

would probably not live to pull the cord on his parachute.

Before making the ascents to the artificial sub-stratosphere for the jumps, Mr. Burcham, Captain Benson and Dr. Lovelace had taken newly discovered precautions against the danger of aeroembolism. This condition has been popularly called "air-bends," because it is so like the bends which often afflict deep-sea divers, caisson workers and others descending to low atmospheric pressures.

Boring, gnawing pains about the joints, itching of the skin and eyelids, unconsciousness, convulsions and paralysis, including paralysis of the breathing muscles, are among the symptoms of aeroembolism. Small blood vessels in the lungs may be plugged by emboli, thus cutting off the blood supply. It would be easy to see what the result of such an attack would be to a pilot of a fast, heavy plane.

The condition, in which nitrogen bubbles form in the blood and body tissues, was discovered by Captain Armstrong. An altitude of 30,000 feet seems to be the critical point for development of air-bends. Recompression, that is descent to a lower altitude where the



ALTERNATE

Another form of mouthpiece for the oxygen supply. The jumper grips this between his teeth. It is less likely to be damaged by the rush of air as he jumps than the other type.

atmospheric pressure is higher, is the treatment for the condition.

Air-bends can, however, be prevented, the Mayo Clinic investigators discovered. The method is almost like super-charging the pilot with oxygen before he takes off, the way his plane's engine is super-charged to carry him to high altitudes. Actually the pilot gets tanked up on oxygen rather than super-charged.

Seasoned pilots of Northwest Airlines, Inc., took part in experimental test ascents climbing to 40,000 feet at the rate of 4,000 feet per minute.

The pilots prepared for the flight by breathing pure oxygen for 30 minutes while walking two miles on a treadmill. With this preparation the pilots were able to make the ascents safely.

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ASTRONOMY

"Wonderful" Star Mira Is Bubble Within Bubble

THE STAR Mira, the "wonderful," which sometimes is among the brightest in the sky and at other times so faint that a telescope is needed to see it, is really a bubble within a bubble, alternately expanding and contracting. Such a suggestion was made to the meeting of the American Astronomical Society by R. M. Scott, of the Harvard College Observatory.

The double bubble construction is necessary, he said, to explain the peculiar behavior of the star. It has been generally accepted that stars of the type known as Cepheid are pulsating, and efforts have been made to explain stars like Mira on the same basis. But difficulties arose when it was found that measures of the size of the star from the shifting of the dark lines that appeared in its spectrum differed from those measured by its heat radiation.

Mr. Scott proposed that the surface at which the temperature is measured is not the same as that where the absorption of the light, producing the dark lines, occurs, as it is in most stars. However, the apparent surface of the star seems to be the same as that where the bright lines of the spectrum originate.

Using the bright lines, he found he was able to obtain measurements which agreed closely with the light variation.

"It was found that these stars were considerably nearer the sun than previously was suggested and thus intrinsically fainter," he said. "The minimum diameter of the surface of measured temperature of Mira was placed at -2.1 a. u and the maximum at 3.0. It was

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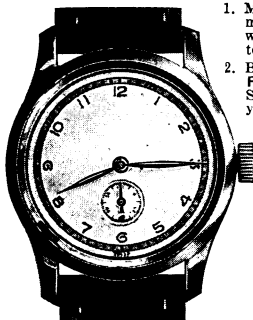
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RADIO

**New Radio Direction Finder
 Useful For Small Boats**

A RADIO direction finder that will tell the direction of signals from stations as far away as 200 miles yet weighs only 17 pounds has recently been introduced. It is expected to be useful for the smallest privately owned boats. (Ansley Radio Corp., 4377 Bronx Blvd., N. Y. C.)

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also established that the density decreased very slowly with distance from the center throughout the outer layer." He also

proposed that a large proportion of molecules is present in the atmosphere of these stars.

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NUTRITION

Nutrition a "Must" Item in Hemisphere Solidarity

Tropical American Diets Lack Calcium and Vitamin A But Advice To Drink Milk Would Be Impractical

FOOD and nutrition should be a "must" item for consideration in a program for Western Hemisphere solidarity, Dr. George R. Cowgill, associate professor of physiological chemistry at Yale University, declared in a De Lamar lecture at the Johns Hopkins School of Hygiene and Public Health.

Many of the dietaries in common use in tropical America are "far from satisfactory in several respects," Dr. Cowgill found from his own observations during two summers in Panama and other tropical American countries. Dr. Cowgill made his studies of the possibilities of nutritional research among the natives in Panama at the request of Dr. Herbert C. Clark, director of the Gorgas Memorial Laboratory.

Tropical American diets lack calcium and vitamin A particularly, Dr. Cowgill found. Advice to consume more milk to make up the calcium deficiency would be impractical, he pointed out, because a dairy industry is practically non-existent except in particular sections of tropical America.

The Mexican Indians use lime in removing the bran layer from the corn kernel and this results in addition of calcium to the final edible product, probably accounting partly for the splendid condition of the teeth seen in most of these people. Other tropical Americans might be helped to get more calcium in their diets by development of other similar uses for lime, Dr. Cowgill suggested.

Better returns on American capital invested in development of natural resources in tropical America are to be had from improvement, through food and other means, of the health of the local tropical laborers, Dr. Cowgill pointed out.

"If the purely humanitarian consideration of improvement in the health of all groups of people, regardless of locality, race, and other considerations, does not constitute sufficient reason for becoming interested in nutritional problems of tropical America," he said, "then I offer the one just stated which is related definitely to an enlightened self-interest and a matter of dollars and cents."

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ANTHROPOLOGY

Study of Apes Points Way Towards Better Human Beings

HERE is a prescription for our ailing planet, wracked with wars and woes:

"What this world needs is better human beings: man, woman, and child, in every stratum of its population and in every country."

The doctor is Prof. Earnest A. Hooton, Harvard University specialist in anthropology, science of man.

"The world chaos of today is due to the debased intelligence of the mass of 'civilized' men and to nothing else."

So Prof. Hooton diagnoses the trouble in a new book of lecture essays provocatively titled, "Why Men Behave Like Apes, and Vice Versa" (*Reviewed SNL, this issue*).

Calling degenerate behavior the rule, not the exception, among human beings, this anthropologist says that man's biological fiber has rotted by indolence and inertia. If human beings did not stand on two feet, they would lose their erect posture, and the same principle of disuse can cause mental and physical faculties

to deteriorate, Prof. Hooton sharply warns.

Machines and charity get special blame from this critic of man's defects, who says that they cause this atrophy by making mankind idle. As he puts it, they "have made man into something less respectable than an ape through sheer atrophy of function."

Warfare is seen as another force dragging man down, and medical science is taken to task for keeping alive millions of diseased and disabled without sufficient knowledge to cure them.

Inferior human stuff lacking in moral stamina and intelligence—so runs this anthropologist's terrible description of the generation in Europe born after the great and weakening World War, and now struggling in coils of another war.

Pathologically suggestible is another term applied to post-war generations. This trait of willingness to believe without thinking is so sweeping Germany that Prof. Hooton says the whole



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