



Bandaging Before Amputation

IF THE doctor cuts off your thumb (or your nose, or your leg) he bandages you up afterwards. But a tree performs thousands of amputations upon itself every autumn—and puts on the bandages before each operation!

The loss of each leaf is a little am-

putation to the tree. It is not like trimming your nails or cutting your hair. These are dead parts of ourselves, and we can cut them off without pain or loss of blood, just as a tree can have its outer bark cut or knocked off without losing any of its sap.

But a leaf is a living part of the tree itself, with sap-channels and other vital connections running back into the trunk. If it is cut or pulled off there is a loss of sap, just as there is loss of blood if you get a slight cut or scratch.

Loss of one or a few leaves is not serious to the tree, any more than a few scratches are serious to you. But ten thousand, or a hundred thousand, such small wounds could bring serious consequences, not only through sap leakage, but even more seriously, through leaving all those tiny openings through which fungi, bacteria, and other organisms of injury and decay could find their way in.

So when autumn brings the slow decline of the leaves' vital activities and it comes time for their death and the myriad little amputations that part them

from the tree, the event is well prepared for beforehand.

First, there is a gradual withdrawal of the larger part of the valuable food-stuffs in the leaves. The sugars and proteins migrate down the petiole or leaf-stem into the wood of the branches and trunk.

Then the bandage is applied. Across the base of the leaf-stem there forms a double layer of corky cells. They are waterproof, impervious to microbes. They put a tight seal across the place where the petiole is set into the twig.

This little corky barrier is called the absciss layer, which is Latin for "cutting-off layer." And that is exactly what it is. The split between leaf and tree comes at just that point. When the amputation is accomplished the bandage can be found already securely in place.

Science News Letter, September 24, 1938

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people burn their forests, regularly—even 'religiously,' declared Dr. Shea. "The motives may be found in a study of group psychology. Studies are needed involving both the habits of individuals and the folk ways of groups—their attitudes, economic needs, customs, mores, superstitions."

The careless smoker and camper are guilty of some of the destruction of our forests by fire, but should not take all the blame, he indicated.

"The problem of forest burning is primarily a problem of human behavior," Dr. Shea said. He urged psychologists to cooperate immediately in its solution.

"It is a race between public education and disaster," he declared. "Ways must be found to change public attitudes and habits.

"Like falling cards knocking down their neighbors, where forests are burned the soil goes down, when the soil goes down the people go down. The paradox is that Americans are doing this to themselves."

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