

Symbolic Thinking a presentation by Eustacia Cutler
To iidTV.org with Patricia Lowrimore

I am Temple Grandin's mother, which is what has led me into autism and understanding it, and I have, I feel that the social picture and the neurological picture are not working together. We're each traveling along separate channels. There's no cross discipline, so part of my intention, Patricia, for you, for these lectures that we're going to do is to explore that more closely in three different talks. This one primarily on symbolic thinking, what do I mean by saying that, and how does it evidence itself or not evidence itself. So I will start in. I've written some of this because then I'll be more eloquent and it will be easier for you to ask me questions. Starting off, autistic children obviously share social and behavioral confusions so recognizably similar that we can call their behavior pattern autism. Beyond that they're as varied as the rest of us and so I might add is our confused response. We're going to put the two together, not just autism's confusion but ours in our ever evolving social history wherever we humans have spotted physical lacks, such as blindness and deafness, we figured out a way to help. Braille for the blind, lip reading and sign language for the deaf. Both the blind and the deaf have appreciated our help and are grateful. With autism there is no physical lack there's only peculiar behavior these kids don't act like the rest of us and when we try to teach them to act like us they're unwilling and ungrateful and go into violent tantrums. Whatever is causing the wildness ah we dread it and fear it that it might be somehow contagious. On the bright side there seems to be some sort of savant magic going on. We've read how in the past these people were put on the stage to perform miraculous calculations but we call them then idiot savants. This double alarm and fascination has made us over the years swing wildly between a fear that vaccinations will give us this dread disorder and a TV image of a hero whose autism has made him brilliant. Sherlock Holmes, who is simply a figment of Conan Doyle's imagination has recently been diagnosed as autistic. So as never before we need the bio-neurologists and the sociologists to join forces and blaze a more useful holistic trail. That's the hope of this talk this first talk on autism and symbolic thinking what is it and why is it lacking in autism

I decided, Patricia, the best way to start would be to plunge into looking at the earliest existing evidence of human beings gathering together socially and on the cover of my new book which is about to be published is a photograph of a cluster of handprints found on a cave wall in the mountainous region between Spain and southwestern France. And there are other caves in that region that have similar handprint clusters. All of the clusters look to have been made by putting a hand on a cave wall and blowing red ochre around it. Carbon testing has proved them to be 40,000 years old. The first known record of a tribal gathering.

It's why we still use hands gestures with hands. When national leaders meet, nations being advanced forms of tribalism, they shake hands ceremoniously often to the beat of

a military band. Hail to the Chief, isn't that what we play for presidents? We count votes with a ceremony of raised hands. We take our right hand off of our weapon, and unarmed hold it out for an agreed-upon handshake of trust. Hands, 40, 000 years ago matter and they matter today. In kindergarten, we give our children a soft clay tablet to press their hand into. When the clay hardens our child presents it to us smiles or tears, no parent ever accepts that tablet unmoved and no child ever forgets it.

Along with forty-thousand-year-old handprints are circles, what they stand for we don't know. A power greater than human power? A living force that all human life depends on? A force that often fills us with wonder and awe? The sun, I'm pretty sure that's what that was. The thought reminds me of a magnificent sunset on Martha's Vineyard. As we watched the sun drop into the vineyard sound, throwing its dazzling glow over the inlet and across the beach grass, we realized two cotton-tailed rabbits were also watching sitting bowled upright on their hunkers, their paws held like begging dogs. If we had made a move they would have scampered but for a moment they and us were transfixed. It's an old New England custom that at the moment when the setting sun drops out of sight, those watching applaud. And the custom isn't confined to New England. A recent Times article tells of a New York City group called themselves Manhattanhenge they have noted that Manhattan's perfect alignment with the solstice suns. uh celebrates new york so that solstice sons. The group celebrates New York City's solstice sunsets likening them to those of Britain's Stonehenge. Stonehenge built some 5000 years ago appears to have been deliberately located and constructed to align with the solstice sons. Manhattan's alignment is just lucky. Nevertheless either era, there was then and is today, a shared sense of awe in the moment of a perfect solstice sunset. And all with serious celebration and honor and a shared record of that feeling.

Where and how does autism fit in or not fit in to this ever-present celebration of hands and circles and awe inspiring sunset.

My guess is autistics would have loved the ancient handprints ceremony; much as they loved making clay handprints and Thanksgiving "turkey" handprints. I'm sure you all remember doing a turkey handprint, making one. When I mentioned this to my son who's about to be 70, he immediately said, "oh yes." We put our hands down on a piece of paper, drew a pencil around it, and then we turned the pencil into a turkey - we drew around it. He remembered it and it mattered to him. I think also of, Madison, a little boy I ran into who had severe autism and he desperately wanted to go to school- mainly to make the turkey handprint. He wasn't toilet trained and the school refused to accept him, but his mother was determined and the school finally relented and Madison made the turkey handprint and his mother posted it on the refrigerator door. And what I noted with great interest, his family was barely above poverty level. Madison's mother believed

in the importance of education for those on the autism spectrum, particularly when they're very young and more of that later. But now it's important to note that most autistic children love the physical act of celebrating particularly if they get something for it in return, like a turkey handprint or maybe a chocolate turkey. That being so, in the long ago past, they would have loved the excitement of putting their hand physically on the cave wall and somebody important blowing the red ochre around it. There for all the world to see and applaud was his very own handprint. But here's the lack, autistics do not understand what ceremony stands for, As far as I can determine they lack both a sense of awe and the ability to think symbolically. Part of the problem is neither of these undertakings are physical. Whether they're linked neurologically, seems quite possible, they're certainly linked socially.

The possibility of this double confusion haunted me ever since I first read Lauren Easley's book, "The Immense Journey," written in 1946 and still read today. Easley's was an anthropologist who envision for us how sometime in those 40 000 years of prehistory the human species escaped from the eternal present of the animal world into the knowledge of past and future.

One of the reasons for making those handprints is already a sense that they will be there for the future, otherwise why do it. Man, Easley told us, was becoming something the world had never seen before, a dream animal, living at least partially within a secret universe of his own creation and sharing that secret universe in his head with other similar heads. Symbolic communication had begun.

The point of this is, if an autistic cannot understand conceptual thinking chances are he will not be able to communicate.

Symbolic Communication

If my cat was out, the blue jays would set up an alert cry. It was very different from their usual Jay talk. I'd run out, get my cat, bring him in and the jays would go back to their usual Jay talk. Animals have a simple form of symbolic communication, his cry stood for danger. The point that I want to make is we developed further than the animals. Animals know how to bring up their young, where the food is, where the danger is. These are simple physical acts for life. They are not complicated thoughts. We are at the moment exchanging ideas, I hope. That's the point. I'm trying to get an idea of something from my head into your head.

That's much more complicated than the Jay giving out an alert signal.

And if a child cannot develop it, if he can't get this sense of what of the concept of what something is. You can say to an autistic child, or I'm thinking of a particular child, point to the shovel, he can point to it, but if you say point to the thing you dig with, he's lost. He doesn't have the idea of what a shovel is and what it's for. It's so simple and rudimentary, we have trouble believing that it's complicated. It is complicated and that's where the trouble comes from for a great many children, young children on the autism spectrum. And the example I bring up, if you don't deal with it and they don't get this concept -- I think of the boy Chris has taken care of him.

Generalization

He understands that you can't cross the street when the light it's red, you can only cross when it's green, but he cannot generalize. If you don't understand that all shovels operate in a certain way, they are things to dig with. If he doesn't understand that all traffic lights are the same, he has he has no way to generalize as we call it and therefore, that young man can only cross the streets where he's actually memorized the lights, he can't do it, he can't generalize and it doesn't matter how much you explain it. All I can of is that it's like trying to explain to a blind man why he's blind, you can't give him sight.

Symbolic Play

It also comes to how children play with each other and they play symbolically. I turn now to Dr Catherine Lord, who as an authority on autism and her way of understanding that, seeing how a child thinks. She gets down on the floor with a child and she picks up a block and she waves it through the air and she says, "Zoom, I'm a plane." Now a lot of children, particularly little boys, will pick up a block and push it along the floor and say "Brooom, I'm a truck" they have both made their block stand for symbolize an object and they've made the sound that goes with the object. That is symbolic thinking and I've also noted that, Eric Erickson, an authority on children has said that the way children play with toys will indicate the way they will play with thoughts.

And Dr. Lord has used it as a way to explore, but she's exploring -- trying to figure out when mothers bring their children to her, that was her main job at that time, they want to know something doesn't seem to be working help me. The first thing Dr. Lord wants to find out is how does this child think. And if she finds that they're lining up their blocks, which is something that a lot of autistic children will do, it means they do not think

symbolically or they're having trouble and they're trying to make an orderly system because life has become for them disordered.

Conceptual Thinking.

I don't know if I went into the fact that i've always used my youngest grandson for an example. Because the first word I heard him say, was not "mama or dada" it was "Oreo." He pointed to the cookie jar and he looked at us and he said "Orio." Now I didn't know that symbolic thinking was working and also what was working was conceptual thinking he had the idea of what a cookie is.

Context

What I'd like to do would be to go beyond that, to what context means. This is another step that these children have trouble with. Temple, my daughter, could not understand prepositions, over, around, inbetween, above, below, -- where you are in relation to another object. Or where one object is in relation to another object. That also is hard for them to understand and Temple could not understand 'under' until she got under the teacher's table. Now that can be taught very easily to a child by guiding them around the room. Go to a class full of children who are struggling with context and make them do these things themselves. Get under the table, go over the chair, go in between the two chairs, get on the ladder above the chairs, physically they can grasp that because they can see it, it's a physical, visible object game.

That's simpler, and it does apply to concept it applies to one idea's relationship to another idea that's a step much deeper.

Shared Information

Now we get to shared information which is what we're doing now. And the point of my my grandson when he was a baby. You see autistic children, many of them particularly when they're just beginning to learn to talk, when they're under two. Talk begins much more like between nine months and a year old. That's when language starts to get in there -- they're beginning to imitate us.

But when Nicholas asked for his cookie he looked at us and he pointed to the cookie jar, he didn't look at the cookie jar.

Autistic kids, a lot of them, don't have a clear idea that other people have different thoughts from their thoughts so they tend to look at the cookie jar they think we'll understand. This baby already understood that he wanted to get the idea of a cookie from his head into our head and he wanted us to know where the cookies were located. That's shared information.

The last step is called executive function. Nicholas, this baby, could put it all together and act on it. Now that sounds easy, but it's not easy. The example I keep coming back to is a basketball player getting the ball into the basket. He has to coordinate his intention, that's his concept, and the place where he is on the basketball court, that's context, physically where is he in relation to the basket, and he has to coordinate all that with his eye-hand coordination. At the same time he has to use his body to dodge his opponents and signal his teammates, which is shared information, and get to the point where he can pass the ball into the basket. Putting all that together and acting on it is no slam dunk and take note, no speech was involved in any of that. And at the same time that the basketball player is doing all of these different things, he's bouncing a ball which is all more eye-hand coordination and he has to do it without looking probably with his eye has to do it by feel. That's a lot of physical and mental activity that all has to get put together and no speech is exchanged, all of it is body language.

This is why a child who hasn't grasped the concept of the game, a lot of children don't, Temple didn't understand games at all. How the action of the player relates to the physical layout. Now this varies depending upon different games.

Basketball is laid out on a court exactly. A game of tennis is laid out on a court. A game of golf is laid out on a whole long elaborate golf course but they're territorial marks and limitations. Now these children don't understand. That, saying again, is a form of shared information.

What they do have, and this is very valuable to hang on to and to work with, is memory and logic. The only problem is memory and logic work best with what has already happened. The information that Nicholas is sharing is in the process of happening. The information the basketball player is sharing with his teammates is in the process of happening and it isn't a question of logic it's a social connection. Nevertheless memory and logic are helpful. It's how Temple learned. At presentations she has often said, "I don't go for this silly idea stuff, I work from the ground up." By the ground up she means the physical world she can touch and see and recall. So today when Temple faces a new problem she claims she looks at what she calls her database. They are picture recollections of how she has dealt with a similar problem in the past. She

chooses the scene that looks the most likely to work and acts on it. Since she stops on memory and logic her picture scheme tends to be successful but what happens to her when she meets a challenge that is non-visual and loaded with social attitude?

The Interview

Which is what happened not long ago and this tangle turned up at a New York Times magazine interview where the interviewer kept trying to corner Temple with politically loaded questions she didn't want to answer. She already opened the interview with him by explaining that she couldn't follow long strings of verbal instruction. The interviewer assumed this was modesty over achievement and he hurried through his list of her achievements. Though he did note it's the more tangible things that matter most to her, I wonder if he took in what Temple had just told him about her inability to deal with verbal instruction. Also Temple is a top professor at a state university. Politically she would be wary of answering political questions. He didn't catch that at all. He started right in with "Well during the pandemic, a fear of autism is one of the things that anti-vaxxers had." That politically loaded question, word, Temple cuts him off, tells him she's had two pfizers, a booster, a flu shot, and that's all she's going to say on the subject. He tries again, and again Temple cuts him off. On the third try she says, "No comment, no comment, no comment." "Okay, I'll move on for now." Now here's where he got into another tangle. "You've written so much about being a visual thinker, how does a visual thinker, like yourself, think about moral questions which often begin with abstractions." Well moral questions don't begin with abstraction. They begin with figuring out how we're going to get along with each other. The handshake it's not a an abstraction, it's something physically we do. Okay we'll agree on this. Fortunately Temple's an old hand at interviews so when she's on uncertain ground she dodges and takes over.

Three Kinds of Thinkers:

I'd like to talk now," she said, "about three kinds of thinking." There's an object visualizer like me, who thinks photorealistic pictures and then the other kind of figure is the visual pattern thinker. I guess systemizing is with doing it, and then of course you've got your verbal thinkers. One of the problems with verbal thinkers is they tend to over generalize. This is where her autism is still there with her and she has learned to work around it. "one of the big problems." she said, "with verbal thinkers is they tend to over generalize. They'll talk about some concept like inclusive classrooms but they'll have no idea of how do I implement that. What Temple didn't understand is inclusive classroom is not a concept it's a teaching method and actually it's how Temple herself was taught from kindergarten through sixth grade.

But the interviewer isn't listening. He returns to his political agenda so neither, what my point of saying all this is, neither is understanding the other at all. The interviewer isn't listening. Dogged, he returns to his political agenda. She answering she's non-political. He's saying non-political is political. Now neither giving away to the other. Finally desperate he says, "Okay I realized that maybe earlier I should have just asked this question bluntly. "Do you believe vaccines can cause autism." "I'm not discussing that." says Temple and polishes off the interview with what she knows and cares about. Here are two of her quotes from the article. "I want to see the kids who think differently having successful careers, successful lives. And then she moves on to her own work. "I've just visited one of my own projects. It's over 35 years old and I'm so pleased none of the gates have broken off. Got the best gate hinges in the industry. I'm proud of that." Temple knows her limitation. She also knows what she values and how to get it in the everyday room but nobody has helped the interviewer to understand the nature of autism and how to work with those on the autism spectrum. Why would an old newspaper man ask Temple who's already autistic, "Do you believe vaccines can cause autism?" It doesn't make sense and I think the reason I put that in it's a plug for education. And the younger we start the better it'll be. Before the brain is fully formed we can affect the gene promoters much more than we think we can. Particularly before the brain is fully developed.

One last point, I'll do with the two minutes, is the question of children who can't speak can learn to type because typing is visual. They can see it on screen, they can print it out and have a piece of paper that says what they want it to say. There are two men that I met who had made a lifetime friendship with each other by typing. They could speak a little but only very robotically but they could type to each other. He typed for us, "I want you to know that I am intelligent."