



**RADAR-TELEVISION COMBINATION** — Spotting planes approaching airports is easier using the bright-tube screen that shows the pips more clearly under normal room light.

## AERONAUTICS

## Combine Radar, Television

► TELEVISION NOW aids control men at airports who spot all planes in the air by radar and direct their movements by radio. The television gives a brilliant display of whatever is on the radar screen and, unlike the radar screen, gives a picture that can be viewed in comfort in daylight.

This television-radar combination was perfected at the Technical Development and Evaluation Center maintained by the U. S. Civil Aeronautics Administration in Indianapolis, Ind. The brilliant display given on the television screen makes it unnecessary to house the radar scope under hoods or tents to exclude outside light. The display can be given on as many television scopes as may be needed. In addition, signals show up on the television screens that can not be seen on the radar screen.

An important part of the combination is what is called a memory tube, a device that holds the electrical signals received for a short interval. In this case the memory tube, perfected from an original developed by Radio Corporation of America, is adjustable and will hold signals from two to 30 seconds, long enough to be picked up by the television.

Retention of radar signal images for approximately 20 seconds is required to permit traffic controllers to determine changes in aircraft positions. Ordinary radar scopes retain their images for as much as 60 seconds because they are coated with a special

phosphor that continues to glow long after being hit by a stream of electrons. This type of phosphor, however, provides a relatively dim light.

Television tubes, on the other hand, are coated with phosphors which "erase" almost instantly but give off a brilliant light. The memory tube makes a slow-erasing tube unnecessary, and the television tube provides the necessary brilliance for daylight viewing.

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## MEDICINE

## Help Polio Victims When Traveling Abroad

► AMERICANS STRICKEN with poliomyelitis while working, traveling or studying in foreign countries can be helped by the National Foundation for Infantile Paralysis just as are those stricken in the U. S.

Examples of such aid in 1951 are given in the annual report of the Foundation as follows: a 20-year-old missionary teacher in Landore, India, flown back to New York with severe throat involvement; a singer on tour in Panama, flown home by MATS in an iron lung; a Stanford University student, stricken while visiting Mexico with a group of students, and returned in a respirator. This and other help comes from the March of Dimes.

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## ASTRONOMY

## Telescopes to Be 100% Efficient on the Moon

► TELESCOPES WILL be almost 100% efficient when they are installed on the moon, points out Dr. Dinsmore Alter, director of the Griffith Observatory, Los Angeles. With the same instruments that are in use on the earth today, astronomers on the moon should be able to probe twice as far into space.

"Within a few years our astronomers on the moon will observe more than they could in centuries with far larger instruments on the surface of the earth," Dr. Alter stated.

Heavenly bodies can be seen more clearly from the moon than from the earth with its disturbing atmosphere that blurs the surface of the moon and planets, and makes the stars twinkle.

With the black sky of the moon replacing our blue sky, there will be no fogging of photographic plates from the background light of the sky. Thus exposures can be as long as desired. Not only will fainter stars appear, but the additional contrast will make nebulae and galaxies show up more plainly.

From the moon, stars will appear as tiny, steady points of light. Their small images will make possible more accurate measurements of the distances of the nearer stars. They also will give us better observations of double stars, with a resulting improvement in their calculated orbits.

The sun will look entirely different to those of us who travel to the moon, Dr. Alter reports in *The Griffith Observer* (Aug.). The corona should be observable continuously throughout the lunar daytime, which lasts for over 27 days, and under far better conditions than we find here even during total eclipses.

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## GEOGRAPHY

## Propose Ship Tunnel In Honduran Mountains

► A GIGANTIC ship tunnel has been proposed as a supplement to the Panama Canal. It would burrow under the mountains of Honduras for 146 miles.

The proposal was made to the International Geographical Union meeting in Washington by Dr. William Herbert Hobbs, 88-year-old University of Michigan geologist. He had previously proposed a ship tunnel across Mexico's Tehuantepec Isthmus, but Mexico would have none of it.

The tunnel would actually be double shafts, dug at sea level, running about 150 feet apart. This way, Dr. Hobbs pointed out, they would be virtually atom bomb proof. Dr. Hobbs also said that this would be better than trying to make the Panama Canal bigger or trying to make it a sea-level canal.

Ships would be hauled through by electric locomotives, Dr. Hobbs said.

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