Introduction to Human Brain as a Special Brain

What makes us human? Is our brain, the only one known to study other brains, special in any way?
what makes us unique, “we have brains that are bigger than expected and what make it like that is the memory which we are interested in so we will figure out first how memory work

How memory work
Do people think that memory works like a video camera? Do they believe that memories are immutable once they are formed?

What is memory first ?

Our memory is our ability to encode, store and recall information from our brain But what does this actually mean? We will go through this process step by step:

- Encoding
  All the information that our brain receives through our senses, will first be transformed into a form that the memory will be able to store. This event begins with perception through the senses. The way the information will be encoded depends on what kind of information it is and through what senses your brain received it. In addition, what will be encoded to be stored within the memory can be affected by mood. For example, a stressful situation can cause your brain to prevent you from storing memories at all.

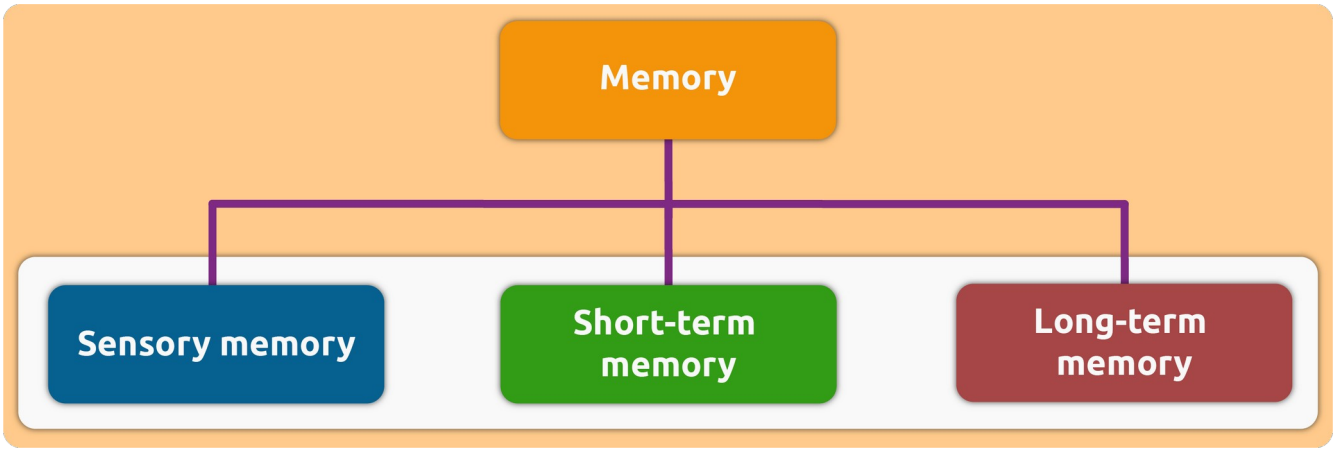
- Storing
  After all the received information is encoded, the brain is able to retain this information within the memory. But, there actually isn’t a specific place within the human brain where all the memories are stored. The different types of memories are stored across different interconnected regions of the brain.

- Retrieving
  This stage refers to re-accessing the information that is stored within the memory. For example, when you think of a happy childhood memory you are retrieving information that was stored within your memory years ago. Although this might seem like a single memory for you, recalling a smell, sight, sound or feeling are all separate memories stored in different regions of the brain. When thinking of a certain memory, you access different parts of your brain and connect those pieces of information.

What are the three types of memory?

Like already mentioned, the human memory doesn't exist out of a single type of memory.
It exists out of different memory systems. When we store a memory, we are receiving, encoding and storing information. How this information will be stored and for how long depends on what kind of information it is. Depending on the information, a different memory type will store the information.

There are three memory types, which have their own way of operating but they still cooperate in the process of memorization. These types can be seen as the three steps that are necessary for creating a long-term memory. The three types of memory are the long-term memory, the short-term memory and the episodic memory.



Why do we forget?

Despite our long-term memory having an unlimited capacity, it occurs that you can fail to recall information. So, forgetting isn't usually about actually losing or erasing this information from your long term memory. There are four major reasons why we forget, these are:

- Retrieval failurememory forget
  One of the factors that play a huge role in forgetting is time. When time passes, memories that have not been accessed could fade away. A memory can be stored and retrieved when you are learning something new or when you are connecting new information with existing memories that are already stored within your brain. If this information will not be retrieved and rehearsed over time, these memory traces will start to fade away. This is also called the decay theory. This can be seen as a moment that was important to you a long time ago. At first, you remember everything about that moment, but after not thinking about it for years the details of that moment starts to fade away.

- Interference
  Memories can also be forgotten because of interference. Some memories you have stored within your brain can interfere with other memories. This can occur when information is very similar to the other information within your memory. This is also called the interference theory. Maybe you have a memory of one of your holidays, which can be in fact a memory of another holiday. You can mix up the memory of these two similar situations, causing your brain to forget the original one.

- Failure to store
  It can occur that losing a memory isn't caused by forgetting. Sometimes losing a memory happens because it never actually made it into the long-term memory at all. This is a result of the encoding that often fails, preventing information to convert from the short- to the long-term memory. Like when you are learning from a book and you thought you knew everything that was needed for a test, but suddenly the memory is gone. Failing to store a memory can have lots of causes, such as a stressful situation, learning from a book until your memory is overloaded with new information or a lack of focus while you weren't aware of it.

Can you improve your memory?

Because your brain adapts to different stimuli it gets, it’s possible to improve your memory

but we have another way what about technology