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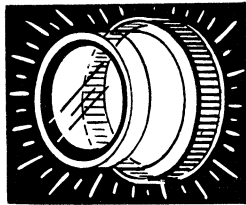
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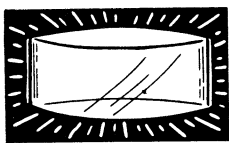
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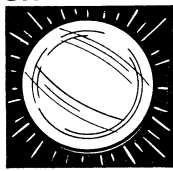
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ROCKETS AND MISSILES

Predict "Moon" Recovery

➤ **RECOVERY** of cargo-carrying earth satellites is possible, using presently available equipment.

It would be "most desirable" for such a satellite to land on water rather than on land. This is because the vehicle could be more easily found, Richard Høglund and Dr. J. Thale of Cook Research Laboratories, Morton Grove, Ill., reported to the American Rocket Society meeting in Los Angeles.

Their study of a recoverable satellite is based on using a space vehicle with a spherical nose of five-foot radius and a total weight at re-entry of 1,250 pounds. The figures were chosen as representative, not as indicating the heaviest weight or largest dimension.

The scientists divided the recovery procedure into three parts:

1. Passage from a high-altitude orbit to an altitude at which effects of the earth's atmosphere become important, about 60 miles above the surface,
2. Re-entry through the atmosphere and descent to an altitude at which final recovery may be initiated, and
3. Final deceleration to conditions suitable for water or land impact.

Transferring the satellite from its high-altitude orbit to a lower one could best be accomplished by applying thrust in a direction opposite that of the vehicle's motion, the scientists reported.

The most difficult problems, they found,

Do You Know?

One of the most remarkable adaptations of life in nature is the *wasp* whose eggs are laid inside bodies of other insects, and which spends all its larval life feeding on fats and body fluids of the host.

Administration of vitamins during the early months of *pregnancy* may reduce the number of children born with a hare lip and cleft palate deformity.

Impulses from the brain influence what the auditory nerve picks up, thus allowing persons to *hear* only what they want to hear.

The Kodiak Island refuge in Alaska is a sanctuary for the huge Alaskan brown bear and other *wildlife*.

Skin rashes from rings result from a reaction between metal and salt on the skin rather than from too much acid in the body.

Oysters are unable to feed in water containing less than one-seventh as much salt as found in ocean water.

Argon, the most abundant of the rare gases, makes up almost one percent of the atmosphere.

are associated with re-entry through the atmosphere, but these can be lessened by using drag or lifting devices and by other means. Large parachutes, made of glass fibers or some other heat-resistant material, would slow the satellite sufficiently. Another parachute would be used to decelerate the satellite to a velocity suitable for land or water impact in the final stages.

Science News Letter, June 21, 1958

BIOLOGY

Giant Plastic Model Shows Cell Structure

See Front Cover

➤ A **GIANT** plastic dome, 25 feet across and 12 feet high, representing an "average" animal cell was exhibited at the American Medical Association meeting in San Francisco by The Upjohn Company, Kalamazoo, Mich.

The model, shown in the photograph on this week's cover of the **SCIENCE NEWS LETTER**, is approximately 1,000,000 times the size of an average cell.

The nucleus in the center is eight feet in diameter and contains a nucleolus made up of small red balls that represent ribonucleoprotein (RNP). The twisted strands represent chromosomes. Since the cell is in a resting stage the chromosomes are swollen, almost filling the nucleus.

The sputnik-like structure above and to the right of the nucleus is a centrosphere containing a pair of centrioles; the radiations represent the aster.

The long, interconnected capsules going up like an irregular ladder at the left of the centrosphere are flattened elements of the endoplasmic reticulum. These tiny canals are probably responsible for circulating raw products and finished materials in the cell.

The plastic tubes that form the shell of the model represent submicroscopic fibrils of the cytoplasmic matrix. They are larger than scale in order to support the structure.

Science News Letter, June 21, 1958

Questions

ASTRONOMY—How high do astronomers plan to send a manned balloon in order to take pictures of the stars? p. 392.

MEDICINE — What two viruses have been found to cause paralytic disease? p. 389.

PSYCHIATRY — What effect did the use of anaesthetics, as a substitute for electroshock treatments, have on some mentally ill persons? p. 388.

Photographs: Cover, The Upjohn Company-Ezra Stoller; p. 387, U. S. Army; p. 389, General Electric Company; p. 391, Bell Telephone Laboratories; p. 395, Ohio State University; p. 400, Thatcher Glass Mfg. Co., Inc.