The Plants Are Talking

The information superhighway – or what we call the internet today – connects half the world's population through a seemingly invisible web of devices and servers. It's given us the opportunity to interact with societies and individuals we otherwise would never have met and provides access to vital information. So, could a platform as complex as the internet be used by anything other than humans?

We may not be able to hear them talk, but the trees, plants, and foliage in any forest have a surprisingly similar network of information highways. This is possible through the symbiotic relationship all plants have with a soil fungus named "mycorrhizae". Mycorrhizae grow a web of tube-like structures called mycelia in and around roots, allowing them to breakdown nutrients that plants struggle with. In return, plants send sugars that the fungus is unable to produce alone. This plant-fungi relationship has been a well-established phenomenon for a century now, but more recent discoveries detail how plants communicate with each other just as much.



A group of scientists in the late 1990s decided that, in order to prove this hypothesis of plant-to-plant communication, they would infuse trees in a forest with a traceable form of carbon. After later taking samples of neighboring trees, the carbon was found distributed amongst all the trees in the area. Even more baffling, trees with shorter trunks and less access to light showed much higher amounts of the traceable carbon than taller trees with lots of sunlight. In other words, healthy trees were freely distributing vital nutrients amongst the forest, and especially so to those with deficiencies (the plant-world version of feeding the hungry??). Scientists now know that the levels of complexity that can be expressed on this underground web structure can even extend to that of a mother tree and her kin. When mycelia signal to a tree that one of its seedlings are nearby, it will release a sort of care package to enable healthier growth of the seed.

This effect scales to especially old, robust trees and entire forests. If such a tree is close to death, it will release a massive dose of carbon into the mycelia network, providing a great environment for future generations.

It's so fascinating to see this altruism among the trees and fungi and everything else in our environment. There isn't a brain among any of these moving parts, yet the structure is too intelligent to ignore.

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