



**BRIGHT PICTURES**—This new television picture tube shows pictures so bright that they can be viewed even in brilliant sunshine. Harvey O. Hook, RCA research engineer, is shown here studying details of the test pattern on the tube he helped develop. It was produced especially for use in an airplane cockpit or on the bridge of a ship.

## ASTRONOMY

## Close Approach of Mars

► CLIMAX OF many months of preparation for astronomers was the close approach of Mars on July 2, when the red planet was only 39,740,000 miles away.

Although Mars can be spotted with the naked eye, binoculars afford a much better view especially when away from city lights. Mars and Antares, whose name means "rival of Mars," can both be seen in the southern sky. Facing directly south, they are a little above the horizon about ten at night, Mars on the left and Antares on the right.

The two are now so close together it is easy to compare them, although Mars is considerably brighter.

This year marks the red planet's closest approach to the earth since 1941, but it will come even closer in 1956, a mere 35,000,000 miles, which is very close as astronomical distances go.

From observations made during the present close approach, astronomers hope to establish definitely whether or not there is life on Mars, although not necessarily life as we know it here.

Positive proof that even plant life, such as moss and lichens, can be found on Mars would show that life is not unique to earth. Such a discovery would have tremendous repercussions, since other stars besides the sun quite certainly have planets, and thus they, too, could support a form of life.

Besides astronomers, meteorologists, phys-

icists, biologists, chemists and geologists are taking a close look at Mars from 18 observatories in 10 countries. Their aim is not only to determine the existence of plant life, but to gain more knowledge of Martian atmosphere, climate, size and surface features.

The systematic study is being coordinated by the International Mars Committee, whose secretary is Dr. Albert G. Wilson of Lowell Observatory, Flagstaff, Ariz. At Bloemfontein, South Africa, a special expedition has been studying the nearby planet for more than two months, under the direction of Dr. E. C. Slipher of the Lowell Observatory.

Motion pictures of Mars are being taken with Mt. Wilson's 100-inch telescope by Dr. Edison Pettit and his associates. They hope to solve the riddle of the "canali," or canals, that many astronomers believe they have seen on the Martian surface.

Their aim is to get some photographs at rare moments when the earth's atmosphere is standing still, not dancing and shimmering as it usually does.

The "blue clearing" of Mars has been noted already. The phenomenon is observed only rarely, when the sun, earth and Mars are in near opposition, as they were recently. Only at these times can the Martian surface features be photographed in blue light.

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## ANTHROPOLOGY

## New Instrument Spots Amount of Race Mixture

► SCIENTISTS NOW have a new objective instrument for measuring the amount of race mixture in a population.

A photoelectric reflection meter was used in a town in Mexico to record differences in skin color, evidence of mixture of the Indian population with Europeans. Results are reported by Dr. Gabriel Ward Lasker of Wayne University College of Medicine, Detroit, in the *American Journal of Physical Anthropology* (March).

Skin areas for study were selected so they would be relatively clean, flat, free of dark hair, and available for study without undressing the children. Two areas were picked. A section in the middle of the forehead furnished an area that would show the effects of sun-tanning. A section on the inner surface of the upper arm provided an area not so exposed.

Children between 10 and 20 years old were examined at the federal secondary school in Paracho, Michoacan, in the upper grades of the two federal primary schools, and in a government boarding school for Tarascan Indians.

Boys were found to be darker than girls, but the difference was significant only for the forehead measurement, showing that it is caused because the boys spend more time outdoors in the sun.

Boys attending the school for Indians are the darkest. Children with parents native to Paracho came next, and children whose parents came from elsewhere are lightest.

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## ENTOMOLOGY

## Spider Screens Houses By Spinning Gold Web

► IN PANAMA the natives get their house screened by a spider. The spider obligingly spins its web around the house, covering every crack.

The web is completely insect proof and decorative as well, since it is "like the most delicate sort of golden lace."

For houses of considerable size, hundreds of spiders combine to spin webs which eventually form an almost continuous fabric. The spiders, of course, stay in the web ready to trap any unsuspecting insect which approaches.

The gold-colored spider web house screens were discovered in the Bocas del Toro province of Panama near the Costa Rican border by Dr. Matthew W. Stirling of the Smithsonian Institution, Washington.

The spider has been identified as the species *Nephila clavipes*, which is also found in the Florida Everglades. It has long been known for its sturdy threads that can be woven into cloth. Efforts to domesticate the spider for the threads were made, but did not prove profitable and have been abandoned.

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