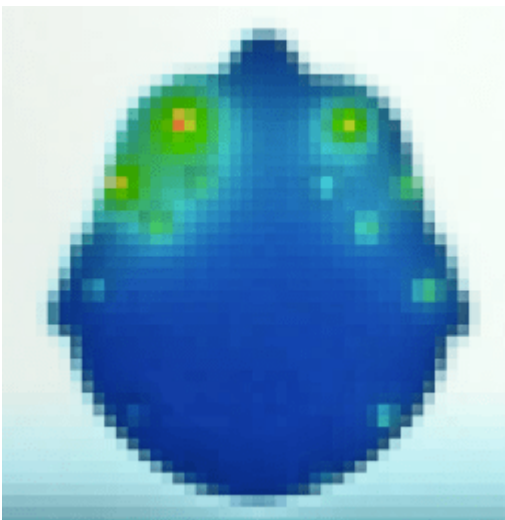


Neuroscience eclipses AI

Description

at least in its ambition. [The Blue Brain Project](#) is a venture centred at the École Polytechnique Fédérale de Lausanne in Switzerland in collaboration with IBM to create a synthetic brain in hardware and software. The project name references Deep Blue, the IBM chess computer that reputedly beat reigning champion Garry Kasparov in 1996. According to Blue Brain leader Henry Markram,

As calculation speeds approach and go beyond the petaFLOPS range, it is becoming feasible to make the next series of quantum leaps to simulating networks of neurons, brain hole brain. Turing [grandfather of modern computers] ne means by which to build the brain. (p.153)



Blue Brain represents the more extreme ambitions of

neuroinformatics, which is the meeting of two strong disciplines, neuroscience and information science, to share approaches, models, data, etc.

Blue Brain's ambitions remind me of the predictions of roboticist Hans Moravec in the 1980s, of the eventual download of all human knowledge, intelligence and consciousness into networked computers, to create the ultimate mind-meld. The Blue Brain Project is modest by comparison.

In any case, biology seems to be challenging pure computation as providing the means to understanding intelligence, let alone to simulate or reproduce it.

A helpful academic article by Berrar, Sato and Schuster (2010) updates the achievements of artificial intelligence (AI) and the related field of "knowledge engineering," and positions them within discussions about the human genome project, synthetic biology, artificial neural networks, and neuroscience.

Since the early days of AI in the 1950s, and its flowering in the 1980s, we've also seen the development of the World Wide Web, ubiquitous mobile devices, social media, multi-user computer games and immersive environments, massive memory and computational power at low cost, all hinting at palpable augmentations to human intelligence. These media also offer rich databases replete with resource material on which to let loose, or at least to test, AI tools and techniques: resources for automated "learning."

Computation and augmentation: these are relatively benign terms. Artificial intelligence, machine learning, knowledge engineering: these invoke controversy from many quarters.

Here's a [summary](#) I wrote in the 1990s of some of the objections to AI from a philosophical point of view. This writing came at the sceptical conclusion of a period of experimentation with tools for knowledge engineering in design. The most strident arguments against AI focus on problems with symbolic logic as the basis for understanding cognition, and the idea that intelligence is all in the head.

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Also see posts on [Pragmatism](#), [wicked problems](#), [creativity](#), [the container metaphor](#), and [Bletchley Park](#).

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