

## SPACE

# European Rocket Planned

➤ A GROUP of European nations have banded together to develop a satellite-launching vehicle that will probably be launched in 1965.

Based on the British de Havilland Blue Streak rocket, the first test satellite will be launched from the Woomera range in Australia.

Representatives of Britain, France, Australia, Belgium, Denmark, Holland, West Germany, Italy and Spain have drafted a convention setting up a European Space Launcher Development Organization.

The convention provides for an elaborate program of advanced study to be carried out by all member nations in the first two years of the program, after which the Blue Streak rocket itself, formerly Britain's projected military missile, will be fired into the air for the first time. So far, the Blue Streak, abandoned militarily last year, has been tested only on the ground.

The eventual satellite-launcher will be a three-stage vehicle, with Blue Streak as the first stage, a French rocket as the second

stage and West Germany heading the team to develop a third stage. The eventual aim is to use the vehicle for launching satellites for communications purposes and scientific studies in space.

"The object is to avoid a situation in which Europe is right out of the launching of any satellites in the future," Peter Thorneycroft, British Minister of Aviation, explained. "It gives us the opportunity, which otherwise would be denied us, of taking some part in the commercial exploitation of space. One does not know ten years ahead what this will be, but if we waited ten years we would not be in the field."

Referring to the proposed international cooperation, Minister Thorneycroft said: "This is probably the biggest technological effort any group of countries has attempted in history."

The total cost of the project is put at \$200 million over the next five years. Britain is expected to contribute about one-third.

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## MEDICINE

# Oral Contraceptives Work

➤ ORAL CONTRACEPTIVES really work in the vast majority of cases, a four-year study at the University of California, Los Angeles, has shown.

In one group of 570 women, only six unplanned pregnancies occurred, five of which were attributed to incorrect use of the drug. This is reported by Drs. Edward T. Tyler, Henry J. Olson and associates of the UCLA Medical School and the Planned Parenthood Center in Los Angeles.

The drug, norethindrone (Ortho-Novum), a synthetic female hormone, was prescribed on the basis of one 10-milligram tablet per day on days five through 25 of the menstrual cycle.

The study indicated that the drug can be prescribed for at least two years with assurance as to its probable safety. Some have used it more than three years with no apparent harm. A few side effects reported by some of the group were generally not troublesome enough to interfere with use of the drug.

Fifty-six of the group reported some nausea. Menstrual irregularities were reported by 151. These two effects generally occurred in the first few cycles following initiation of the drug's use and then tended to disappear.

Weight gain was reported by 120 while 27 reported weight loss. Many of these had weight problems before they started taking the drug, and the drug did not appear to contribute significantly to this.

Increased libido was reported by 89 of the group. The physicians said this very likely may reflect a decreased fear of un-

wanted pregnancies. Additional data indicated that pregnancy is readily achieved when the drug is no longer administered.

Women in the group generally had a good educational background and had no difficulties following instructions, the investigators said. Among the few women with little education there was some difficulty. This might pose a problem with large-scale use of the drug in overpopulated, underdeveloped areas where education is inadequate.

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## AERONAUTICS

## Automatic System Sends Pilots to Intercept

➤ A COMMUNICATIONS system that can automatically and almost simultaneously instruct hundreds of pilots in flight to intercept targets has been successfully developed by the Air Force Systems Command.

The Time Division Data Link (TDDL), nicknamed "tiddle," was flight tested by AFSC's Electronic Systems Division at L. G. Hanscom Field, Mass. The system consists of a ground-based electronic computer that can calculate commands for an aerial battle and deliver them in coded form to transmitter sites throughout the country which, in turn, beam the instructions to the aircraft.

The code is reconverted by the aircraft TDDL equipment and the information necessary to accomplish the intercept appears on the pilot's instrument panel, Maj. Hollie A. Wilkes of the Electronic Systems Division explained.

Command information also can be transmitted directly to the TDDL automatic pilot in the aircraft. This option makes it possible for a central battle station to do everything for the pilot—once he is airborne—except fire the guns or rockets.

The special advantage of TDDL directed aircraft over a guided missile is man and the capability of adding human judgment to the system. "Keeping final authority to a pilot is particularly important in case of malfunction," Major Wilkes pointed out, "since then, the pilot might be able to continue operations whereas a machine might fail."

The system also can recall aircraft from a mission and positively identify a target.

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## BIOLOGY

## Clues to Aging Found In One-Celled Animals

➤ THE CELL NUCLEUS of a microscopic one-celled organism controls aging, Dr. R. W. Siegel, University of California, Los Angeles, zoologist, has reported.

He found that when he removed the cell nucleus of an immature paramecium and replaced it with one from an "aging" paramecium, the "young" organism suddenly began to show signs of "old age."

It was already known that these microscopic animals have a way of postponing old age, a sort of "rejuvenation" process by reconstitution of the cell nucleus.

This is accomplished when paramecia mate. The mating process essentially consists of an exchange of cell nuclear material.

Following mating, the individual organisms appear as young, immature paramecia that do not mate but reproduce by simple cell division. This is the twilight zone of paramecia, and they die shortly afterward.

Just how cell nuclear processes operate to bring about these unusual cycles of immaturity, maturity and "rejuvenation" is not known, Dr. Siegel said.

Nor is it known if such processes carry over to the more complex cellular relationships in the masses of cells that make up higher organisms. However, knowledge obtained from these studies may give new clues to such problems as cancer and the aging process in general.

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## MEDICINE

## Chimp Possible Cause Of Infectious Hepatitis

➤ A BABY CHIMPANZEE that arrived at the Crandon Park Zoo, Miami, Fla., last July 6 is being studied as a possible cause of six cases of infectious hepatitis among zoo employees, the Communicable Disease Center in Atlanta, Ga., has reported.

Four of the employees were teen-age girls responsible for the chimp's diaper laundering, feeding and other daily care. The other two were men on the regular zoo staff.

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