

## BOOKS

**BOOKS**—the protectors of civilization's stores of accumulated knowledge—are also the torch-bearers leading the procession of research toward new scientific frontiers. In the pages of this week's **SCIENCE NEWS LETTER**, readers will find listed the latest offerings of those who are in the forefront of the march of research. Some are already published; others are still on the presses. The issue will serve you well as a comprehensive bibliography of current works of science.

PHYSIOLOGY—AVIATION

# Oxygen Starvation in Tissues Jeopardizes Altitude Flying

**F**IRST experiments on the dangerous cumulative effects of lack of oxygen for short periods such as in frequent short flights at high altitudes were reported by Captain H. G. Armstrong, Medical Corps, U. S. A., to the Federation of American Societies for Experimental Biology.

Pilots do not get acclimatized to high altitudes as mountaineers do, Capt. Armstrong's research indicates. Lessons learned from mountain climbing expeditions cannot, therefore, be applied to high altitude aviation.

Capt. Armstrong's finding explains why pilots on commercial airplanes complain more and more of chronic fatigue even though they only fly at high altitudes for an average of 3 hours a day. The reason is that the effects of short periods at high altitudes pile up and in time the combined effect may produce dangerous lack of oxygen in the tissues. Rabbits, which can stand altitude one and one-half times higher than

man, did all right for the first two weeks of daily four-hour "flights" to 18,000 feet, which would correspond to about 12,000 feet for man. After the two weeks, they suddenly began to deteriorate, losing weight, becoming anemic, paralyzed and most of them dying by the fourth week.

Even if engineers could find a safe, comfortable way to supply pilots and passengers with oxygen for high altitude flights, they would not have entirely solved the problem and removed the danger. Capt. Armstrong found that while rabbits could go to an average altitude of 38,000 feet without oxygen, many were dead at an additional 12,000 feet even when breathing essentially pure oxygen.

### Encouragement For Diabetics

The possibility exists that some day diabetics will be able to eat a diet high in thiamin content and require less insulin than they do under present meth-

ods of treatment, it was indicated by the report of Dr. A. R. McIntyre and J. C. Burke of the University of Nebraska. Working with experimental rats the scientists have found out that a diet with large amounts of thiamin (the synthetic vitamin B<sub>1</sub>) increases the action of insulin.

*Science News Letter, April 16, 1938*

BOTANY

## Magnolia Blooms Brave Cold of Early Spring

See Front Cover

**M**AGNOLIA trees planted in the shelter of the south side of a building bloom so early in the spring that their gay beauty is often cut short by late freezes.

This year in Washington, the cold rain which paralleled the snow of northern cities was late enough to allow them to make a good showing. Those on the front cover of this week's **SCIENCE NEWS LETTER** were photographed in the grounds of the National Academy of Sciences building where Science Service has its offices. The photograph is by Marjorie Van de Water, Science Service staff writer.

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## RADIO

April 21, 4:00 p. m., E.S.T.  
ANTARCTIC DISCOVERIES—Prof. W. H. Hobbs, geologist of the University of Michigan.

April 28, 3:00 p. m., E.S.T.  
MENTAL LONGEVITY—Dr. Walter R. Miles, psychologist, Yale University.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.

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