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DIRECTORATE OF
INTELLIGENCE

WEEKLY REVIEW



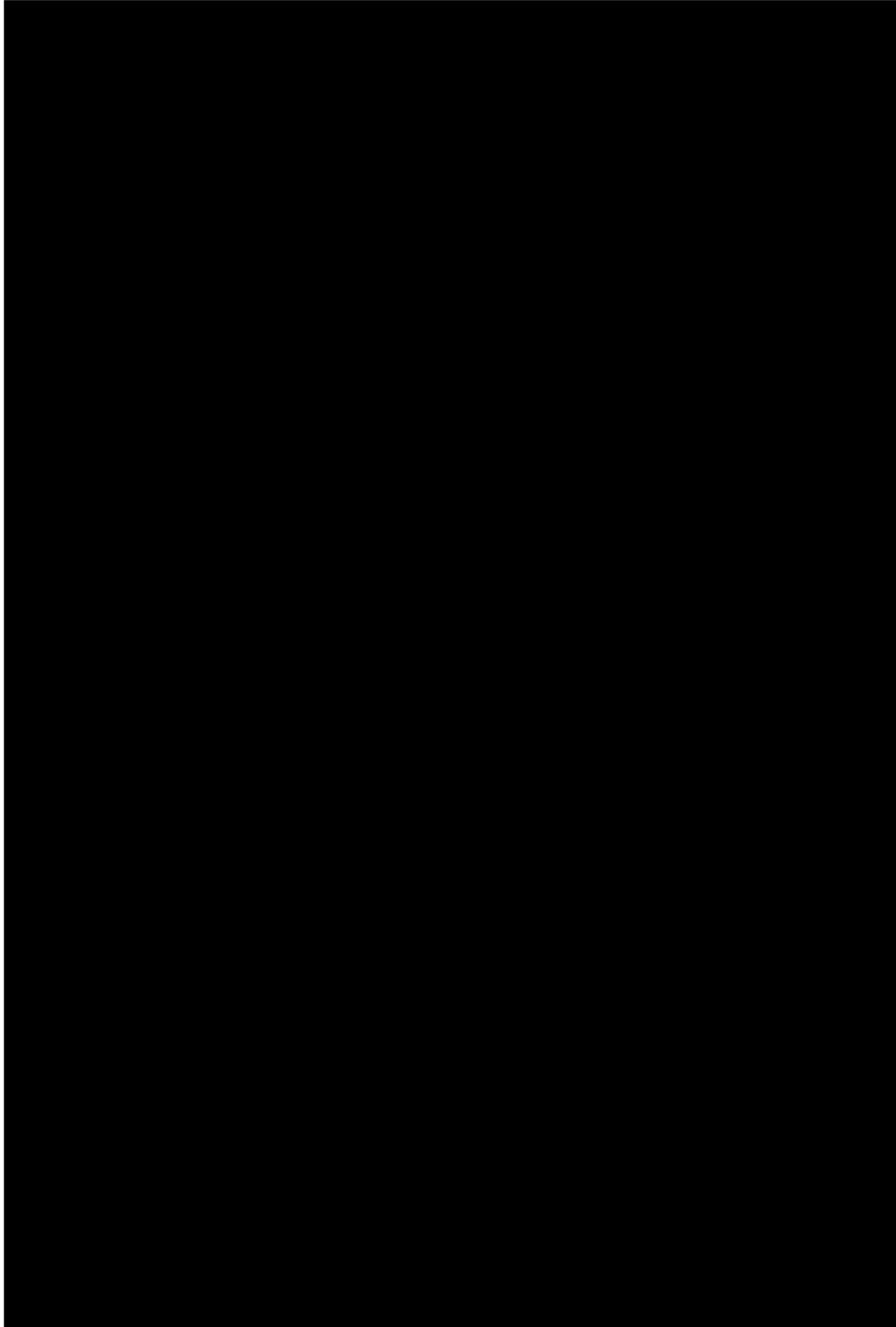
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30 December 1966

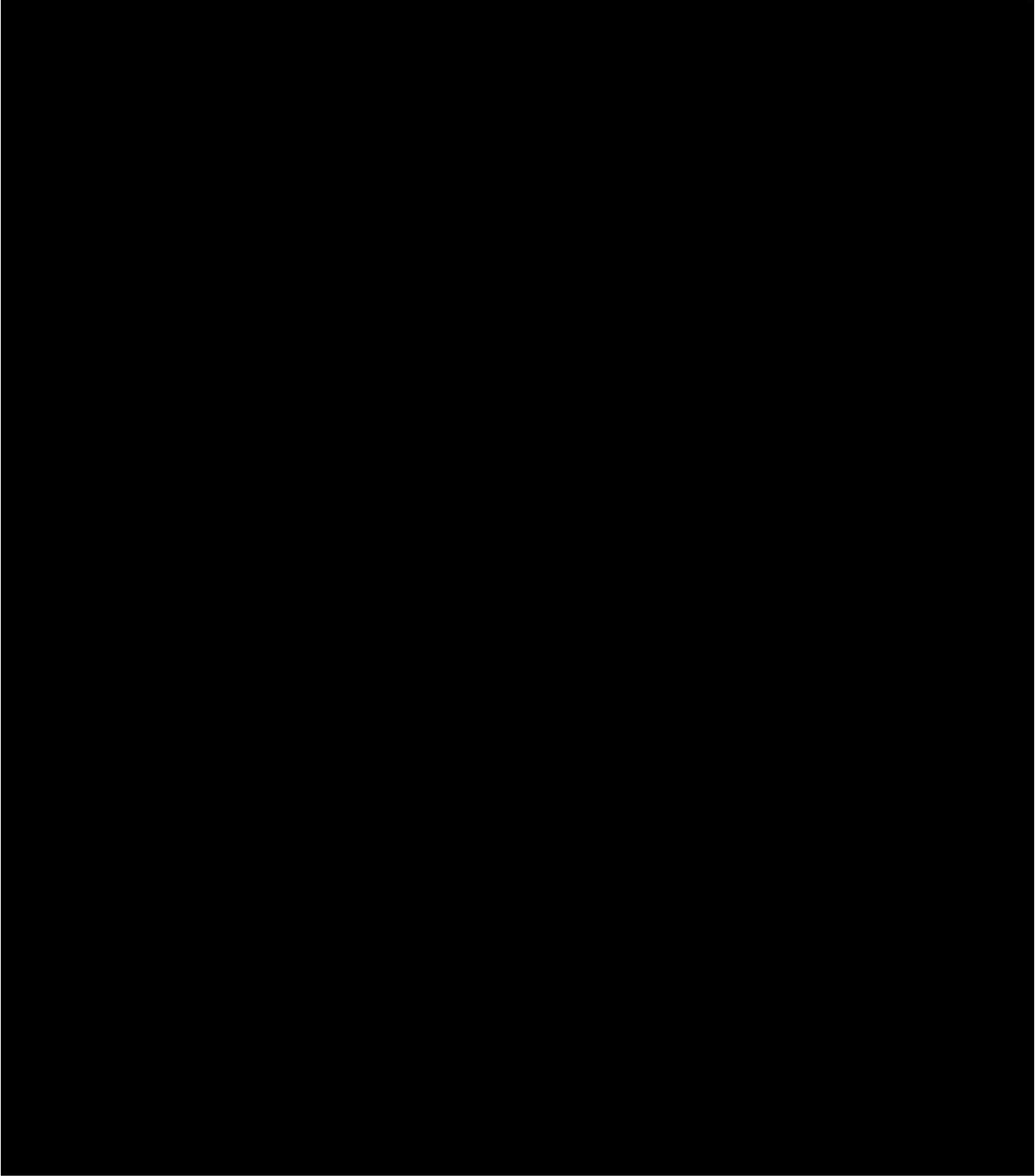


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Europe

THE WEEK IN PERSPECTIVE

9

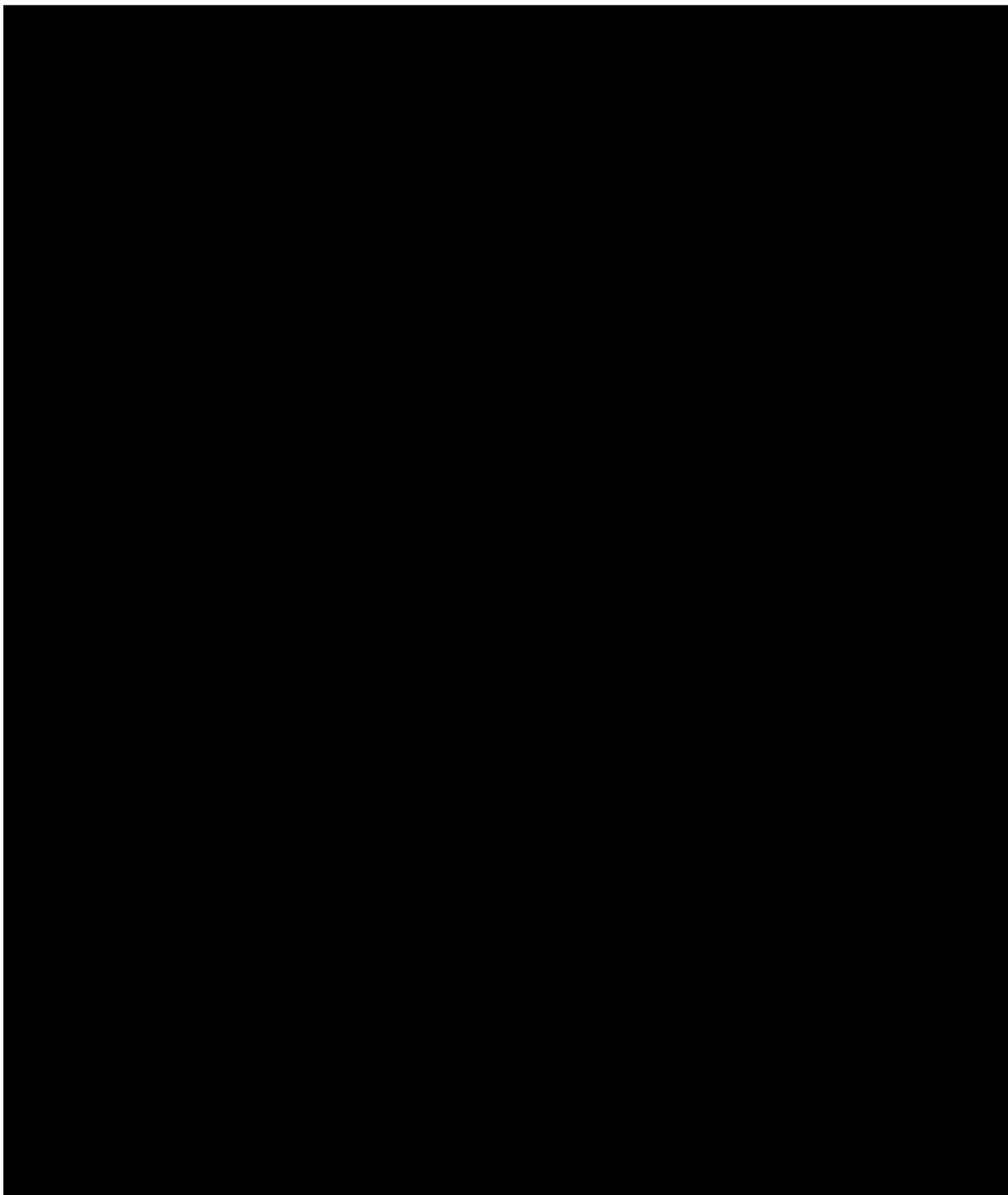
LUNA 13 CAPS SUCCESSFUL YEAR OF SOVIET LUNAR EXPLORATION

11

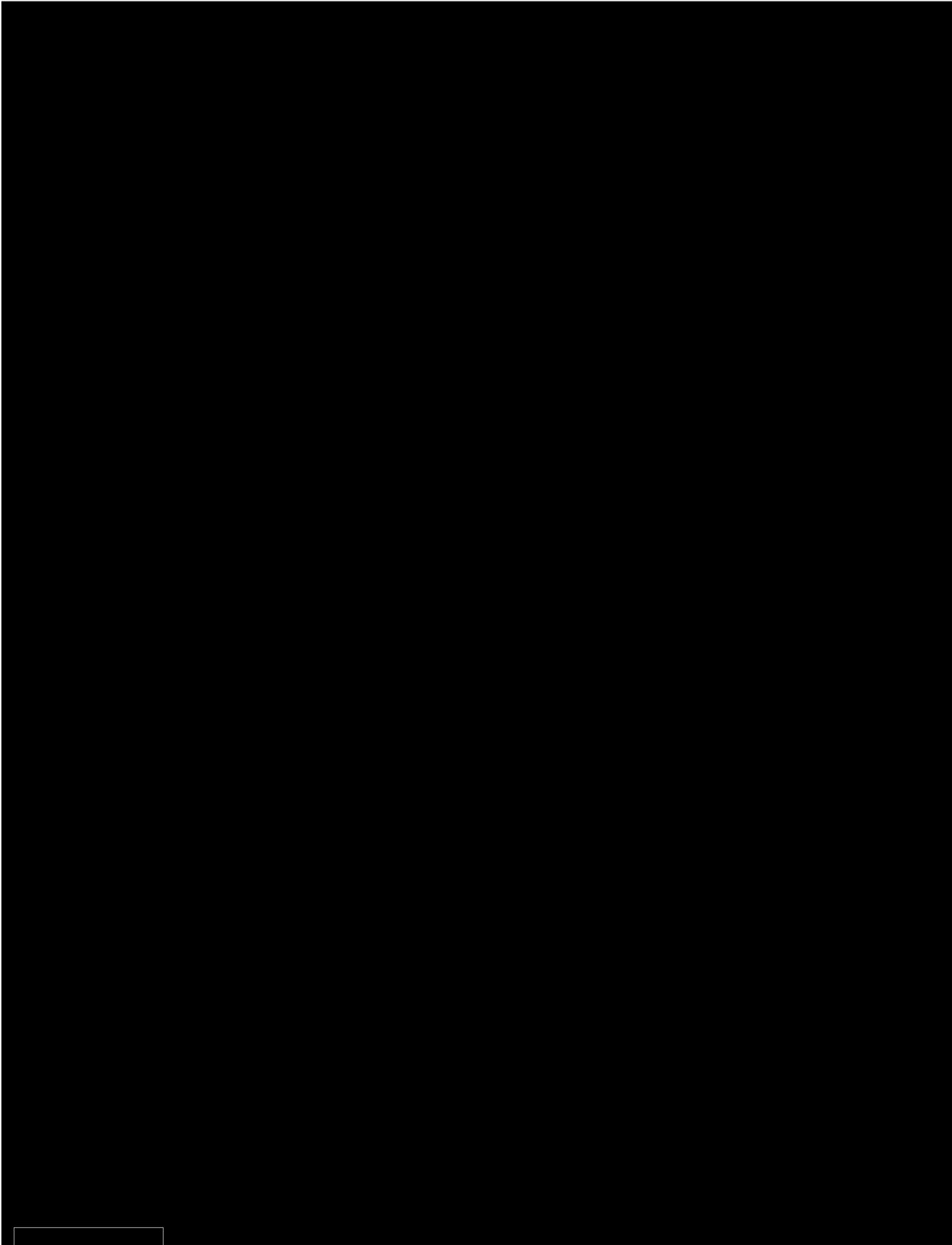
In the fifth successful Soviet lunar operation of the year, Luna 13 is sending back pictures and soil data.



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LUNA 13 CAPS SUCCESSFUL YEAR OF SOVIET LUNAR EXPLORATION

The Soviets ended a year of successes in lunar exploration on 24 December by soft landing Luna 13, which is sending back pictures and soil data from the moon's surface.

Luna 13 was the fifth successful Soviet lunar operation of 1966 and the second to make a soft landing. A sixth lunar attempt --Cosmos 111--failed to leave the earth's orbit.

Lunas 9 and 13 both landed in the Sea of Storms, as did the US Surveyor I. The two Soviet capsules were similar and both took pictures of surface details, but Luna 13 added two soil-analysis experiments--one for hardness and another for density. The data obtained by this method, while valuable, does not directly measure landing conditions as did the US Surveyor I. The US vehicle not only tested soil texture and firmness by taking a picture of its landing leg resting on the surface, but also simulated the conditions of an Apollo landing.

Soviet statements have indicated that the lunar landing missions are intended to compile a map of the Sea of Storms. However, this would be a long and difficult task because of the limited horizon of the camera, which sits atop a two-foot sphere.

The landing technique used for Lunas 9 and 13 is simple. The carrier vehicle is slowed by retro-rockets as it nears the moon, and the instrument sphere is ejected just before impact. The landing is too hard for manned missions but does not damage rugged instruments. The system could probably be adapted to land apparatus on Mars or Venus.

The other three Soviet lunar operations in 1966--Lunas 10, 11, and 12--orbited the moon. Only one, Luna 12, succeeded in taking pictures, and these were of poor quality. Major improvements will be necessary to obtain the pictures needed to make large-scale maps for cosmonaut landings. However, the orbiters did collect unique data on the moon's radiation environment.

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