation. Eye-contact, facial expressions, and smiles may be affected. Many autistic children go through a stage of avoiding eye-contact with others, or they may have a very limited range of facial expressions. (Baron-Cohen, 1997, pg. 106) As they grow older, such skills do emerge, but often with impairments in timing or sequencing. Perhaps a child may be told to "look at people when you speak to them," but an autistic child may not be aware of the social rules around eye contact (no staring!) and the child's unremitting gaze may be disturbing. If an autistic person was told to "smile when you talk to people" the

autistic person may take that literally and smile at people, even in inappropriate situations. (Howlin, pg. 72)

Media Coverage of Autism: No Adults Allowed?

The film *Rainman* (1988) was a fascinating look at the lifelong disorder as it showed how autistic children grow up into adults. The movie dealt with the behavioral rigidity, peculiar language, and social abnormality characteristic of autism but also the savant abilities present in a tenth of individuals with autism. Because of this, the National Autistic Society developed an advertising campaign to dispel the “Rainman Myth” of the autistic-savant. The Society viewed the movie as downplaying the severity of the disorder.

While the accuracy of the movie may be debated, the movie was based on a true story and it was a peek into the life of adults with autism, including their talents and their obsessions. Now in his 50s, the “real” *Rainman*, Kim Peek, is referred to as the “Kim-puter.” While Peek cannot button his shirt, he knows every zip code in the United State and has the ability to recite music he heard only once 40 years ago. (Treffert, 2006) At the time *Rainman*, was released, autism was a rare disorder. It is remarkable the change in twenty-years. Unlike Dustin Hoffman’s character, Raymond Bobbitt) in *Rainman*, today’s autistic child is typically cared for at their home by their parents as opposed to an institution.

More recently, coverage on autism has been focused on the disorder and how it affects children. The January 27, 2008 issue of *Parade Magazine* featured

autism as its cover-story. Television programs and talk shows have episodes dedicated to the topic. *Oprah* had a special in late 2007 featuring Jenny McCarthy, a former Playboy Playmate, actress, and author, and actress Holly Robinson Peete, to discuss their personal experiences with autism. Both McCarthy and Peete have autistic sons as do other celebrities with autistic children such as singer Toni Braxton, former football star Dan Marino, and actor John Travolta. Autism does not have the stigma today that it once had. Parents are working together with physicians, dieticians, therapists, and others to attempt help their children live a more normal life. However, in all the coverage about autistic children, what is lost is the fact that they will grow up and have to cope with social relationships, education, employment, sexual relationships/sexuality, and legal issues. The disorder is on the rise and there is no cure. We do not even know the cause of the disorder. While this sounds quite dismal, there is reason to hope: science is beginning to unlock the differences in the autistic mind.

II. Your Brain on Autism

It would be so nice if something made sense for a change. – Alice (Carroll, 2000)

While no single specific cause of autism is known, current research links autism to biological or neurological differences in the brain. Some studies of individuals with autism have shown abnormalities in several regions of the brain, including the cerebellum, amygdala, and hippocampus.

Genetics

What was once considered the result of a cold mother, is now understood as a neurological disorder with a genetic link. Precisely which genes are responsible for ASD remains an open question. Family studies have been most helpful in understanding how genes contribute to autism. Studies have shown that among identical twins, if one child has autism, then the other will be affected about 75% of the time. In non-identical twins, if one child has autism, then the other has it about 3% of the time. Also, parents who have a child with an ASD have a 2%–8% chance of having a second child who is also affected. (Muhle, 2004)

It is not necessary to have a direct relation with autism but autistic traits appear in family histories. On February 6, 2008, *Good Morning America* featured a family in Utah who has six children – all on the autism spectrum. Bobby, the eldest, has Asperger's, and is highly functioning. He thrives academically but is unsure and awkward with the social aspects of school. Next in line, Emma and

Nephi, have a more severe Asperger's; they are fixed on specific objects and prone to meltdowns and aggressive behavior in school. Emma, according to her mother, will sometimes strike other children. Sarah and Ammon have classic autism and are completely non-verbal. The youngest, Mary, has a less severe form of autism and is a year delayed with language and emotional maturity. (ABC News, February 5, 2008) While their case is very unusual, it bolsters the case for a genetic link for autism.

Cognitive Neuroscience

The newly developing field of cognitive neuroscience attempts to blend psychology and neuroscience to come up with the answers to puzzling questions of the disorder's pathology. While there is no overall agreement or theory of what is deficient or defective in an autistic mind, some theories seem promising. Researchers at Carnegie Mellon University conducted a study utilizing diffusion tensor imaging (DTI) comparing the amount of white matter of normal brains to autistic brains. (White matter is the tissue through which messages pass between different areas of gray matter. White matter serves as the connector cables in the nervous system.) The hypothesis is that a reduction in white matter may be the underlying reason for the narrowly-focused thought process of autistics. The research team discovered that the white matter in the brains of people with autism have lower structural integrity than in the brains of normal individuals. This provides further evidence that the anatomical differences

characterizing the brains of people with autism are related to the way those brains process information. (Keller, Kana, and Just, 2007)

A United Kingdom study found a similar result in 2005. White matter deficits were found and hypothesized to play a role in the physiology of autism. (Waiter, et al, 2005) In addition, no significant areas of increased white matter were found in the subjects with autism.

The white matter studies support evidence the leading theory on the autistic brain, “underconnectivity.” Underconnectivity theory specifies a particular underlying biological mechanism and goes on to predict similar impairments in motor functions, memory, and expressive nonverbal language. In 2004, the underconnectivity theory was born based on a crucial study in a team led by Dr. Marcel Just that discovered abnormalities in the white matter that suggested a lack of coordination among brain areas in people with autism. This theory helps explain a paradox of autism: Some people with autism have normal or even superior skills in some areas, while many other types of thinking are disordered. (Just et al, 2004)

In a follow-up study, Just’s team related abnormality in synchronization among brain areas is related to the abnormality in the white matter. They discovered that key portions of the brain seem to play a role in the limitation on synchronization. In people with autism, *anatomical* connectivity - based on the size of the white matter - was found to be positively correlated with *functional*

connectivity, which is the synchronization of the active brain regions. They also found that the functional connectivity was lower in those participants in whom the autism was more severe. (Just et al 2007)

Further, in 2006, Darold Treffert and Daniel Christensen discovered that Kim Peek's brain (the "Real *Rainman*") differed from normal brains. For instance, Peek's brain and head are very large, in the 99th percentile. Even more remarkable is the complete absence of the corpus callosum, the connector between the left and right hemispheres. The anterior and posterior commissures which links the hemispheres is also missing. Peek's cerebellum (responsible for particular motor functions) is smaller than normal and may explain some of his trouble with coordination. The connection between the physical differences has with his extraordinary mental abilities are still being investigated. (Treffert and Christensen, 2006)

This body of work is painting a picture of the autistic brain, operating with less coordination than the normal brain, and relying on different parts of the brain to perform tasks. Anecdotally, Temple Grandin's story of how she thinks differently, relying on different parts of her brain to recall situations or thinking in pictures, seems to anecdotally validate these studies.

Psychology

Neuropsychological research on the recognition of facial expression has suggested a relationship between impaired facial emotion recognition and social

ineptness. McCown and colleagues examined individual differences in facial emotion recognition and its relationship to social insensitivity and aggression. (McCown, Johnson, and Austin, 1986.) Corresponding research on persons with autism has shown deficits in facial emotion recognition in that it does not occur in the same area in the brain for autistics as it does for normal individuals. Utilizing fMRI, Gillberg and Coleman found that those with autism had less fusiform gyrus (the area of the brain activated in facial recognition) activity. (Gillberg and Coleman, 2000) Using similar methods, Pierce et al found that all but one autistic adult studied did not use the fusiform face area when recognizing a human face. They conclude, "...autistic individuals 'see' faces utilizing different neural systems, with each patient doing so via a unique neural circuitry." (Pierce et al, 2001, pg 2059) Thus, such impairment can be linked to poor social judgment, deficits in social skills, or impaired theory of mind.

Robert Mason and colleagues published an article in *Neuropsychologia* tying functional neural connectivity with the capacity to make inferences about the state of mind of other people or social interpretation, also known as a "Theory of Mind." (Mason et al, 2008) The primary goal in Mason's study was to find out how the neural networks of the autistic individual differ from the non-autistic individual. The team found that individuals with autism had a lower functional connectivity (consistent with the work of Just and colleagues mentioned previously, Just et al, 2004) within the "Theory of Mind" network. In addition, the team found a lower connectivity between the "Theory of Mind" network and left

hemisphere language network. (Mason et al, 2008) We know that language and communication impairment is one of the key defining disorders of autism and thus it makes sense that the connection between social interpretation and language would be less than perfect.

Taken as a whole, the research highlighted in this chapter shows that there is a neurological difference in the autistic brain versus that of a normal brain. While science will not generally tell us how to act in a particular situation, it provides guidance because it contributes to our understanding of human nature and how we perceive the world. This is important to ethics because it reveals what it means to be human on a physical, biological level. Science reveals the basic framework for intelligence, moral judgment and action. Philosophic and cognitive explanations delve further into morality and more robustly explain the phenomenon of the autistic mind.

III. Philosophic and Cognitive Explanations

Curiouser and curiouser! – Alice (Carroll, 2000)

Around me bags of skin are draped over chairs, and stuffed into pieces of cloth; They shift and protrude in unexpected ways- two dark spots near the top of them swivel restlessly back and forth. A hole beneath the spots fills with food and from it comes a stream of noises (Gopnik 1993)

People are more than physical beings that can be seen, heard, and weighed. They also have beliefs, desires, and intentions that lie below the surface behavior. One cannot directly see, taste, smell, or hear mental states, but it is an essential part of our ordinary adult understanding that other people have them.

Cognitive science has been dismissed by some philosophers as unimportant on the basis that there is a marked division between facts and moral values. Their argument is that cognitive science has little to no bearing on morality because facts about human minds, behavior, and thought cannot give rise to the “ought” question: how ought we to act.

Philosophical Insights

Perceiving mind (ones’ own and the minds of others) and causal agency are specifically human abilities. Classic philosophical approaches can lend insight to intentionality. For Kant the mind is like a programmed computer. The mind is actively involved in organizing the data of the senses and those ideas about the external world could not exist unless there were corresponding mental

capabilities and constructs to match. Our understanding of sensory information processing shows that the brain has evolved in a way that reflects the need for specific capabilities to enhance our survival. Data feeds in and the program runs. Thus, Kant's idea that there are inborn mental faculties that allow us to form ideas about the external world isn't so different from this idea, and in that sense, Kant has been proven correct by neuroscience two centuries later.

However, in the case of autism the programming is distorted. As mentioned earlier, autistics have difficulty distinguishing people as different, as special, from objects. But for the classical Kantian principle of ends, how can the autistic treat a person as an end and not a means if they cannot distinguish them from an object?

The ability to distinguish a person or other-consciousness is necessary for being ascribed moral responsibility for ethical action. Other-consciousness confers moral status in that beings that have other-consciousness may have more rights than those lacking it, and may be more deserving of being treated as ends rather than means in Kantian terms. Beings with such higher moral status are considered to have freedom of choice in their actions with others. In addition, other-consciousness implies capacity for empathy with the suffering of others. In persons with autism, they are able to decipher their own feelings and exhibit self-consciousness. However, they do very poorly in determining the thoughts and feelings of others.

Temple Grandin and a colleague wrote a book relating humans with autism to animals in their similar lack of other-consciousness. (Grandin and Johnson, 2005). Animals do not have freedom of choice and they are not autonomous agents responsible for their actions. Because freedom and autonomy are essential to responsibility, any person that cannot meet those conditions - at least to the extent that he or she cannot meet those conditions - is not a morally responsible agent. (Kant, *Grounding*, 1993) Freedom rests in the ability to act on insight and override habits or emotions in the decision making process.

In *The Nichomachean Ethics*, Aristotle ponders responsibility for actions. He noted that the best strategy is to make responsibility the default condition. To be excused from responsibility, there must be an unusual circumstance such as insanity. Aristotle recognized that responsibility (and its subsequent punishment) comes in degrees. Depending on conditions, someone may be granted reduced punishment to reflect responsibility. In the United States, our standards for determining responsibility are rooted in Aristotelian ethics. The standards have been elaborated and revised with new knowledge about defects of decision-making. This will be discussed further in the later chapter on the legal system.

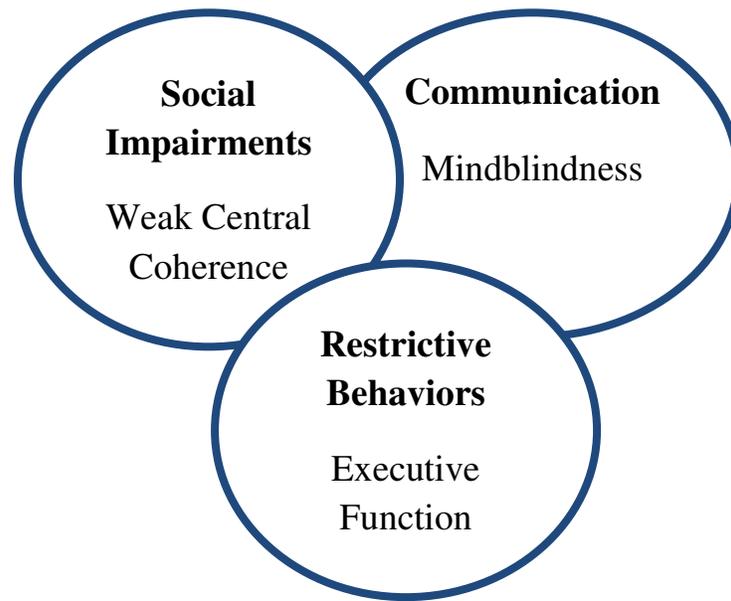
Cognitive Theories: Theory of Mind

A key component in understanding relationships is what we understand about ourselves and what we understand about other people. We understand our

minds and we understand other minds. This "theory of mind" is the ability to construct people in terms of internal mental states such as their beliefs, desires, intentions, imagination, emotions, etc. (Baron-Cohen, 2001; Baron-Cohen, Leslie, & Frith, 1985). Theory of mind establishes preconditions for the understanding our environment and behaving in accordance to that environment. Language and communication development depends crucially on being able to read the intentions of others. People don't always say what they mean and normal adults are adept at picking up the subtle intents in conversation. Without this ability, communication is more prone to break down. Having a theory of mind is having the ability to reflect on the contents of one's own and others minds. This ability has been extensively studied in relation to those diagnosed with autism.

Theory of mind has been found to account for an increase in understanding the many perplexing features of autism. (Frith, 2007) This lack of theory of mind makes it probable that an inability to attribute mental states leads to a profound lack of insight into normal social interactions. This lack of insight would lead to limited social relationships. However, no single cognitive explanation of theory of mind suffices for autism. Like the triad of impairments, theory of mind can also be seen as a triad: mindblindness, weak central coherence, and executive function. (Frith, 2007) Figure 2 correlates the theory of mind triad with the autism triad of impairments.

Figure 2. Theory of Mind and the Autism Triad



Mindblindness

Mindblindness is the delay in development of theory of mind. In his book, Simon Baron-Cohen claims we read each other's minds all the time, automatically, and typically unconsciously by picking up on subtle clues. Through mind reading, we are able to interpret, predict, and participate in social behavior and communication. (Baron-Cohen, 2001) He concludes that autistics suffer from "mindblindness" as a result of their inability to read minds. This is not a new concept: Kant introduced the concept of "minds perceiving minds" in the *Critique of Pure Reason*. What is new is that Baron-Cohen believes this is the central factor in autism. Life can be difficult if one does not possess the natural ability to comprehend other's minds.

An example of this comes from Leo Kanner's description of an autistic child. "On a crowded beach he would walk straight toward his goal irrespective of whether this involved walking over newspapers, hands, feet, or torsos, much to the discomfiture of their owners. His mother was careful to point out that he did not intentionally deviate from his course to walk on others, but neither did he make the slightest attempt to avoid them. It was as if he did not distinguish people from things, or at least did not concern himself about the distinction." (Kanner, 1943, pg. 232)

Researchers suggest that the majority of individuals with autism are mind-blind. (Frith, 2007; Rieffe et al., 2000) Mind-blindness means that children are unable to attribute mental states, such as dreaming, hoping, thinking, believing and wanting in others or one's own self. (Rieffe et al) In the previous chapter, we saw an experiment where the lack of facial recognition in autistic children appeared in the neural framework. Thus it seems reasonable to expect problems discerning facial affect as it stems from the brain. It has been found that autistic children find immediate social environments to be unpredictable and incomprehensible; often they are said to, in some sense, treat people and objects alike. (Baron-Cohen et al., 1985)

To assess theory of mind, Baron-Cohen et al. (1985) employed the Sally-Ann experiment. Two dolls, Sally and Ann are sitting side-by-side and have a basket and a box in front of them, respectively. After placing a marble in her

basket, Sally left the scene. Ann transfers the marble to her box. Once Sally returns to the scene, the participants were asked the question: "Where will Sally look for her marble?" (Frith, 2007) If the children point to the previous location of the marble - in Sally's basket - they pass the belief question because they understand the dolls now false belief. If they point to the marble's current location, they fail the question by not taking into account the dolls belief. These conclusions are acceptable if the two control questions are answered correctly: "Where is the marble really?" and "Where is the marble in the beginning?" (Frith, 2007)

While every child correctly believed the marble was somewhere other than the basket after Sally left the scene, there was a distinct difference in the answer to "Where will Sally look?" (Baron-Cohen et al, 1985) Autistic children were found to answer this question in a distinctively different way from the others. The other children answered by pointing to where Sally's basket, predicting behavior based on Sally's belief that the marble remained in her basket. The autistic children pointed to where the marble was actually located. As a result Baron-Cohen and his colleagues concluded that that autistic children lack the ability to appreciate that others' beliefs might differ from their own, such as their beliefs from Sally's beliefs. This showed an inability to identify, attribute, and manipulate mental states such as belief. This mentalizing ability develops rapidly in young children (around ages 6-8) but at an extremely slow rate in autism. (Baron-Cohen et al, 1985)

Weak Central Coherence

Uta Frith proposed in 1989 that the single definable deficit for autistics is lack of coherence, their inability to draw together information into a coherent whole. Autism is characterized by a series of strengths as well as weaknesses. Tests that tap factual knowledge and focused attention on detail may lead to peak performances, where tests tapping common sense comprehension may be surprisingly poor. Some of these features are explained by the theory of “central coherence” This account refers to an information processing style, rather than a deficit. In the case of strong central coherence, this tendency to process incoming information in its context at the expense at the attention of memory for details. In the case of weak central coherence, piecemeal processing is favored at the expense of contextual meaning. (Happe, 1999) For example, when recalling an incident or a story for a friend, we often find it easier to tell the gist of the story, rather than specific details. Persons with autism show the opposite, favoring the specifics rather than the main idea.

Thus, the theory of weak central coherence deals with a tendency to focus on details at the expense of a holistic, integrated sense of information. According to this view, autistic individuals fail in integrating all of the details together – not seeing the forrest for the trees. This is consistent with the underconnectivity approach that Just found in his study. (Just, 2007) Indeed, in her more recent work with her colleagues, particularly in neuroimaging research, Frith has

attempted to apply the concept of weak central coherence to the brain activity level. (Hill and Frith, 2003, Frith, 2007)

Executive Function

Elisabeth Hill uses the term “executive function” as the umbrella for planning, working memory, impulse control, and mental flexibility. (Hill, 2004) Historically these functions have been linked to frontal structures of the brain, specifically to the prefrontal cortex. These functions share the need to disengage from the immediate environment in order to guide actions. Executive functions are typically impaired in patients with acquired damage to the frontal lobes as well as in a range of developmental disorders such as autism.

Executive function best explains the restrictive behavior impairment on the autism triad as the behavioral problem addressed by this theory concern rigidity. (Hill, 2004) Autistic individuals often get “stuck” in a given task. At the same time the ability to carry out routine actions can be excellent and is manifested in a strong desire for repetitive actions and rituals. Repetitive actions dominate in the daily life management of many people with autism and thus have an impact on the executive functions of planning, flexibility and inhibition, all things crucial to navigating adulthood.

Cognitive and philosophical theories contribute to our understanding of autism. However, they may also obscure neglected components of autism, outside of the triad, that are important to its understanding. For example, many

autistic people exhibit inappropriate emotions or severe emotional or physical outbursts. These outbursts, depending on the nature and situation, could make the person with autism a target of, or prone to, interactions with the legal system.

IV. Autism and the Legal System

Speak English! I don't know the meaning of half those long words, and I don't believe you do either! – Alice (Carroll, 2000)

In the United States, to be convicted of a crime, an individual must have performed an action that was a violation of criminal statute. Another twist with its roots in Aristotelian ethics is that a person must have a criminal state of mind. This provision is known as *mens rea*, Latin for “guilty mind” meaning the act was willful, knowing, and involved reckless indifference or gross negligence. (Young et al, 2007, Robinson, 2002) The *mens rea* defense involves trying to prove that the defendant was not a moral agent in the fullest sense when the action was performed (e.g., an “insanity” defense).

Also, other factors may show diminished responsibility that yet does not abolish responsibility. Diminished responsibility provisions are complex but roughly mean that the person was not in full control of his or her actions. In the case of an adult with autism, diminished responsibility may be acknowledged if the person has a low intelligence or if the action occurred in response to provocation sufficient to make him or her lose self-control (where the provocation was such that a reasonable person might well lose self-control). The difficulty with autistic adults, particularly those on the higher end of the spectrum, is that their intelligence is actually normal and in some cases, quite high. Tests that are used to assess intelligence are often easily passed by the autistic individual. Also complicating matters is that what provokes the autistic adult (e.g. the sound of

loud music, a light tap on a shoulder) may not provoke normal “reasonable” people.

Autistic adults face difficulties when confronted by the legal system in a variety of roles. For example, persons with autism may have obsessions with order and insist on lining up the cans, bags, and containers on store shelves. This behavior may cause store employees to suspect shoplifting. Autistic adults may also follow people that attract them, stalking them without fully understanding how inappropriate the behavior is and unable to comprehend how that behavior would concern others, worried about a potential assault (physical or sexual) or kidnapping.

The sensory difficulties many autistic adults face in processing or adjusting sensory inputs, situations would be handled with care by police so not to escalate the situation. In one disturbing example, officers in Irvine, California forcibly subdued a teen-ager with autism when they thought he was riding a stolen bike and failed to heed their warnings to stop. The boy’s bike was his own and he was frightened by the strangers, lights, and sound of the sirens. The take-down resulted in damage to one of the boy’s kidneys, and its subsequent removal. (Debbaudt, 2002)

Typically, autistic adults look perfectly normal, but as mentioned earlier, 50 percent are non-verbal. (ASA, 2008) Hence, officers attempting to seek information from an autistic adult may run into a great deal of difficulty. Adults

with autism may not respond to commands or run away when approached. A loudspeaker or siren may cause them to cover their ears and cower in fear and in pain. If the autistic adult is verbal, there still may be a difficulty in expressing their needs in addition to other complicating behaviors that may confuse law enforcement such as repetitive physical movements (rapid hand-flapping or finger-flicking) or rocking back and forth, or spinning, or pacing.

This chapter discusses the roles an autistic individual may play in the legal system, as witnesses, victims, or suspects of a crime. Autism is a challenge for not only the individuals with the condition, but also for law enforcement and the legal system.

Witness

Interviewing allows officers to gather information and is an important step in the criminal justice system. Simply, officers need to know the details surrounding an event to decide on further action. In gathering information from an autistic person who may have witnessed an event, officers may face difficulty. Reporting on what happened is a three-pronged process: what the witness saw, their interpretation of what they saw, and their memory. (Berney, 2004)

The autistic individual's reliability to give an account of the event and their ability to answer the officers' questions must be taken into account. The communication problems of the triad may result in a very literal comprehension and an inability to understand non-verbal communication. (Berney, 2004)

Features of ASD that may affect an individual's credibility as a witness include a risk of misinterpretation of what he has seen or heard, difficulty with the structure of the official interview where the unfamiliar setting will increase the symptoms of his disability, and a misinterpretation of rules and relationships. (Berney, 2004, pg 347)

Victim

Unfortunately, most researchers believe persons with ASD far more likely to be victims than perpetrators of crime. Social naïveté and misinterpretation of relationships may result in exploitation by others. (Howlin, 2004) Difficulty expressing what happened or a lack of credibility because of the disorder may result in what Debbaudt described as “being victimized twice: once by the abuser and again by a system that lacks the ability or resolve to understand him or her.” (Debbaudt, 2002, pg 50) Persons with autism may actually be perfect victims. “Lacking abstract-thinking skills, persons with autism will not conclude that their dress, speech, and isolation were the keys to their victimization; thus, they will not change and they are likely to be victimized again.” (Debbaudt, 2002, pg 51)

Persons with autism may be manipulated to join gangs, seeking instant friendship and acceptance. Gangs often recruit persons with disabilities to run drugs or create diversions. (Debbaudt, 2002, pg 52) Sexual assault and theft are also crimes committed against the autistic. Women with autism are especially vulnerable to sexual assault. Corrupt caregivers may take advantage of passive

autistic individuals. With respect to theft, caregivers, telemarketers and others have targeted persons with disabilities with a variety of scams or get-rich schemes. Sadly, these schemes or scams often happen at the same time that government or insurance aid checks are disbursed. ((Debbaudt, 2002, pg 53)

Suspect

Navigating the criminal justice system as a suspect or a “person of interest” is difficult for the person with autism to comprehend and manage. The steps involved: interrogation, restraint and arrest, legal proceedings, and punishment are fraught with perils for the autistic.

Interrogation

Interrogations are conducted when there is reason to suspect a person knows more about a particular crime. Autistic adults may provide officers misleading indications of guilt. Autistic individuals may not make eye contact with officers. They may change the subject, which an officer may interpret as avoiding the matter at hand. As the autistic adult may have difficulty in expressing feelings such as happiness or remorse, or answer questions bluntly, officers questioning him or her may perceive this as evidence of guilt.

Good cop/bad cop tricks are poorly understood by autistics. They may tell officers what they think the officers want to hear because they may perceive that the “good cop” is their friend (and they want a friend). They may not respond well to questions as often autistics take statements literally. Autistic adults who find

themselves under questioning may be desperate to get out of the interrogation room. As they may have a variety of sensory issues, a touch may set off an autistic adult. Interruption of routines or simply a new and/or stressful situation may set off a chain reaction of aggressive behavior.

Restraint and Arrest

Social difficulties, poor response to anxiety and sensory defensiveness may lead to conflict with police in high pressure situations. An adult with ASD adult may be stopped at a routine traffic stop, become anxious, and act erratically (or with a stimulatory behavior such as flapping). If officers attempt to restrain the person with autism, the sensory issues the person experiences could set off a chain reaction, leading to assault or an officer or resisting arrest.

Physically restraining a person with autism is complicated because they frequently have underdeveloped muscles in the mid-section or hypotonia. Placing an autistic person on his or her stomach may compress the diaphragm and limit breathing. (Debbault, 2002, pg 27) This may cause the autistic to panic and officers may view this behavior as resisting, attempting to flee, assault, or simply psychosis. Arresting a person with autism has its own challenges. As autistic individuals look normal, the disorder manifests itself in a variety of ways. In the United States, the newly arrested are read their Miranda rights. When an officer

asks an individual with autism if he understands his rights or “waives his right,” the individual may wave his or her right arm.²

Brick County, New Jersey has one of the highest autistic populations in New Jersey, which is also the state with the highest rate of autism in the nation. (Medina, 2007) The community organized training sessions for its law enforcement officials, fire and rescue workers, prosecutors, and others in the community to successfully interact with persons with ASD. A sample of the type of handouts and information given at the sessions is featured in Appendix C.

The goal of these training sessions is to make the community a safer place for people with developmental disabilities. Officials are taught how to recognize the behaviors of autism, such as reacting suddenly to light and sound or that unresponsiveness may indicate an impaired verbal ability. The officials are also taught appropriate responses to minimize risk to the person with autism, the general public, and the official him or herself. With the rate of autism increasing, more communities should adopt Brick County’s proactive educational program. Positive developments can take place when the law enforcement and autism communities collaborate to share information. A better response equals better outcomes for all involved.

² Video is located at: http://www.childnettv.com/videos/services/police_and_autism

Legal Proceedings

Innocent until proven guilty is the legal mantra with which we are familiar. However, before an autistic individual may take the stand in his or own defense, competency may be determined. Debbault writes that if a defendant is unable to assist in the defense or necessary criminal intent cannot be found, the court may place the defendant with autism in a state or private facility until he or she is no longer a threat to society. (Debbault, 2002, pg. 107) Once a person is found competent to stand trial, a date is set. Like a normal defendant, guilt or innocence will be determined by a judge or jury. If found guilty by the judge or jury the autistic adult may be remanded to prison or an institution. Habitual offender laws also catch autistics in its web along with criminal offenders who choose crime. Persons with ASD may become involved in repeated misdemeanors as they are unable to learn from their mistakes.

Punishment

While a punishment may fit the crime it may not fit the perpetrator if he or she is autistic. Incarceration puts the autistic adult at risk. Prison rules are quite difficult to understand. As their behavior may make them easy targets, other inmates victimize the disabled. There are also few programs that rehabilitate disabled offenders and thus, once in the prison system, a person with autism is likely to stay there.

Mental health facilities are an alternative to the prison system. The problem with this approach is that often these types of institutions are at full capacity and understaffed. For non-violent offenders, community-based healthcare, including local outpatient facilities and drug therapy are also better options.

Why Autistic Adults Commit Crimes

Persons with autism are often the target of harassment and bullying in the community and/or in school. A sampling of recent cases of autistic adults physically assaulting or killing another person:

- The *Atlanta Journal-Constitution*, reported in 2007 about a man with Asperger's, Stacey Ian Humphries, who was convicted of killing two women in and also found to be guilty of aggravated assault, kidnapping, and armed robbery. The state of Georgia is pursuing the death penalty. Friends and families of the victims have lined up in support of the punishing Humphries to the fullest extent of the law. Indeed, Humphries' own attorney was quoted as saying, "This [Humphries' ASD] is not an excuse for what he did" before asking the jury to consider that persons with autism may have differing reactions than normal people. (Williams, 2007)
- In January 2008, Sam Benton accepted a plea bargain to serve a 10 year prison term for sexually abusing a 12 year-old boy. Benton, a 20 year-old, has struggled with autism since age two. The Judge in the case, Sara Sheldon Sperrazza said, "Based on what I know about Mr. Benton, I don't do this lightly. In and out of foster care, adjudicated person in need of supervisions, misdiagnosed, possibly the victim of sexual abuse himself...assuming all that exists, it doesn't excuse what he did. He ruined a little boy's life." (Prohaska, 2008) Benton's mother attended the trial and said that her son was not diagnosed until age 16. Benton will serve in the state prison system.

- In May 2007, Robert Derderian, age 18, was charged with sexually assaulting a 12 year-old girl and a 10 year-old girl on two separate occasions. Derderian, who is autistic, has a limited speech capacity and will not speak to his appointed public defender. Prosecutors may seek a sentence of 25 years to life for each charge under New Hampshire law. (AP, 2007)
- The worst case involving a reported criminal act by a person with autism is the April 16, 2007 Virginia Tech tragedy when a student, Cho Seung-Hui , gunned down 32 people in the middle of the day before committing suicide. The director of the Autism Center of Pittsburgh, Cindy Waeltermann, issued a statement regarding the revelation that Seung-Hui was autistic. Waeltermann said that he did not receive the help and support that he needed early on but also said the act of one individual should not reflect upon the entire autistic population.

Criminologists have long noted that aggressive criminal offenders often fail to experience or appreciate emotional significance of stimuli such as facial cues, verbal cues, etc. (Savitsky and Czyewski, 1978) This observation has led to the proposition that failure to experience or appreciate the emotional cues of other underlies poor empathetic capacity and prevents one from anticipating the emotional consequences of one's actions. We know from the prior chapters that persons with autism also have difficulties with facial, verbal and emotional cues. Indeed, this may be a link between autism and criminality.

One study assessed the male population at a special psychiatric hospital in Berkshire, England. Using case notes, the authors identified the persons with ASD. Out of 392 patients, there was an ASD prevalence rate of two percent. Although the numbers are small, this is a higher figure than the rates for ASD in

the general population. (Scragg and Shah, 1994)³ Scragg and Shah conclude that there is an association between ASD and violence as a result of this study. The authors also suggest that there may be more people with autism in prisons or in special hospitals that have not been diagnosed.

Howlin discusses reasons why autistic adults commit crimes. The reasons include: lack of empathy for others, limited insight that can lead to denial of responsibility, and social perception difficulties leads to poor prediction of consequences of behavior. Sensory defensiveness can sometimes lead to aggressive behavior. Various factors combine to make violent aggression relatively frequent in Asperger's Syndrome. In 40% of cases in one large study, striking others was a problem for persons with Asperger's Syndrome. (Tantam, 2003)

Misinterpretation of societal rules can lead to involvement in criminal behaviors (e.g. public masturbation or exposure). Difficulty judging the age of others, and understanding their developmental level and intentions may lead to incestuous relationships or sexual advances to minors. Perpetrators may be more likely to have co-morbid conditions (e.g., psychosis) and environmental triggers (family conflict, social rejection, lack of mental health services, etc.) (Howlin, 1997) Berney adds to these reasons and includes an innate lack of

³ Please note that this study took place in England, not the United States, in 1994. The prevalence of ASD has also risen in other countries in the past decade.

awareness of consequences for actions (e.g., assault may lead to death).
Difficulty judging the intentions of others may lead unwanted sexual advances.
Overriding obsessions may lead to stalking or compulsive theft. (Berney, 2004)

A study in the *Journal of Autism and Developmental Disorders*, found persons with autism were more likely to engage in appropriate courting behavior, pertinent when prosecuted under stalking laws. Additionally, the study found that autistics were more likely to focus their romantic intentions on celebrities, strangers, and colleagues peers and friends. (Stokes et al, 2007) In 2002, Daniel Murrie and colleagues analyzed six case histories of autistic adults in forensic settings. Commonalities across cases included a deficiency in empathy, sexual frustration, preoccupations, and lack of interpersonal understanding. (Murrie, 2002)

Lastly, with respect to individuals with autism, is the basis of criminality an act that causes harm (*actus reus*) or an act undertaken with the belief that harm will result? (Young et al 2007) Older children are more sensitive to information about intent in comparison to younger children. This is not simply a “theory of mind...but the ability to integrate this information with information about consequences in the context of moral judgment.” (Young et al, 2007, pg. 8235) As mentioned in an earlier chapter of this work, there is a point where children begin to acquire a theory of mind. Future autism research will reveal further

insight between the relationship of theory of mind and moral judgment. (Young et al, 2007, 8239)

While these studies lend an explanation as to why autistic adult commit crime, they do not lend themselves to determining how to stop the crime. Further, it is a Catch-22 for persons with autism: as a victim of or as a witness to a crime, the autistic may lack credibility. However, when in the role of perpetrator, the autistic is believed. Whether or not society should have it both ways, and their ethical implications, are discussed in the next chapter.

V. Implications

But it's no use going back to yesterday, because I was a different person then. – Alice (Carroll, 2000)

Social

What is the purpose of ascribing responsibility to others for wrongdoing and punishing the guilty? It may be rooted in a relationship between justice and causal action or in the social need for civil behavior. Humans are social animals and in general, our chances of surviving and thriving in a social group are better than if one lives a solitary existence.

What kind of society are we if we punish autistic adults who cannot comprehend or prevent the crimes they committed? In one of the cases mentioned in the previous chapter, a man with Asperger's Syndrome who was convicted of murder, may receive the death penalty. In another case, a man is likely to spend the rest of his life in prison as a result of his sexual assault conviction. Our society tends to be sympathetic to those who are significantly disabled. However, to those who are almost normal, who look like a normal person with an average (at least) intelligence, society places greater expectations on these people.

In 2002, the United States Supreme Court decided that the values of the American public had shifted and there was a consensus that our society opposes the execution of the mentally retarded. *Atkins v. Virginia* (536 U.S. 304) is a case

concerning moral progress and human dignity. Supreme Court ruled that mentally retarded criminals cannot be given the death penalty as it constitutes “cruel and unusual punishment.” Daryl Renard Atkins, the defendant, was found to be “mildly mentally retarded” during the penalty phase of the case. (*Atkins v. Virginia*, 260 VA 375) However, at a second hearing, ordered by the Virginia Supreme Court because the judge had used a misleading verdict form, Atkins was described as having “average intelligence.” (*Atkins v. Virginia*, 435 S.E. 2d 312) This confusion led the United States Supreme Court to grant certiorari. Mr. Atkins is presently in a federal prison. Is that not “cruel and unusual” or is this necessary for public safety?

Like the mentally retarded, it is indefensible to conclude that individuals with autism are not – at least to a certain degree – less culpable for their criminal acts. They have substantial limitations not shared by the public at large. A civilized society is unjust if it does not afford consideration to those limitations in sentencing and punishment. Like the autism spectrum itself, punishment scaled to the spectrum. Clearly, the perpetrator of the Virginia Tech tragedy was on the higher end of the spectrum. (Some autism advocates claim that he was not autistic at all.) He lived in a college dormitory, away from his family, and his academic achievements warranted acceptance to a major state university. His crime was premeditated and he likely had a host of mental issues in addition to autism. If he were still alive, he should have been prosecuted and convicted. Instead of prison though, he should have been assigned to a mental health

facility to continuous mental health care. The continuous mental health care is likely one of the factors that may have averted this tragedy.

A person with autism may have a high IQ that does not mean that they function normally. Their decision making process is impaired by the disorder. Their social interactions are impaired by the disorder. While I am not suggesting that they do not deserve punishment at all, prison life is clearly not for them. After all, what is the purpose of punishment? One may argue that it is to deter future crimes from occurring. Another person may argue retribution. But for the autistic offender, I think that rehabilitation is a better choice.

Rehabilitation is complex and involves an examination of the offense and the criminal, and a concern for the criminal's social background and punishment. There is a possibility of additional problems surfacing after incarceration. Proponents of rehabilitation in punishment argue that punishment should be tailored to fit the offender and his or her needs, rather than fitting the offense. (Bean, 1981, pg 54)

As time goes on, neuroscience will have a transformative effect on jurisprudence, despite the fact that existing legal doctrine can accommodate whatever we are able to learn from neuroscience. Neuroscience will transform the public's moral intuitions about free will and responsibility. (Greene and Cohen, 2004) While our understanding of the human brain may bring about many answers to relieve human disease and suffering, there are potential problems.

For example, at this point in time, the public tends to view brain scans as more accurate and objective than they are. (Dumit, 2004) We watch television shows like CSI and Law and Order and we many think these technologies are truly ready for prime time when they are not. The shows fail to take into consideration the many layers of signal processing and the analysis that intervene between the actual brain function and the resulting image or wave form. The person reading the brain waves must also be able to interpret the images correctly and without bias.

Additionally, the law must catch up with the science and figure out responsibility and whether or not to distinguish between accidental and intentional crime if the outcome is the same. At the present time, each court is making its own decisions on the admissibility of brain scans. It is my hope that in the near future there will be a framework or consistent guidelines to using new technologies are used to maximize benefits and minimize any harm.

Ethical

Ethics is a phenomenon of human beings. To be ethical is to reflect on principles of right and wrong and to act accordingly. This is the same for all human beings and we expect responsible and moral behavior from one another. Even when a person is diminished in capacity, we still treat that person with the dignity they would have been afforded at complete functionality. While educating the community about autism is an important goal, there remains a stigma of

cognitive disabilities and those with impairments like autism may face discrimination. Neuroscience may also cause a parent or provider a biological crutch in which to treat a person with autism and unacceptable behavior may be overlooked because of physical manifestations. However, ethics must not be reduced to a biological process. Reconciling the scientific with the humanistic is a challenge. The scientific relegates us to an animal, described in physical terms. The humanistic view tells us we are responsible for our own actions. The humanistic and scientific are more difficult to reconcile in the autistic individual. But, by virtue of being human, we must consider the autistic in both terms, even if they cannot reciprocate that consideration.

I appreciate Kant's concept of dignity in that it designates a value that is beyond price. In *Grounding for the Metaphysics of Morals*, he writes:

“whatever has reference to general human inclination and need has a market price; whatever, without presupposing any need, accords with a certain taste...has an affective price; but that which constitutes the condition under which alone something can be an end in itself has not merely a relative worth (price) but has an intrinsic worth (dignity)” (Kant, 1993, pg. 40)

Thus, there are ethical limits on our bodies and minds. Breaches of those limits –by science, caregivers, physicians, or others – violates dignity and is unethical. Developmental disorders like autism do not transform a human being in to another kind of being. They have equal dignity as others; there are no gradations of dignity.

Respecting another human is to also respect their limitations. For persons with autism who commit a crime, society should carefully balance the needs of the autistic individual with societal safety. They are already victims of the disorder and stigma, adding incarceration to the mix would constitute cruel and unusual punishment.

Conclusions

Begin at the beginning and go on till you come to the end: then stop. –The King (Carroll, 2000)

With a 10-17% rate of growth, it will become a research imperative to determine exactly where the autistic brain differs from the normal brain and unlock the secrets of the disorder. Until that happens, autistic children will grow up and have to navigate a strange society, like Alice in Wonderland, that is ill-equipped to meet their unique needs.

When autistics commit crime, including violent crime, the criminal justice system should always question their intent. In cases involving autistics, officials should consider aggravating factors of the crime. Using a philosophical and ethical framework, I delineated how we ought to treat individuals with autism who are unaware of their own criminal or anti-social behavior: with dignity and respect by taking into account their places on the autism spectrum. While autistic adults present dilemmas for the criminal just and legal systems, measures should be taken to avoid misinterpreting their behaviors and characteristics. A just society makes allowances for those with diminished pathological capacity.

Further, autistic adults need special attention within the legal system. Prison is an inappropriate place for the autistic individual, regardless of the crime. An autistic's lack of social understanding, anxiety, preoccupations, atypical communication style, sensory issues, social withdrawal, and other manifestations of the syndrome, makes them ill-equipped to navigate normal society, let alone

prison life! There are better solutions such as increased mental health facilities, group or half-way houses for the developmentally disabled and house arrest. Treating all persons with dignity demands societal understanding of those less cognitively fortunate.

Appendix A – Criteria for 299.80 Asperger’s Disorder

The following are the diagnostic criteria for Asperger’s Disorder from the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (American Psychiatric Association, 1994):

- A. Qualitative impairment in social interaction, as manifested by at least two of the following:
1. Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
 2. Failure to develop peer relationships appropriate to developmental level
 3. A lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g. by a lack of showing, bringing, or pointing out objects of interest to other people)
 4. Lack of social or emotional reciprocity
- B. Restricted repetitive and stereotyped patterns of behavior, interests, and activities as manifested by at least one of the following:
1. Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
 2. Apparently inflexible adherence to specific, nonfunctional routines or rituals
 3. Stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
 4. Persistent preoccupation with parts of objects
- C. The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.
- D. There is no clinically significant delay in language (e.g., single words used by age 2 years, communicative phrases used by age 3 years).
- E. There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior (other than in social interaction), and curiosity about the environment in childhood.
- F. Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia.

Appendix B – Criteria for 299.00 Autistic Disorder

The following are the diagnostic criteria for Autistic Disorder from the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (American Psychiatric Association, 1994):

A. A total of six (or more) items from (1), (2), and (3), with at least two from (1), and one each from (2) and (3):

1. Qualitative impairment in social interaction, as manifested by at least two of the following:
 - a. Marked impairments in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body posture, and gestures to regulate social interaction
 - b. Failure to develop peer relationships appropriate to developmental level
 - c. Lack of spontaneous seeking to share enjoyment, interests, or achievements with other people, (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)
 - d. Lack of social or emotional reciprocity (e.g., not actively participating in simple social play or games, preferring solitary activities, or involving others in activities only as tools or "mechanical" aids)
2. Qualitative impairments in communication as manifested by at least one of the following:
 - a. Delay in or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)
 - b. In individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
 - c. Stereotyped and repetitive use of language or idiosyncratic language
 - d. Lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level
3. Restricted repetitive and stereotyped patterns of behavior, interests and activities, as manifested by at least two of the following:

Appendix B – Criteria for 299.00 Autistic Disorder (continued)

- a. Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
 - b. Apparently inflexible adherence to specific, nonfunctional routines or rituals
 - c. Stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
 - d. Persistent preoccupation with parts of objects
- B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years:
- 1. Social interaction
 - 2. Language as used in social communication
 - 3. Symbolic or imaginative play
- C. The disturbance is not better accounted for by Rhetts Disorder or Childhood Disintegrative Disorder

Appendix C – Autism Response

Approach the person in a quiet, non-threatening manner. Persons with autism may be hypersensitive to stimuli.

Understand that touching a person with autism may cause a fight or flight reaction.

Talk to the person in a moderated and calm voice. You may have to repeat your directions and questions; be patient.

Instructions should be simple and direct, avoiding slang. A person with autism takes things literally. Waiving your rights may mean waving your right hand.

Seek all indicators to evaluate the situation as it unfolds and be willing to adjust.

Maintain a safe distance until any inappropriate behaviors lessen but remain alert to outbursts.

(Debbaudt and Rothman, 2001, Debbaudt, 2002)

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In Lewis Carroll's *Alice's Adventures in Wonderland* and *Through the Looking Glass*, Carroll uses political allusions to entertain the indirect, adult audiences of the book. Many of the complicated topics and themes contained in the book are much too difficult for the younger, children audiences to understand. As the story is supposed to be a funny, fantastical fairy tale, the primary audience of this story is young children as they are the ones who are generally interested in stories of the sort. However, a common practice in Western Cultures is that children are read fairy tales by their parents. In *Alice in Wonderland*, unlike other fairy tales, the story represents a child's true progression through life. In real life, in the industrialized world, a child has to figure things out on her own. In sociology, there is a stage called transitional adulthood. This is a period where young adults "find themselves"; young adults gradually ease into responsibilities; they become serious. (Henslin) By the end of the story, Alice learns to deal with her problems and regains sight of her identity. The queen, who loses her temper and wants to kill Alice, is the obstacle that finally helps Alice to The acronyms ELSI (in the United States) and ELSA (in Europe) refer to research activities that anticipate and address ethical, legal and social implications (ELSI) or aspects (ELSA) of emerging life sciences, notably genomics and nanotechnology. ELSI was conceived in 1988 when James Watson, at the press conference announcing his appointment as director of the Human Genome Project (HGP)