

ASTRONAUTICS

Space Monkey Planned

As a space traveler man will be subjected to many physical and mental strains and stresses. Scientists are setting up tests with laboratory animals to study the effects of space.

➤ A SPACE CAPSULE containing both a monkey and a rat would be rocket-launched high above the earth in the near future to provide clues to human intellectual reaction caused by weightlessness in space travel.

The monkey would be trained to move two levers, one to the right and the other to the left, in order to avoid annoyance, thus telling whether it becomes confused by lack of gravity.

This is the plan of experimentation being recommended to the Space Biology Branch of the Air Research and Development Command's Holloman Air Force Missile Development Center as the result of studies announced by the Cornell Aeronautical Laboratory, Buffalo, N. Y.

The rat will be trained to react to pleasant sensation and the aim will be to see if the brief space journey will destroy the usual reaction. If it does, it will be a sign that the rat is not pleased with what is happening to him.

Prof. B. Richard Bugelski of the University of Buffalo's psychology department con-

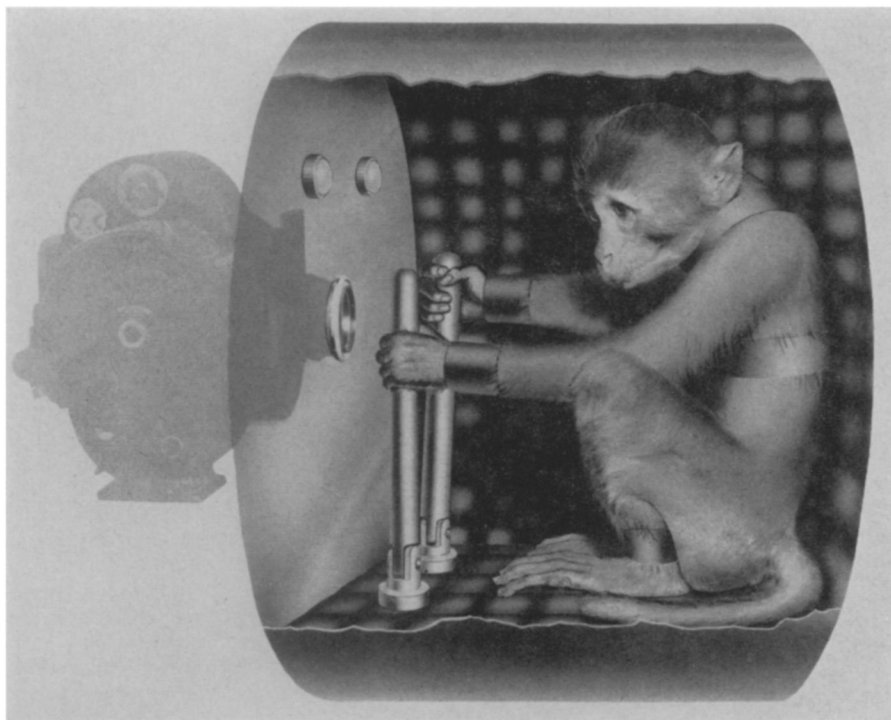
sulted with the laboratory's human factors section in the study.

It is planned that the rocket experiment would last only a few minutes and the animals would be returned to earth safely.

The projected test is aimed to pre-investigate the efficiency of intellectual functions as opposed to psychological reactions of man during his weightless state in space travel. It would detect disturbance in cognition, orientation and concentration under such conditions.

According to the recommendation, the monkey would be strapped in place in the capsule with its arms attached to two levers. The experiment would be arranged so that the monkey, to avoid some annoyance, will move the right hand lever a certain distance to the right and the left hand lever to the left. The monkey would look at two lights, one red and the other green. They would flash at random and the monkey will have learned that these are clues to push the levers as an avoidance to annoyance. The animals would be watched by motion pictures and telemetering.

Science News Letter, January 18, 1958



SPACE MONKEY—A monkey is shown in an experiment mock-up designed to test the effects of weightlessness on space travelers during flight in outer space. The proposed experiment calls for the monkey to move levers right or left on cue of a red or green light, thus measuring some intellectual, not physiological, effects of space travel. Some of the observational instruments are visible at the left.

● RADIO

Saturday, Jan. 25, 1958, 1:30 - 1:45 p.m., EST
"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Dr. Thomas M. Rivers, medical director, National Foundation for Infantile Paralysis, New York City, will discuss "Virus Conquests."

ENGINEERING

Arcwelding Joins Parts Of Titan ICBM

See Front Cover

➤ HELIOWELDING, an inert gas arcwelding process, is being used to automatically join sections of the Titan intercontinental ballistics missile.

The photograph on the cover of this week's SCIENCE NEWS LETTER shows a special fixture used to hold the "orange peel" aluminum sections during the welding process. Part of the fuel tank is being worked on.

Air Reduction Company, Inc., New York, designed and engineered the fixtures and mechanisms used in the welding tool installation.

Science News Letter, January 18, 1958

EDUCATION

Mathematics Students Discouraged by Parents

➤ MANY COLLEGE students do not major in science or mathematics because of the attitudes of their parents.

A survey at the University of California at Los Angeles has shown that most parents tend to discourage youngsters, especially girls, who show a first, hesitant mathematical interest in high school.

Dislike of mathematics by parents is thought to have originated during the depression years, when mathematics was considered an economic dead-end street.

"It was considered practical at best for teaching and life insurance careers—but generally useless for industry or commercial jobs," according to Dr. Magnus R. Hestenes, chairman of UCLA department of mathematics.

Most parents offered little encouragement, the survey indicated. Asked about attitudes of parents and friends toward mathematics, the girls' answers ran along the following lines:

"My parents were just shocked—my sister said 'you'll never make it'."

"My choice was frowned upon by skeptical friends who shudder at the sound of the word math."

"They made me feel like a freak. I feel that math is just as ordinary and respectable a major as any."

If the nation is to meet the challenge of the post-sputnik era, Dr. Hestenes believes, the next generation of mathematicians must learn from their parents that mathematics is not only "respectable" but essential to this country's educational, economic and scientific development.

Science News Letter, January 18, 1958