

ASTRONAUTICS

Moon Shots Scheduled

Five attempts will be made beginning late this year to put rockets near or land them on the moon. The first vehicles may be sent past it.

► FIVE "SHOTS" past, around, or on the moon will be attempted by the Army and the Air Force beginning sometime late this year.

Authorization for the moon probes has been given by the Advanced Research Projects Agency of the Department of Defense for two launchings by the Army and three for the Air Force. What will be learned from the moon explorations was outlined at a press conference following a closed session of the Symposium of Possible Uses of Earth Satellites for Life Sciences Experiments held in Washington.

Present thinking and planning, representatives of the Army and Air Force projects said, is that vehicles will be sent past the moon first, rather than around the moon in orbit or landed on the moon itself.

Instrumentation for the Air Force vehicle to probe the moon will possibly include a magnetometer to determine whether or not the moon has a magnetic field, a device to measure the depth of radiation surrounding the moon, if any, and a mechanical photo-scanning device similar to a simple television camera being developed by the Navy, Dr. Albert R. Hibbs of the Jet Propulsion Laboratory, California Institute of Technology, said.

One of the very important scientific problems that could be solved by sending a vehicle past the moon would be to determine the actual distance from the earth to the moon and how much the moon really weighs. Earthbound figures, Dr. Hibbs said, are currently in error by one percent, which is enough to make a manned landing

attempt on the moon very hazardous. He said every precaution is being taken to ensure that anything landed on the moon will be sterilized enough not to contaminate the moon for future biological experiments. The Russians are being consulted on this and Dr. Richard W. Porter, head of the rocket and satellite panel of the IGY, said that the Soviet Academy of Science is as concerned about moon contamination as are American scientists.

The problem, the scientists noted, is that even putting a "small package" on the moon could mean the introduction of virus particles or bacteria from the earth and interfere with the accuracy of biological information that may be gathered. There was doubt expressed by Dr. Porter that life exists on the moon.

But, he added, this does not rule out the possibility altogether and even speculated that there might be viruses existing there as "dormant" molecules.

Scientists have also revealed that they will have to concern themselves with the contamination problem on return trips from Mars or Venus. They hinted that returnable missiles from either of these planets could introduce something on the earth. They indicated that the same was not true for the moon.

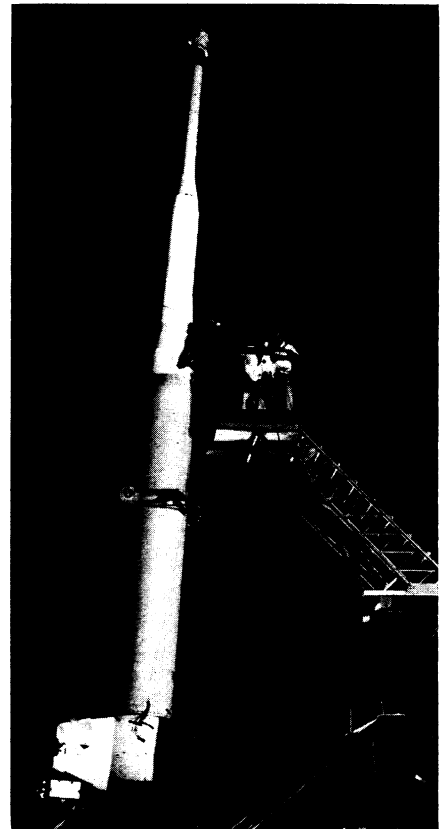
Sterilization of satellites or missiles to the moon could be accomplished in a number of ways. The scientists pointed out that the friction of the air would make the satellite or missile skin sterile and the inside could be "fumigated prior to launching."

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there and with its radio working to capture this sudden burst of energy.

U. S. scientists are hopeful that their satellites will be in the right place at the right time to get an "interesting" picture of solar X-rays and ultraviolet, which they believe the sputniks have failed to provide.

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NOSE CONE TEST—The Lockheed X-17 ballistic missile, shown here in a final pre-launching check, has successfully brought more than 20 nose cones back from outer space. They have survived the tremendous heat encountered in re-entry.

GEOPHYSICS

Instruments for Satellites

► UNITED STATES satellites, although smaller than the Russian sputniks, will pack as much scientific punch.

The reason is that the U. S. is undertaking scientific experiments that the Russians have not.

This is true despite the fact that the third Red giant weighs one and a half tons. It began circumnavigating the earth on May 15 and is designed to send back the results of nine distinct kinds of information about nearby space.

Dr. Richard W. Porter, chairman of the U. S. rocket and satellite panel for the International Geophysical Year, said there were two experiments planned by the U. S. not being accomplished by the sputniks.

These both involve information about the weather. One planned project for a sophisticated American moon is designed to send back a picture to show how much of the

earth is covered by clouds. This will give earthbound weathermen information never before available. From it they expect to be able to make more accurate weather predictions.

The second planned meteorological project is to measure the earth's radiation balance. By finding the difference between the radiation hitting the earth from the sun and that reflected back by earth into space, weathermen will have their first direct data on the total heat balance of the world.

Dr. Porter also intimated that the Russians may not have received a very good picture of the sun's ultraviolet radiation or X-rays. Luck, he said, plays an important part in gathering this particular information.

X-rays emitted by the sun are believed to show a sharp increase when the sun suddenly erupts in a flare. A satellite must be

PSYCHIATRY

TB Drug Relieves Tendency to Suicide

► IPRONIAZID, wonder drug against tuberculosis, can also be used as an anti-depression drug to keep people from committing suicide, Dr. Theodore R. Robie, psychiatrist from East Orange, N. J., reported to the Society of Biological Psychiatry meeting in San Francisco.

The TB drug was used on 70 patients who had been trying so hard to commit suicide they had to be kept under constant supervision, Dr. Robie reported. During the treatment with the drug, no suicides occurred. A high proportion of the patients improved under the treatment.

Patients taking iproniazid must be watched carefully and dosage adjusted if complications arise, but antidotes for some of the complications are available.

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