

# The brainstorm

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It's Monday today and without many new cases from the hospital, I am still reading the nightmare chip from yesterday. A really weird one; dream fragments repeating, always stopping when a lady appears. The doctor said the patient has been having nightmares since the accident. Now he is deteriorating—depressed, refusing to eat, suicidal. David Superman, 20 July 2007, Norwegian. No medical record in the past five years, previously a healthy 50-year old. How did he become like this? Who is the lady in his nightmare?

I stood in front of the office window and began to wonder.

"Prof. Dong, there is an appointment for you. A Chinese boy suffering severe memory loss will be here with his girlfriend in ten minutes."

*Gumi XJ, M, 27...Kamilla J, F, 26... 1 March 2007, hit in a truck accident...*

A young western girl appeared, pushing a blank-faced eastern boy in a wheelchair.

"Welcome to the Center, Kamilla. I am Prof. Dong. Please tell me about your situation." Kamilla nodded, a shallow smile drawn on her pale face.

Kamilla and Gumi had met four years ago in China. They worked in a restaurant where Gumi was well known for his traditional oyster omelet. Kamilla enjoyed the food, but there was also something about the Chinese boy's sense of humor that made her happier than she had ever been. They worked together every day and soon fell in love. Six months later, Kamilla returned to Norway to care for her ill father. Gumi decided to follow her, and they met one year later in Bergen. Everything was difficult for Gumi then; he did not know anybody and did not speak Norwegian. But Kamilla helped him, just like Gumi had helped her when she was in China. Before the accident, Gumi had received a full scholarship to the best Norwegian cooking school. Now the accident had changed everything. Hit by a truck, Gumi had lost his memory, his mother tongue, his past experience, and even the face of Kamilla.

She paused and looked back at Gumi. He was still looking out the window as if this was someone else's story. He had really lost everything.

"We were planning to marry in the autumn ..." Kamilla said, bowing her head. "I really love Gumi. Please help him recover his memory. I know you have a way to do it. Please!" She looked at me with desperation in her eyes.

"Well...we are developing a new cognitive memory chip but it is brand new technology. We've not released it as a commercial product yet. At the moment, we only use the technology to download patients' memories for diagnosis or therapy development."

"Professor, please. I know you can help. I just want him to remember the past. He is my all!" Kamilla looked at me, her love swelling in tears.

It was true that since our memory chip had been successfully used in downloading and storing memories, our group had begun to develop a beta version of the system. We were experimenting with using the fifth generation FIXT (Fast Information eXchange Technology) to write the new information back into the brain, stimulating the nervous network via the VAS (Visual, Auditory and Sensory) channels. We had just finished some very successful primate experiments last month where we managed to switch memories between two chimps, with

behaviors also promisingly exchanged. We had also successfully planted new external information into their memories. Of course, for human beings, the brain was much more complex, but theoretically, the cognitive chip could be used not to just download human memories but also to upload and share them. Theoretically, it was possible to help Gumi, but memory-writing in humans had never been tested.

I remained silent for five minutes, toying with the tempting possibility of a human experiment.

"Kamilla, I want to help you and Gumi but we would need to build a new memory for him. This would mean collecting fragments from people who knew him. For example, if you wanted him to recall the days with you,



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we would need to copy your memories of that time and install them in him. But there are risks, the method is not guaranteed. We have only conducted experiments on animals. If we were to proceed, Gumi would be the first person to test the technique."

"But how would it work?" Kamilla asked, without fear and in obvious curiosity.

"It sounds like magic, right?" I picked up the memory stick on the desk. "This is a cognitive chip, currently storing a patient's dreams. The patient has had a recurring nightmare since hitting a pedestrian in a traffic accident six months ago."

"Accident?" Kamilla asked, highly sensitized, "Is his name David Superman?"

"I should not leak such information...but why do you ask?"

"He was the driver in Gumi's accident," Kamilla said. "He felt very guilty and came to see Gumi several times when Gumi was still in shock but I have not seen him for a long

time. I heard his wife and daughter died in another car accident five years ago."

Another accident? His doctor did not tell me about this. Maybe the accident five years ago had led to a "dead cycle," a loop of sadness and guilt where the message could not escape. After suffering the loss of his own family, he couldn't forgive himself for doing that to someone else. To break the cycle, we would need a disturbance.

"YES! Gumi and David," I exclaimed.

"If the experiment works, Gumi's reanimation may break David's dead-cycle." Would this double benefit justify the experiment?

I sat back at the computer and smiled.

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