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## You Must Remember This: Forgetting Has Its Benefits

By

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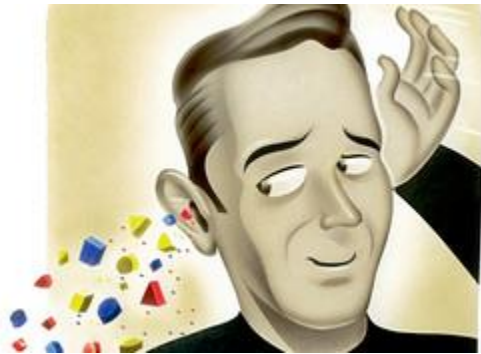
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There's an old saying that inside every 70-year-old is a 35-year-old wondering, "What happened?"

What happened is that countless days, nights, meetings, commutes and other unremarkable events went by, well, unremarked. They didn't make a lasting impression on the brain or they were overwritten by so many similar experiences that they are hard to retrieve. In short, they've been forgotten.

That's not necessarily a bad thing. Neuroscientists say forgetting is crucial to the efficient functioning of the mind, to learning, adapting and recalling more significant things.

"We focus so much on memory that forgetting has been maligned," says Gayatri Devi, a neuropsychiatrist and memory expert in New York City. "But if you didn't forget, you'd recall all kinds of extraneous information from your life that would drown you in a sea of inefficiency."



Dan Picasso

That was what prompted Jill Price to contact the memory experts at the University of California at Irvine in 2000. As she wrote in a book published this summer, "The Woman Who Can't Forget," Ms. Price could recall in detail virtually every day since she was 14, but she was mentally exhausted and tormented by her memories. UC Irvine scientists are interviewing more than 200 people who say they have similar "autobiographical" memories, but so far have found only three more.

Memories of singular, significant events -- say, last week's historic election -- are generally easy to recall; people typically store them in long-term memory with many associations attached.

Memories of mundane, recurring events compete to be recalled, and scientists say the brain appears to be programmed to forget those that aren't important. Neuroimaging studies show that it's the brain's prefrontal cortex, the area of complex thought and executive planning, that sorts and retrieves such "like-kind" memories. Researchers at Stanford University's Memory Laboratory demonstrated last year that the more subjects forgot competing memories, the less work their cortexes had to do to recall a specific one. In short, forgetting frees up brain power for other tasks, says psychologist Anthony Wagner, the lab's director.

A real-world example, he says, is having to learn a new computer password every few months: As your brain suppresses the memory of the old password, it gets easier to summon the new one.

In fact, forgetting is a very active process, albeit subconscious, neuroscientists say. The mind is constantly evaluating, editing and sorting information, all at lightning speed. "Your brain is only taking a small amount in, and it's already erasing vast amounts that won't be needed again," Dr. Devi says.

Much that happens during the day doesn't make an impression at all because our attention is focused elsewhere. Take your daily commute, says Dr. Wagner: "A heck of a lot of stuff is landing on our retinas as we're driving down the road. But if you were focusing on the presentation you have to give, you didn't perceive it and it didn't get stored."

He notes that people face such a constant cognitive barrage that they frequently fail to attend to information that isn't essential at the time. "I have two 4 $\frac{1}{2}$ -year-olds and I'm already thinking, where did those first four years go?" Dr. Wagner says.

Numerous studies have shown that when people are asked to focus on one thing, they can fail to notice others—phenomenon called "change blindness." In one famous test, when viewers are asked to count how many times a basketball changes hands in a video, roughly half don't notice that a gorilla walks through the scene.

Conversely, people who have remarkable memories for, say, sports statistics or who-wore-what to parties paid attention at the time and attached significance to it, while it doesn't register on other people's radar screens at all.

Are memories for events you didn't focus on stored in your brain nevertheless -- like unwatched bank-surveillance tapes? That's an area of much debate. Some experts believe hypnosis can trigger long-buried associations. But so-called recovered memories are also susceptible to distortion.

"Memory consists of billions of puzzle pieces, and many of them look the same," Dr. Devi says. "Each time you retrieve a memory, you're reconstructing a puzzle very quickly and breaking it down again. Some of the pieces get put back in different places."

What if you want to remember more about each passing day? One simple method is to keep a journal. Writing down a few thoughts and events every day not only makes a tangible record, it also requires you to reflect. "You're elaborating on why they were meaningful, and you're laying down an additional memory trace," says neuroscientist James McGaugh at UC Irvine. Taking photographs and labeling them reinforce memories too.

But remember that forgetting can be very useful, says Dr. McGaugh: "If you used to go out with Bob and now you're married to Bill, you want to be able to say, 'I love you, Bill.' That's why forgetting is important."