

Plant Consciousness

How do we live harmoniously with Earth? With whom can we receive guidance on how to connect with Earth so we may all be in our most vibrant state of health? Perhaps the answers are all around us. 99.7% of the biomass on earth is made up of plants, with the remaining .03% comprising all the animals combined, including humans. Plants, which many native cultures believe to be our ancestors, have evolved on earth for about 700million years; with modern humans only evolving about 200,000 years ago. It seems plants may have some wisdom to share with us.

With so many plants around, why does it seem like many people don't have a personal relationship to them? Stefano Mancuso, a leading scientist in the emerging field of plant neurobiology, conducted a study with university students in which a series of pictures was shown to the students. The pictures were made up of 80% plants and the remaining 20% being an animal or human. When asked what they saw, 96% of the students reported only seeing the animal or human. Mancuso calls this plant blindness, the inability to notice plants in the environment, a tool human brains evolved with to protect itself from being overloaded. This evolutionary tool may have been helpful in the past, but to help us in our consciousness evolution, now is the time to take notice and connect with our plant allies.

Can we communicate with plants? Are plants intelligent? This is a question in debate in the western science world. Neurobiologist, Stefano Mancuso argues that plants do exhibit intelligence, defined as "an intrinsic ability to process information from both abiotic and biotic stimuli that allows optimal decisions about future activities in a given environment." Critics argue because plants do not have a brain they lack the intelligence of "higher" species like animals and humans. Mancuso points out that it is not in a plants advantage to have an irreplaceable organ like a brain because it can not move. One bite out of a brain and it may be dead; instead plants can have up to 90% of their biomass taken away and still live. It is proposed instead that a plants "brain" may actually be part of its root system, with plant root tips in addition to sensing gravity, moisture, light, pressure, and hardness, can also sense volume, nitrogen, phosphorus, salt, various toxins, microbes, and chemical signals from neighboring plants. Roots about to encounter an impenetrable obstacle or a toxic substance change course before they make contact with it. Roots can tell whether nearby roots are self or other and, if other, kin or stranger.

Due to plants unique existential predicament of being rooted in the earth, they are required to have an extensive understanding of their environment for their survival, causing them to have highly developed senses. Plants have evolved between fifteen and twenty distinct senses, including analogues of our five, even sound. Heidi Appel, a chemical ecologist at the University of Missouri, found that, when she played a recording of a caterpillar chomping a leaf for a plant that hadn't been touched, the sound primed the plant's genetic machinery to produce defense chemicals.

Plants are able to communicate both within their own species and to species other than themselves. One of the ways plants communicate is through an extensive chemical

vocabulary made up of thousands of “words” which signal information. Plants such as corn and lima beans, have a unique signaling behavior when attacked by caterpillars. They emit a distress call that attracts parasitic wasps some distance away to lock in on that scent, follow it to the afflicted plant, and proceed to eat the caterpillars. Scientists call these insects “plant bodyguards.”

Along with being about to hear and communicate, do plants hold a memory? Monica Gagliano, an animal ecologist working with Mancuso, experimented with the *Mimosa pudica* plant, also called the “sensitive plant,” because when the leaves of the mimosa are touched, they instantly fold up. Gagliano tested fifty-six mimosa plants, setting up a contraption to drop them without hurting them. When the plant dropped, as expected, its leaves collapsed. She kept dropping the plants every five to six seconds. After five or six drops, the plants would stop responding, as if they'd learned to tune out the stimulus as irrelevant. This is an important part of learning — to learn what you can safely ignore in your environment.

To see if the plants were just worn out from getting dropped, Gagliano took the plants that had stopped responding to the drops and shook them instead. They would continue to collapse, they had made the distinction that dropping was a signal they could safely ignore. Gagliano continued to retest them every week for four weeks. For a month, they continued to remember their lesson. That's as far out as Gagliano tested. It's possible they remember even longer. Conversely, bees that are given a similar dishabituation test, forget what they've learned in as little as 48 hours.

Science is beginning to suggest and prove that plants can hear us, have the ability to communicate, and remember. This all seems extraordinary, however plant communication and intelligence is nothing new to the shamans of Amazonia. In the book, Singing to the Plants, Stephan Beyer explains that apprentice shamans learn the plants, communicate with them by dieting with them. A dieta includes a restricted diet of simple foods, sexual abstinence, and social isolation, while at the same time taking in the plant the shaman is working with. The shaman may take in the plant once or several times. The goal of the diet is to maintain an ongoing connection and dialogue with the plant; to allow the plant to interact with the body, often subtly; and to wait for the plant spirit to appear to teach and give counsel.

Through dieting with plants, shamans are often given icaros. Icaros are the language of the plants, a song given to the shaman to evoke the spirit of the plant for healing, protection, attack, and any other specific qualities of the plant. As one mestizo shaman puts it, “you cannot enter the world of spirits while remaining silent.” It is a two-way communication, the icaro is the language by which the shaman communicates with the plant, and through the icaro the plant will reply. Anthropologist Graham Townsley explains, “the most frequent and important activity of a shaman is chanting.”

The icaros may arrive in various ways, in visions, dreams; you may hear it as if sung by someone else or in your own head. Both words and melody may come together, or sometimes only words and oneself completes the melody. The songs may also be in strange and incomprehensible languages. Dan Lozano a shaman of Iquitos states simply, “The plant talks to you, it teaches you to sing.”

Both modern science and ancient indigenous wisdom show us the intelligence of plants and their ability to communicate with us. Although we may not all choose to follow the path of the Amazonian shaman, following a strict dieta, we may still have the

experience of communing with plant spirits and receiving their wisdom. Be aware of the plants you come into contact with and see if one calls out to you. Make a practice of meditating with the same plant regularly and be open to messages or songs that come to you. Choose a plant, perhaps a medicinal herb, to diet with for some time (being sure it is safe to consume in larger doses) and make tea throughout the day. Work with traditional icaros to open up communication with plants spirits. As we go through these times of change and are raising our consciousness, let us develop a relationship with the consciousness of plants and learn from the wisdom of our fellow allies on this earth.