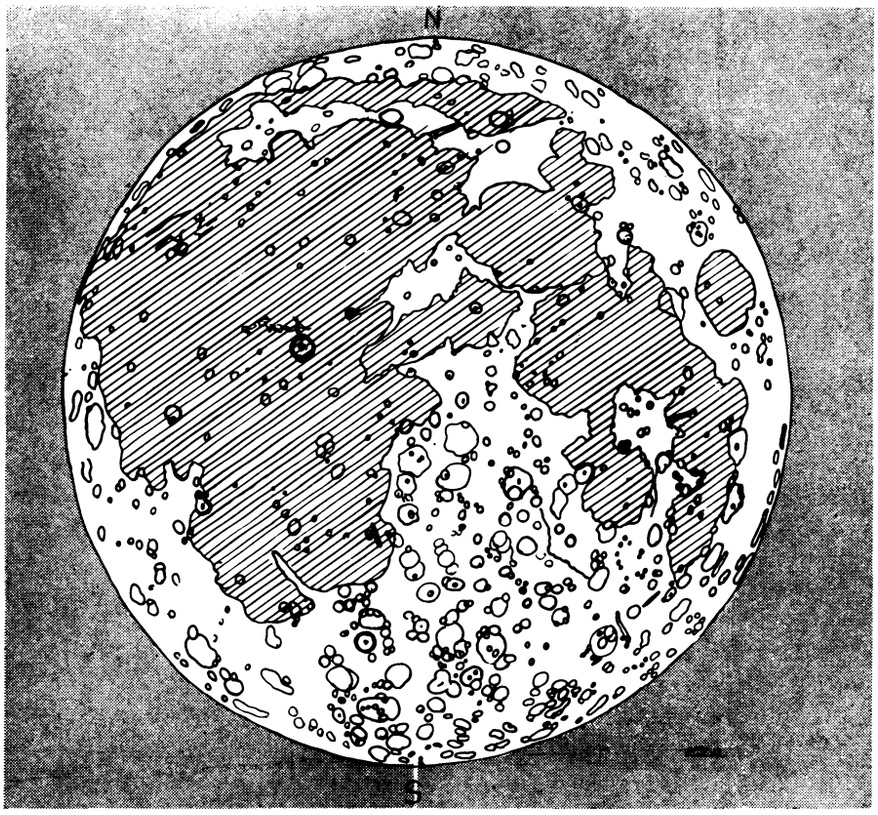

MOON'S SURFACE—With a good pair of field glasses or a small telescope, many of the interesting features of the surface of the moon are revealed. This view shows the South pole and the crater Tycho at the bottom in contrast to the telescopic view of the moon shown on the cover.

the moon as actually seen through a small telescope was also studied so that the maps would be useful to those with little or no equipment.

Map Is Turned

The map is turned to show the moon as it is seen with the naked eye or through field glasses. A telescope will magnify the features of the moon but turn them upside down. North will appear in the position now occupied by south and the sides likewise will be interchanged.

Month after month, as we look at the moon, which shines only in the reflected light of the sun, we see about the same features. The moon revolves about the earth once every 29.531 days on the average, and this is the interval from full moon to full moon, or between two new moons.

When a thin crescent moon is visible in the skies, the remainder of the disk can be seen faintly illuminated by earthshine, sunlight reflected by the earth to the moon.

Just One Revolution

The moon makes just one revolution on its axis during the journey around the earth, thus the same portion always faces us. But frequently it is slightly out of its average position and we are able to peek into the little-known regions, seeing first a little farther around one side and then an extra portion around the other side.

By repeated observations with the telescope and studying photographs taken at different times, astronomers have become familiar with almost 60% of the moon's surface.

Science News Letter, November 16, 1957

TECHNOLOGY

Sound Waves Improve Chromium Plating

➤ BRIGHT CHROMIUM plating is improved by passing sound waves through the plating solution, the Electrochemical Society meeting in Buffalo, N. Y., was told.

Joseph S. Dereska of National Carbon Company Research Laboratories, Parma, Ohio, reported that sound waves make the chrome plate harder, stick better to the base metal, increase brightness and make the plated surface less porous. The effects were only slight, but described as definitely beneficial.

Waves of 10 kilocycles per second, sonic, and 260 Kc. per second, ultrasonic, produced essentially the same effect.

Mr. Dereska believes the sound wave vibrations have the effect of agitating, or stirring, the plating solution at the surface to be plated.

Science News Letter, November 16, 1957

GEOPHYSICS

Sputnik I Rocket Visible In Early December

➤ NEARLY EVERYONE on the face of the earth should be able to see the first Russian satellite rocket in early December.

The rocket's orbit will lie in the twilight band of the earth during these days and will be "highly visible" between Dec. 1 and 3, Dr. Karl S. Henice, senior astronomer at the Smithsonian Astrophysical Observatory, Cambridge, Mass., reported.

It will be visible over New England and many other areas on the evening of Dec. 1.

"It will be glowing much brighter," he said, "because it will be much closer to the earth."

Dr. Henice said that everyone from southern Canada to Argentina and from Great Britain to South Africa should be able to see the rocket in either morning or evening passing. The rocket will be circling the earth every 93 minutes then, traveling north to south in the evening and south to north in the morning.

The rocket will not be easily visible in November and ships at sea have been requested to make observations of the first sputnik and its rocket.

Both the Naval Research Laboratory in Washington and the Smithsonian Astrophysical Observatory in Cambridge, Mass., as well as the Russians, are computing orbits for the second Soviet satellite. Officials expected to have enough accurate sightings to compute the satellite's position more than a few days in the future by mid-November.

Science News Letter, November 16, 1957

EDUCATION

Reds Better Schooled In Math and Science

➤ LITTLE IVAN, when he enters a Russian university, has five times more science and mathematics than the minimum needed to enter a school like Massachusetts Institute of Technology.

Sputnik is a direct result of Soviet Russia's stressing the tough, hard subjects of mathematics and sciences.

Because of this intensive training, the Russians have a tremendous pool of well-trained secondary students from which it is easy to select future scientists.

Dr. Nicholas DeWitt of the Russian Research Center, Harvard University, Cambridge, Mass., told a conference on Engineering and Scientific Education—Foundation of National Strength meeting in Chicago that Red schools teach in 10 years what we take 12 years to do.

With the American public aroused by sputnik, however, educators should be able to "sell" the necessity for a tougher curriculum and better training at all levels of education for U.S. high school students.

For 30 years Russia has been educating boys and girls in mathematics and science, subjects American students are so willing to shun. Now Mr. and Mrs. Average American may be awakened to the methods and achievements of Russian education.

Science News Letter, November 16, 1957