



SPRINGBOARD TAKEOFF

Lockheed

SOCIOLOGY

Mars Trip Like POW Camp

► **WHAT IS LIKE** a prisoner of war camp, a professional football team, a mental hospital and a submarine? Answer: a trip to Mars.

To evaluate the "unprecedented" psychological stress of spending 500 days cooped up in a tiny, Mars-bound spaceship, Dr. S. B. Sells of Texas Christian University, Fort Worth, consulted 200 other social scientists.

He then selected 56 characteristics of life in a spaceship, including such aspects as the hazards of the journey, preliminary training and background of the crew. He compared these influences with those of 11 other social systems that had already been studied, among them submarines, prison camps and exploration trips.

A Mars flight would resemble a POW camp or a mental hospital primarily because of the continuous exposure to stress and forced association with others. Even the most maddening of ordinary earthly jobs offer some respite in the form of lunch hours and even simply going home at the end of the day.

Using a numerical comparison system in which a perfect score of 56 matching characteristics would give a top rating of 112, Dr. Sells found that submarine life came closest to a Mars trip with a score of 79. Next were explorations (68), naval ships (61), bomber crews (60) and remote duty stations (59).

Shipwrecks and disasters fell at the very bottom of the list with 11 points. Industrial work groups were only slightly higher (16).

The biggest lack of similarity among the major points of comparison was in personnel composition. Several of the social systems considered were all-male.

However, the amount of education and the selection procedures of space crews make the Mars voyagers unique.

Despite his survey, however, with its itemized characteristics and numerical rating system, Dr. Sells called for "extreme caution" in making generalizations about spaceship life and its resultant stresses.

• Science News, 89:274 April 16, 1966

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MILITARY SCIENCE

F-104 Makes Secret No-Runway Takeoff

► **IN TESTS** that have been cloaked in secrecy for three years, an F-104 Starfighter, capable of twice the speed of sound, took off without using a runway.

The F-104, perhaps weighing more than 10 tons, got its extra thrust from a solid-fuel booster rocket mounted beneath the aft section of the fuselage.

The tests, carried out in 1963 for the German Air Force by Lockheed-California Co., Burbank, took place in the Mojave Desert at Edwards Air Force Base. Further testing will be carried out in Germany at Lagerlechfeld Base, near Munich.

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SPACE

Russian Spacecraft Orbiting Moon

► **BESIDES** the man-made spacejunk cluttering the surface of the moon, there is now a working spacecraft in the area.

The Russian Luna 10 has been orbiting the moon since April 3, and reporting to earth on the environment that awaits the first human visitors.

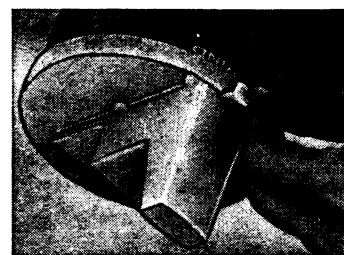
At least part of the scientific payload—a meteorite particle recorder—was operating throughout the flight from earth to see if the moon is banded with a cloud of dust particles.

While the Soviets gave no indications that Luna 10 is equipped with cameras, as will be its U.S. equivalent, the Lunar Orbiter, they did announce the presence of a gamma ray spectrometer. This instrument could be used to find out whether the lunar surface is made of earth-like rock or resembles the material found in meteorites. The questions to be answered by such information include whether the lunar "seas" are of volcanic origin and whether the mysterious black, glassy objects found on earth and called tektites are actually pieces of the moon that were knocked off by meteors.

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