

# Courage, memory and voice: A review of Monica Gagliano's *Thus Spoke the Plant*

**T**hus Spoke the Plant is plant cognitive ecologist Monica Gagliano's account of her ground-breaking research into plant behaviour. It is a remarkable book, and not just for the scientific discoveries that it relates. *Thus Spoke the Plant* communicates her research results in all their challenging profundity, but it is more than a tome of science communication. It also a memoir of Gagliano's own ethical and spiritual journey, and how that journey is intimately tied to her research career and the experiments themselves. Far from a flight of fantasy, the result is amazing science.

In the book, Gagliano recounts her encounters with plant spirits and how she has put her career in their hands. In Gagliano's own words, *Thus Spoke the Plant* is a phytobiography, "a collection of stories, each written together with and on behalf of a plant person" (p 6). The book, however, is neither abstract romanticization nor a collection of anthropomorphizing platitudes about plants. In this phytobiography, vegetal voices have weight and consequence for the advancement of scientific understanding. It is the combination of Gagliano's philosophical explorations, her experimental evidence for previously ignored plant abilities, and accounts of the orchestration of these discoveries by spirits that makes *Thus Spoke the Plant* a unique and important book.

Some readers may find the book challenging, because of the way it integrates scientific research communication with the very personal inner development of the researcher. The decision to write and publish *Thus Spoke the Plant* was not an easy one for Gagliano. Relating spiritual experiences to others in ways that retain their power and meaning is difficult,

and no less for someone who is part of a professional community in which such experiences are not often spoken of and most safely kept private. Combining this with the publication of controversial experimental findings has earned Gagliano no small amount of heat. Publishing *Thus Spoke the Plant* was therefore an act that carried significant personal risk for the author – it is a courageous work, beyond the merits of the science and philosophy it presents.

The book's interweaving of the spiritual with the scientific is a deliberate effort to resolve the false dichotomy and opposition of materialist science and spirit-focused ontologies. Gagliano relates how the course of her scientific investigations was shaped by her spiritual experiences. What emerges in *Thus Spoke the Plant* is an integration that allows Gagliano herself to appear: a person working to reconcile a deep spirituality and unorthodox approach to research with the rigid norms of her field and the enclosure of the scientific materialist worldview. Gagliano and the plants push at the boundaries of this limited world, seeking to inspire healthier and saner relations between humans, plants and the rest of more-than-human nature.

The wider world that Gagliano and the plants urge us to awaken to is one far more thickly inhabited with conscious neighbours than you might previously have considered. Gagliano's experimental actors – the peas, chillies, corn and the inimitable *Mimosa* – are teachers rather than subjects. We learn that plants can emit and detect sounds, and alter their behaviour in response, detect the identity of their neighbours even when all known modes of sensing are blocked, make wise navigation decisions when faced with an illusory water source, develop Pavlovian

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### About the author

Patrick is an Australian ecologist working in the private sector and a lover of plants.

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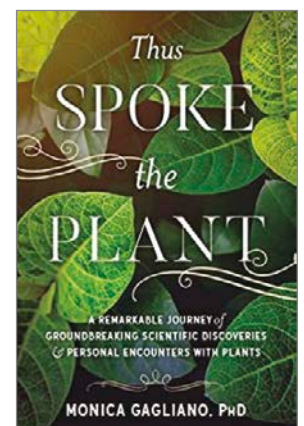
### About the book

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conditioning responses, and habituate to harmless stimuli in order to save energy. If this sounds more like animal behaviour than plant behaviour, you are starting to get the picture! Gagliano's presentation of her experiments and discussion of her results is simple and straightforward enough for non-scientists to follow, while still capturing the significance of the relevant theoretical and philosophical points.

Some of Gagliano's results have implications beyond scientific research and present a challenge to conventional ways of understanding our own species. Perhaps the most remarkable is her demonstration of memory with *Mimosa*. *Mimosa pudica* has the ability to fold its leaves to protect them in the event of a physical disturbance. This action uses a lot of energy and cuts its capacity to photosynthesize dramatically. This makes it potentially disastrous for the plant to fold its leaves unnecessarily in situations where light is scarce. Gagliano walks readers through the steps that she used to establish that *Mimosa*'s leaf-folding response was not an automatic triggered behaviour over which the plant had no control, and that *Mimosa*'s apparent recognition of a harmless stimulus after repeated exposure was not evidence of fatigue. Having demonstrated behaviour that could only be explained by *Mimosa*

retaining memories of past events, Gagliano opened a huge can of worms. How could plants remember without a central nervous system? And more broadly, if plants can do that without a central nervous system, then perhaps there is more to the intelligence of humans and the rest of the animal kingdom than we currently understand.

Such a radical expansion of what a plant is cannot come without a revision of their ethical standing relative to us. Gagliano herself was not unchallenged. She explains, “I had always considered myself a custodian of the vegetal world and, more generally, of nature, but seeing myself as a steward above and separate from the rest was a position no longer tenable [...] They need not custodianship but a commitment to a non-hierarchical respect” (p 36). *Thus Spoke the Plant* also begins to explore what an ethics that takes plant consciousness into consideration might look like.

*Thus Spoke the Plant* serves as a fine introduction to Gagliano's work and the emerging fields of plant behavioural ecology and plant studies. I found much to ponder on, and I'm still working on living the changes I made to my own ethical position towards plants after meditating on the implications of her experimental results. I recommend *Thus Spoke the Plant* to all readers of *The Ecological Citizen*. ■

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