

## Do You Know?

Before the war, 85% of the world's *cloves* came from Zanzibar and Pemba, two islands off the coast of East Africa.

The southern states had 15 times as many forest *fires* last year as any of the other four national regions.

The softening agent used on the hair in one "cold wave" treatment is *thioglycolic acid*; this produces as a by-product hydrogen sulfide, a poisonous gas.

A 400% increase in consumption of citrus fruit and a 30% decrease in potatoes and grain products reflect striking changes in Americans' *diet* during the last 37 years.

*Corrosion* causes greater loss of money than fire and flood together; as much as 40% of all iron and steel fabricated is used for replacements for parts which have become corroded.



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MEDICINE

## Oxygen Utilization Aided

**Cytochrome C, protein found in all living tissue, promotes the use of oxygen in the body, relieving heart disease and hardening of the arteries.**

➤ A LIVING TISSUE chemical given by injection promises new relief for sufferers from painful heart disease and perhaps for hardening of the arteries.

It may rescue some from mental disorders due to oxygen lack. Called cytochrome C, the new chemical treatment is reported by Drs. Samuel Proger and D. Dekaneas of Tufts Medical College and the Pratt Diagnostic Hospital of Boston in the journal *Science*, (Oct. 25).

Patients have been helped already. Angina pectoris has been relieved. Some unable to make more than a few steps because of excruciating pain in the legs, due to a condition known as intermittent claudication, have walked without pain.

The treatment consists of injections of cytochrome C. This is a protein normally present in the body and in fact in all living tissue, plant or animal. It is not poisonous so can be safely used, perhaps even in quite large single doses. Its nor-

mal function is to promote utilization of oxygen by body tissues.

This is the reason for its effectiveness in probably a wide variety of serious diseases. Lack of oxygen in the cells of blood vessels and various other body tissues is the common underlying cause of many disorders, from the black-outs of pilots during the war to angina pectoris, certain mental disorders and poisoning from overdoses of barbiturate sleeping medicines.

In conditions of oxygen lack, even so severe that the patient is barely conscious, the Boston doctors point out there is considerable oxygen circulating in the blood in the veins. A way to help the tissues use this oxygen, they reasoned, might save the patient.

Giving cytochrome C seems to be the way. An increase of oxygen consumption of 50% to 100% can be achieved with the aid of this chemical, they found in test tube experiments.

*Science News Letter, November 16, 1946*

AERONAUTICS

## VHF Beams Guide Planes

➤ AIRPLANE beacons that flash in the night are on their way out.

Invisible, static-free very high frequency (VHF) radio beams are to take over the task of guiding transport planes over the skyways. VHF radio beams will be useful in cloudy and foggy weather as well as at night to properly equipped planes.

The impending betterment in radio ranges was made known to the Institute of Aeronautical Sciences by T. P. Wright, U. S. Administrator of Civil Aeronautics. The very high frequency ranges are being installed to replace low frequency beams widely used on the radio ranges. These will make the lights unnecessary when all planes are equipped with proper receivers.

Radio ranges and lights are still the backbone of the 40,000 miles of federal airways. The lights are still important for private planes not yet equipped for radio beam receiving.

Nine complete airways are being equipped with four-course aural visual ranges in a high frequency band. One has been in successful use since early last spring, and others are nearing completion. They are substantially free from static.

The new VHF transmitters will be stationed along airways at intervals of about 100 miles. The type being installed, called omni-directional, shoots signals in all directions. The present low frequency signals are shot only in four directions.

Loran, a low frequency navigation system for surface vessels and planes developed during the war, is the current standard for long range overseas operations. It will also serve over deserts and jungles where it is not possible to build the many VHF range sites required.

*Science News Letter, November 16, 1946*