

# Are Connectionist Models Theories of Cognition?

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## Abstract

This paper explores the question of whether connectionist models of cognition should be considered to be scientific theories of the cognitive domain. It is argued that in traditional scientific theories, there is a fairly close connection between the theoretical (unobservable) entities postulated and the empirical observations accounted for. In connectionist models, however, hundreds of theoretical terms are postulated -- viz., nodes and connections -- that are far removed from the observable phenomena. As a result, many of the features of any given connectionist model are relatively optional. This leads to the question of what, exactly, is learned about a cognitive domain modelled by a connectionist network.

**Keywords:** models, theories, cognitive science, connectionism, explanation, simulation

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