

4 zany futuristic ideas that could come true

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A map of the brain leads to cures

The key to curing many diseases may come only when scientists fully understand the human brain, a complex machine that hasn't been completely investigated.

Scientists will spend the next decade trying to map the mind, zooming in on single neurons (the brain has billions) to study each one's genetic information, shape, and electrical signals. Using tiny robotic tools such as an "auto patcher" -- developed by MIT's Edward Boyden and Georgia Tech's Craig Forest -- researchers will be able to turn off individual cells and plot patterns with its neighbors. The robot can check neurons much faster than humans, who need extensive training to do the process manually.

Diagnosing the breakdowns within a neuron will allow for targeted gene therapy. As the process gets cheaper and less invasive, more patients will have access to treatment from such advanced tools. Among the first neurological disorders physicians can tackle when the brain is mapped? Tourette syndrome and narcolepsy.

--Alex Konrad

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