

ASTRONOMY

No Limit on Power

Water-filled tubes exposed on the moon at points where the sun is directly overhead can furnish almost unlimited power for engineering projects.

➤ ON THE moon, man can have as much power as he wants. The sun will act as a perpetual fuel source in lunar steam engines. Thus man can undertake engineering projects that he would not dream of starting on earth, and practically the only cost will be that of first installation.

This unlimited power will come from water-filled tubes exposed at a point where the sun is directly overhead. Such "subsolar points" form a belt around the moon. The tubes will need merely to be mounted parallel to the moon's axis within this belt and turned slowly westward, Dr. Dinsmore Alter, director of the Griffith Observatory, Los Angeles, points out.

The temperature at the subsolar point is just above the boiling point of water as we know it at the earth's surface.

"Water tubes, blackened to cause maximum absorption and mounted in cylindrical reflectors, may be exposed to the direct radiation of the sun for the equivalent of two of our weeks without any interruption," Dr. Alter will state in a forthcoming book, "Introduction to the Moon." Using such tubes, the sun will furnish as much

power as desired on the moon by man.

The rising and setting of the earth, as seen from the narrow belt around the moon where the earth is visible only near the horizon, he points out, will be different from anything experienced on this planet:

"The earth will rise above the horizon for a few degrees, then back down again. Depending on the position of the observer, it may rise in the north, south, east or west. Having risen, it may move sideways for a few degrees before it returns to the horizon."

The airless condition of the moon will make it possible for the temperature to be predicted with great accuracy for any desired time in the future, Dr. Alter states. It will be directly related to the time of day, the position on the moon, the moon's movements and its distance from the sun.

Of great convenience to astronomers on the moon who wish to make stellar photographs, he points out, will be the slowness of movement of the stars across the dark sky, as well as the extremely thin, or total lack of atmosphere.

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SURGERY

Relief for Hypertension

➤ PATIENTS WITH severe high blood pressure can live longer if given a nerve-cutting operation called splanchnicectomy than if treated medically.

Figures showing this are reported by Drs. Reginald H. Smithwick and Jesse E. Thompson of Boston in the *Journal of the American Medical Association* (Aug. 15).

Their figures cover 1,266 patients operated on and 467 who were offered the operation but for one reason or another declined and were given medical treatment. These served as "controls" for comparing the effect of the operation on survival.

Of the medically treated group, 54% had died within five years. Of those operated on, 19% had died within five years after the operation.

When graded in four groups according to severity of the disease, the survival was better for the operated ones in each group. The difference was especially marked for groups two and three and the Boston doctors recommend the operation as "the treatment of first choice" in such cases. They stress that patients should be operated on before they fall into the fourth group, since eventual mortality is high for

this group regardless of the treatment given.

Results are good in terms of survival and relief of complications after the operation even when the blood pressure is not greatly lowered, they point out.

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ANIMAL PSYCHOLOGY

Dog Can Be Trained For Apartment Life

➤ PUPPIES CAN be trained to live in an apartment without unhappiness for themselves, their owners, other tenants or the landlord, Clarence J. Pfaffenberger of San Francisco believes.

Mr. Pfaffenberger, vice-president of Guide Dogs for the Blind, Inc., of San Francisco, is a Guggenheim Fellow at the Jackson Laboratory, Bar Harbor, Me., where he is doing research this summer in puppy selection for training purposes.

Contrary to the general idea that dogs suffer from being cooped up in an apartment without a chance to run and play actively, Mr. Pfaffenberger says:

"Dogs like mental exercise better than physical exercise anyway."

He advises prospective dog owners to get a very young puppy, six weeks at the oldest. For apartment living puppies, he has designed a wire-bottom pen not unlike a child's play pen. In this the puppy is safe and clean. The pen keeps him from destroying valuables and soiling carpets, automatically housebreaks him and makes him consider it a treat when he is taken out for a romp.

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PHYSIOLOGY

Brain Waves Abnormal In Blood Disorder

➤ TOO MANY platelets in the blood, found in polycythemia, Hodgkin's disease and chronic myelocytic leukemia, may cause significant abnormalities in brain wave patterns, Dr. Samuel M. Tarnower of Pittsfield, Mass., reported at the Third International Congress of Electroencephalography and Clinical Neurology in Boston.

Platelets are colorless cells found in the blood and believed to play a role in blood clotting. Neurological symptoms, from headache to confusion and memory loss and numbness or burning of hands and feet, are commonly found in diseases in which the number of blood platelets is increased.

But two patients Dr. Tarnower reported, one of polycythemia and the other of a kind of leukemia, showed very little in the way of neurological complaints and findings. This was in marked contrast to the profound changes in the brain wave records of the two patients.

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VETERINARY MEDICINE

Cattle Threatened by Disease From Dogs

➤ DISCOVERY OF toxoplasmosis, a parasitic infection, in cattle for the first time presents a possible new threat to cattle production, officials of the American Veterinary Medical Association warn.

The disease has already caused scattered losses in Ohio cattle herds, research workers at Ohio State University College of Veterinary Medicine report.

The disease, caused by a one-celled organism called *Toxoplasma*, is a natural though rare infection of dogs, rabbits, guinea pigs, wild birds and man. Swine have contracted the disease from dogs.

The disease may produce nervous symptoms in dogs. In cattle it causes sneezing and coughing, followed by rapid breathing, frothing, trembling and head shaking. Loss of appetite, weakness and prostration usually precede death.

No successful treatment for the disease has yet been found.

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