



Carmichael replied that a copy of the final draft had been received recently and was being evaluated by the European bodies concerned, but no statement could be made until this had been done. Mr Marten further wanted to know whether the Government agreed with the proposal for a 500kg communication satellite, to be launched by a Europa 3 vehicle. Mr Carmichael answered that Britain had declared its willingness in principle to participate in the programme, but until the final report had been studied, no decision could be taken, except in principle.

#### MOON ROCK FOR No 10

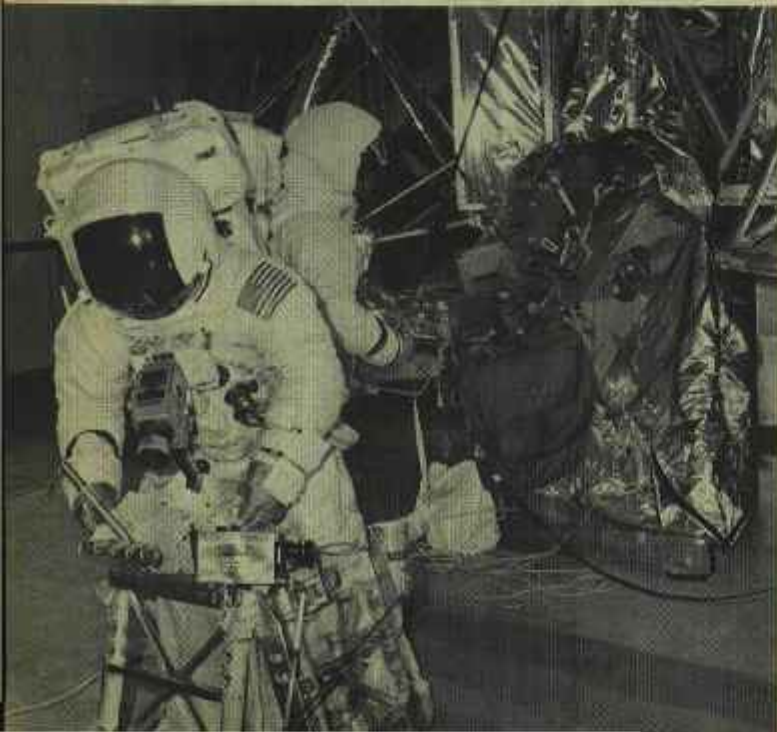
A sample of Moon-rock returned from Apollo 11, the first Moon-landing, was presented to Prime Minister Mr Harold Wilson during his recent visit to Washington. This specimen has been on view at the Science Museum, London, since March 26, but will eventually be kept at No. 10 Downing Street, together with a small Union Jack which was taken to the Moon and back. The fragments are contained within a plastic dome about 1in in diameter.

A plaque attached to the gift bears the following inscription: "Presented to the people of the United Kingdom by Richard Nixon, President of the United States of America. This flag of your nation was carried to the Moon and back by Apollo 11, and these fragments of the Moon's surface were brought to Earth by the crew of that first manned lunar landing."

#### PLESETSK IDENTIFIED?

The existence of Russia's northern launch site at Plesetsk (*Flight*, April 21, 1966, page 760, and November 10, 1966, page 817) has never been acknowledged by the Soviet Union. Joint Franco-Soviet research into the Earth's magnetic field has been

*Apollo 13 astronauts James Lovell and Fred Haise prepare a tool carrier to be used on the third manned lunar landing. The coll signs for the mission will be "Aquarius" (the lunar module) and "Odyssey" (the command and service module). The name of the latter was originally "Auriga"*



made simultaneously from the French island of Kerguelen in the Indian Ocean (69°E 49°S) and from "Sogra" in the Archangel region (*Soviet News*, November 5, 1968), or simply "The Archangel region" (*Soviet News*, December 9, 1969), *alias* again "The Soviet Far North Settlement near Archangel" (*Soviet News*, March 10, 1970).

A careful search of a number of atlases and gazetteers has failed to reveal the location or existence of Sogra, but since these two locations are geometric conjugates (at opposite ends of one of the Earth's lines of magnetic force) it has been established that the conjugate of Kerguelen is at 42°E 62°N, with an uncertainty of one or two degrees in longitude. This bears a strong correspondence to the locations currently accepted for Plesetsk, i.e. 41°E 63°N. Even if Sogra and Plesetsk are not one and the same place, it seems certain that the latter's facilities are being used for communication and data retrieval.

Another, even more recent, name has been published for the Russian station, in *Soviet Weekly* for March 28, 1970. In a caption to a photograph of a balloon launch at Kerguelen, it is referred to as "Karpogor, near Archangel." This is located at 44°E 66°N, some 260km north-east of Plesetsk.

#### MANNED RUSSIAN MOONFLIGHT THIS YEAR?

A manned Soviet flight around the Moon may take place this year, according to Dr John S. Foster, Director of Research in the Department of Defence, addressing the Senate Space Committee on March 18. Contrary to Soviet announcements of disinterest in putting a man on the Moon, Dr Foster claimed that the Russian test programme indicated that they were moving in that direction. The successes of Zonds 5, 6 and 7 in their flights around the Moon indicated that "a manned circumlunar mission is possible in 1970." He noted that Luna 15 successfully orbited the Moon last July (during the Apollo 11 flight) finally crashing into it "probably during a soft-landing attempt." He concluded: "This testing is probably the start of a series towards establishing a lunar station and, ultimately, manned landing."

#### THIRD METEOR LAUNCH

Russia's third launch in her operational weather-satellite system took place on March 17, when Meteor 3 was placed in a 399-by 345-mile orbit, inclined at 81.2°, and having a period of 96.4min. These elements are generally similar (the inclinations identical) to those of Meteor 1, launched on March 26 last year, and Meteor 2, flown on October 6. Meteor 3 was launched 162 days after Meteor 2, and 356 days after Meteor 1; launches have therefore occurred at approximately six-monthly intervals.

On March 17, the Meteor 3 launch date, Meteor 1 and Meteor 2 crossed the equator nearly simultaneously, but with a separation of about 120° in longitude. In view of this it may be speculated that the new satellite is a replacement for Meteor 1. The picture quality of early Cosmos satellites used to develop the Meteor system degraded towards the end of their useful life, well within a year of their launch.

#### APOLLO 15 CREW NAMED

On March 26 NASA named the astronauts who will comprise the flight and back-up crews to take part in the Apollo 15 lunar landing mission. The prime crew for the flight will be David R. Scott, 37, commander; Alfred M. Worden, also 37, command module pilot; and James E. Irwin, 40, lunar module pilot. All were back-up astronauts for Apollo 12.

The back-up flight crew for Apollo 15 will be Richard F. Gordon, 40; Vance D. Brand, 38; and Harrison S. Schmitt, 34. Schmitt, who holds a doctorate in geology, is the first scientist-astronaut to be chosen for a flight crew and it is likely that he will be selected as a prime astronaut on Apollo 17 or 18. Since he is the only professional geologist who is currently qualified to fly on these lunar landing missions, the choice of the site will be an important factor in determining which mission he will fly.

Apollo 15 will be launched some six months after Apollo 14. The launch date and the site for the lunar landing will not be finalised until a detailed evaluation of the Apollo 13 and possibly Apollo 14 flights have been made.