



**LITTER-CARRIER**—For use in evacuating wounded from the battlefield, this Bell developed litter-carrier can be attached to the skid landing of a helicopter. It is designed to replace the troop-designed canvas "coffin-type" carrier used by troops in Korea.

## ASTRONOMY

## "Shooting Stars" Ancient

► "SHOOTING STARS" that brighten the night sky early in August have probably delighted and amazed man as long as he has troubled to look at the heavens. But in the far past the shower lasted only a night or so instead of two weeks as at present.

These cosmic bits hardly larger than grains of sand, heated by friction as they race through our atmosphere, broke from their parent comet some 40,000 years ago, Selah E. Hamid of Abbassia University, Cairo, Egypt, reported to the American Astronomical Society meeting at the National Bureau of Standards in Washington.

Tuttle's comet from which they came was last seen in 1862. It takes about 120 years to complete its elongated circuit of the heavens, and will return to the vicinity of the sun—and the earth—some 30 years hence.

This August shower of meteors is called the Perseid shower because the "shooting stars" seem to radiate from the constellation of Perseus. The glowing paths left by these burning bits are parallel, but because of perspective they seem to converge in the distance just as far-away railway tracks seem to get closer together.

The Perseid shower is expected to reach its height Aug. 12, but an unusually large number of meteors can be seen the preceding and following week. At its height, one meteor a minute can usually be spotted.

Mr. Hamid figured the path followed by

Tuttle's comet for tens of thousands of years in the past. Because its path is elongated and the comet moves in the opposite direction from that in which the planets rotate, a new method had to be developed to compute how much the giant planets pulled this comet out of its path during past visits to the sun. The Egyptian astronomer used a new method, suggested mainly by Dr. Dirk Brouwer, director of Yale University Observatory.

Exactly 343 revolutions ago the comet closely approached big Jupiter, Mr. Hamid figures, and was pulled so far out of its orbit it swung relatively close to the sun. He assumes bits of cosmic dust were blown off the comet, according to the theory developed two to three years ago by Dr. F. L. Whipple of Harvard Observatory.

These cosmic bits were scattered all around, but chiefly inward from the comet toward the sun. After a few dozen revolutions, the meteoric particles were distributed along the comet's entire orbit.

At first the meteors seemed to radiate from a small area in the heavens and the shower lasted only a day or so. Through the centuries, however, the irregular attraction of Jupiter on each particle in the orbit caused the cosmic dust to become more scattered and the shower to last two weeks as at present.

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## BIOCHEMISTRY

## Arteries Themselves Make Artery Hardening Chemical

► CHOLESTEROL, fatty substance presently blamed as a cause of hardening of the arteries, can come from the body as well as from food eaten. Evidence for the manufacture of cholesterol by the arteries themselves is reported by Drs. M. D. Siperstein, I. L. Chaikoff and S. S. Chernick of the University of California School of Medicine in the journal, *SCIENCE* (June 29).

The cholesterol originating in the arteries and the rest of the body may be of greater importance in the cause of arteriosclerosis, they point out, than has previously been supposed.

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## FORESTRY

## Most Serious Fire Hazard Ever Faced in Southwest

► FOREST FIRE hazard in the New Mexico-Arizona region and in southern California is "the most serious we have ever faced," Lyle F. Watts, chief of the U. S. Forest Service told *SCIENCE SERVICE*.

"A long drought season has put these areas in good condition for burning quickly and rapidly," he warned. Forest Service fire fighters are using the very latest techniques, including transport of workers and equipment to the scene by airplane and helicopter, to battle the blazes, such as that that raged in the Gila National Forest.

"The Forest Service is, of course, taking every possible step to spot and to stop the fires while they are still little ones, before they can grow into big ones that burn away millions of acres of forest every year," the chief forester stated.

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## INVENTION

## Self-Lubricating Metals Used in Machine Bearings

► BEARINGS IN instruments and machines need no oil with a self-lubricating metal alloy on which patent 2,588,523 was awarded to Paul E. Luther, Olean, N. Y. The alloy, by weight, is about 67% copper and, 16% lead, 11% tin, 6% German silver, and tiny amounts of antimony and phosphorus copper. It is put together in a flux containing borax, yellow soap, sulfur, and a fatty substance such as a slab of butter.

Castings produced from this self-lubricating bronze, as it is called, are readily machinable to a fine, satin-like surface structure. Bearings made of the bronze will operate with equal efficiency in extreme high or extreme low temperatures. They are not affected by steam or moisture and will not sweat.

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