

# WHY? WHAT? HOW?

## Answers To Your Questions On The Russian Moon

**T**HE man in the street is still at a loss over many questions concerning the Russian satellite.

Here are some of them—and the answers.

**W**HY does the satellite appear lit up like the moon or a star?

It's not artificially illuminated as some people think. It's made of bright metal alloy and, being in constant view of the sun, it merely reflects solar light.

**I**S the satellite now photographing Western defences?

If photographs are being taken, they would be of no intelligence use. They would just show a distant continental mass.

**W**HY didn't news of the launching leak out before the official announcement?

The Russians made elaborate precautions to keep the whole project secret. The area round the base—close to the sea—was closed to shipping. Naval manoeuvres were given as the reason.

**H**OW has Russia got this tremendous lead over America?

No doubt because of the number of technical men she has been churning out. Russia is graduating 50,000 scientists and engineers a year, compared with America's 28,000. It means that for every million people of her population, Russia turns out 280 technical students a year, America 136 and Britain 57.

**H**OW far away are we from the real space age?

Not all that far. Red Army volunteers are being trained for work in space ships. Within two years an unmanned rocket could circle the moon and with TV cameras show what is on the "other side."

**W**HAT determines the time the satellite remains up there?

Its weight, how near it was to the earth initially and the speed at which it left the launching rocket.

**A**FTER the satellite reached its maximum height, how did it flatten out to circle the earth?

As the rocket carrying it neared the end of its journey, a device set it on a curved course to bring it parallel to the earth's surface. The satellite was then released in its orbit.

**W**HY didn't the satellite burn out on the way up?

It was shielded through the atmosphere by a protective cone that dropped away when the satellite was placed in its orbit.

**I**F a man was in the satellite, could he live?

Not on the present one. Its skin is too thin. Already it's believed to have been punctured by a meteorite. But assuming the skin was made thick enough, a man could possibly live if given a supply of air.

**H**OW much did it cost the Russians to build the satellite?

On a production line the moon would cost one million pounds. But over the five or six years the cost of developing it and its launching rocket and ancillary equipment must have been about £5000 million.

**I**S it cold up there?

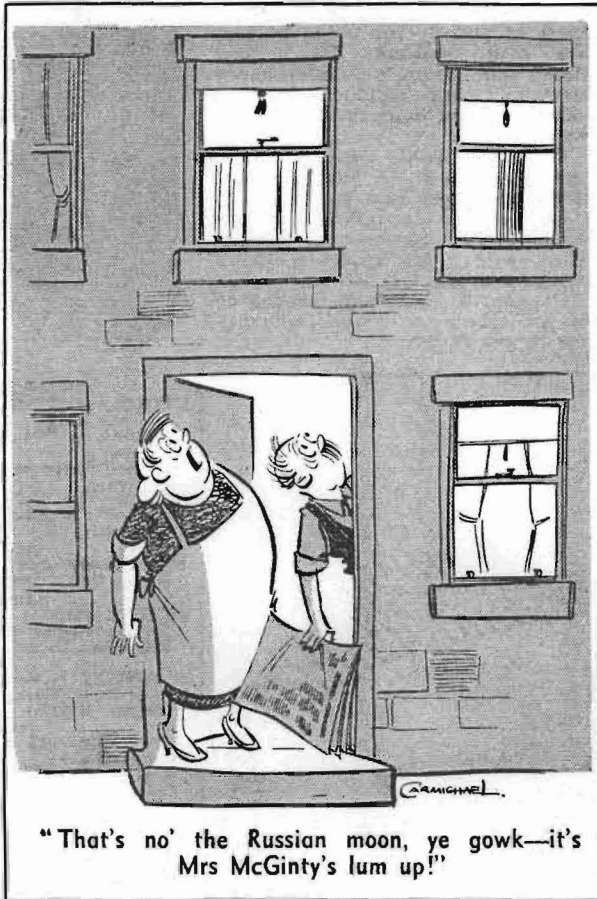
In space, there is no atmospheric blanket to hold and transmit heat and cold. In effect, one side of the satellite will be hot from direct radiation from the sun, while the other side will be freezing.

**W**HY doesn't the satellite fly off into space?

The Russians have successfully balanced two forces—that of the speed of the satellite and the pull of the earth. It's similar to a boy twirling a rubber ball attached to a string above his head. The ball (satellite) as it flashes round, is held on its circular course by the string (gravity).

**I**S the satellite powered like a rocket?

No. It has no power. The rocket shot it off at 18,000 m.p.h. and it still has that speed.



**W**HAT'S keeping it revolving?

The initial speed of 18,000 m.p.h. As there's very little air resistance, speed hasn't been reduced.

**C**OULD it stay put, say, above Glasgow?

No. If it "stayed put" by losing speed, it would fall straight to earth.

**W**ILL Britain make a satellite?

Not likely. Even if the Russians help with their knowledge it would cost us £500 million.

**W**HEN will Russia launch her next satellite?

It's ready to go. With their love of showmanship the Russians may launch it on the eve of November 7—fortieth anniversary of the Revolution.

**W**HAT is next development? Is it to control the descent of a satellite?

The Russians would like to get a satellite back to earth, intact. Some means would have to be found to control the descent through the atmosphere. This is comparatively easy. Air brakes or metal parachutes that would automatically operate on the satellite hitting the earth's atmosphere could be fitted to future satellites.

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**I**S it dark up there at 560 miles?  
Yes. There are no dust particles to reflect light.

**W**HAT distance is satellite traveling each circuit?  
28,660 miles.

**I**F distance round the earth is 25,000 miles, what are the distances at 1000 miles up, 500, 260, 100 and 50 miles up?

1000 miles up equals 31,420 miles round.

500 miles up equals 28,280 miles round.

260 miles up equals 27,777 miles round.

100 miles up equals 25,770 miles round.

50 miles up equals 25,457 miles round.

**I**s atomic power effective out in space?

Yes. Any driving force that doesn't need air to work on is effective.

**W**HAT'S the purpose of the "bleep" signals?

If the bleeps are anything more than a signal to enable the path and orbit of the satellite to be plotted, they would merely reveal changes in conditions in the void—such as speed of the satellite and density of the cosmic rays.

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