

Brains beyond computers

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Mainstream theories of the brain are rooted in engineering concepts, such as computation, code, control, information, reverse-engineering, optimization. Living organisms are machines and the brain is a computer. It is rather ironic that, in the process of expelling God and magic from mind studies, cognitive science has persistently insisted that the brain is a machine, i.e., an artifact made by someone for a purpose using knowledge and planning. But the machine view of life is so engrained in scientific culture that it seems very difficult for many scientists to imagine that living organisms could be something else than machines, or that brains could be something else than computers.

Starting from a discussion of our biological nature, I will show how many traditional concepts of brain and mind science, such as computation, information or prediction, are poorly suited to the study of biological cognition. As it turns out, living organisms are not actually engineered, and this makes considerable differences in the way neurons work, interact with each other, and are organized.

Reference

Brette (2026). *The Brain, In Theory*. Princeton University Press.