

THE AMAZING GIFT OF THE AUTISTIC BRAIN



“See it for the exciting possibilities that it brings to the table.”

~ Meaghan Buckley

Avital Hahamy of the Weizmann Institute of Science in Israel, conducted a study using fMRI scans of both neurotypical and autistic individuals. The purpose of the study was to show the relative inter-hemispheric connectivity of different brain regions. 104

For the neurotypicals in the study, the connectivity pattern was consistent. The frontal and temporal cortices, responsible for executive decision making, generally had reduced connectivity, while connectivity across the brain was increased in the occipital and sensori-motor cortices. In scan after scan, the neurotypical brains showed uniform patterns in relative connectivity. 105

Examining the ASD brains, however, was not as straightforward. While they all had some areas with over- or under-connectivity compared to the neurotypical brains, the regions where these differences occurred varied *for every individual*. There wasn't much of a pattern when the scans were looked at as a group, but when an individual's scan was compared to their list of ASD-related symptoms, very clear correlations were seen. 106

So what does this tell us?

Pretty much what we already know - **that each individual with autism is unique.** However, it also tells us that if we want to find out what makes them uniquely autistic, we have to go about it the same way Aleksandr Luria went about documenting the fragmentation of his patient and long time friend Zazetsky's brain. **We have to study the brains of one autistic individual at a time, guided by their input.**

Maybe not all individuals with autism can communicate what it feels like to be autistic, but I'd wager a lot more of them can than we are aware of presently. And those that can should be regarded as an amazing gift, because through their unique human experience we can understand much more about the human brain. Rather than starting with the biology and wondering where that takes us, we have to start with the person and work backwards.

What makes Meaghan uniquely autistic is her amazing ability to write - an ability that almost went unnoticed. An ability that is still largely unacknowledged by the people she encounters every day, because they think autism is a one-size-fits-all speech and behavior disorder. We know now that it is neither of those things. It is first and foremost a sensory motor disorder; a disorder that modifies the wiring of the brain so that it specializes in things that are outside the norm.

Typing has helped me get my words out so I can communicate to a few people but not to the people who I spend the most time with. You really don't erupt in words when right services aren't offered to us because people are afraid of what we might have to say. That is not right. But to make it right all the autistic people would have to become non autistic until they could speak up for themselves.

I have tried to teach the great mass of naysayers that autism is a positive thing, not a negative. See it for the exciting possibilities that it brings to the table.

As Meaghan's typing ability demonstrates, the autistic brain is an amazing resource. Thanks to her input, we now can piece together a brain where the speech component is housed in her left brain, subject to Broca's or conduction apraxia, while her textual language - her ability to spell, utilize grammar and use written words or type - are housed in her right brain. This explains the complete dichotomy between her two piles of language and a defective corpus callosum explains how each side of her brain could function essentially independently.

Meg's ability to speed read, to take in all the words on a page at a glance, may also be the result of this split-brain like capacity, although whether this ability is

housed in both sides of her brain (like Peek's) or just one side is difficult to pinpoint. She can read single words aloud, but not whole sentences, primarily due to her apraxia. And she will not read traditional books...

Because I can't tolerate the visual stimulation. I can't stand books because they are written too small and written so academically. I get a dreadful headache being forced to look at things too long.

But you have no problem looking at the keyboard when you type?

Because I am communicating and that is more important to me than a headache.

Her vision is Meaghan's most sensitive sense and has been her biggest obstacle toward achieving typing independence. We have explored all options and all manner of keyboards. First, pinhole glasses helped, then we tried different colored lenses. I then learned from Meaghan's feedback that she found it much easier to distinguish between pictures than letters, so I found an iPad program (Abilipad) that would allow me to combine the two. She loved this and still uses it.

The pictures help me to distinguish the keys.

No doubt others with autism have some of these split brain capabilities as well, which is why we have to stop focusing so much on speech therapy and acknowledge the possibility that, like Meaghan, they may have the ability to communicate their thoughts using other functions of their brain - whether they be literary or creative.

This is what we have been missing when we think about autism. We have been fixating on the limitations and not the possibilities.

I think autism and OT really go hand in hand because of the sensory motor nature of the condition.

We know now that it is not unreasonable for people with autism to have brains with language regions on in both the left and right hemispheres and that is quite possible that they could not only be better at written language than verbal language, but that they could even have two different, incompatible, "voices."

Since the dawn of time, the hand and mouth have always been partners in communication, with one filling the role when the other could not. It is the same today. 106

[I can't speak] However I can point my finger, and I can use my mind to direct where that finger goes. Typing has opened the Pandora's box of my autistic mind...

For kids with autism, their finger is their best communicative tool and we should be starting them with picture boards and iPad apps at a young age. But then move on. Let them type. However they can do it, with support or not. Because only through the use of words can they express their thoughts. Pictures limit them to wants and needs. We need to stop limiting them.

To get from a typer to a communicator, you have to be able to express deep thoughts.

Make communication a priority, without it we are just going through the motions of living.

Teaching people with autism to communicate is much more complicated than you think. We operate on a different wavelength. You can't use normal teaching strategies for abnormal brains.

Anything that helps a person to share their thoughts with others should be allowed.

Requiring slight support does not mean that we are stupid or incapable. It just means that our defiant bodies make it much harder for our healthy minds to carry out some of the simple things that you take for granted.

How many hours and dollars have been spent on speech and behavioral therapy trying to get autistic children to conform to our norm of behaving and talking, when perhaps they are not wired to communicate verbally? And perhaps they are not wired for facial expression, flexible thinking or social interaction either? That is not necessarily a bad thing, that is just autism.

Why do we keep insisting on changing them when many of them are happy just the way they are? What we should be doing is figuring out exactly how they are wired and use their unique brain anatomy and their communicative input to learn and understand more about them, so we can give them the tools and services they require to lead their best lives.

There is still so much more we have to learn and that Meg can teach us. Why does she cry when she is happy? She loves to listen to music, but she will only

attempt to sing a verse or two of simple songs with repetitive lyrics, like "Happy Birthday To You." When asked why?

Because I can't synchronize my voice with the words.

There is so much more that we have to learn, that Meg and others with autism can teach us. And they want to do that.

Last May, Meaghan sat for an interview with Dr. Christopher McDougle, Director of The Lurie Center For Autism and Professor of Psychiatry at Massachusetts General Hospital and Harvard Medical School. He asked her what she thought about being autistic. She typed her response.

Autism is a kind of sick joke because those of us who have it are highly intelligent and yet we are denied the power to express that intelligence.

Dr. McDougle then asked if she ever dreamed of not having autism.

Yes. I dream that I can tell everyone exactly what I think.

How did she feel knowing that she could not do this.

It has made me feel awful, sub human. I have wanted to talk so badly to explain that I have feelings too.

Did she have anything to say to those who didn't believe in her abilities?

You need to learn to trust. If you let us, we will amaze you.

At the end of the interview Dr. McDougle asked Meg if she had any wishes for the future and, if so, what they were.

Yes. To help others with autism learn to communicate through typing. To go to college. Just to have people believe in me.

Pretty simple. I think that is all any of us ask for in this life. To be able to have a say in how we live our lives and to have others believe in us.

I envision a world where all people are treated as equals and some people are different from others but they are respected for their differences not denigrated.

I envision a world where everyone does what they want to and no one has to take orders from anyone else. A world where all the people have a say in shaping their future.

I envision a world where nobody is handicapped by not having a typical brain. Where crazy and unique are embraced rather than dismissed and autism is recognized as the gift that it truly is.

