

ASTRONAUTICS

Russian First Man in Space

Russia has put the first man in orbit around the earth and returned him safely. The USSR is expected to beat the U.S. to the moon by about five years, Lillian Levy reports.

► THE RUSSIANS put the first man in orbit and returned him safely. A Soviet Air Force major, father of two, has circled the earth in 89.1 minutes, and come back, the official Russian news agency Tass reported. The height of the orbit varied from 110 to 188 miles.

Maj. Yuri Gagarin, 27, landed at 2:55 EST, April 12, without suffering any harm, it was reported. Maj. Gagarin, a reserve officer, has been in training similar to that which the United States astronauts have been given.

The Soviet success in orbiting and recovering a man from space means that they can get a man on the moon in four or five years, and probably will. The best the United States can hope to do is get an American to the moon in 1971, according to an estimate by the National Aeronautics and Space Administration.

"The significant and exciting role of man (in space) lies in the exploration of the moon and planets," Dr. Lloyd V. Berkner, chairman of the space science board of the National Academy of Sciences, has written.

The first step leading to the moon and the planets is the orbiting of man, Dr. Berkner noted.

The Soviet success in achieving this first step has underscored the lag in U. S. space booster capacity. Initial Congressional reaction to the Soviet man-in-space indicates that great pressure will be placed upon the scientists responsible for the Government's space program to accelerate plans and schedules for orbiting a U. S. astronaut.

Perhaps the lowest blow dealt to those working in the U. S. space program came from Rep. James G. Fulton (R.-Pa.) who said America "should get some space enthusiasts who are willing to take some risks." The Pennsylvania Republican, ranking minority member of the House Committee on Science and Astronautics, said he would be willing to take a trip right now aboard NASA's Mercury Space capsule scheduled to take a man in suborbital flight in the next few weeks, implying that the Mercury astronauts lack enthusiasm for the venture.

This is bitterly resented by the space men

and the scientists and technicians working in Project Mercury.

The blame for the lag certainly cannot be attributed to a lack of enthusiasm on the



FIRST SPACE MAN—A Soviet Air Force major, Yuri Gagarin, is the first man to fly above the earth's atmosphere, USSR agency Tass reports.

POLITICAL SCIENCE

Red Bloc Causes Stall?

► PRESSURES from the Communist International may be forcing the Soviet Union to delaying tactics in the current East-West negotiations for a cessation of nuclear arms testing in Geneva.

Informed observers say that the Soviets genuinely favor an agreement and are themselves willing to make concessions to match those made by the United States and the United Kingdom. However, Communist China, Bulgaria, Hungary and other of the Communist bloc countries where there is economic unrest and internal political struggles for power are against an easing of tensions.

In these countries, a relaxation from the threat of atomic military build-up in the West might threaten the security of those now in political power who do not have united internal support.

The USSR needs support from the leadership of the countries under its domination, and this support may be weakened if the satellites have internal unrest.

The more politically secure Communist bloc countries such as Poland, Yugoslavia and Czechoslovakia favor a ban on nuclear testing. The Polish Government, in fact, has proposed the Rapacki plan for disarmament for Poland, East and West Germany, and Czechoslovakia, in which full inspection of all states involved is an integral part of the plan.

When this plan was first proposed by Poland's Foreign Minister Adam Rapacki at the United Nations in 1957, it provided for complete demilitarization of these countries with full inspection. The plan was subsequently modified to provide for demilitarization by degrees, beginning first with abolition of all nuclear arms in the four countries, with full inspection to be followed in time with a reduction of conventional arms and a ban on inter-continental ballistic missile sites in the four countries.

If an agreement is reached between the three negotiating powers on a cessation of nuclear tests, the Rapacki plan could be the next step in a move toward world disarmament, experts in Washington say. Those close to the present negotiations believe the plan may find acceptance if the USSR will come to terms, including an acceptable agreement on test site inspection with the U. S. and the United Kingdom, before Western patience wears out.

The Administration and its leaders in Congress are giving full support to pushing for an agreement with the USSR, including concessions; but a time limit will be called on the Geneva meeting unless the USSR makes a strong positive move that indicates a real hope for a treaty.

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part of the Mercury astronauts, each of whom has said many times that he is ready and willing to fly in space the moment the signal is given.

Lack of imagination on the part of Government leaders, including many of the Congressmen now calling for more effort in space, is partly to blame for our lag in space. Failure to develop adequately new chemical advances, particularly in the area of solid fuels for rocket engines, is seen as another reason for the lag.

The value and potential of solid fuels in rocket development was called to the attention of the House Subcommittee on Appropriations in June, 1958.

The reliability of solid fuel boosters was stressed by Dr. Homer Newell, vice-chairman of the IGY U. S. technical panel on rocketry. Dr. Newell now is NASA's deputy director, office of space flight program. But the present NASA space budget allots only \$3.1 million to research and development in solid fuel propulsion systems as compared to more than \$99 million for liquid fuel.

Scientists, experts in the field, claim both time and money could be saved by greater utilization of solid-fueled engines. Combining this technology with advances established in liquid-fuel rockets would yield a propulsion system that could outstrip present Soviet thrust capabilities within three years. But the present Administration, like that preceding it, has decided to continue concentration on liquid fuel rockets.

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