

Memories of the Future

December 27, 2011



I remember my retirement like it was yesterday. As I recall it, I am still working, though not as hard as I do now. My wife and I still live in the city, where we bicycle a fair amount, and stay fit. We have a favorite coffee shop where we read the morning papers and say hello to the other regulars. We don't play golf.

In reality, I'm not even close to retirement. This is just a scenario I must have spun out at some point in the past. There are other future scenarios, but the details aren't all that important. What's notable is that my futures all have a peaceful and contented feel to them. They don't include any financial or health problems, and no boredom, not for me or anyone I know.

Cognitive scientists are very interested in people's "remembered futures." The whole idea seems contradictory in a way, since we tend to think of memory in connection with the past—recollections of people and things gone by. But the fact is, we all imagine the future—and then recall those imaginary scenarios time to time. Indeed, some scientists believe that these "memories" are highly adaptive, allowing us to plan and better prepare for whatever lies in store.

But very little is known about how these simulations work, or if all future memories are equally beneficial? Which scenarios do we recall best? Are others lost? Are most people's future memories as rosy as mine? Or do we also spin out other, less optimistic simulations of the future, ones that we tend to forget over time?

These are very difficult questions to study in a laboratory—or at least they were until now. A team of psychological scientists, headed by Harvard's Karl Szpunar, recently devised a novel method for generating authentic future simulations—and for studying their characteristics and staying power. Basically what they do is collect a lot of biographical detail from volunteers' actual memories—people they've known, places they've been, and the names of ordinary things. I, for example, might remember having a beer with my cousin David at a bar in Baltimore; buying a TV at Best Buy with my wife; and borrowing ten dollars from my college roommate Roger at the bookstore—and more than a hundred similar memories.

Then all this raw material—all these people, places and things from near and distant pasts—are jumbled together, and volunteers use random samples to generate imaginary future scenarios: Roger, the Baltimore bar, and the TV, for example. Sometimes the volunteers are instructed to imagine a positive future, sometimes a negative one, others times neutral. So I might imagine Roger and me having a terrific time cheering on the Redskins at that Baltimore bar, or I could imagine the two of us falling into a bitter argument at the same bar, while the news played on the TV.

Then later, the researchers test volunteers' memories of these future scenarios. They do this by giving them two of the three details—the bar and Roger, say—and seeing if they can fill in the missing detail to recreate the simulated future scene. Their idea is to see what qualities makes an imagined future memorable, or forgettable.

The findings were intriguing. The scientists tested volunteers' memories minutes later, and then again a day later, and [as reported in the on-line version of the journal *Psychological Science*](#), the details of negative simulations were much more difficult to recall later on than details of positive or neutral simulations. This is consistent with what's known about negative memories for actual past events, which also tend to fade more rapidly than positive ones. Szpunar and colleagues hypothesize that the emotion associated with a future simulation is the glue that binds together the details of the scenario in memory. As the negative emotion dissipates, so too does the integrity of the remembered future.

So the negative versions of the future fade away with time, and the positive versions endure—leaving, on balance, an overly rosy vision of what's to come. But that may not be a bad thing. People who suffer from depression and other mood disorders tend not only to ruminate on negative events from the past, but also to spin out negative scenarios for the future. Psychologically healthy adults tend to be overly optimistic about what lies ahead. It's probably adaptive to imagine the worst, so we can do our best to avoid the things we can avoid—but then let those invited troubles fade away.

Wray Herbert's book, [On Second Thought](#), is now out in paperback. Excerpts from his two blogs—"We're Only Human" and "Full Frontal Psychology"—appear regularly in *The Huffington Post* and in *Scientific American*.