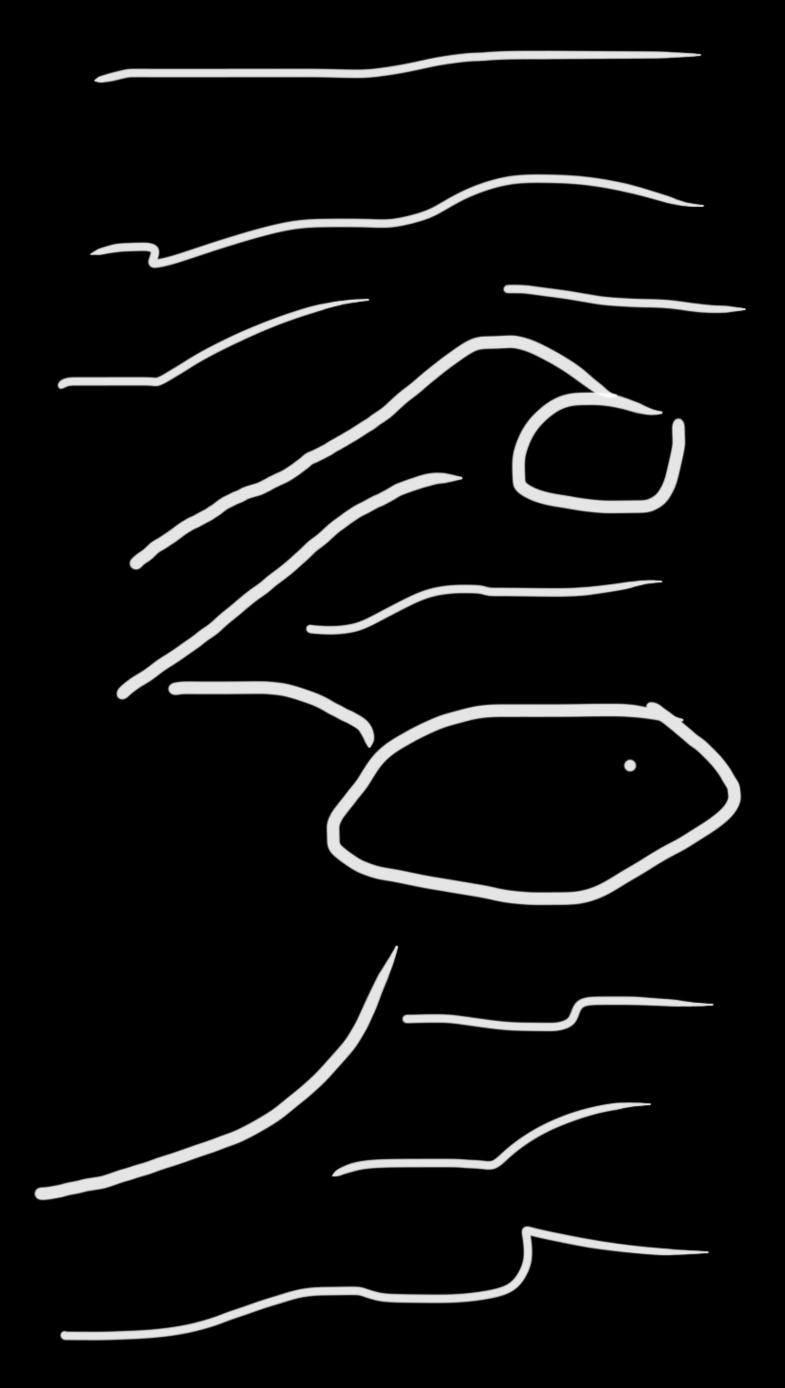
## miniMAG





## Search

Matias Travieso-Diaz

Andy and his family stopped at a small restaurant on their way back from the beach. There was a sign on the counter that read "Coconut Ice Cream—Get it While it's Fresh!"

"That's what I want," Andy declared. He was slurping at a cone when other customers entered and sat next to them.

He raised his eyes and was transfixed. Across from him sat a vision with intense brown eyes and a delicate oval face. She smiled and asked him something. He mumbled words that became lost.

Both families rose to leave and happened to walk in the same direction; Andy and the girl stayed behind. He impulsively grasped her hand. She said "They can see us," and rushed to join her party.

The following day, the phone rang. Andy's mother answered. When she hung up, her face was pale. "Father had another heart attack. We need to return home."

On the drive back home, Andy's mother kept urging her husband to go faster, and he complied. At a steep curve, the car went off the road and struck a tree.

Andy woke up hurting all over. His right hand was numb, so he

reached up with the left and found that his head was heavily bandaged. A nurse then entered the room.

"Where am I?" he asked, confused.

"In a hospital. You were in an accident and hit your head against the windshield, and fractured an arm, as well."

"How's everyone else?"

"Your mother has a broken collarbone, but will recover."

"How about my grandfather?"

"He died a couple of days ago."

Andy asked, fearing the answer, "And Dad?"

The nurse frowned. "He's gone. He was already dead when you were picked up."

Andy sunk back on the pillow and wept.

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It took years for things to return to a semblance of normality, though life was never quite the same; the accident kept playing over in his mind, overshadowing almost all else.

He later discovered he had lost most memories of the day before the accident. He recalled eating coconut ice cream, meeting a girl, and exchanging words with her. He also had a vague impression of seeing her again that night, and felt that something important had occurred between them. But when he tried to bring those memories back, they had vanished.

He became obsessed with the problem. He resented the loss of his first romantic experience, a time when he might have known happiness.

Years passed. Biologists, digging into the workings of the human brain, found that new memories reside in the neurons in the dentate gyrus area of the hippocampus until they are transmitted to the cortex to become long-term memories. Loss of those transitory memories could occur due to events preventing their transmission out of the hippocampus. However, lost transitory memories could perhaps be found by energizing the neurons containing them.

A single neuron could be the repository of several memories, encased like matryoshka dolls. Memories could be extracted one by one, but the process might lead to the accidental loss of them or other memories.

Andy wished to volunteer for the memory retrieval experiments but was concerned about accidentally losing memories during retrieval. "Is there a way to minimize that risk?" he asked the leader of the memory research team.

"The site of the probing is precisely controlled by a computer. We stimulate quiescent neurons, and if any of them evoke memories that correspond to the period of interest, you can decide whether to go further. Accidental loss of memories is improbable."

Andy weighed the risks and benefits of letting his brain be probed. His desire to recover the missing memories won over.

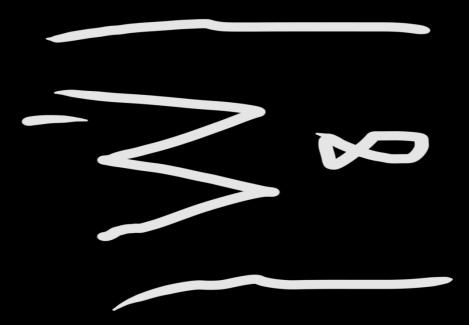
"I'm ready" Andy advised one morning. "Please include me in your protocol."

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Andy lay, immobilized but conscious, on the operating table. Sources above his head generated tiny electric fields. The fields' minute movements caused neurons to fire individually.

Suddenly, one firing neuron flashed before his mind the taste of coconut ice cream which, as a fishing rod, reeled in the sight of himself walking with a girl.

Other images showed him standing inside a gazebo. He heard footsteps crunching shells on the path to his location. The girl appeared,



came to Andy and pecked his cheek. She said: "I came because you were waiting for me... but I can't stay. My parents saw us and forbade me to talk to you again."

"Wait!" he pleaded.

Another neuron evoked the girl's receding steps and his own steps in pursuit. He caught up to her. "Let me go!" she demanded. He tried to kiss her. There was a struggle and both fell. The images then cut off. "Wait... where is the rest?!!" Andy asked himself, and repeated the question to the technician who was readying to move the fields forward a tiny distance. The man stopped: "Should I continue?"

Andy then realized he was at the edge of a cliff. Maybe he should stop before it was too late. On the other hand, could he live with never knowing what happened?

He swallowed hard and replied: "Let's go ahead."

The firing of the next neuron showed him getting up with difficulty from the path to the gazebo. The girl was nowhere to be seen.

There was still a gap, some memories that his brain stubbornly refused to resurrect. What was it hiding?

The technician looked at him quizzically. "Should we try again?"

"Yes, again. In for a dime, in for a dollar."

The firing of another neuron showed him trying to kiss the girl, and then she was slapping his face and pushing him off. She had gotten up and gone away, leaving him beaten and humiliated.

Andy sighed. His mind had been seeking, all along, to protect him from reopening those early wounds of shame and disappointment.

"Let's quit now," he instructed. "The brain knows its business better than we give it credit. Losing good memories may sometimes be better than finding bad ones."