

# The life and science of Suzanne Simard: Review of *Finding the Mother Tree*

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**Dr Grace Augustine:** What we think we know — is that there's some kind of electrochemical communication between the roots of the trees [...] It's a network – a global network.

**Selfridge:** [after a stunned pause] What the hell have you people been smoking out there? [beginning to laugh] They're just. Goddamn. Trees.

– *Avatar* (2009)

James Cameron's film *Avatar*, unbeknown to many of us at the time, introduced the work of Suzanne Simard to a global lay audience. Dr Patricia Westerford, Richard Powers's central character in *The Overstory* (2018), was "composite" and inspired by Dr Jane Goodall, and yet the character's "discoveries owes more than a little to the tremendously exciting research of Suzanne Simard" (Powers in *Morrow*, 2018). In *The Overstory* Powers offers the insight that the best arguments often fail to change a person's mind; instead, what we need is a good story. Simard has written a book which combines the best arguments with her life story, and this juxtaposition cannot but help readers shift their thinking about forestry and the shared planet we inhabit. Simard's findings that forests co-operate and nurture resonate intuitively, and it's little wonder that *Finding the Mother Tree* is a *New York Times* number one best seller, soon to be turned into a movie starring Amy Adams in the leading biopic role (Chawla, 2021).

## Simard's life – returning to her roots

Suzanne Simard came from a family steeped in old-style forestry (there are both a Simard Mountain and a Simard Creek in British Columbia – I would have liked a map to chart Simard's journey better), and she worked initially for Canada's Forest Service. Encouraged by her boss and mentor Alan Vyse, she

then completed a PhD at Oregon State University, before later securing a post at the University of British Columbia.

There is a sublime beauty in the ethereal intricacy of what we now know as the *wood-wide-web* – but how was Simard led to these discoveries? Wondering how forests worked began in her childhood, extending to scientific research when she began to wonder why it was that single crop trees failed to thrive. In 1997 Simard’s research suggesting that carbon could be transferred between Douglas fir and Birch trees via fungal networks was published in *Nature* (Simard *et al.*, 1997). She later mapped this mycorrhizal network, discovering that dying Douglas fir trees transmitted messages to Ponderosa pines, and finally that Douglas fir recognised their own kin, which led her to conceive of veterans as ‘Mother Trees’ (Simard, 2021: 286). As she writes,

*The old trees were the mothers of the forest. The hubs were Mother Trees [...] This Mother Tree was the central hub that the saplings and seedlings nested around, with threads of different fungal species [...] linking them, layer upon layer, in a strong complex web. (Simard 2021: 228)*

One outcome of her life’s research is the Mother Tree Project, nine experimental forests trying to put into practice all that Simard has learned, retaining Mother Trees and making educated guesses “about which combinations of harvesting and planting will be most resilient to the stresses our planet is facing, how the healthiest connections can thrive alongside our needs to use resources from the forest” (Simard, 2021: 304). This left me with the feeling that Simard wants to return to the forestry of her grandparents, as, after all, the “hand felling, horse logging, and river drives left the forests capable of vibrant, renewed life” (Simard, 2021: 39).

### Science conquers all

To appreciate Simard’s achievements fully we must understand her family background, the scale of opposition at work and home, and later health concerns. At the Forestry Service she encounters resistance and intimidation, escalating from being called ‘Miss Birch’ owing to her predilection for a ‘weed’ species, to a public dressing down on a conference field trip because her research suggested that birch trees aided rather than hindered Douglas fir growth: “You have no idea how these forests work! You’re naïve to think we’re going to leave these weeds out here to kill the trees!” (Simard, 2021: 206).

Throughout many professional and personal trials and tribulations Simard consistently demonstrated an indefatigable work ethic and unquenchable curiosity. The success she will now be achieving with the book and film could not be more deserved. Reading Simard’s story I found myself wishing her all happiness given what she has endured in order to gift so much.

### Simard’s most important legacy

While Simard’s book concludes with experimental forests, I hope she will be remembered more for providing the impetus to recast our relationship with

trees than for improving forestry. She has revealed to us that nature is not all maw and claw, by overturning the dogma that competition is the only interplant interaction in forests (Simard, 2021: 260). Discovering that forest life had a strong component of co-operation and nurturing formed the background to challenging clear-cutting and the ‘free to grow policies’ (Simard, 2021: 91) which entailed removing so-called weed species like birch.

*Finding the Mother Tree* ultimately demands of us that we invert our commonly held view of trees; from inanimate if living statues – “just Goddamn trees” – to what Goodall describes as “individual beings” (Goodall and Hudson, 2014: 8). This, however, raises a profound and perhaps intractable ethical dilemma, and leaves me thinking we can interpret Simard’s book in one of two main ways. First, Simard “did the work for the sake of the forest” (Simard, 2021: 180). But, and secondly, coming from a “family of loggers [...] I am not unmindful that we need trees for our livelihoods” (Simard, 2021: 293). That is, within Simard’s story there is a tension between venerating Mother Trees while still considering forests as sources of raw materials for human use. Most readers will view Simard’s account as that of a courageous women challenging outmoded forestry practices in a male-dominated industry, and a very uplifting story this is. Within this main narrative, however, lies something greater still: the idea that forests, and the tree-beings comprising them, possess value within themselves. This holds the important prospect of influencing our broader culture’s understanding of the reaches of plant sentience and cognition. That, to me, is the inexorable logic of where Simard’s research takes us, even if Simard does not explicitly say so herself.

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