

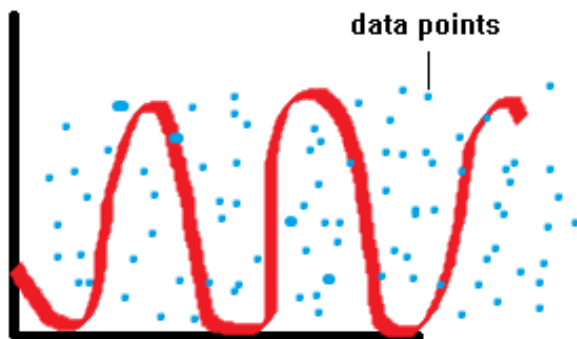
How Do We Dream? ©

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Dreams. A concept yet to be understood by humans. Many neuroscientists say that they are nonsensical others say that they are present to teach us something. But before asking the question why, it is better to ask; How?

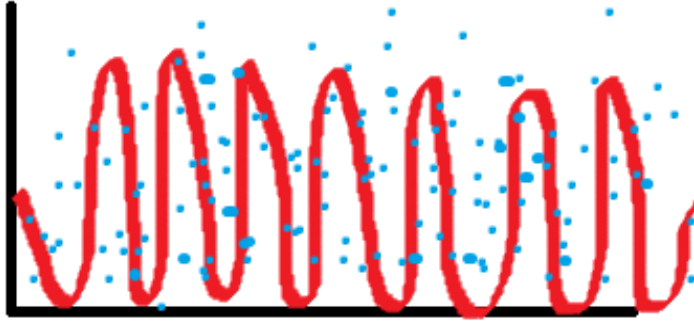
When we try to recall something; our brain tries to track-back to the memories by certain time frames. Our brain will jump back a few minutes or hours, if possible, to recall a certain memory. It jumps back weeks, months or maybe even years to recall older memories. The amount of detail which is remembered by the person is subjective. If the person has observed details very carefully then he/she will remember the incident in vivid detail. For example; if a person is given a pen and told to do observe every single aspect of it; its weight,size,inscriptions etc and if he is asked about the pen a few days later he will be able to tell us everything about it. But the question is, **how** do we remember the memory.

Hypothesise that the memories are "**data-points**" in our hippocampus. When we try to think and remember something, our brain's EEG (Electroencephalogram) graph produces a wave which looks like this;



The crests and troughs of this wave "touch" the data points and whichever data points are touched, those memories are remembered. But as seen in the graph, most data points are not touched and therefore there is a very low chance that the one-in-a-billion memory might not be found.

However, when we are in a deep sleep and while we are dreaming, our brain produces delta waves which are more energetic.



As seen in this graph, the wave is coming in contact with many data points and is able to remember more memories. This might probably be the reason why we have such vivid dreams; this system is a system of permutation-combination. Although our dreams might seem nonsensical with awkward characters it has a story-line (most of the times).

The telencephalon consists of the hippocampus (the memory centre), the amygdala (the emotion centre) and the cerebral cortex. These 3 elements work together to construct dreams. The hippocampus provides the memories, the amygdala adds some emotion/taste to it and the cerebral cortex assembles these memory-emotions in a meaningful manner and voila; we have dreams.

The main argument here would be; How does a wave even touch the points? If the memory is not even a physical entity then, it must be an abstract one. When it is stated that the wave touches the data points, it means the peak; the point wherein the neuron is firing at its "highest power" is touching the data points. Dreams are built from memories and a certain element of imagination. Our brain is like a library. Our memories are the books and the neurons, the aisles. Whenever we want to recall a memory we access the "catalogue" wherein it is stored. These memories are like data. Some memories are complete data and some are fragmented (something like the torn pages of the books in the library).

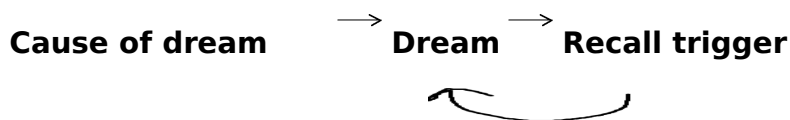
Dreams have also evolved along with humanity's evolution. Most people now dream about their work life, their bosses, school etc. But this is not exactly the case for everyone. Many people have more vivid dreams which are inconceivable in reality. These people usually tend to have more creativity.

Mankind always wants control and order over everything. Power, the feeling to rise to the top of the food chain is a natural instinct. It has been with us from the time humans walked on Earth. Now too, many people want control over their dreams. A prime reason for that might be because, one cannot live in such a vivid world in reality. This art is called **Lucid Dreaming**. Having control over the character in the dream, be it the first-person or third-person. The main reason why these people can Lucid dream is because they have "simulated" a "dream-like vivid world" in the real world. Since they are able to maneuver freely in this world, which is in the real world, they are able to grasp the dream's world easily as the Brain won't treat it like a dream, but reality. They are just, put simply, fooling the Brain.

What happens after waking up?

A single word or image can trigger the recall of the dream which might have been forgotten as soon as we wake up. All of our dreams are running on "RAM". They are not "running" in the foreground. That is why we tend to forget our dreams. We spend around 2 hours each night dreaming. We have an average of 6 hours of sleep. We don't remember the whole 2 hours of the dream, only specific portions of the dream. The rest of the dream has to be triggered. When we dream, we dream in the background, which we have access to only while dreaming. Once we wake up, this dream is immediately put under lock and locked "down under", and our brain acts like nothing has happened and resumes normal functioning but it does try to recall what had happened. This causes the strange feeling that reality is not actually reality. A drug which might have induced the dream implants a false element in our brain, which makes our brain doubt if it actually had a dream. It makes the brain dismiss the idea of a dream and shoos it away as 'imagination' but there still remains a doubt. The brain knows it had dreams but it cant recall it as it does not have the key. This key is a very specific trigger which unlocks the dream from 'down under' and we can access the whole dream. When we are in the dream, everything feels realistic. After the dream is unlocked our brain is able to replay the feelings which happened in our dream.

Death occurs in many dreams. But according to the previous statement, the "feeling" of death too would haave to be played/replayed. This would inevidently fool the brain and *might* result in actual death. Therefore, as a precautionary masure, our brain kicks us awake. Also the after effects of death might cause confusion, psychological imbalance, if not actual death.



Dreams decay. Less important or very common dreams decay. After the dream is unlocked we are able to replicate the feeling, but over a period of time that feeling we associate with it is lost.

Conclusion

It has been more than a decade that Neuroscience as a whole became a trending subject. But we still don't know much about the brain. The question still stands; "How do a couple of proteins, which are just polymers of a couple of atoms, make up a 3 pound mass of jelly which can question its own existence and place in the Universe?".

I believe that this hypothesis will prove as a starting block for further research on the brain and its functions.

Sources/Bibliography

*The Lymbic System,2000
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