

How plants learn and use memories for prediction and decision-making

[Editor's note: Laura Ruggles is a philosophy PhD candidate at the University of Adelaide in Australia.]

The idea that plants can behave intelligently, let alone learn or form memories, was a fringe notion until quite recently. Memories are thought to be so fundamentally cognitive that some theorists [argue](#) that they're a necessary and sufficient [marker](#) of whether an organism can do the most basic kinds of thinking. Surely memory requires a brain, and plants lack even the rudimentary nervous systems of bugs and worms.

However, over the past decade or so this view has been forcefully challenged. ... Plants are not simply organic, passive automata. We now know that they can sense and integrate information about dozens of different environmental variables, and that they use this knowledge to guide flexible, adaptive behaviour.

For example, plants can [recognise](#) whether nearby plants are kin or unrelated, and adjust their foraging strategies accordingly.

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Plants also communicate with one another and [other organisms](#), such as parasites and microbes, using a variety of [channels](#) – including 'mycorrhizal networks' of fungus that link up the root systems of multiple plants, like some kind of subterranean internet. Perhaps it's not really so surprising, then, that plants learn and use memories for prediction and decision-making.

Read full, original post: [The minds of plants](#)