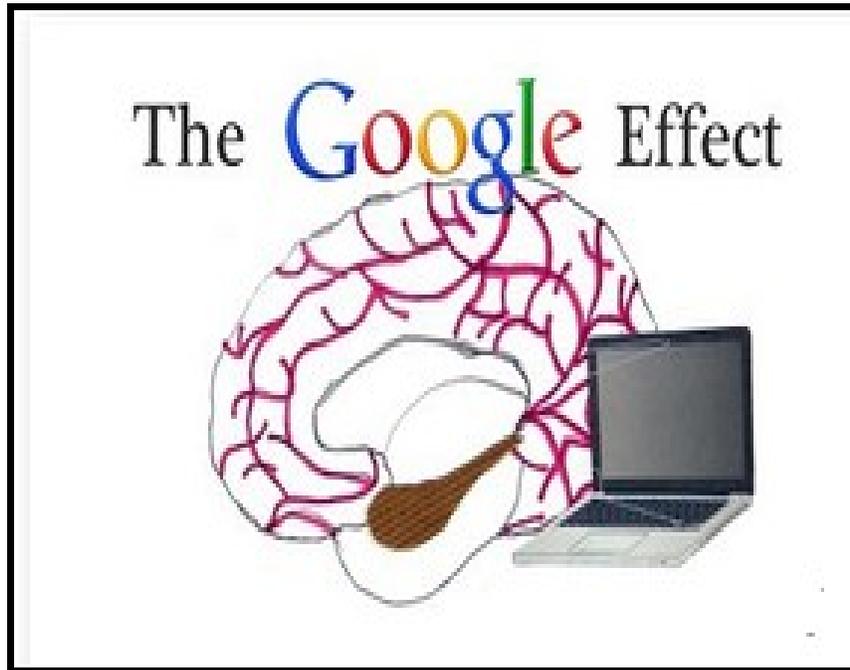


Is Google Killing Your Memory?



In 2009 a plane was flying from New Jersey to Buffalo, New York. As it cruised on autopilot at 16,000 feet, it encountered a massive storm front. Approaching the airport, the plane's controls began to shudder loudly, a sign the plane was losing lift and might stall. The pilot took action. He pulled back on the controls, lifting the plane's nose. This was precisely the wrong thing to do – instead of preventing a stall, he caused one. The plane spun out of control, and plummeted into a house killing all on board. How had this pilot forgotten his basic emergency training? Is technology ruining our memory?

We're all living in the age of Google. When we Google one thing and Wikipedia another, we're not relying on our brains but on our fingertips. Is it making us dumber? First you have to consider there are two main types of memory, non declarative memory for skills, emotions and movement; like how

Is Google Killing Your Memory?

to ride a bike. And then there is declarative memory, for facts and information, like your phone number or the capital of Australia. So when we use technology to look up information, we're extending our declarative memories. But is that at the expense of what's in our brain? The hippocampus is a major part of the brain we use in declarative memory function. It gives us the ability to retain and recall memories about facts, like the largest animal on earth, and events, like your first kiss or the first CD you bought. The formation of new declarative memories relies on both the hippocampus and a region around it, the parahippocampal gyrus. So what happens when we have information at our fingertips and we don't need to remember facts anymore? Well the process in our brain of how we form, retain and recall memories remains the same. What changes is what we choose to form memories about. Instead of remembering more facts, we remember where to find them – this is called The Google Effect.

In one study, participants who were told they could later look up the answers online did not make the effort to remember general trivia. When asked a question people actually thought about computers and search engines instead of searching their own memories for the answer. The use of external memory systems is called transactive memory and it is not new. Einstein once said, I do not carry such information in my mind since it is readily available in books. Plus we've relied on other people to remember things for us like a husband or wife. Now there is a third wheel in the relationship – Google and it is connecting us like never before. As for that lump of matter inside of our heads that's connected too. For our declarative memory, using technology just means we're tweaking our memory hard drive so we remember where the files and folders are, where we can find information, not necessarily the facts themselves. This will probably happen more and more as our relationship with devices grows. But it's not necessarily a bad thing! fMRI scans showed that for people who are internet savvy, areas of our brains are way more active searching for information online than when reading a book.

Is Google Killing Your Memory?

In our brains our hippocampus is still working the same way, we're just choosing to retain the most efficient way to find information, and that is usually online. We're all sharing the work of remembering, and it makes us collectively smarter. It is actually pretty adaptive. The only disadvantage is when you need knowledge on the fly. For split-second decisions, all you can search is that lump of matter inside your head.