

SOURCE: Pravda, no. 192, 11 July 1970, p. 3, cols. 1-7

AUTHOR: TASS

TITLE: Details about the Space Epic

SUBJECT: Questions and answers following the Soyuz-9 press conference

The first group of questions was answered by O. G. Gazenko.

Q: What is the relationship between the year-long experiment with three subjects and the eighteen day space flight?

A: In general, these types of investigations are related since they form part of a single program. However, the year-long experiment was solving life support system problems of future flights lasting for months or years. In addition, in the year-long experiment it was not possible to model the entire complex of space flight factors.

Q: On the basis of the Soyuz-9 flight is it possible to conclude that the human organism is capable of withstanding still longer flights?

A: The results of the flight provide a basis for assuming that man will be able to withstand still longer flights.

Q: Is it necessary to assume that future permanent orbital stations will have to be equipped with artificial gravity?

A: It is difficult to say at the present time to what degree artificial gravity will be necessary on orbital stations. To answer this question it will be necessary to solve a number of problems and to conduct corresponding experiments including experiments in orbital flight.

Q: Can the irregularity in the work of the heart of the cosmonauts have an effect on further plans of conquest of space?

A: I have to say that the question is put incorrectly. There was no "irregularity" in the work of the hearts of the cosmonauts. In general, the results of the Soyuz-9 flight do not provide any basis for altering plans for future flights.

The following questions were answered by A. G. Nikolayev, one of the cosmonauts.

Q: In your report you noted that the Soyuz-9 flight completed an important stage in the investigation of space. Does this mean that there will be no more orbital flights around Earth?

A: We are only beginning to study space. Much is as yet unclear. For example, we have not yet fully studied the effects of space flight factors on the human organism.

Q: Can present space flight be considered *sensational?* sensations?

A: Today it is difficult to amaze people by space flights. The flight of the first Sputnik, the first manned space flight, and the first flight to the moon were sensations. In the future, flights to other planets may be considered sensations. However, people of the Earth are going into space in order to work, in order to study space, and for the welfare of all mankind.

Q: How long do you think your endurance record in space will last?

A: The record is not the point. Presently we are flying into space in order to work, in order to further our studies of space. We are going to continue to fly in space in order to know more about our planet and about space.

Q: How have living conditions in space changed since your first flight?

A: Living conditions on the Soyuz have improved many times over those of the Vostok. As you know, in those days cosmonauts flew in space suits, while today in the Soyuz cabins all necessary conditions are provided for living and working. During the entire flight of the Soyuz-9 the comfort level was high. The air was clean, and it was possible to maintain any temperature we desired. *LUCKY PEOPLE!*

Q: You spent eighteen days with Sevast'yanov in space, how was the psychological compatibility?

A: The compatibility was very good. We have known each other for a long time. We worked closely together. The difference in our characters I think actually helped.

Q: Would it be possible to have color TV transmissions from the Soyuz-9?

A: We had black and white TV on the Soyuz-9, but if it were necessary color TV can be transmitted from space.

ballistic

Q: You are the only cosmonaut who has experienced both ballistic and aerodynamic re-entry. Could you compare these two variants?

A: There is a great deal of difference between the two. On the Vostok during ballistic re-entry the ^{acceleration} ~~excitation~~ stress reached 8-10 G. The entire manner of entry was different. One could clearly see how the heat shield of the spacecraft "burned". During the re-entry of the Soyuz-9 this did not take place. During controlled aerodynamic descent on the Soyuz-9 re-entry stress did not exceed 3-4 G. During re-entry it was possible to observe through the windows. We continued reporting during re-entry down to the actual point of touchdown.

The next group of questions was answered by the flight engineer, V.I. Sevast'yanov.

Q: What are the capabilities of life support systems on the Soyuz-9?
How much longer could you have extended your flight?

When will spacecraft be equipped with life support systems having a duration of five to ten months?

A: According to the program the flight was suppose to have lasted eighteen days. We could have flown longer. It is difficult to state when life support systems calculated for five to ten months will become available. However, such systems are being developed.

[The rest of the questions directed to Sevast'yanov were trivial in nature and will not be translated here.]

The last group of questions were answered by M. V. Keldysh, President of the USSR Academy of Sciences.

Q: Dr. Paine, (the Administrator of NASA) made a proposal to the effect that the space programs of the U.S.A. and the Soviet Union should make provisions for standardizing mechanisms of docking of spacecraft for the purpose of rescue work in space. What does the Soviet side have to say concerning this proposal?

A: So far we have not received any such proposal from Dr. Paine. If we should receive such a proposal we will regard this with maximum attention. But obviously this question requires technical processing.

Q: What are the next steps in the Soviet space program and when will they be undertaken?

A: We have repeatedly stated in the press and during the press conference that the main objective during the immediate year^S ahead is the creation of an orbital station and investigation of near-Earth space and also of the solar system with the use of automatic equipment. In addition, we are going to use space flight for purposes of national economy: for communications, for meteorology, for navigation, etc.

Q: When can we expect the permanent space station to be created?

→ A: I think in the nearest years.

Q: Can the maximum duration that man can stay in space be determined on the basis of the Soyuz-⁹ experience?

A: I feel that further investigations are necessary. However, the Soyuz-9 experience has indicated that this time can be considerably^e.

Q: Has the Soviet Union at the present time decided not to send a man to the moon?

A: We never announced such an objective in our program. In the nearest future, as I have already said several times, we are not planning to have manned flights to the moon. Our program is going to be such as I have just above described.

Q: What are the achievements of the Soyuz-9 flight?

A: First of all it is the solution of certain biomedical problems, secondly it is the obtaining of data from scientific experiments necessary for national economy (geological, meteorological, and others). We feel that the flight of the Soyuz-9 represents a further substantial step toward the creation of long-term orbital stations.

Q: The Soyuz-9 was launched at night, in contrast with earlier launches which were carried out in the morning. What determined this?

A: This was done so that the landing of the spacecraft could be carried out during the day at a convenient time. This stemmed from the fact that the flight was planned for eighteen days.

Q: Will the configuration of the orbital space station consist of several Soyuz spacecraft or something else?

A: In the creation of the long-term orbital station all of the work performed by the Soyuz spacecraft will be utilized.

Q: On the basis of the experience of the Soyuz-9 flight, how long will cosmonauts be able to stay on the orbital station without returning to Earth?

A: At the moment it is difficult to indicate the maximum time, however, it appears to be on the order of a month. This time is quite sufficient in order to create an orbital station, since its creation will involve docking and exchange of crews.

As far as the physiological limits of man's stay in space are concerned it is presently difficult to say. At the same time, the answer to this question has great significance for interplanetary flights. For example, a flight to Mars will require many months and during this flight it will not be possible to exchange crews. However, if artificial gravity is created on the spacecraft, and this is possible, then the time that man can stay in space is practically unlimited.

Q: After how many years do you anticipate that it will be possible to use orbital stations as launching platforms for interplanetary flights?

A: It should be stated that the problem of interplanetary flights by man lasting several months is still very difficult. I doubt whether it can be accomplished within this decade.

Q: What is the outlook concerning Soviet-American cooperation in creating and using orbital stations?

A: I have already stated that proposals for cooperation, and in particular the standardization of docking units, will be treated by us with maximum attention.