



Mindblindness Theory: Touchstone for Interdisciplinarity

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Abstract

Simon Baron Cohen formulated mindblindness as a theory to explain the deficits existing in the autistic brain. These deficit metaphors, while deeply cognitivist, belie significant figurative and metaphorical techniques of persuasion of both lay and scientific audiences. Given the cultural currency of the theory, other scholars from humanities backgrounds applied it to literature studies. Lisa Zunshine is the most poignant case of a cognitive literary theorist applying mindblindness theory to the reading of narrative. Despite the seductive allure of applying cognitive neuroscience to literary texts, a rhetorical and ideological analysis indicates that the reliance upon deficit metaphors raises some serious concerns about autistic identity, because it raises doubts about autistic understanding of narrative. Psychologists concerned with these cognitive theories argue that mindblindness erodes the idea of communicative negotiation implicit in all human dialogue. What is truly fascinating is that because of the mindblindness theory, we now have more instances of interdisciplinary discussion about the phenomenon of autism than we had previously, an unanticipated benefit based on a dubious theory.

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The DSM-IV (Diagnostic Statistical Manual), published in 1994, was the first of its kind to codify Asperger syndrome, a diagnosis for high-functioning autistic children. It sparked dialogue about the classification, diagnosis, and culture of mental illness. Since that publication, Asperger syndrome was subsumed under the heading Autism Spectrum Disorder in the DSM-V (2013). In the last twenty years autism diagnoses have proliferated and neuroscience has come to the forefront of making autism research a visible phenomenon. Neuroscientists commonly use Functional Magnetic Resonance (fMRI) scans to reveal differences between autistic and normal brain functions. Due to the

prevalence of these discussions, autism has become a cultural phenomenon argued about in scientific and non-scientific circles.

One of the most controversial theories of autism over the last twenty years is mindblindness (Baron-Cohen 200). This theory states that autistic children fail to read minds and intentions of others in “false belief” tests (Baron-Cohen 201)¹ Mindblindness raises the specter of evolutionary defects, alienation, and misapplication among its critics. As such, much of the discussion of mindblindness falls outside the bailiwick of pure neuroscience.

Mindblindness is interesting to discuss because many disciplines now comment on its impact. While it started out a neuroscientific theory, it has expanded to other areas. Commentators and scholars in psychology (Gray), philosophy and religion (Aminoff), and cultural studies (Bombaci) have also weighed in on the phenomenon, often reflecting it as a metaphor for some greater human communication issue. They borrow information from the original neuroscience research in order to make their comments in their own respective disciplines. In some ways this is an aspect of interdisciplinarity, albeit not a direct sharing of research between neuroscience and the humanities and social sciences.

The idea of interdisciplinarity has a long history in the academy. Giles Gunn says that Greek historians and dramatists took elements from other realms of knowledge (such as medicine or philosophy) to further understand their own material (142). Julie Thompson Klein attests that “the roots of the concepts lie in a number of ideas that resonate through modern discourse—the ideas of a unified science, general knowledge, synthesis and the integration of knowledge” (17). Interdisciplinarity is the movement towards dialogue and co-creation of knowledge domains in multiple fields (Augsburg 10).

While powerful in theory, there are some issues with the idea of interdisciplinarity in practice. For one, since there is a blending of disciplinary approaches to a particular problem, this necessitates competence in both disciplines, often unattainable. For example, with respect to autism studies, knowledge of neuroscience as well as philosophy or literary studies might be needed when discussing the rhetoric of mindblindness. This proves difficult in collaborations. Also, there is a concern that interdisciplinary work might lack rigor because of the limits of specialized knowledge, which in turn would undermine the empiricist notions of good science. Yet it is still fruitful to examine some of the major interdisciplinary dialogues prompting potentially valuable scholarship on the idea of mindblindness, because mindblindness has proved incredibly resilient in terms of collaboration and continued cultural dialogue.

¹ In short, scientists provide a series of scenarios that are true, and another that is false. They conclude that autistics cannot discern the false from the true scenarios, thus indicating an autistic deficit in theory of mind.

Interdisciplinary mindblindness dialogue falls into three major categories. First, there is an aspect of interdisciplinarity within neuroscience itself. Some neuroscientists reject Baron-Cohen's mindblindness theory in order to promote the idea of embodied simulation, where they employ the idea of mimesis or simulation, using highly rhetorical language and the core rhetorical idea of mimesis. Secondly, and perhaps the more standard interdisciplinary take, philosophers and social scientists argue against the "intellectualist" and empiricist limitations of Theory of Mind. They argue instead from the philosophical position of phenomenology, which concentrates on the study of consciousness and the objects of direct experience. Finally, humanities scholars have recently debated how mindblindness research makes a case for the ways in which autistics read fiction.

Simon Baron-Cohen's "Mindblindness: An Essay on Autism and Theory of Mind," is the principal work in the field from which all commentaries flow. In it, he argues that autistic individuals cannot read minds like neurotypicals (they cannot interpret emotional intentions from the faces of others). Baron-Cohen takes what is called a multi-modular approach to cognitive analysis of the brain. He believes these modules are separate computers with different functions such as "short term memory," "attention," and "induction" (xiv). These computers of the mind operate with language and facial-muscle configurations defined by an emotion-recognition system that maps these facial expressions of others onto models of their internal states (xiv). Theory of Mind is one such explanation of a module that speaks of agents, beliefs, and desires and links them to the language of the eyes (xiv-xv). For Baron-Cohen, psychology is neural architecture mapped through a series of computational relationships and a system that implements these relationships. This brand of brain science is a departure from Freudian and Jungian analysis because it presupposes brain function as the seat of reason, and reduces the impact of environmental forces in the condition of neural differences like autism. Baron-Cohen believes that we all come equipped with a T.O.M.M. (Theory of Mind module) capable of building interpretations of mental events of others and feeling our construction of these events as sharply as physical items we touch (xvii). His argument is that in autism, the T.O.M.M. is broken.

Baron-Cohen utilizes the disciplinary construct of neuroscience with which to make his principal arguments, which is no surprise. In so doing, he deemphasizes the impact of culture on social phenomena. This process of deemphasizing the social while promoting the empirical is analogous to many scientific accounts of cognitive disability. Baron-Cohen states:

Although it is a modern truism to say we live in culturally-constructed worlds, the thin surface of cultural construction is dwarfed by (and made possible by) the deep underlying strata of evolved species-typical cognitive construction. We inhabit mental worlds populated by the computational outputs of battalions of evolved, specialized neural automata...each of the neural automata

responsible for these constructions is the carefully crafted product of thousands or millions of generations of natural selection...the representations produced by these universal mechanisms thereby constitute the foundation of our shared reality and our ability to communicate. (xi-xii)

Baron Cohen argues that speech and language are a function of Darwinian selection with its inevitable advancements over time. He calls social constructionism a “truism” (xii) as distinct from cognitivism, which he argues is the true construction of reality. Baron-Cohen assigns causation to the neural automata that are responsible for what we call culture. These constructions and representations are really naturally selected events honed over millions of years.

Baron-Cohen distinguishes the normal with the abnormal brain of the autistic. He says that “cognitive scientists were awakened by a series of encounters with alien minds, whose starkly contrasting designs and surprising incapacities drew attention to previously overlooked natural human competences and to the computational problems they routinely solve” (viii). In other words, normal brains work seamlessly in these problem-solving actions and only through broken T.O.M.M. do we realize that autistic brains do not work the same way. Baron-Cohen’s use of the word alien is powerful in this respect. Since the autistic brain does not possess the automaticity that the neurotypical brain has, it has become “alien” or “othered.”

One of Baron Cohen’s central tenets is that all mindreading activity comes from first seeing facial states, or what he calls the E.D.D. (Eye Detection Device). He quotes Ralph Waldo Emerson’s “Conduct of Life: Behavior” to indicate that eye detection is part of fictional accounts as well:

The eyes of men converse as much as their tongues, with the advantage that the ocular dialect needs no dictionary, but is understood all the world over... An eye can threaten like a loaded and leveled gun, or can insult like hissing or kicking; or in its altered mood, by beams of kindness, it can make the heart dance with joy. (108)

Or these lines from Ovid, “There are often voice and words in a silent look” (108). Baron Cohen hypothesizes that adults have an enormous vocabulary of eye meanings (109). Shakespeare talks of murder in my eye, and Byron discusses pride and ire (109).

However, for Baron-Cohen, autistics do not have the ability to utilize eye detection. As a result, they cannot see the eye that threatens like a loaded gun, and in failing to see this, they get “killed” in interpersonal exchanges as a result of the failure to presuppose these mental stances. Crossing over to fiction, would the autistic even understand the previous sentences from Ovid, Shakespeare and Byron if they had not undergone these sensations based on

eye-detection? According to Rita Jordan, the answer is yes, in some instances. She states, “Their (autistics) understanding is rooted in the external context and the more able may exhibit more imaginative forms of behavior...” (Jordan 40). This comment presupposes a spectrum disorder whereby more gifted autistics are able to read into specific situations.

The link between literature and mindblindness is an interesting one. Do autistic people read fiction in different ways than do normal people? A recent blog post from autistic college students relays some interesting commentary:

*I don't voluntarily read fictional literature. It strains me, and I'm slow at it. I don't have any reading disabilities that I know of. Reading non-fictional texts and books works just fine. I can relax by watching TV, by listening to the radio, but not by reading fictional books. Reading fictional books is about as straining as, say, studying. And I study whenever I have the energy to do so. So there's basically no place for fictional literature in my life.*²

Here is another:

*I like fiction. I prefer to read books which aren't set in modern day, or are clearly set in a different universe. When the crossover between what I expect could happen in real life, and what the book does can't mix, I either read the book at a snails pace or give up reading it altogether. Most recently I read "the solitaire mystery", which I found very difficult to read, as it contains "stories within stories" which makes it difficult to remember who is telling what. However, it was a good book when I finally finished it. When I was 11, I believed I was going to get a letter from hogwarts, 100%. A lot of people don't believe me when I say that. At high school, I had to read a few fictional books, and I really hated it because it consumed so much time and I was bad at remembering the contents.*³

From the quotations above, it is unclear whether autistic readers actually dislike fiction because they are ineffective at reading it or they simply don't like reading it. Even the student in the first quotation doesn't believe he is ineffective at reading fiction, although he doesn't prefer to do it. The second girl enjoys fiction but self-admittedly cannot read it adeptly. What this shows is a spectrum of interest not uncommon in normal readers.

These quotations cast some doubt on the idea of mindblindness. There is no anecdotal communication about the failure to ascribe mental states in the above passages. As such, it is hard to come to definite conclusions about Theory of Mind if we take the words of autistics themselves as evidence. Even in the case of Jordan, writing a textbook for psychological practitioners, she

² See <http://wrongplanet.net/forums/viewtopic.php?t=216298>

³ See <http://wrongplanet.net/forums/viewtopic.php?t=216298>

acknowledges that some autistics can understand fiction, albeit from an “externalized position.”

Mindblindness dissent need not come only from “other” disciplines. Some neuroscientists have difficulty with the idea of mindblindness. They use empirical science to support their positions, but the interesting factor is that their research is based on the idea of mimesis, which is a deeply rhetorical idea. Embodied simulation theorists approach the idea of mindblindness from a different angle. Their research idea is simple; we copy the people we see. This concept, called mimesis (imitation), has a biological bent. Catherine Kerr distinguishes Theory of Mind perspective from embodied simulation perspective:

ToM investigators assert that humans take in the belief states and intentions of another person by cognitively holding “a theory of mind” that posits the other person’s mental contents as individuated and separate. ES theorists hypothesize that we make inferences about the mental states of another person by directly and automatically perceiving the other’s state of mind through a subtle simulation of his or her actions, emotions, and goals in the “mirror neuron system” in the brain. (206)

She cites Baron-Cohen’s main contention that “what is referred to as a ‘theory of mind,’ is a uniquely human cognitive capacity that comes online after earlier language, motor, and perceptual abilities are established” (207). Kerr shows that ES theorists argue that we make inferences about the mental states of others by directly experiencing their state of mind through a subtle simulation of their actions and emotions in our own sensori-motor systems. This immediate perceptual experience allows us to derive an account of the thoughts and intentions of the other person (207-208).

The essential difference is that when compared, the opposition between Theory of Mind and simulation appears to be a stark contest between a theory of intersubjectivity as cognitive and mental versus a theory of intersubjectivity as perceptual and embodied (208). To put it more clearly, in embodied simulation, the perception is immediate and does not require a “theory,” like Theory of Mind does. It does not have to be thought about. This would seem to link more closely with the automaticity that Baron-Cohen talked about in his own research.

Also, embodied simulation rejects brain modularity, the idea that there are perceptual parts of the brain that are separate from the thinking and mental states part of the brain (Rohricht et al.). The research embodied simulation theorists use is on mirror neurons of monkeys, where they discovered that monkeys embody the actions of others (they are able to do the right thing in the right situation due to imitation). Since monkeys are non-speech oriented, the argument goes that they can ascribe mental states through perception and action, two “lower” brain processes. If this is the case, then ascribing mental

states would not be a mental abstraction as Baron-Cohen says but rather more like a reflex tied to neurons in the brain.

Kerr's concerns offer a different perspective to Baron-Cohen's Theory of Mind. What is relevant to the discussion is an alternative view of how our brains work which has significance for autistics and for mindblindness as a touchstone for interdisciplinarity. Kerr has invoked imitation while using neuroscience research on mental processes. In ancient Greece, mimesis was an idea that governed the creation of works of art, in particular, with correspondence to the physical world understood as a model for beauty, truth, and the good. Plato contrasted mimesis, or imitation, with diegesis, or narrative. After Plato, the meaning of mimesis eventually shifted toward a specifically literary function in ancient Greek society, and its use has changed and been reinterpreted many times since then. If accepted, Kerr's view implies a more physical concept of autism. It takes away the mentalizing nature of autistic behavior while replacing it with the embodied approach. Kerr's argument echoes embodied simulation scholars' ideas that autistics don't necessarily have deficits in specific areas of the brain but rather in areas of imitation. They have trouble "perspective-taking," or seeing themselves in "another's shoes." This opens up all sorts of issues with autistics as audience members, fiction readers, and the like. Conson et al argue that in recent tests, autistic children had difficulty "perspective-taking," which in the case of the experiments means transporting themselves into the minds of other people (115).

In this way, Kerr's research represents a "stepping-outside," or at least an interacting with, the boundaries of neuroscience. There is much support for this kind of interdisciplinary work. By using imitation, Kerr's research on embodiment extends to interdisciplinary aspects utilized in other fields and disciplines. Kerr's work with embodied simulation is based in imitation, which is a rhetorical trope. Imitation has a long history in rhetorical studies. For students, the intention of imitation was to provide a kind of literary and rhetorical apprenticeship by which the best modes of expression from the best models could be appropriated in a regulated, graduated fashion. Imitation was the bridge between one's reading and writing (or speaking). It also represented the pragmatic arena in which issues of arrangement and style were considered simultaneously, not separately as they sometimes appear to be in the abstraction of a curricular outline. As a method of composition, imitation is closely related to the principles and practices of amplification and variation. Students moved from close imitations of their models to looser sorts, using these models increasingly as starting points for longer, more involved compositions of their own making.

Kerr's research has interdisciplinary implications for education and rhetoric. Her study of embodied simulation argues that simulation is a biological phenomenon, in the nature of humans and animals to do so. If embodied simulation is accepted as instrumental to understanding autism, then

the theory places strong emphasis on the materiality of the body and the biological connection to imitation as a survival skill. Conson's recent experimental results show that individuals with ASD solve tasks mainly relying on a non-embodied strategy, whereas typical controls (neurotypicals) adopted an embodied strategy. Moreover, in the visual perspective-taking task ASD participants had more difficulties than controls in inhibiting other-perspective when directed to keep one's own point of view. These findings suggested that, in social cognitive tasks, individuals with ASD do not resort to embodied simulation and have difficulties in cognitive control over self- and other-perspective. It also means that simulation is more biologically based than environmental, which has implications for the teaching of imitation in rhetorical studies. As for autistic individuals, the theory argues that they have difficulty with imitation because of neuronal connectivity. As a result, according to embodied simulation theorists, autistic people are at an innate biological disadvantage because of their inability to imitate survival behaviors.

Another aspect of Kerr's theorizing is how the autistic person stands with respect to persuasion. If an autistic person cannot successfully imitate, then they cannot perform basic rhetorical functions. According to the theory, they could not imitate a speech or imitate a specific writing function either. As a result, that puts autistic people "outside" of the normal means of persuasion. Does this mean that autistics are therefore outside of rhetoric entirely? Not necessarily so. Temple Grandin is an interesting case in point, because she utilizes memory as a compensating device to "replace" spontaneous imitation.

If embodied simulation theory is to be believed, Temple Grandin has learned to compensate for this dilemma. Early in her career, she spoke to people on the phone instead of face to face. That way she didn't miss messages conveyed through eye contact or body language. But even on the phone, people may not say what they mean. The phrase "I'm fine" sometimes means just the opposite. So Grandin taught herself to listen very closely to a person's tone of voice. "When I had a client that I thought might be angry with me, I'd call him up just so I could listen to his voice," she says. "If it had a certain little whine sound in it I'd go, 'Oh he's still angry with me.'" (Hamilton 2)

Over time, Grandin has developed a catalogue of signals she uses to figure out what people are thinking. She checks to see if they are fidgeting during a lecture, or making eye contact during a conversation, or folding their arms during an argument — emotional cues most of us register automatically. (Hamilton 2)

Although Grandin is a unique case, what the example illustrates is that autistics on the spectrum, even if they have difficulty understanding or embodying other people's mental states, can use the concept of memory to aid them. Grandin was able to memorize a catalog of signs and symbols of moods and emotions in others that she was able to recognize in real-time conversations. As a result, rhetoric can serve as a tool to enhance memory education in some autistic individuals. Consequently, rhetoric is integral to

overcoming issues of mindblindness or embodied simulation, because both argue that there are internal deficits. Interdisciplinary study involving rhetoric has something to say about interpersonal communication, even in those who supposedly cannot adapt. In addition, interdisciplinary studies between education and neuroscience can study people like Grandin to more effectively place different forms of rhetoric at the disposal of autistics in order to achieve academic goals.

What does this mean for interdisciplinary dialogue? It means that if embodied simulation is accepted, autistic individuals have problems with imitation, which is partly biological and partly rhetorical, especially with respect to speech and language. It means that rhetoric has a part to play in the dialogue over autistic behavioral modifications or teaching strategies. Indeed, much research is now underway on this very subject.

Brooke Ingersoll looks at autistic childhood imitation. She argues that this skill can be improved if interventions are put in place early on. She indicates three components to imitation:

1. Imitation skills are concurrently correlated with play, gesture, and language skills.
2. Imitation skills are predictive of gains in play and language skills.
3. Teaching imitation should promote social communication development. (p 3)

Her proposed intervention with autistics is called Discrete Trial Training (DTT). It is adult-directed teaching conducted in a structured environment with a specific imitation goal worked on until mastery, coupled with intensive drill to teach isolated skill and utilizing non-social reinforcement (4). Research indicates that not all forms of imitation in ASD persons are impacted. Rather, social imitation is problematic. Through the use of what Ingersoll calls Reciprocal Imitation Training (RIT), these behavioral strategies encourage learning and developmental strategies that facilitate social communication in typical children. Based on the embodied simulation research, new forms of embodied training interventions spring from the idea of autism and mindblindness. Embodied simulation developed in part from the rejection of Theory of Mind. Now researchers from neuroscience and education are partnering to employ RIT to impact the outcomes for autistic students. The benefits from the early research indicate that RIT is effective for teaching elicited and spontaneous object and gesture imitation skills. It improves other social-communication skills as well, including verbal imitation, play, joint attention, spontaneous gestures. Gesture imitation promotes language more than object imitation. Object interaction skills at pre-treatment are predictive of gains in imitation skills during treatment, and are appropriate for use by parents and siblings (6-8). To sum up, embodied simulation has been impacted

by its consistent dialogues with mindblindness theorists, leading to interesting and productive research on improving autistic symptoms.

Embodied simulation is not the only challenge to mindblindness. Mindblindness participates in cultural dialogues from a philosophical perspective as well. Richard Gipps argues that

in place of such an intellectualist, disengaged, cognition-focused psychology, we are offered perspectives that stress the primitive foundational character of our pre-reflective (noncognitive) engagement with one another, our emotion, our expression, and our embodiment. (195)

Gipps draws similar conclusions about Theory of Mind as embodied simulationists but from a “non-scientific” perspective. He critiques Theory of Mind as something that is fully cognitive rather than non-cognitive. Gipps argues that cognitive psychology is disengaged from the body and the emotions, and adds that empirical science attempts to explain this evolutionary cycle of communication in terms of mentalizing features. However, Gipps argues, there is something fundamental about relationships between humans that involve nonliteral communication, which means that there is a rhetoric involving embodiment before actual language, or a fundamental level of engagement that was based on something other than the word.

Gipps attaches the mental and non-mental approach to the primary example of autism. His aim is to describe a non-cognitive, philosophical frame for analysis of attributing mental states, as opposed to the cognitive explanations of Baron-Cohen. He ascribes “intellectualist” to Theory of Mind accounts and empathy to alternative accounts. Gipps’s reasoning for preferring one account over the other is as follows:

First there is the developmental trajectory itself, and the claim is that the autistic child’s interpersonal lacunae manifest themselves considerably before they develop the cognitive capacities for social knowledge. The principle ground, however, is philosophical, and the claim here is that what needs to be rejected in the developmental psycho(patho)logy is an alienated ontology and estranged epistemology that has implicitly become inscribed within it, constraining its explanatory project and limiting its vision of possibilities. (196)

Gipps’s primary claim is that children develop what he calls “intersubjectivity” (interpersonal lacunae) before they develop cognition and, therefore, a cognition-based Theory of Mind cannot drive the explanation for understanding other people’s thoughts (because there is an essential “something” that comes before cognition. Also, Gipps argues that Theory of Mind creates a break between the person and their essential self which abstracts and alienates them from their real-life existence. In the case of autistics, they

become alienated from their own minds and also from the collective mentation of “normal” humanity. Gipps has a problem with this reading of autism and Theory of Mind in general. He argues that a key problem is that “the self retreats from the interpersonal interactive domain, taking up residence even behind the subject’s own mind, which itself becomes an objectified domain” (197). Consequently, the mind becomes an object of study and analysis, separating it from the life experience of the individual. We see this objectification in pictures of fMRI scans and popular science periodicals, where colorful pictures of brains “on autism” and those without project major implications for both groups. This objectification privileges the visual over the actual, what exactly does a different colored brain scan representing autism actually mean? This is less obvious. Gipps writes:

The ontology in question has it that the mind is an inner domain, that bodily behavior is an outer domain, that belief and thought epitomize the former, that intentionality is a function of the former and only derivatively manifest in the latter, that the form of our embodiment is contingent, that understanding is manifest primarily in thought and not intrinsically in praxis, that the mind is populated by free-standing inner representations, and that perception and the emotions are extrinsic to the understanding. (197)

For Gipps, Theory of Mind is too abstract. There is, he says, no artificial distinction between the inner and the outer, the mind and the body. Also, some actions come from the body without the mind proposing a theory about them. This is what he means by embodiment and what Kerr meant by embodied simulation. Like Kerr, he believes that understanding is not modular or separated by perception, emotion, and the T.O.M.M. mechanism. He believes that they all interact fluidly. From an autistic standpoint, the perception and emotions would be interrelated in a different model of epistemology and ontology. Perhaps the mind of the autistic sees the world differently and abstracts differently, but no less intersubjectively.

Some scholars take issue with the brain metaphors that exist currently, driven in part by the success of the mindblindness metaphor. Educational psychologists Anne McGuire and Rod Michalko argue that rather than treating autism as a puzzle that must be solved, we treat autism as a teacher and thus as having something valuable to contribute toward an understanding of the inherent partiality and uncertainty of human communication and collective life (162). Their argument is that Theory of Mind problematizes the very humanity of the autistic person because of its emphasis on deficit metaphors. Their principal objection to the Theory of Mind is that it assumes that somehow the autistic is broken:

Autism, as a thing, is understood by biomedicine as an empirical object and thus as knowable through the scientific enterprise of gathering data and

evidence, i.e. the pieces of the puzzle. Essentially, biomedicine treats autism as a condition found in some individuals and as a condition that generates negative effects. Autism becomes an individual, medical problem to which there must be a collective, medical solution. There is nothing social about this conception of autism except positing its negative effects on an individual's social life. (163)

From a psychological perspective, the search for “solutions” implies problems rather than neurological difference. Through empirical analysis, scientists seek out answers for solving the riddle, and thus Theory of Mind is an ascription of a problematic upon the autistic person, thus injuring his/her subjecthood. Their thesis is that autism and any other disability are inherently a part of the world. They state, “We (you and I) are tied to each other by way of our communication, a mode of relation that is, also and always, coming undone, incomplete, partial, due to a fundamental excess inherent in every moment of contact” (164). It comes into being in the social spaces between people. Autism “derives its meaning in and through the relationships that connect us, in and through the lines of relation that bind you and I together as a ‘we’” (164). This is the true definition of interdisciplinarity, the reaching out among people. Autism is a social phenomenon because it has social effects. It is named by people in the social world and is lived by people in the social world. Theory of Mind on the other hand reduces autism to a modular brain function and not an ontology.

If Theory of Mind is essential to subjecthood and autistics possess a non-existent or damaged Theory of Mind, then it follows that autistics are not quite human. McGuire and Michalko are concerned about the impact on humanity and communication if these theories are accepted. They state, “Communication is revealed as an act of negotiation between distance and proximity, a movement between these two possibilities” (175). They both believe that Theory of Mind permits no negotiation because it determines how communication takes place, thus limiting its possibilities. In doing so, they argue, Theory of Mind limits “authentic” communication, which is defined by the mutual collaboration using speech and language among people. However, Theory of Mind has been significant in an unanticipated way: it has engaged scholars from education, philosophy and psychology, such as Dinishak and Akhtar, who problematize the metaphor of mindblindness. They argue that mindblindness obscures the nature of communication, creates negative connotations, influences neurotypical ascriptions of autistic behavior, and blurs the line between deficit and difference (111). Mindblindness has indeed been instrumental in creating the ground for interdisciplinary discussions critiquing the basis of the metaphor as well as providing alternative explanations to autistics thinking and being in the world.

Some scholars from the humanities have actively advocated for and rethought their position on the mindblindness metaphor. As such, they also

contribute, in an interdisciplinary fashion, to how we look at literature and use neuroscience to do so. One such scholar is Lisa Zunshine, whose article, “Theory of Mind and Experimental Representations of Fictional Consciousness,” integrates cognitive literary theory by using Theory of Mind as its principal ground. Zunshine utilizes Woolf’s text *Mrs. Dalloway*, where Peter Walsh is trembling upon seeing Clarissa. Zunshine asks the rhetorical question: how do we know that his “trembling” is to be accounted for by his excitement at seeing his Clarissa again after all these years and not, for instance, by his progressing Parkinson’s disease? (193). Zunshine’s point is that the narrator (or author) tells us so; we must interpret Peter’s emotions to be the cause. This aspect of our interpretation is based in the Theory of Mind. We attribute mental states to characters in fiction as well as to real characters (men and women) in life, according to Zunshine.

Zunshine comments on autism as a potential rift in the literary examination. She states, “Today, however, this conversation can and must go on because recent research in cognitive psychology and anthropology has shown that not every reader can learn that the default meaning of a character’s behavior lies with the character’s mental state” (194). Of course, the individual she is referring to, one who has problems with fiction reading, is the autistic person. This statement has a great deal of impact from two different standpoints: first, from the identity of the autistic person and secondly, from the perspective of interdisciplinarity (utilizing science for literary purposes in this respect).

Zunshine makes some fundamental assumptions in her initial work. The first is that literary characters are the same as real people with respect to mindreading. She states:

Our ability to interpret the behavior of real-life people—and by extension (her emphasis), of literary characters—in terms of their underlying states of mind seems to be such an integral part of being human that we could be understandably reluctant to dignify it with a fancy term and elevate it into a separate object of study. (195)

These words are almost identical to Baron-Cohen’s words, where he discusses the automaticity of neurotypicals attributing mental states to others. However, this means that this simple task, when it cannot be handled by someone, makes them, as Baron Cohen says, “alien.” Zunshine argues that normal people have cognitive endowments that reach to an effective reading of fiction, while autistics are challenged in these areas:

by studying autism and a related constellation of cognitive deficits (such as Asperger syndrome), cognitive scientists and philosophers of mind began to appreciate our mind-reading ability as a special cognitive endowment, structuring in suggestive ways our everyday communication and cultural representations. (195)

She sets up an us/them dichotomy by using the word “our” mindreading ability (Zunshine as neurotypical). Zunshine uses brain research and extends that discussion into the realm of literary interpretation, specifically in the area of narratology.

Zunshine walks the reader through a close reading of Mrs. Dalloway, all the while metacognitively commenting on her reading and guessing processes. She argues that Woolf expects us to know what the character’s thoughts, actions, and feelings really mean because we can mindread.

However, Zunshine acknowledges that, “The nuances of each person’s mindreading profile are unique to that person, just as, for example, we all have the capacity to develop memories, although each person’s memories are unique” (209). This opens the door for alternative explanations of autistic abilities to mindread. Zunshine seems to be suggesting that despite fundamental limitations in mindreading, some autistics may be able to do so. Therefore, a general conclusion cannot be made about limitations in mindreading from autistic readers.

Zunshine has reworked her position in the face of interdisciplinary challenges from psychologists and sociologists. Zunshine and Ralph Savarese’s article, “The Critic as Neurocosmopolite; Or, What Cognitive Approaches to Literature Can Learn from Disability Studies,” stands as an example of the influence of disability studies research on the mindblindness dialogue.

The rhetorical arrangement of the article is in the form of a dialogue, which speaks to the dialogic nature of the interaction between Zunshine, a cognitive literary theorist, and Ralph Savarese, a postcolonial theorist who applies that type of reading to autism and disability studies. This is a far different rhetorical arrangement than Zunshine’s previous texts which co-opt the highly empiricist language of Baron Cohen’s mindblindness theory for literary ends.

Zunshine moves away from her previous monologic stance towards autistic identity and cites scholarship on Spivak’s postcolonial ideology naming the autistic subject as the subaltern (18). She allows Savarese to speak from the position of disability studies scholar and parent to an autistic son. He argues that medical patients are like colonized peoples, their bodies and minds have been conquered and “in its place, an official narrative, in something like a foreign language, has prevailed, leaving patients feeling both alienated and disempowered” (18). He later says that “if one actually listens to autistics, one hears a different story” (19). Savarese’s coinage of the term neurocosmopolitanism speaks to the idea of this fundamental dialogue between neuroatypical and neurotypical individuals co-creating knowledge of difference and collaboration.

Savarese utilizes neuroscience to explain the rhetorical nature of autism. He explains the thinking process of an autistic author named Tito Mukhopadhyay, whose mindblindness leads him to utilize rhetorical figuration

in order to identify people he has met (19). He remembers people by linking their faces to idiosyncratic symbols. In other words, Mukhopadhyay uses metaphor for remembering people's faces. Savarese doesn't reject the mindblindness theory totally; he tells the story of mindblindness from a completely different perspective. The idea that the need to circumvent biological difference ironically facilitates the production of figurative language in an autistic person is fascinating. Cognitive scientists do not spend much time on autistic subjects. In addition, their tests, such as the false belief test, don't allow for autistic dialogue. Disability studies contributes to widening the view of autistic performance because it allows the autistic person to speak, something empirical science frowns upon.

Zunshine alters her earlier views on the application of mindblindness to literary texts. She takes into account the interdisciplinary contestation engendered by her earlier work and adjusts her views accordingly. She states that

In exploring how theory of mind structures cultural representations, one should not lose sight of the dark side of mindreading. Because mindreading is not telepathy but merely a far-from-perfect adaptation (they might as well have called it mind misreading), more often than not it actually limits our perception and interpretation and lures us into insidious cognitive traps. (21)

The "our" in this passage is the neurotypical person, and the process of mindreading, which in her earlier work was so vital to her theory, she now believes creates cognitive biases in the general public which are "deeply ironic and tragic" (21). Zunshine's new belief is that failure to acknowledge autistic mindblindness as a metaphor feeds essentialist thinking (24). She states, "Ascribing an impoverished mental state to a person is a step necessary for imagining him or her as the Other" (24).

Zunshine has moved far away from her original work on mindblindness as the calling card for autism. While she does not deny the scientific origins and evidence of the theory, she looks at mindblindness from the multiple perspectives of the autistic, as well as scholars moving in social constructionist perspectives. It appears as if the rhetoric of social science, with its meaning-making apparatus and focus on the individual subject, has been highly persuasive with respect to her position on the theory.

Conclusions

Autism has proliferated as a diagnosis over the last twenty years, from the creation of Asperger's syndrome to its absorption into Autism Spectrum Disorder in the DSM V. Since it rose as an official diagnosis, autism has seen many theories describing its features. Simon Baron-Cohen formulated mindblindness as an explanatory vehicle for the deficits demonstrated in false

belief tests on autistic children. The ways in which Baron-Cohen described autism ensconced it in a negative figuration that has persisted to this day. However, despite the deficit metaphors, originating in cognitivist explanations, there has been a great deal of dialogue generated from this initial work. Scholars from other disciplines applied it to ways in which people speak and understand one another. Both social scientists and humanities scholars interested in aspects of communication have played with the mindblindness metaphor, resulting in numerous interpretations. Psychologists concerned with cognitive theories speak to the idea that if accepted, the theoretical concept of mindblindness erodes the idea of communicative negotiation implicit in all human dialogue. Humanities scholars have tried to apply mindblindness theory to actual reading and interpreting situations. Regardless of its connotations, mindblindness theory has generated increases in interdisciplinary discussion about the phenomenon of autism, mostly around empiricist and social constructivist interpretations of identity. As is the case with many theories, the unanticipated consequence of mindblindness theory is that it has actually sparked, rather than reduced interdisciplinarity and collaboration, which allows autism to escape the purely empiricist domain of neuroscience, encouraging other fields to weigh in on what autism is and what it means.

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