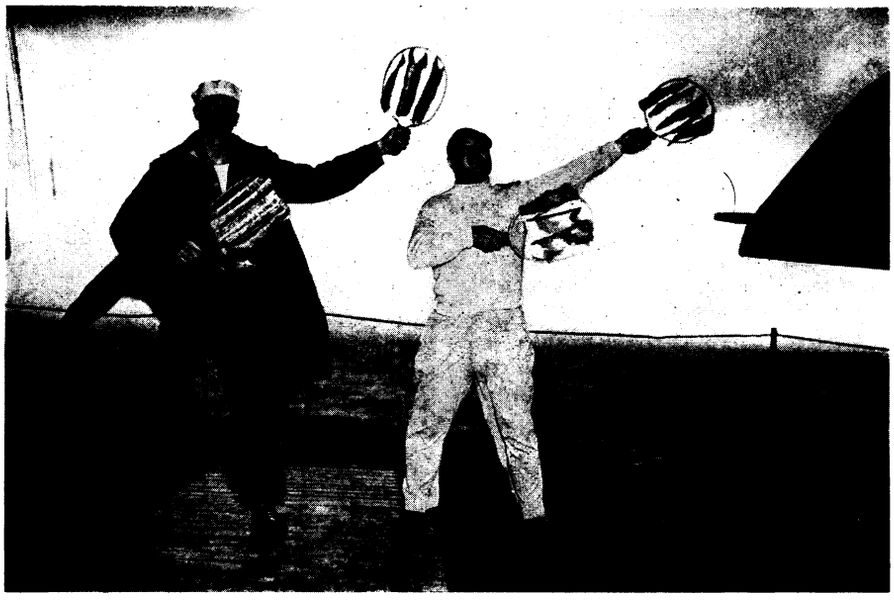

LEARNING HOW—Navy Science Cruiser Keith Seegmiller, (left) 16, a Washington, D. C. high school senior, learns the signals that bring airplanes down safely on the deck of the USS Randolph with the flight deck officer as his teacher.

opened new fields for peacetime advances. Behind the menacing barrels of giant guns lay intricate scientific instruments. On the flight deck of the aircraft carrier they saw the catapults and landing gear that may do important jobs ashore at future airports.

Newspapers cooperating with Science Clubs of America on the Navy Science Cruiser program included The Washington Daily News, Providence Journal, Pittsburgh Press and the New York World Telegram.

Science News Letter, October 19, 1946

PLANT PATHOLOGY

Disease Kills Citrus Trees

➤ AN ANNIHILATING disease of citrus fruit trees, that sweeps through orchards like fire and unsparingly kills every standard-grafted orange, grapefruit and tangerine tree it touches, was described by an eminent Brazilian plant pathologist, Dr. Agisilao Bitancourt of the Institute Bionomico of Sao Paulo, before an anxious audience of U. S. Department of Agriculture scientists.

"Tristeza" is the name of the disease; the word means "sadness" in both Portuguese and Spanish. It is highly appropriate, Dr. Bitancourt commented: the trees surely look sad as they stand wilting and dying, and the hearts of their owners are sadder still.

Already at least half of all citrus fruit trees in southern Brazil, northern Argentina, and the small countries of Uruguay and Paraguay have been attacked. Many are dead, and the rest doomed without reprieve. There are indications of its possible existence in this country, but the case is still not proved.

Tristeza is a unique plant disease: it will not attack any tree that stands on its own roots; its only victims are orange, grapefruit and tangerine trees grafted on sour-orange roots. Sour orange, an inedible citrus species, has long been used as standard grafting stock because of the hardiness of its roots and their resistance to diseases—until tristeza came along.

When tristeza hits a tree, nothing much may happen at first. Then it starts into a swift decline, its leaves wilting and dropping off, and its rootlets rotting away. Before long it is dead.

Chemical analysis of bark and wood near the place where the two grafted parts are joined shows plenty of protein and carbohydrate above the line, none below it. Something about the disease prevents the foods prepared in the tree's top from getting down to its roots. Victims of a physiological traffic jam, the roots starve to death. Then the top dies from lack of water and minerals. It is about the same thing that happens to a tree that has been ringed or girdled.

There is some reason to believe that tristeza is caused by a virus, one of those strange nearly-living proteins whose big, complex molecules can pass through fine porcelain filters. There is some evidence also that it is carried from tree to tree by an insect. But thus far the virus has not been isolated, nor has the vector-insect been identified. Those are two of the problems on which American scientists, who have gone to Brazil to establish our first line of defense there, are now working side by side with their Brazilian colleagues.

It is highly important that the cause of tristeza be identified soon, Dr. Bitancourt declared in closing, because no known method of plant quarantine will avail to keep it from spreading to a new country.

Science News Letter, October 19, 1946

BOTANY

"Lost" Species of Rubber Tree Is Rediscovered

➤ A "LOST" SPECIES of Brazilian rubber tree, small, stiff of leaf, scanty of sap but hardy and tough, has been rediscovered on the thin soils of half-barren granitic hills in the upper Amazon valley by botanists of the U. S. Department of Agriculture.

The species was first studied and described by Richard Spruce, a British botanist, about 100 years ago. He named it *Heveæ rigidifolia,* for its stiff leaves. The widely cultivated plantation rubber tree is *Hevea brasiliensis.* After its first discovery, no one saw it again until the American scientists pushed into its remote habitat recently.

This stiff-leaved Hevea appears at first glance to be not much better than a poor relation of the cultivated species, for it has not enough rubber to pay for extraction. However, the qualities of toughness and resistance to both drought and disease that enable it to survive on its hard-bitten hills may prove to be just the touch of plebian blood needed to add strength to the family stock of the rich but not-too-robust *Hevea brasiliensis.*

Science News Letter, October 19, 1946