

Welcome to the world of deceitful memory...

by Deblina Dam

Our memories shape our personality. Everyday memories help us to develop as human beings. Over the course of time, memory reminds us at every moment who we are by bringing the past to the surface. But there is also a dark side to memory. Images and details stored there can become distorted.

One of the things that the researchers at California Institute have learned about memory is that it absolutely does not work like a videotape recorder. It is more like a Wikipedia page. One can go in there and edit. Although the dense labyrinth of neurons in our brain is still a mystery, scientists are trying to unlock its secrets in order to understand the details of a particular memory or to retrieve it artificially. That requires two things: first we need to be able to find the memory in the brain and second, we need to be able to manipulate them.

Prof. Hiromu Tanimoto, Neurobiologist, Tohoku University, Sendai, had chosen intelligent fly strains for his study. At the Kyoto Drosophila Resource Center, there is a collection called Kyoto NP stock collection, which consists of 4000 different GAL4 lines, where each line has a different Gal4 insertion pattern. The progeny for their large scale screening was selected by crossing a double-reporter line: pJFRC66-10XUAS-DSCP-IVS-myr::GFP to the Gal4 lines from the Kyoto NP stock collection. This made it possible to visualize in the same brain a labeling of neurons with anti-GFP and anti-Beta galactosidase. While carrying out this project, their aim was to characterize neuronal circuits involved in the response to the application of sugar and electric shock stimuli; behaviours that can be easily analyzed by observation.

Memories are often unreliable and impressionable. But the good news is, today scientists are actually able to manipulate them. They say there are realms of possibility to make memories pleasant or unpleasant while people sleep! Probably a professional false memory can be created in our mind, which indicates that we can actually be brainwashed!

Should we be worried about these sorts of experiments? How reliable are the memories that we value the most? And why does our brain come up with these alternate versions of reality?

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