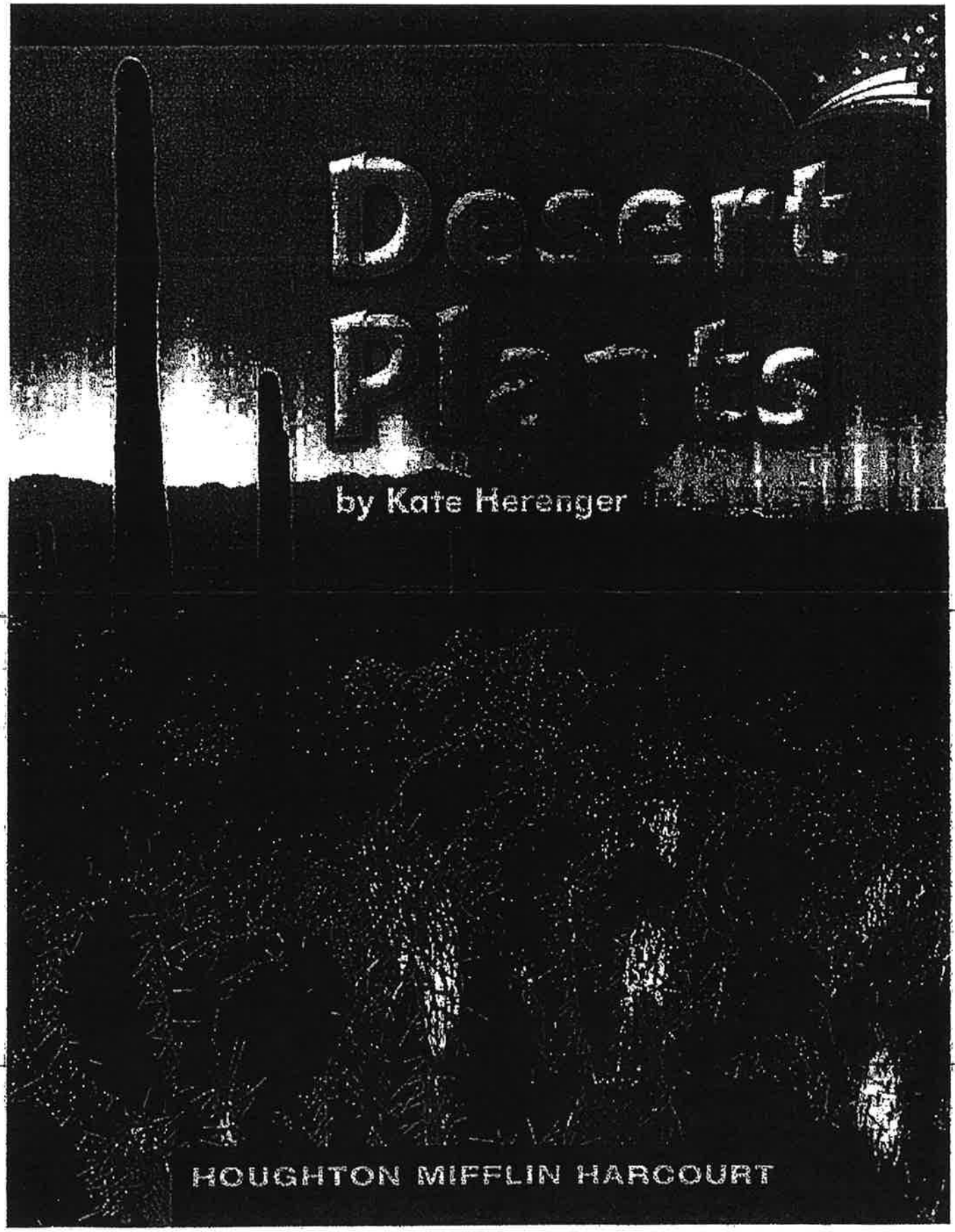

by Luka Berman

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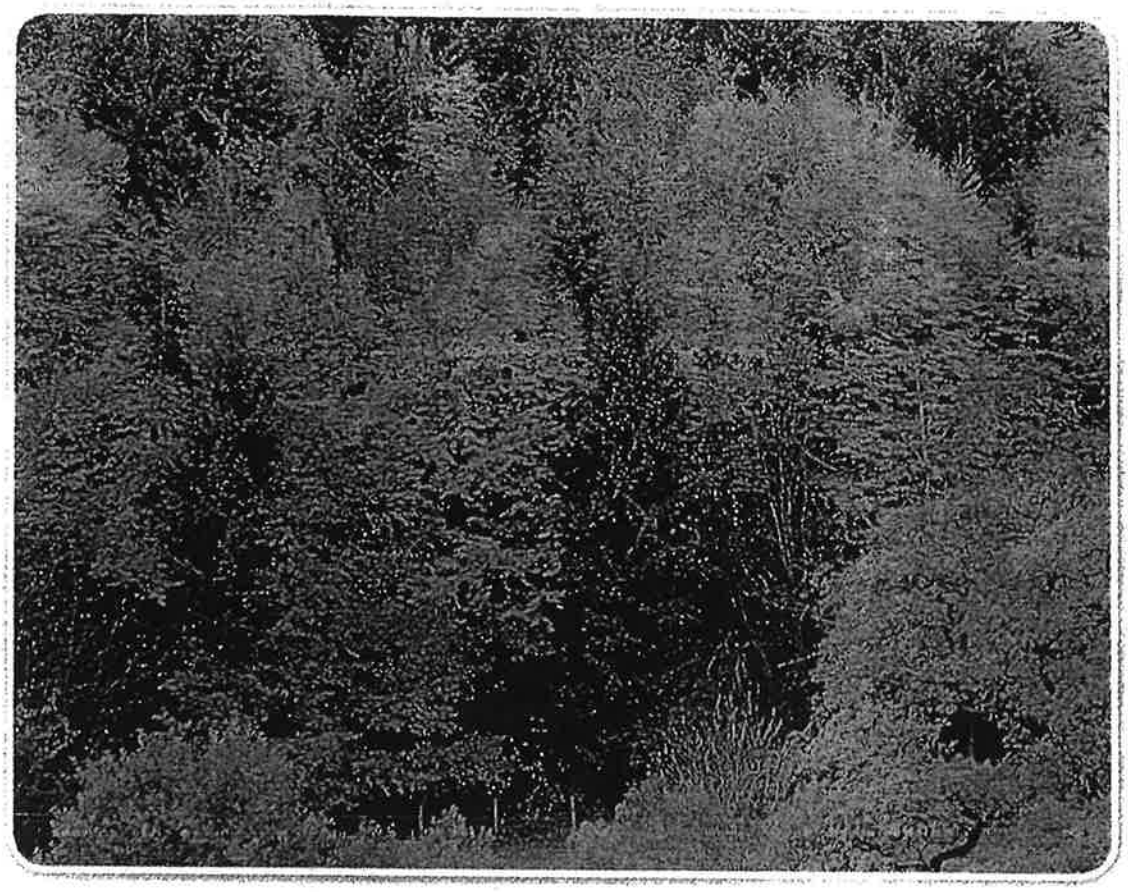
Trees are the largest plants on Earth. They live longer than any other plants. How do they grow so big? How long do they live?



The green trees in this photo have needles instead of leaves.

There are two main kinds of trees. One kind has leaves that die in the fall. New leaves grow in the spring. The other kind has needles instead of leaves. The needles do not come off in the fall.

pod

fruit

nut

A pine cone is one source of tree seeds.

flowers

All trees start life as a seed. Trees have many different kinds of seeds. Some tree seeds come from a pod. Some seeds come from a cone. Some seeds come from nuts. Some seeds come from fruit.

The seeds from some trees come from flowers. There are grains of pollen inside flowers. Animals, bees, and wind carry the pollen to the flowers on other trees. Then seeds form in the flowers.

A tree seed falls to the ground. First it needs to soak up rain. The rain will soften the hard outer shell of the seed. Rain and light from the sun will help the seed grow roots. Then a tiny shoot will push its way up through the soil. It will grow up and up.

sprout

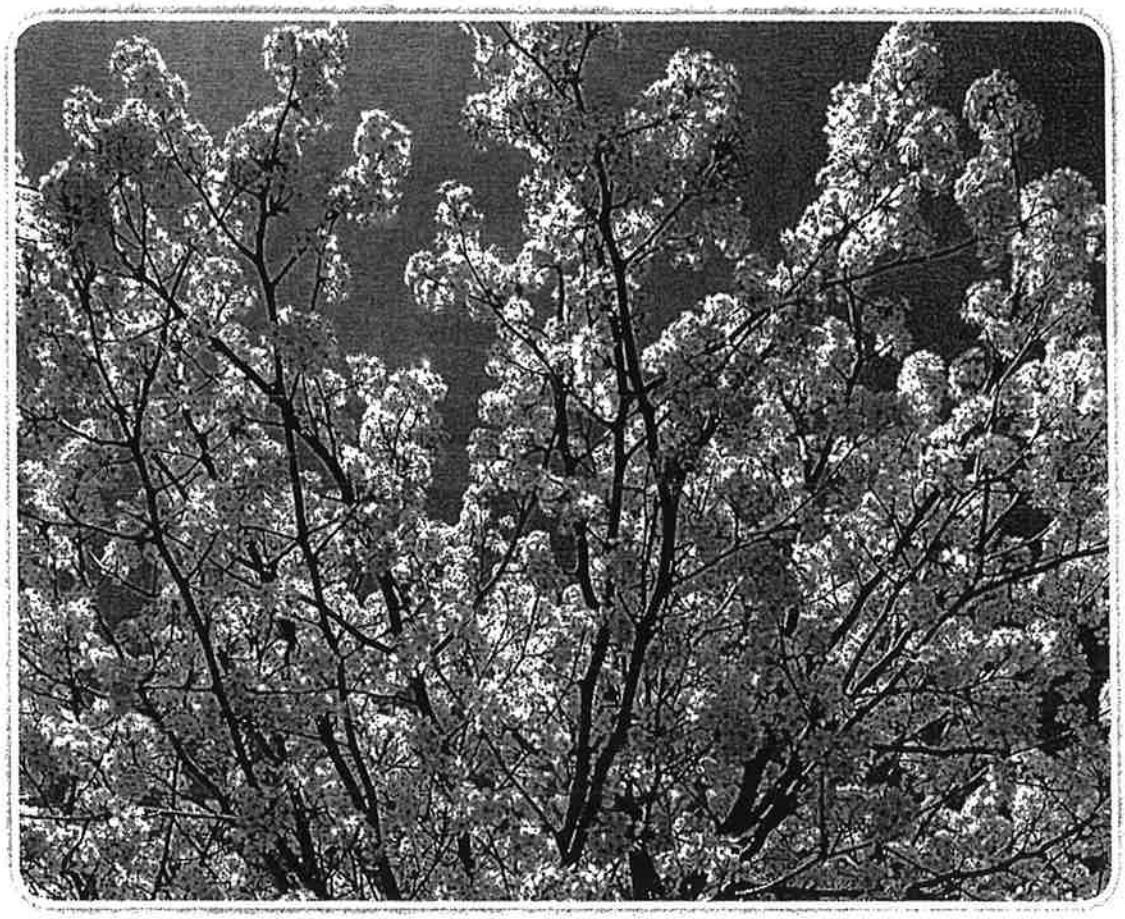
outer shell

A tree spreads its branches to get as much sunlight as it can.

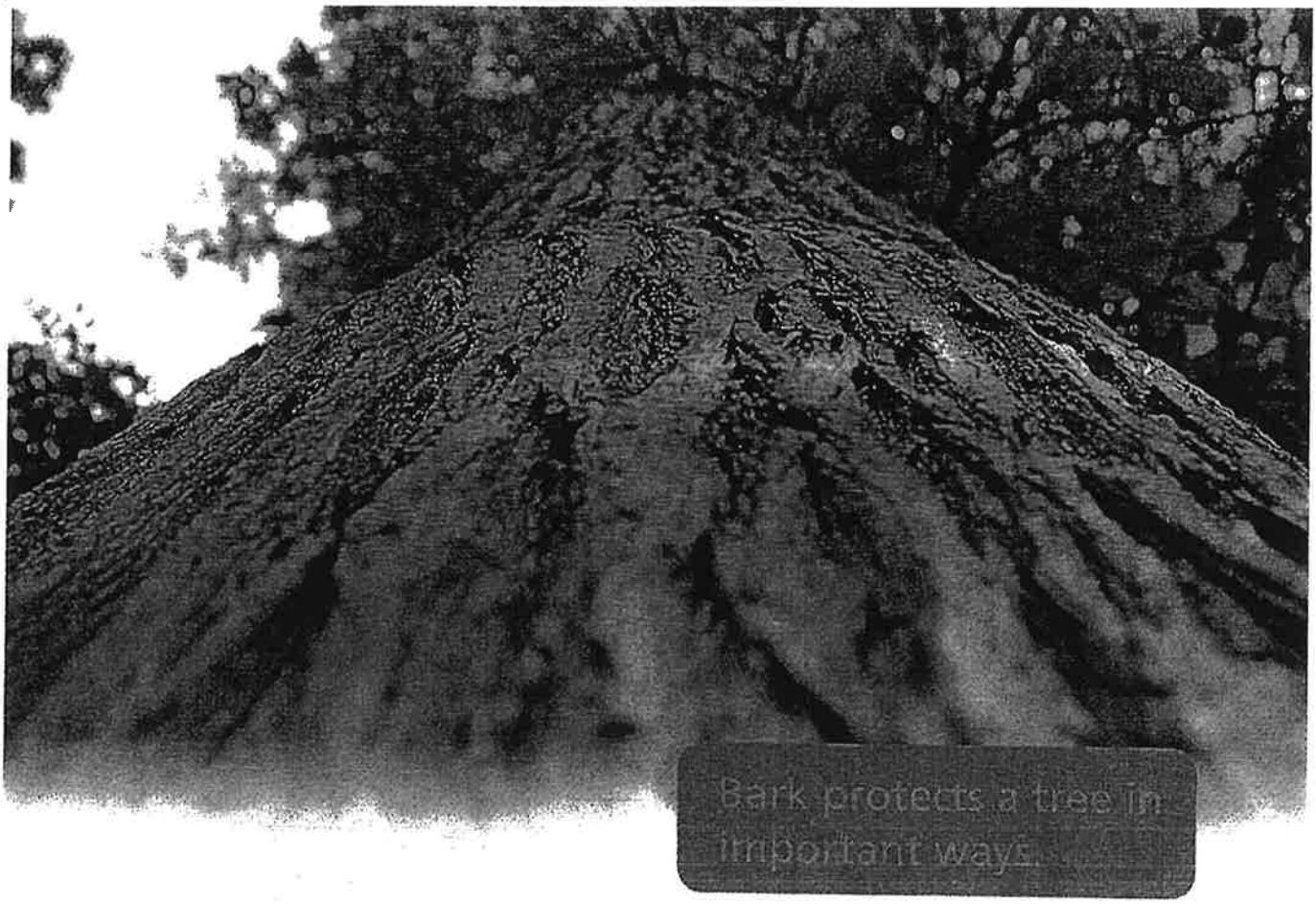
As a tree grows, it makes branches. The branches grow up and out.

Branches are important to a tree. Leaves or needles grow on each branch. They take in light from the sun. The tree uses this light to make food. A tree spreads its branches wide so its leaves or needles can reach more light. That means the tree can make more food.

In spring, new twigs and leaves grow on the branches. Cones, pods, or flowers grow on the branches too. In late summer or fall, they will drop seeds to the earth.

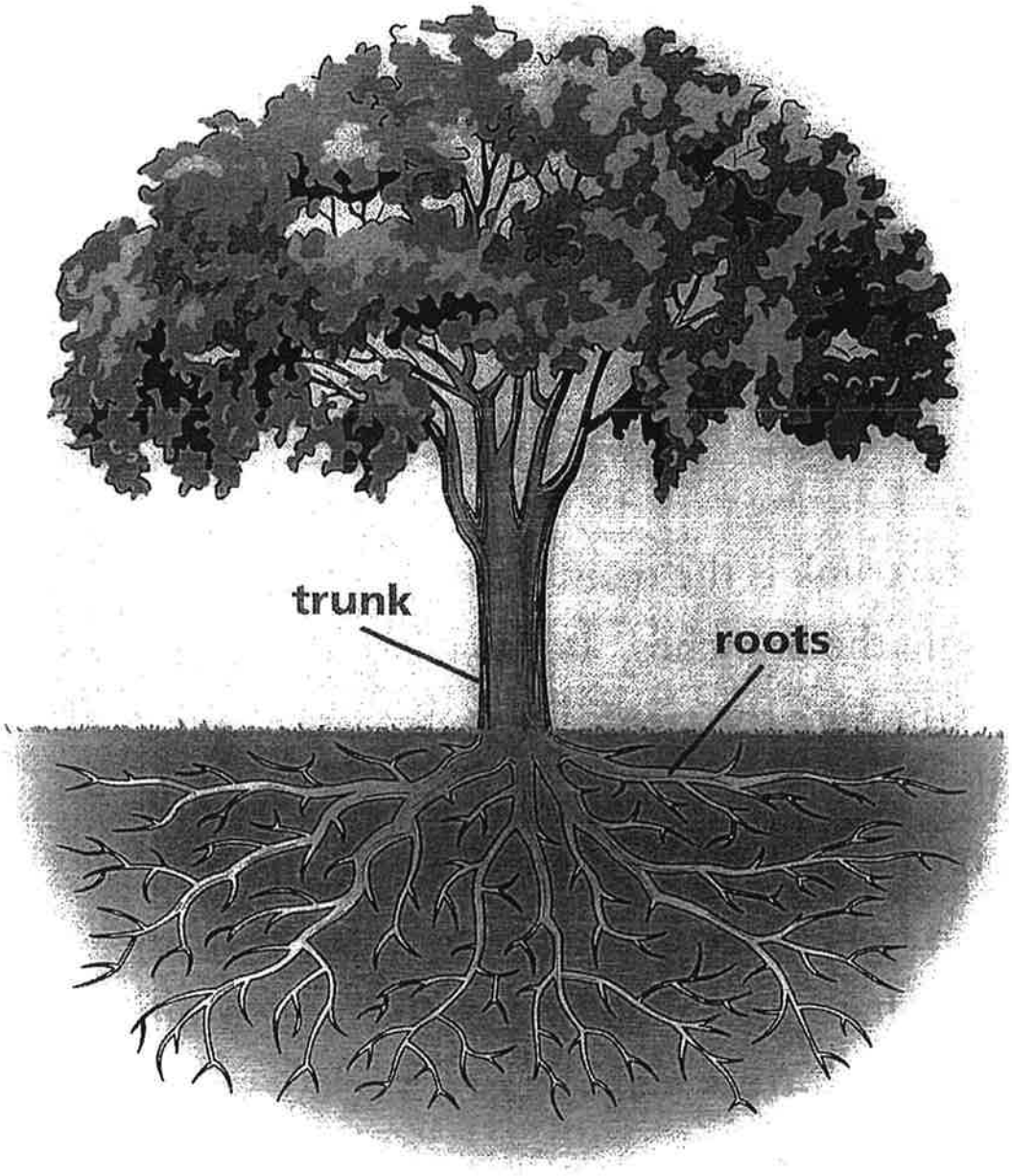


Soon seeds will fall from these branches, and new trees will grow!



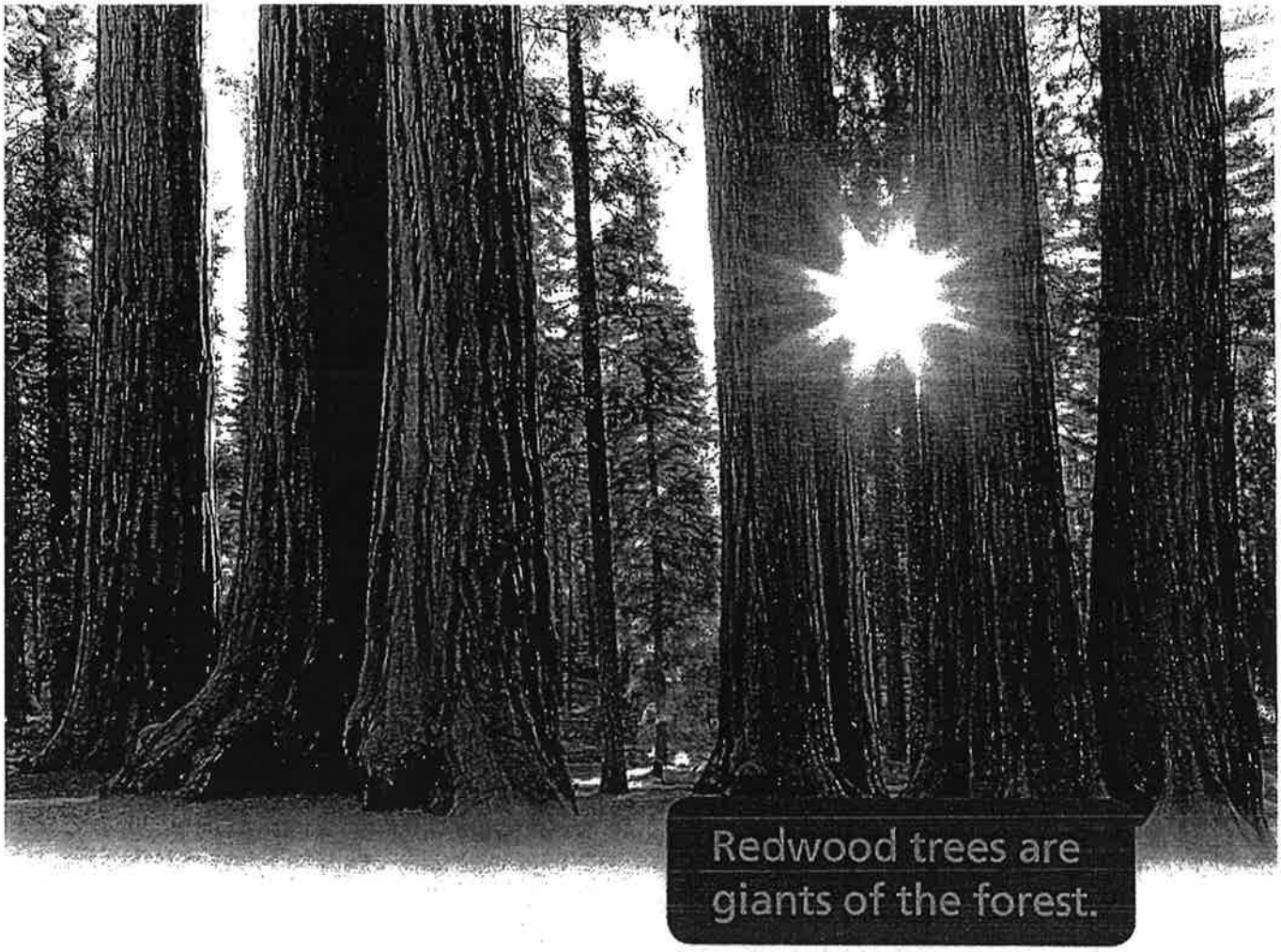
The trunk is the main stem of the tree. It holds up the branches. It also takes food and water through the tree. The outer layer of the trunk is called bark. Bark is tough and thick. It protects the tree. It keeps out cold and heat. It helps hold water in the tree too. Bark also makes it hard for animals to eat the tree. Some animals think trees make a tasty snack.

The tree's roots spread. They grow far below the earth. The roots hold the tree in place. The roots take in water from the soil. They take in nutrients too. These help feed the tree.



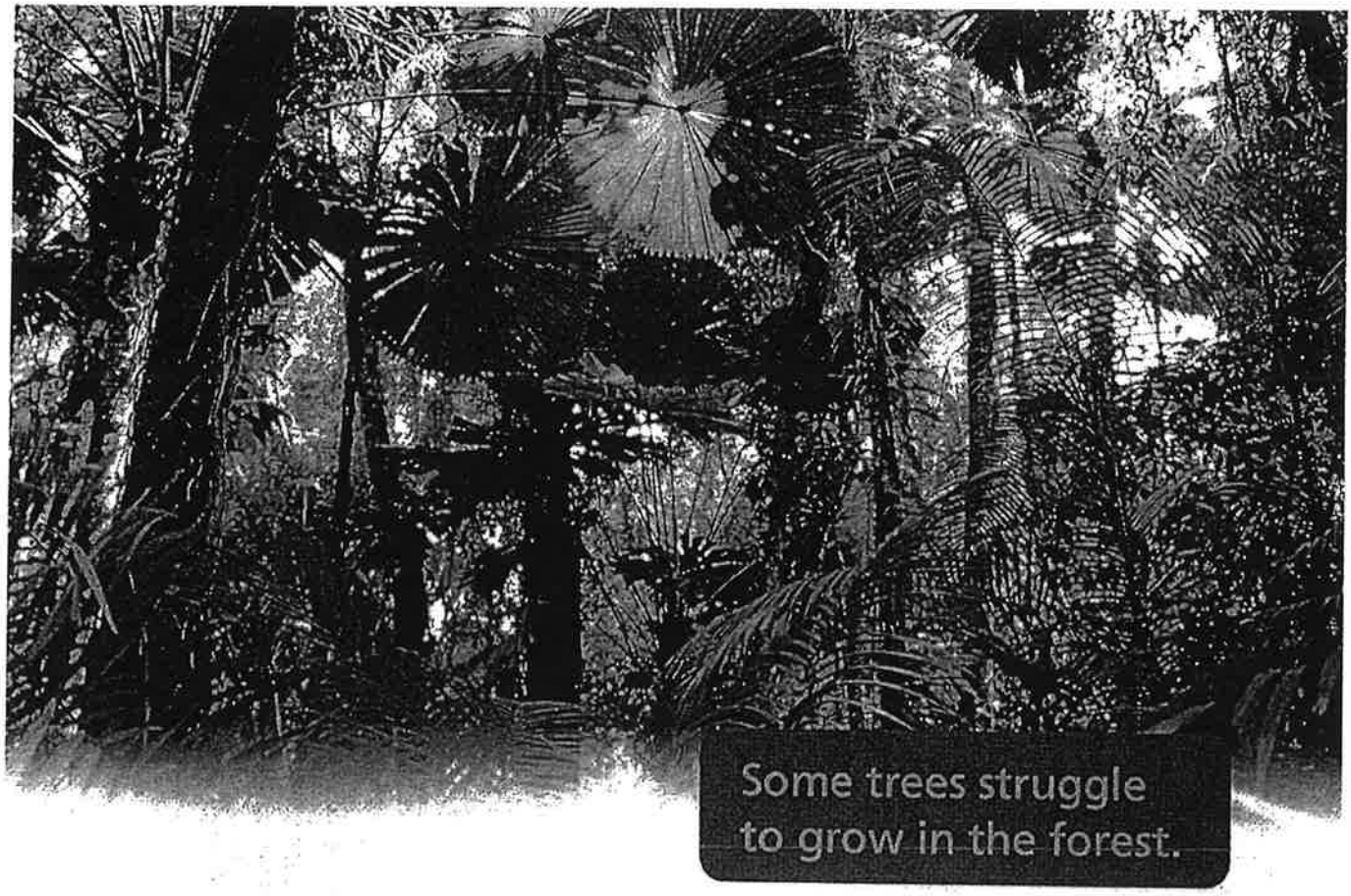
When does a tree reach its full size? In some warm places, trees grow fast. They are full size in about 30 years. In cold places, trees grow more slowly. Some trees may not be full size for hundreds of years.

Some palm trees grow quickly. One reason might be that they get lots of sun.



How big will a tree grow? Trees are like animals. Some kinds grow bigger than others.

One kind of willow tree is very, very small. It may grow only two inches tall. The tallest tree is the redwood. It can be more than 300 feet tall. That's as high as a 30-story building! A redwood tree is very wide, too.

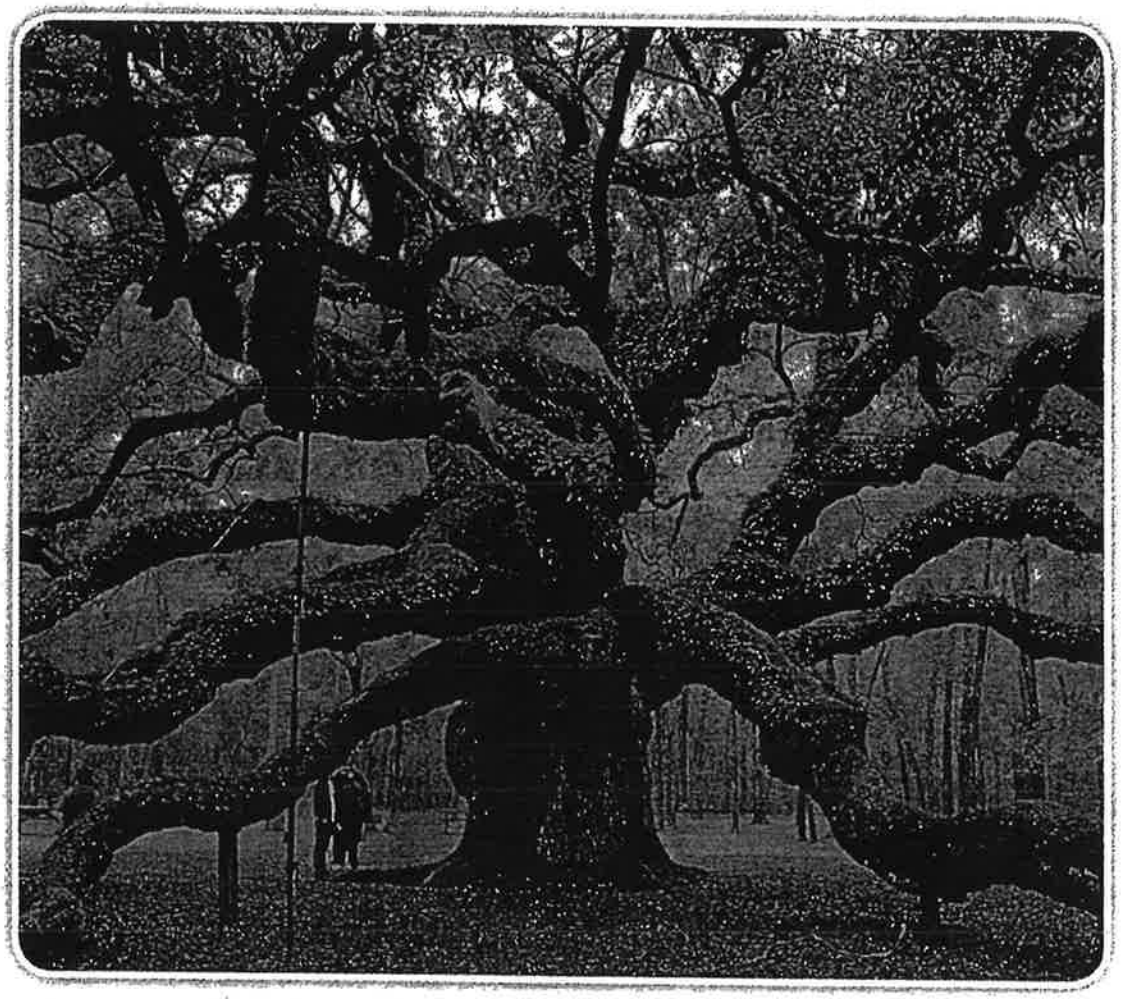


How big a tree gets also depends on where it grows. It depends on how much nutrition the tree gets from rain, sun, and soil, too.

A smaller tree in a crowded forest may not grow big. Bigger trees will keep out the sun, so the smaller tree won't get enough light. The roots from other trees may soak up water and nutrients in the soil. The smaller tree will be weak.

Some kinds of trees often live to be 1,000 years old. Many live even longer. For example, redwood trees can live for thousands of years.

Experts say the world's oldest tree is in Sweden. It is about 9,550 years old!



Some scientists think this oak tree in South Carolina might be 1500 years old!

When a tree dies, it begins to rot. As it rots, it adds nutrients to the soil. Animals and insects often live in the dead tree. A dead tree is still an important part of nature.