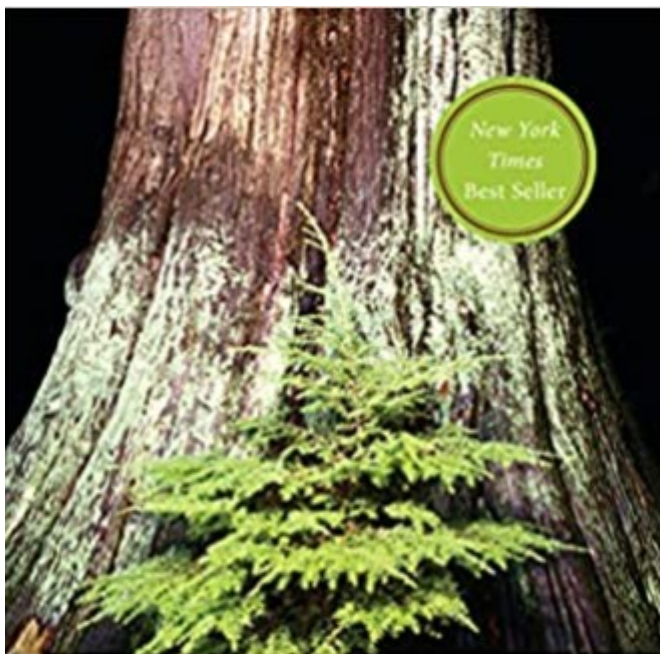


Some trees are like mothers

## **Scientist Susanne Simard on how trees communicate and nurture each other**

by [Jane McBride](#) in the [December 1, 2021](#) issue

### **In Review**



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### **Finding the Mother Tree**

Discovering the Wisdom of the Forest

By Suzanne Simard

Knopf

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Trees talk to each other and to us. They collaborate among themselves. They have hopes for human society. Tree people and human people resemble one another. We are kin, having branched off in different directions from a common evolutionary ancestor.

I first encountered these stirring ideas in Richard Powers's novel *The Overstory* and later in Robin Wall Kimmerer's *Braiding Sweetgrass*. I sought out *Finding the Mother Tree* because I wanted to understand how science views these spiritual truths.

Suzanne Simard is a Canadian forest ecologist, a pioneering researcher, a teacher, and a mother. She grew up in a family that made its living using traditional, sustainable methods of logging. Simard's scientific work grew out of her distress over the impact of industrial logging. Working for a logging company in her early 20s, she began to investigate why trees planted after clear-cutting failed to thrive. Eventually she was able to prove what she suspected to be true and what indigenous cultures have always taught: that trees cooperate. While scientific thought, logging practice, and government policy all emphasize the importance of competition in the forest, the reality is that, for the good of the whole forest, trees of many species both cooperate and compete.

The book's introduction offers a succinct summary of what Simard discovered through decades of research. She writes:

I was tapping into the messages that the trees were relaying back and forth through a cryptic underground fungal network. When I followed the clandestine path of the conversations, I learned that this network is pervasive through the *entire* forest floor, connecting all the trees in a constellation of tree hubs and fungal links. A crude map revealed, stunningly, that the biggest, oldest timbers are the sources of fungal connections to regenerating seedlings. Not only that, they connect to all neighbors, young and old, serving as the linchpins for a jungle of threads and synapses and nodes.

These tree communication networks resemble the way humans communicate and process information. In the forest, Simard explains, “the old and young are perceiving, communicating, and responding to one another by emitting chemical signals. *Chemicals identical to our own neurotransmitters. Signals created by ions cascading across fungal membranes.*”

Simard interweaves the story of her life with the story of her research. She recalls her early attraction to dirt, how she loved to eat the humus infused with sweet birch litter and worms. “Mum had to deworm me regularly,” she confesses. She ruminates on the wisdom of her ancestors. “My grandfather had reaped harvests while leaving the forest vibrant and regenerative, the mothers intact. He was never wealthy, but he lived in rich peacefulness with the forest, taking only what he needed, leaving gaps so the trees could come back.”

She also recounts the frustration and pain of continually being discounted by decision makers (most particularly men) in industry, government, and academia. She describes gathering data, over many experiments, that provide a rich picture of how different species like birch and fir interrelate in the forest, sharing resources and protecting each other from disease. Still, policy makers in the logging industry persisted with their “free to grow” strategy, cutting and killing native plants they viewed as competing with the trees they grow for profit.

Simard speaks honestly about the stresses of navigating the demands of work, parenting, and marriage. For a time, she made a nine-hour commute each week in order to take a position as a university professor and spend weekends with her daughters. It was during this particularly exhausting season that she realized the full significance of the mother trees.

One day, during her long drive home, she slammed on the brakes, having glimpsed a hillside full of Douglas fir trees of all different ages. She noticed some seedlings thriving in a hot, dry spot, a place they could never survive without help. She got out of the car and approached the trees, considering how they relate to one another.

I sat and leaned back against the old tree nurturing that crescent of seedlings through the mycorrhizal network, the needles of the young quivering in the afternoon air. 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, of different colors and weights, linking them, layer upon layer in a strong complex web.

Simard wraps the story of her own mothering together with the mothering of the trees. Mother trees and human mothers are both strong and can draw strength from each other. Both offer an essential labor of nurture and connection that supports the well-being of the whole world. And yet, the dominant, clear-cutting culture does not value mothering work. Those who mother are not only vulnerable; their very existence is in question.

Simard has borne the consequences of humanity's alienation from the earth in her own body. For the sake of her experiments, she had to kill trees and spray carcinogenic chemicals on brush in order to mimic industrial logging practices. She endured an aggressive form of breast cancer in middle age, which may have been linked to these early experiments. And she has a close-up view of how climate change and insect infestations are killing vast swaths of the elder trees she loves.

Still, Simard ends her book on a hopeful note—and she is clear about the source of our hope:

We have the power to shift course. It's our disconnectedness—and lost understanding about the amazing capabilities of nature—that's driving a lot of our despair, and plants in particular are objects of our abuse. By understanding their sentient qualities, our empathy and love for trees, plants and forests will naturally deepen and find innovative solutions. Turning to the intelligence of nature itself is the key.

We humans are not the experts or the teachers. We are students of a wisdom that is different from—and greater than—our own.

My daily work as a pastor requires me to reinvent a colonizing and colonized Christianity. As I seek to free myself from a faith that has stolen the land, polluted the waters, exploited the soil, and clear-cut the forests, I will look to the trees to be my teacher. And I will rely on guides like Simard to help me hear their voices.