

What is this?

This info-mural is one of seven "argumentation maps" in a series that explores Turing's question: "Can computers think and/or will they ever be able to?" Argumentation mapping is a method that provides:

- a method for portraying major philosophical, political, and pragmatic debates
- a summary of an ongoing, major philosophical debate of the 20th century
- a new way of doing intellectual history.

What does it contain?

Altogether the seven maps:

- summarize over 800 major moves in the debates threaded into claims, rebuttals, and counterrebuttals
- 97-130 arguments and rebuttals per map
- 70 issue areas in the 7 maps
- 32 sidebar history and further background

The argumentation maps:

- arrange debate so that the current stopping point of each debate thread is easily seen
- identify original arguments by over 380 protagonists worldwide over 40 years
- make the current frontier of debate easily identifiable
- provide summaries of eleven major philosophical camps of the protagonists (or schools of thought).

How do you get a printed copy?

You can order artist/researcher signed copies of all seven maps from www.macrovu.com for \$500.00 plus shipping and handling.


5 Can Connectionist Networks Think?

The History and Status of the Debate — Map 5 of 7
An Issue Map™ Publication

Start Here

1 Alan Turing, 1950
Yes, machines can (or will be able to) think. A computational system can possess all important elements of human thinking or understanding.

I believe that at the end of the century — or thereabouts — we will be able to speak of machines thinking without expecting to be contradicted.



Alan Turing

Postulates of Connectionism:

- Nodes are arranged in layers, which are connected to nodes in adjacent layers.
- Nodes are connected to nodes in adjacent layers by weights.
- When an input node is active, it sends a signal to the nodes it is connected to.
- Nodes are active when the sum of the signals they receive exceeds a certain threshold.
- Nodes are active when the sum of the signals they receive is less than a certain threshold.
- Nodes are active when the sum of the signals they receive is equal to a certain threshold.

Other connectionist arguments

1. Connectionist networks can simulate any function that can be computed by a Turing machine.

2. Connectionist networks can simulate any function that can be computed by a Turing machine.

3. Connectionist networks can simulate any function that can be computed by a Turing machine.

Are connectionist networks vulnerable to the arguments against physical symbol systems?

1. Connectionist networks are not physical symbol systems.

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Are connectionist networks like human neural networks?

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Do connectionist networks follow rules?

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Can connectionist networks exhibit systematicity?

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Systematicity and Related Phenomena

1. Systematicity is a property of mental representations.

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Does the subsymbolic account offer a valid account of connectionism?

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Postulates of the Subsymbolic Paradigm

1. The subsymbolic paradigm is a paradigm of connectionism.

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Can computers think in images?

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Postulates of Gestalt Psychology

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Can computers recognize Gestalts?

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Can computers represent the analogue properties of images?

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