

AVIATION

Strange Family of Planes

► **FLYING VENETIAN BLINDS**, barrels and platforms are being developed in an attempt to shorten the runway, Dr. Hugh L. Dryden, director of the National Advisory Committee for Aeronautics, the government research arm for aviation, has reported.

"It is obvious that there is a real and urgent need to learn how to build high performance airplanes, both military and civil, free from dependence upon miles of concrete," he told the Jet Age Conference of the Air Force Association held in Washington.

Dr. Dryden described several kinds of strange-looking aircraft being seriously studied or already experimentally airborne.

The VTO, or vertical take-off aircraft, combines the capabilities of vertical lift and high speed in forward flight in a single aircraft. Perhaps the simplest form of this plane, Dr. Dryden pointed out, is the one that stands on its tail, climbs straight up, tips over and flies horizontally, and then backs down on its tail to land.

Variations of this concept are the coeopter or "flying barrel" and the flying platform.

The zero-launcher approach places an essentially conventional airplane on the same

kind of track as used for a guided missile, he explained. It is then kicked directly into the air by rockets. The same plane can then come down and land on an air mattress.

Research is continuing on the hydroski, or water ski, that when mounted on an airplane, makes the world's waterways into airfields.

A variation of the hydroski is the pantobase, which is landing gear that "will be suitable for use on land—concrete, sandy beaches, sod, snow and ice," Dr. Dryden said.

"Even less far removed from present practice of using conventional airplanes and long runways is the possibility of reducing take-off and landing runs by use of boundary layer control," he stated.

Still other methods being tested, he said, are the convertiplane that takes off like a helicopter and flies like an airplane, and tilting and venetian-blind winged aircraft. The last two types are VTO propeller-driven aircraft that have the fuselage horizontal for passenger comfort and cargo loading, and use movable wings to go straight up.

Science News Letter, February 18, 1956

PUBLIC HEALTH

Lung Cancer Solution

► **A PRACTICAL SOLUTION** to the lung cancer problem is coming in "the not too distant future," Dr. Ernest L. Wynder of Memorial Center for Cancer and Allied Diseases, New York, predicted at the meeting of the American Cancer Society in Cincinnati.

The solution will come, he said, from the increasing effort being made by several research laboratories to identify specific cancer-causing chemicals in tobacco tar that might then be removed from tobacco smoke or modified.

Tobacco smoking has been implicated as a cause of lung and larynx cancer in 18 studies by a variety of investigators, he reported.

No other plausible explanation has been advanced, he said, for the correlation of smoking to cancer of the lung. Every single investigator who has carried out a study on this subject has agreed that smoking represents a factor in development of lung cancer.

Without smoking, it has been estimated, the present rate in American and British males would be reduced by 80%, a saving at the present rate of about 15,000 American male lives per year.

No single cause of cancer, if there is a single one, has yet been discovered, Dr. Wynder said. Any agent that increases the risk for an organism, human or other, to develop cancer must be regarded as a cause.

Smoking can be considered such an agent, he implied.

Since exposure to any known cancer-causing agent does not produce cancer in every case, however, there must be contributing causes within the organism itself.

Smoking is one of the habits which may affect a person's susceptibility to cancer. Other habits, and race, religion, place of residence, occupation, and economic and marital status may also affect susceptibility to cancer. As examples, Dr. Wynder pointed to the very high incidence of stomach cancer in Iceland and Japan contrasted to a low incidence in Indonesia.

Epidemiologic studies, which will show these differences, can be used in cancer prevention.

Science News Letter, February 18, 1956

AERONAUTICS

Radar to Help Bad-Weather Flying

► **AIRCRAFT** blanketed by storms will have a better chance for safe landings, following completion of the Civil Aeronautics Administration's announced plans to improve radar visibility in bad weather from the nation's airports.

With currently used radar beams, either vertically or horizontally polarized, an air-

craft behind or before a storm front often fails to show as a "return" on the radar screen. Both vertically and horizontally polarized radar will be used in combination, allowing better radar "vision" in bad weather, under the new program.

Initially, the CAA will modify radars at La Guardia, Idlewild, Washington, Boston, Cleveland, Atlanta, Los Angeles and Chicago (O'Hare). Eventually, 25 existing radars will be changed over, the CAA said. The program is expected to get under way early next summer.

Science News Letter, February 18, 1956

SCIENCE NEWS LETTER

VOL. 69 FEBRUARY 18, 1956 NO. 7

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., North 7-2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

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Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C., under the act of March 3, 1879. Acceptance for mailing at the special rate of postage provided for by Sec. 34.40, P. L. and R., 1948 Edition, paragraph (d) (act of February 28, 1925; 39 U. S. Code 283) authorized February 28, 1950. Established in mimeographed form March 19, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Reader's Guide to Periodical Literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation, Advertising Representatives: Howland and Howland, Inc., 1 E. 54th St., New York 22, Eldorado 5-5666, and 435 N. Michigan Ave., Chicago 11, Superior 7-6048.

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