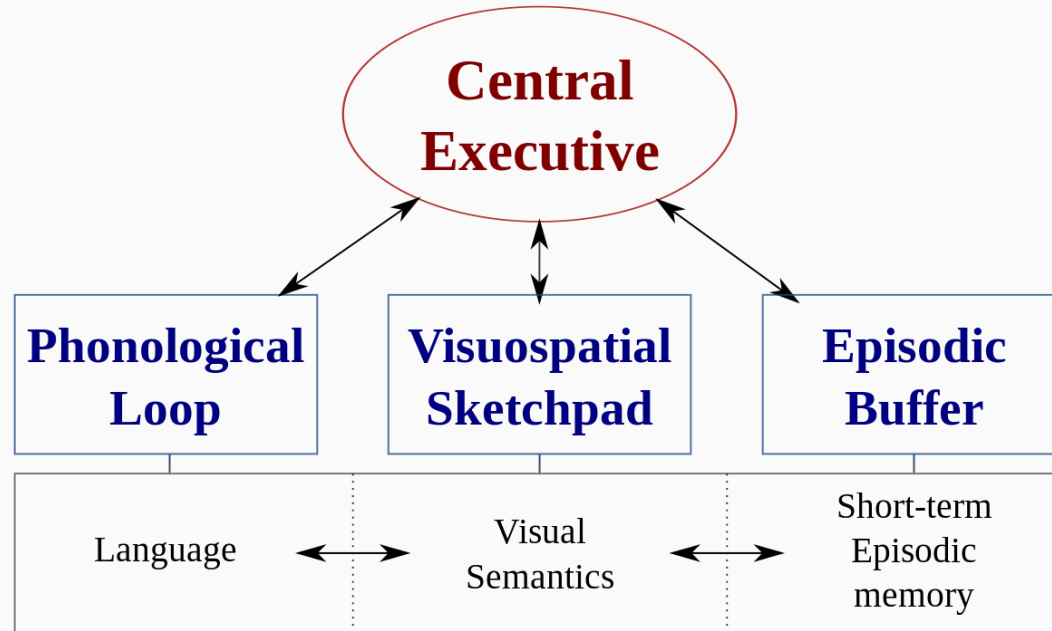


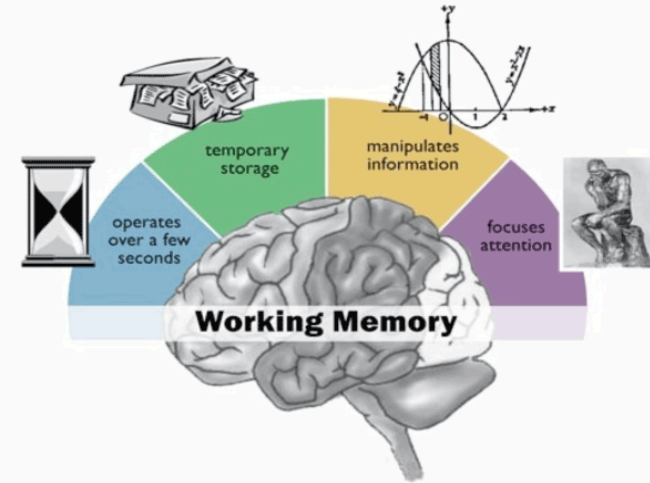
THE STORY OF AUTISM: Short Term Memory and Speech

Short term or working memory consists of 3 main systems, the most important of which is the **Central Executive**.



THE STORY OF AUTISM: Short Term Memory and Speech

The **Central Executive** is the boss of working memory. It drives, monitors and coordinates the whole system. It is also responsible for directing the information it passes along to long-term memory into the proper file or folder, so that it will be easily retrievable.



THE STORY OF AUTISM: Short Term Memory and Speech

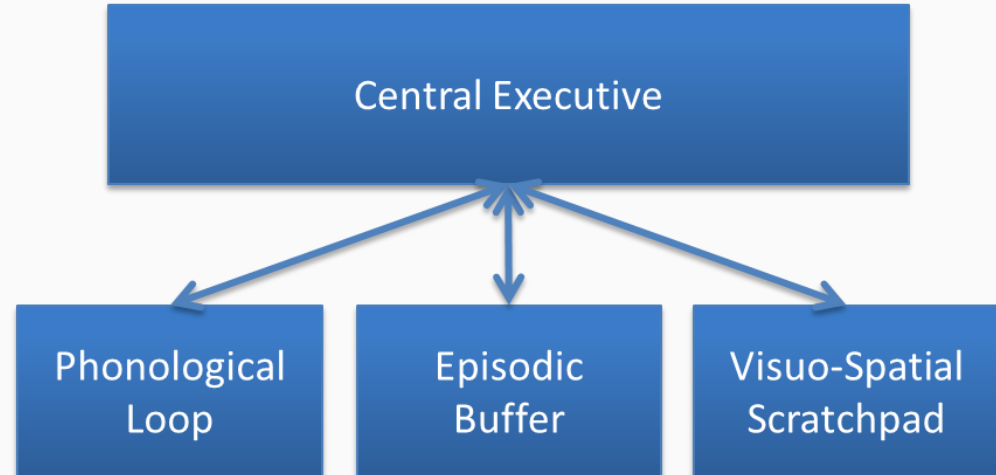
In autism, we know there is a breakdown in this organization and classification system, which is why it often takes people with ASD a longer time to retrieve information, respond to questions and/or take action.



THE STORY OF AUTISM: Short Term Memory and Speech

The Central Executive decides what information is attended to and delegates data to be dealt with by the subsystems – **the phonological loop** and **the visuo-spatial sketchpad**.

The Working Memory Model



THE STORY OF AUTISM: Short Term Memory and Speech

The **Visuospatial Sketchpad** (Inner Eye) deals with visual and spatial information. It plays an important role in helping us keep track of where we are in relation to other objects as we move through our environment.



THE STORY OF AUTISM: Short Term Memory and Speech

The reason individuals with autism are so resistant to change may be that the spatial layout of their house or a familiar room is set in their brains (has passed into long term memory) and they don't have to think so hard about how to maneuver around in it.



THE STORY OF AUTISM: Short Term Memory and Speech

When confronted with a new situation or a new environment, they are literally lost. Their visuo-spatial sketchpad has to start from scratch in drawing up all the new details, relying on smooth connections from all over the brain. And this, as we know, can be a timely process in autism.



THE STORY OF AUTISM: Short Term Memory and Speech

The **Phonological Loop** is a part of the memory that **deals with spoken and written material**. It consists of two parts:

1. **The Phonological Store**
(inner ear)
2. **The Articulatory Control Process** (inner voice)



THE STORY OF AUTISM: Short Term Memory and Speech

Here is where everything comes together and it is really fascinating.

The **Phonological Store** (which is linked to speech perception) acts as an inner ear and holds word information in visual and auditory form for 1-2 seconds.



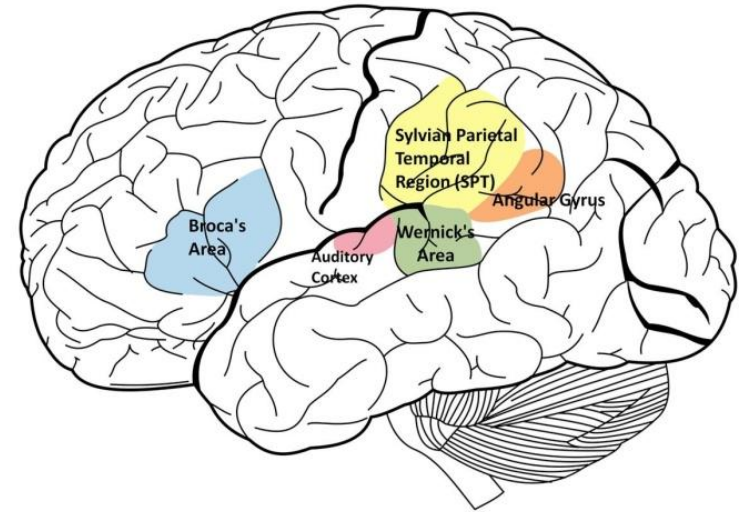
THE STORY OF AUTISM: Short Term Memory and Speech

Spoken words enter the store directly but written words must be first converted into an articulatory code (spoken) before they can enter the phonological store.



THE STORY OF AUTISM: Short Term Memory and Speech

And, of course, the motor structure that converts them into articulatory code is **Broca's area**, which is probably dysfunctional in many autistic brains. So... that means that **the written words are NOT converted into articulatory code and probably do NOT enter the Phonological Store.**



THE STORY OF AUTISM: Short Term Memory and Speech

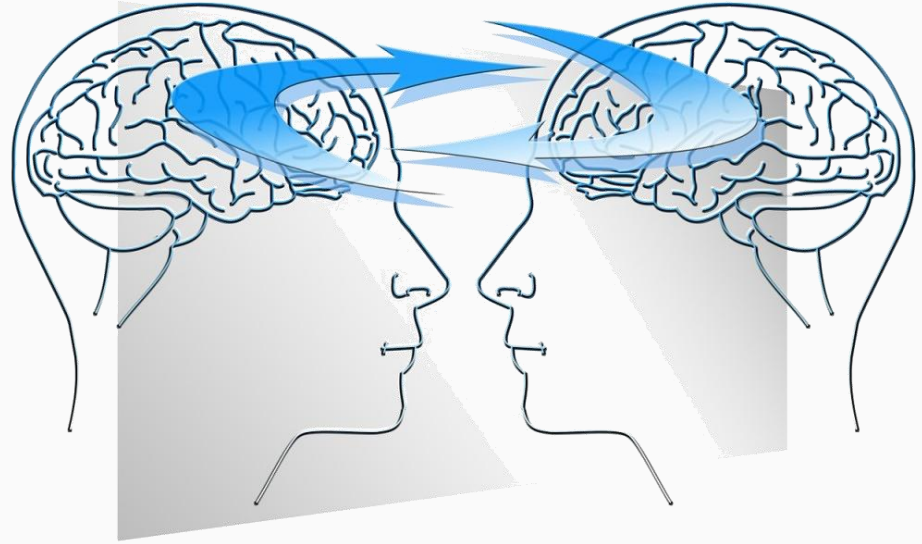
The only words that make it into the phonological loop in autism are the rote and repetitious **utterances** that the motor cortex has stored for easy retrieval. The ones that are accessible on autopilot.



THE STORY OF AUTISM: Short Term Memory and Speech

The last part of working memory, the **Phonological loop**, acts as an inner voice repeating information from the phonological store.

It circulates information round and round like a tape loop.



THE STORY OF AUTISM: Short Term Memory and Speech

You know how when you are trying to remember a phone number, you repeat it over and over. As long as your brain keeps hearing it, it will retain the number in its working memory.

The thing is, we stop repeating the phone number once we have written it down or called it.



THE STORY OF AUTISM: Short Term Memory and Speech

But kids with autism, they say the same things over and over and they don't stop, so **these rote utterances are moved into long-term memory.**

Anything they say, regardless of how inconsequential it might seem to us, is literally programmed into their brains to go round and round in a continuous loop.



THE STORY OF AUTISM: Short Term Memory and Speech

Remember, earlier I said that **you are not going to learn to talk if you don't hear yourself talk.**

Kids with autism only hear themselves repeating the same rote and repetitive words and phrases over and over.



THE STORY OF AUTISM: Short Term Memory and Speech

Even if they do occasionally utter a complete and meaningful sentence, it doesn't make it into their long term memory. Because they don't repeat it!

So their verbal language cannot progress.



THE STORY OF AUTISM: Short Term Memory and Speech

My intent here is not to throw cold water on the hopes of parents who are convinced that their older child with autism will talk normally someday.

It is rather to say that actually, talking in words might not be that important. **Communicating is what is important – and there are plenty of other ways that people with autism can do that.**

GO ON TO THE NEXT PRESENTATION



**NEVER MAKE
ASSUMPTIONS
ABOUT AUTISM**

PART 25

The Story of
AUTISM

