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Introduction:

Peter Wohllebens book "The Hidden Life of Trees" made the public aware that plants communicate with each other. However, research has been going on for a long time. Scientists were experimenting and exploring how plants let us know what is going on with them. And how they communicate with each other.

The hidden life of plants

In one of our sound Healing classes we were introduced to the "Singing plants of Damanhur" a spiritual community in Italy. Damanhur's spiritual vision gives great importance to communing with plants and nature spirits. The plants responded with high musical tones to welcome the sun and deeper tones to for the sun set. They found out that trees are large living antennas. On the day of the summer solstice the trees emit a signal into the cosmos about the health of our planet. And during the winter solstice they receive a signal back. their message has been a cry of despair for many years. Its our responsibility to transform these cries into songs of joy again. In 1976 Damanhur invented a device that was able to capture the electromagnetic vibrations from the surface of their leaves and their roots and then turn it into sound. The trees learn to control their electrical emissions to then modulate the notes. It seems that they are aware of the music they are producing. This has inspired the "Plant Concerts" in which musicians perform while accompanied by the melodies the trees create. This seems to be one of the more recent explorations into plant communication.

However, in May 1901 one of India's first scientist, Sit Jagadish Chandra Bose, developed the Crescograph. This device measured plant movement and growth. The Bose crescograph uses a series of clockwork gears and a smoked glass plate to record the movement of the tip of the plant, or its roots, in a magnification up to 10K. marks are made on the plate in intervals of a few seconds, showing the rate of growth under different stimuli. Bose experimented with electricity, gases, chemicals and temperature. In a famous experiment for the Royal Society of London he proved that plants have feelings. Plant perception or bio communication is the paranormal idea that plants are sentient, that they respond to humans and that they experience pain and fear.

Albert Bernard Frank, a German biologist from the 19th century coined the word "mycorrhiza" to describe plant partnerships, in which fungus colonizes the roots of plants. Fungal bodies are made up of a mass of thin thread, named mycelium. These threads act as a kind of underground internet, linking the roots of different plants. Because of mycelia a tree in a yard is hooked up to a bush several yards away. This fungal network can help out their neighbors by sharing nutrition and information. They even can sabotage unwelcome plants by spreading toxic chemicals through the network. Approximately 90% of all land plants are in a mutually beneficial relationship through and with fungi. This relationship is called the "wood wide web".

Peter Wohllebens book "The Hidden Life of Trees" became a worldwide best seller. He states that trees communicate with each other and that they live in community. In his early life Wohlleben worked in forests cutting down trees, but later he convinced the city of Hummel to protect a forest area from clear cutting and his work presents this time in this forest. Susanne Simmard did most of his scientific research. Simmard's master thesis from 1997 says that trees communicate through fungus, a mycelium fiber that connects the roots. This underground mycelium network exchanges carbon, phosphorus and other nutrients from one tree to another. The trees which perform photosynthesis supply sugars to the fungus in turn. Simmard's continued her experiments and with the trees and the world wide web during the past 30 years. She says that the old growth forests have "mother trees". They send messages to other trees and they send carbon to the younger seedlings, who don't have access to the sun like the older trees do. The trees with big crowns take in most of the sun. Also, when they die they dispatch a load of carbon to the nearby trees. Even after a mother tree dies nutrients are still delivered to the stump of the tree. She says in her documentary from 2011 "do trees communicate with each other?": "These plants are not really individuals in the sense Darwin thought they are individuals competing for survival of the fittest. In fact they are interacting with each other, trying to help each other survive."

Ren Sen Zeng of South China Agricultural University in Guangzhou found out in 2010 that when plants are attacked by harmful fungi they release chemical signals into the mycelia to warn their neighbors.. Zeng worked with tomato plants and infected one plant with blight. The corresponding tomato plant had far less severe symptoms of the blight or none at all.

Plants can also warn their neighbors of insect infestations. in 2013 David Johnson and his colleagues from the University of Aberdeen showed that broad beans also use the fungal network to pick up on impending threats, - in that case hungry aphids. They found out that seedlings that themselves were not under attack from aphids, but were connected to those that were via fungal mycelia , activated their anti-aphid chemical defenses. Those without mycelia did not.

Research is ongoing but it definitely points to the idea that we are all part of one vibrational world. Slowly we are returning to the wisdom of the ancients who recognized the vital life in all forms of life. We are in communication to everything and everyone.

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Suzanne Simmard – Ted Talks
BBC.com Earth/story/plants have a hidden internet
"Hidden Life of Trees" by Peter Wohlleben
Exploring how and why trees talk. Yale E 360
Do trees talk to each other? Smithsonian mag.com
Damanhur

Simmard's graphing of the mother trees, dark green circles, connecting to the seedlings, light green circles. Dark lines are mycelium.

