

Man who died at 110 was 'always inquisitive.' Now scientists will study his brain.



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USA TODAY

Published 12:15 p.m. ET June 13, 2024 | Updated 10:51 a.m. ET June 14, 2024

Clarifications and corrections: An earlier edition of this story misstated the role of the NIH. The federal agency works with researchers all over the world to provide the tissue needed for their studies.

Judith Hansen took awhile to tell her father's story, but that was understandable: Morrie Markoff, who died June 3, lived to the age of 110. And what a life he'd led.

Born in a New York tenement to Jewish immigrant parents, Markoff had just an eighth grade education, but was nonetheless a lifelong learner. Trained as a machinist, he moved West, married his wife, Betty, in 1938 and started a business.

During their 80-plus years of marriage, the Markoffs raised two children, traveled the world (including trips to Mexico, China, Japan and what was then the Soviet Union) and walked 3 miles a day together into their ninth decade before Betty died in 2019 at the age of 103.

"We're all very aware of how lucky we were to have him around," Hansen said. "He's very much in our minds – he was quite the character."

Markoff's mind was quite something as well: He sculpted. He blogged. He authored a book at the age of 99. He held onto an innate intellectual curiosity his whole life, discovering and diving into Wikipedia and its vast store of information.

And now, thanks to his family, Markoff's brain will be studied by scientists seeking to learn more about the aging process – and why some people slide into dementia and cognitive decline but others, like Markoff, remain sharp to the end.

Studying brains that stop working and those that never do

Tish Hevel, CEO of the Brain Donor Project, said that while it's useful for scientists to study brains of people who've suffered from Parkinson's, Alzheimer's, CTE and other neurodegenerative conditions, healthy brains are necessary, too.

"People think it's just for those who have these diseases, but you need a control for comparison," she said. "There are a lot of studies being done about aging and people we call 'super agers,' and scientists want to know why some people are super agers."

The Brain Donor Project was founded in 2018 in honor of Gene Armentrout, Hevel's father, who died of Lewy Body Dementia, to raise awareness of brain donation.

Opting to be an organ donor does not mean one's brain can be donated to science, Hevel said. For one thing, brains can't be transplanted like kidneys, corneas, hearts or other tissue; they're used only for scientific study. The life-saving potential of organ harvesting means that takes precedence when someone dies unexpectedly.

"A lot of people don't know it's a separate procedure to donate the brain, and a very small percentage of us die in a way that organs are usable for transplant," Hevel said. "In some ways, the brain has a better chance of satisfying the deceased's wishes" for their body to benefit others.

The Brain Donor Project helps people start the process of donating their brain to science; the U.S. National Institutes for Health NeuroBioBank works with researchers all over the world to provide the tissue needed for their studies.

Brains, of course, aren't like kidneys, livers or even hearts, Hevel said.

"The brain is the source of personal identity," she said. "It's incredibly intimate, and that's what's really thrilled me, that so many people are motivated to donate."

Families who lose loved ones have told her that post-mortem examinations are the only diagnosis they've received, a posthumous explanation for conditions they could only guess without a look at brain tissue.

"(Donors) are so altruistic," she said. "They donate because they don't want another family to go through what theirs did. They're so giving and unselfish, and it's such a powerful gift to give to us all."

Morrie's mind never stopped working

Markoff wasn't shy about why he remained vital into his 100s, and his daughter, 81, said she and her brother, Steven, grew up with two parents who never stopped being active, engaged and interested in the world around them.

The Markoffs traveled extensively and Morrie photographed all their destinations. Though neither had much formal education, they hosted friends in lively discussions about politics and current events.

After their children were grown and they became grandparents and even great-grandparents, Morrie and Betty walked around a lake near their Los Angeles home, holding hands, Hansen said. A heart attack when he was 99 took away his photography hobby so Markoff began writing instead.

After Betty died, Markoff was helped by a caregiver, Rosario Reyes, whom Hansen, who lives in Seattle, credits with keeping him healthy and happy, calling her "an angel."

During the pandemic, Hansen was caring for her husband as he was dying from Lewy Body Dementia, while making sure her father was also being looked after. Reyes, she said, made sure he could read the Los Angeles Times on an iPad when he could no longer read it in print.

"I firmly believe it was being involved with the world," Hansen said when asked why she thought her dad's cognitive abilities held fast for so long.

"So many people make their circle very small (when they grow old). But with Mom and Dad both it wasn't just the family, it was the world. ... They were both very attuned to the world and what was happening. They were always curious and inquisitive."

After a stroke, Markoff was in hospice care for a short period before he died. Hansen was able to see him before he died, and shortly before he passed, she thought about his remarkable mind. When she read about the Brain Donor Project, she reached out to Hevel personally.

"He would have been so happy (to know his brain was going to be studied)," Hansen said. "He really believed in science."

"I had joked with him about donating organs. I said, well, 'Pap, I don't think they'll want yours because they're so old.'"

But that's precisely why Morrie Markoff's brain is so worth studying.

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