

Physicist Andrew A. Cochran, in *Main Currents in Modern Thought*, said scientists have come to realize that there is nowhere a sharp dividing line between living and non-living matter. There is instead an unbroken series of small gradations in complexity that bridge the gap.

Cochran quotes Dr. Henry Margenau of Yale University: "Different atoms owe their characteristic features to a kind of social behavior of the electrons which may be summed up by saying: One electron knows what the others are doing and acts accordingly ..."

That sounds like trees for it is said that when a **tree** is sending out new roots, if it approaches the roots of a nearby tree, it turns aside. However, as hard as we tried, we were unable to prove this fact. But there are many uncanny facts about the vegetable kingdom that can be proven.

A few years ago, a gypsy moth attack in New York and Pennsylvania caused people to get chemicals sprayed on their unharmed trees, since the trees that were unharmed that year would be the trees that would be attacked the next year. Alas, all those expensive chemical treatments did not save the treated trees. But the trees that were left alone and got no chemicals survived perfectly. Why?

Biologist Ian Baldwin, Molecular Ecology Department at the Max Planck Institute for Chemical Ecology in Germany, has studied how plants defend themselves. He and his colleagues use chemical sensors to investigate plant communications that float past human noses unnoticed. The harder they looked for these signals, the more they found, discovering plants can send chemical cues to repel insect enemies, or they can send signals to attract allies. Nearby plants can listen in to this conversation and gear up their own defenses.

Scientists at Cornell University found that when a hornworm starts eating sagebrush, the wounded plant will send out a blast of scent that warns surrounding plants - in the case of this study, wild tobacco - that trouble is on its way. Those nearby plants, in turn, prepare chemical defenses that send the hungry critters in the opposite direction. Sagebrush warning the wild tobacco. That certainly sounds like compassion, doesn't it?

Sir Chandar Bose of India began to conduct experiments on plants in the year 1900. He claimed that plants can "feel pain, and understand