



TRONDHEIM  
SYMFONIORKESTER  
& OPERA

**Program Notes: *A Web of Reciprocity***

Suzanne Simard, in her groundbreaking book about research on forest communication *Finding the Mother Tree*, writes:

*The forest itself is part of much larger cycles, the building of soil and migration of species and circulation of oceans. The source of clean air and pure water and good food. There is necessary wisdom in the give-and-take of nature—its quiet agreements and search for balance.*

*There is an extraordinary generosity.*

*In my work, I watched the forest, and listened. [...] The trees soon revealed startling secrets. I learned that this network is pervasive throughout the entire forest floor, connecting all the trees, also across species, in a constellation of tree hubs and fungal links. [...] The old and the young are perceiving, communicating, and responding to one another by emitting chemical signals, some of which are in fact identical to our own neurotransmitters.*

*I discovered that the trees are in a web of interdependence, linked by a system of underground channels, where they perceive and connect and relate with an ancient intricacy and wisdom...*

I always have been fascinated by the complexity of these interwoven, forest communication networks, which share information both through the forest floor and through the air. I first stumbled upon this concept in Richard Power's novel *The Overstory*, and since then has read a number of books on this topic—most important, *Finding the Mother Tree* by Dr. Suzanne Simard of British Columbia, Canada. Dr. Simard's life work has been her research on communication amongst various species of trees through the mycorrhizal network in the forest floor. This extensive communication network, in which nutrients, carbon, water and information are shared—reciprocally given and received—is a main source of inspiration for my work for large orchestra, *A Web of Reciprocity*.

Particularly striking to me is Simard's research which shows that trees of different species — for example birch and Douglas fir, previously thought to compete against each other for light and resources — in fact support each other and thrive more when in connection with each other. Simard writes:

*I re-analyzed the data over and over to make sure I hadn't made a mistake. Birch and fir were trading carbon. They were communicating. Birch was detecting and staying attuned to the needs of fir. Not only that, I'd discovered that fir gave some carbon back to birch too. ...The trees were connected, cooperating.... The sharing of energy and resources meant they were working together like a system. An intelligent system, perceptive and responsive.*



TRONDHEIM  
SYMFONIORKESTER  
& OPERA

Simard continues:

*Ecosystems are so similar to human societies—they're built on relationships. The stronger those are, the more resilient the system. [...] A system is ever changing because its parts—the trees and fungi and people—are constantly responding to one another and to the environment. Our success in coevolution—our success as a productive society—is only as good as the strength of these bonds with other individuals and species. Out of the resulting adaptation and evolution emerge behaviors that help us survive, grow and thrive.*

*A Web of Reciprocity* reflects on the forest's comprehensive system of cross-species communication, cooperation and assistance as a metaphor for humanity's need for diversity to ensure a healthy society.

As such, it beckons us to help our damaged forests heal, and to protect Earth's remaining old-growth forests.

*A Web of Reciprocity* was commissioned by Trondheim Symphony Orchestras & Opera with generous support from Kulturrådet (Arts Council Norway), and premiered at Olavshallen in Trondheim, 13 March 2025 under the direction of conductor Emilia Hoving.

**Ellen Lindquist**

Composer