What's next for the Human Genome Project — Mapping the brain to understand the impact of disease

The National Institutes of Health on [September 22] announced more than \$600 million in fresh funding for an expansive and ongoing push to unravel the mysteries of the human brain, bankrolling efforts to create a detailed map of the whole brain, and devise new ways to target therapeutics and other molecules to specific brain cell populations.

Scientists across the country are involved, from teams at the Salk Institute to Duke University to the Broad Institute of MIT and Harvard, among other places. If successful, they will help answer fundamental questions about the body's most complex organ. What are all the cell types in the brain? How are they connected to one another? How do the workings of the brain change during disease, and what can we do about that?

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The fresh funding adds to \$2.4 billion that the NIH has already invested in related projects. By 2026, the agency will have spent \$5 billion. The scientists who will be spearheading the research openly compare its scale and scope to the push to sequence the first human genome in the 1990s and early 2000s.

The latest announcement is part of a continuing effort known as Brain Research Through Advancing Innovative Neurotechnologies (BRAIN), which was unveiled by the Obama administration in 2013 and kicked off in 2014. Its goal: to better understand the 86 billion cells that populate the brain and the trillions of connections they form with one another.

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