

ASTRONOMY

Mars Still Shines Brightly

Mars is rapidly drawing away from earth but is still easy to identify by its red color and its brightness, greater than any visible star except Sirius, James Stokley reports.

▶ **ALTHOUGH MARS** is rapidly moving away and getting fainter as it does so, the planet remains a conspicuous feature of the March evening skies.

Its position, at the middle of the month, is shown on the accompanying maps. These give the appearance of the skies about 10 p.m., your own kind of standard time, at the first of March; an hour earlier at the mid-month and two hours earlier at the end. Mars is high in the south, in the constellation of Cancer, the crab.

Mars Easy to Identify

Two features make Mars easy to identify. First is its brightness, greater than any visible star except Sirius, which is lower and to the right in Canis Major, the great dog. Also, Mars is distinctly red in color. And it shines with a steady light, unlike the twinkling stars.

On Feb. 2, Mars made its closest approach to earth, for this visit; then it was 62,280,000 miles away. Now it is rapidly receding: to 69 million miles on March 1, and 89 million miles on the 31st. Because of this it is rapidly dimming. At the end of March it will be about half as bright as at the beginning of the month.

While the constellation of Cancer is one of the least conspicuous of the 12 constellations of the zodiac—the path of the planets—two prominent groups attend it on either side. To the right is Gemini, the twins, with the stars Castor and Pollux. To the left is Leo, the lion, with the sub-group called the sickle. First magnitude Regulus is at the end of the sickle's handle.

Below Gemini stands Orion, the most brilliant of all the constellations. Three stars in a row depict the belt of this celestial warrior, as he was shown on the old star maps. Above the belt is Betelgeuse and below is Rigel. Both are bright stars—of the first magnitude.

Taurus, the bull, is to the right of Orion, with brilliant Aldebaran. To the left, a little lower, is Sirius, in Canis Major, and above this is Procyon, in Canis Minor, the little dog.

In the northwest, to the right of Taurus and somewhat higher, is Auriga, the charioteer, with Capella. Two other first magnitude stars are also shown on the maps. Low in the northeast is Boötes, the herdsman, with Arcturus. And in the southeast, below Leo, is Virgo, the virgin. In it is Spica, close to the horizon, where atmospheric absorption of its light makes it look much

fainter than it will a few months from now when it will be high in the southern evening sky.

Mercury and Jupiter, during March, are too close to the sun's direction to be visible, but Venus rises about two hours ahead of the sun and shines brightly in the southeast. So does Saturn, but as Venus is some 65 times as bright, it is easy to identify them. Venus passes directly north of Saturn on March 20. And on the 22nd the moon passes them also. These three objects, so close together, will form an interesting spectacle in the early morning sky.

Mars "Canals" Controversy

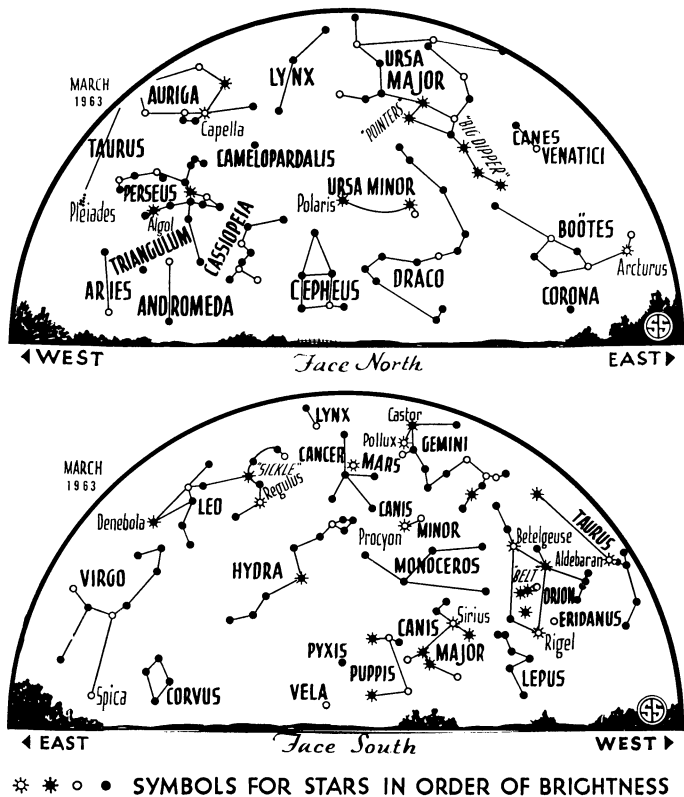
Of all the planets in the sky, the one that has attracted most popular interest is undoubtedly Mars. And this is largely due to the controversial features observed on its surface called "canals." These were discovered in 1877 by an Italian astronomer, Giovanni Schiaparelli (uncle of the famous dress designer). He saw what were apparently straight markings across the planet, and he called them "canali." Although this really means "channels," the word was translated as "canals."

This suggested that they had an artificial origin, and around 1900 the American astronomer, Percival Lowell, announced his theory that they really were canals, built by intelligent beings to carry water from the frozen polar caps to irrigate the arid areas. But few other astronomers were able to see the canals. And even those who could see them, when the observing conditions were at their finest, might find that they broke up into a mass of smaller details.

In fact, it was suggested that the canals were entirely illusory. Minor details randomly distributed, it was said, will appear as a network of straight lines when you cannot see them clearly. And some experiments supported this view. Perhaps some of the canals can be explained in this way—but not all of them, in the opinion of today's Martian experts.

Through large telescopes on the surface of the earth and under the most favorable conditions, we cannot see Mars any better than we can see the moon through a pair of binoculars. But even so, a great deal of information has been assembled about this mysterious planet. Using the best available photographs, from observatories in many parts of the world, astronomers at Harvard University and the University of Texas are working on the Mars Map Project. They expect that by the time astronauts make the first mission to Mars they will have a map that is far more accurate than any now available.

As we launch satellite observatories, operating above the atmosphere that seriously limits earth-bound astronomers, even on mountain tops, we may obtain better views of Mars. And doubtless new information will be obtained by space probes flying past



Mars—as the Mariner flew by Venus last December.

Already such a Soviet Martian probe is on its way; if all goes well it will report back within a few months. Perhaps within a year the U. S. Mariner B will be launched toward the red planet—and it will give us by television some brief close-up glimpses of the Martian surface.

• Science News Letter, 83:122 February 23, 1963

Celestial Time Table for March

March EST	
1	11:00 p.m. Pluto nearest earth, distance 2,985,000,000 miles
2	12:18 p.m. Moon in first quarter
6	1:01 a.m. Algol (variable star in Perseus) at minimum
	5:00 p.m. Moon passes Mars
8	9:51 p.m. Algol at minimum
10	2:49 a.m. Full moon
13	3:00 p.m. Moon farthest, distance 252,200 miles
16	5:00 p.m. Jupiter behind sun
18	7:08 a.m. Moon in last quarter
20	6:00 p.m. Venus passes Saturn
21	3:20 a.m. Sun over equator, spring begins in Northern Hemisphere
22	5:00 a.m. Moon passes Saturn
	8:00 a.m. Moon passes Venus
25	7:10 a.m. New moon
26	2:47 a.m. Algol at minimum
	3:00 a.m. Moon nearest, distance 222,600 miles
28	11:36 p.m. Algol at minimum
31	10:15 p.m. Moon in first quarter.

Subtract one hour for CST, two hours for MST, and three hours for PST.

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ASTRONOMY

Exploding Star Visible In Early Morning Sky

► AN EXPLODING STAR, a nova that has suddenly blazed forth with tens of thousands of times its normal brightness, can be seen by the naked eye in the early morning sky.

The fourth magnitude nova is low in the northwest in the constellation of Lyra, the lyre, not far from the bright star, Vega, which outshines it. It was discovered independently on Feb. 6 by the Swedish astronomer Dahlgren and on Feb. 7 by Leslie C. Peltier of Delphos, Ohio, an amateur astronomer who has spotted many comets.

The new star is the first nova of this brightness since 1960. However, in the past, eight of the recorded novas have brightened to first magnitude or higher. An unaided eye can detect stars of sixth magnitude on a clear night away from city lights.

It is not yet known whether the new star is brightening or fading but all nova eventually return to their original faintness, although some takes years to do so. This return suggests that the effect of the explosions on the stars is only superficial.

News of the nova's discovery was sent to Western Hemisphere astronomers by Harvard College Observatory at Cambridge, Mass.

The nova's astronomical coordinates are right ascension 18 hours, 13 minutes; declination 41 degrees, 50 minutes. This is quite close to where a bright nova appeared in Hercules in 1934.

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GET READY FOR THE SPACE and SCIENCE ERA! SEE SATELLITES, MOON ROCKETS CLOSE-UP

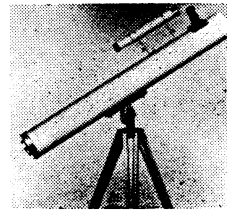
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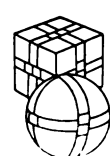
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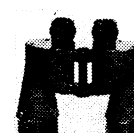
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