

ASTRONOMY

With March Comes Spring

The sun, creeping northwards, will reach its half-way point on March 21. Early in the evening, Virgo, the virgin, and Bootes, the bear driver, are seen in the east.

By JAMES STOKLEY

► TO THOSE of us who live in the northern hemisphere, March is always welcome because it marks the beginning of spring. Ever since December the sun has been creeping northwards among the stars and now it reaches the half-way point. Each year this position, called the vernal equinox, is reached at a slightly different time. In 1947 it comes on March 21, at 6:13 a.m., EST. Of course, as the sun moves to the north in this part of the world, it gets higher in the sky, but this puts it lower for the southern hemisphere. Hence, instead of marking the beginning of spring, March 21, in South America, Australia, South Africa, etc, is the beginning of autumn.

Like other times of year, the evening skies now have their characteristic aspect. Orion, Gemini, Taurus, Canis Major and Minor and the other constellations that were so prominent in the evening skies of winter, though still visible, are seen well to the west and set considerably earlier than they did in January. On the other hand, Virgo, the virgin, and Bootes, the bear driver, are seen in the east early in the evening. The big dipper, in Ursa Major, the great bear, is swinging high into the northeast.

Shown on Maps

These are all shown on the accompanying maps, which depict the heavens as at 10 p.m., your own standard time, about March 1 and an hour earlier at the middle of the month.

Still the brightest star shown is Sirius, the dog star, in Canis Major, in the south and slightly to the west. Higher and farther west is Orion, the warrior, with bright Betelgeuse and Rigel. Directly west is Taurus, the bull, with ruddy Aldebaran. Next to Taurus, to the right, is Auriga, the charioteer, with first magnitude Capella.

Above Orion we see the twins, Gemini, with Castor and Pollux. The latter is of the first magnitude, and the former a little fainter. Below Gemini is Canis Minor, the lesser dog, with Procyon.

In the southeast is Virgo, the virgin, with Spica near the horizon, and above it Leo, the lion, in which Regulus shines, at the end of the handle of a subgroup called the Sickle.

Cancer, the Crab

Between the sickle and Gemini is the constellation of Cancer, the crab, which is not ordinarily very conspicuous but is made so in March by the presence of the planet Saturn, brighter than any of the stars with the exception of Sirius. Saturn is almost in line with Castor and Pollux, which helps to identify it.

Low in the northeast Bootes, already mentioned, is seen, and it contains another star of the first magnitude, Arcturus by name. In the northwest is seen Perseus, the champion, in which can be found the famous variable star Algol, which fades in brilliance every two days, 21 hours, as a darker companion passes in front and partially eclipses it.

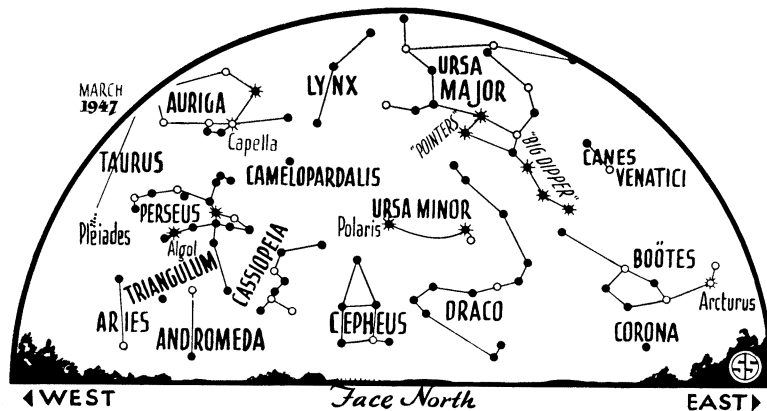
Another planet besides Saturn can be seen if we wait a little later in the night. Jupiter, in Libra, the scales, rises about midnight, and is even more brilliant than Sirius. Venus, still brighter, in Capricornus, the sea-goat, is visible low in the southeast at sunrise. Mercury and Mars are not to be seen this month, because they are so nearly in line with the sun.

Early in March, on the evening of the third, the constellation of Cancer, which

is now made prominent by the presence of the planet Saturn, will be even more so because the moon will also be in it. At 9:15 p.m., EST, on that evening, the moon passes to the south of the planet. It will be interesting to watch the part of the sky through which the moon moves. On March 6, it is full, and then will stand in the constellation of Virgo. Soon after this it disappears from the evening sky as it goes through the phase of last quarter, and back to new, which it reaches on the 22nd. Then it is so nearly in line with the sun that it cannot be seen, but a couple of days later, on the 24th, it will be seen as a narrow crescent low in the west. Then it will be in the constellation of Pisces, the fishes. On March 29 it reaches first quarter when it will be in Gemini. Early in the morning of March 31 it is back in Cancer, and passes Saturn again.

Six Constellations

Each month as the moon moves around the sky, ever changing in phase, it passes through the same constellations. Six of these are shown on our maps—they are Aries, the ram, Taurus, Gemini, Cancer, Leo and Virgo. It will be noticed that the only planet now visible, Saturn, is in one of these. They are constellations of the zodiac, the band through which the sun, moon and planets always move. Through the middle of this band runs the ecliptic, an imaginary line which represents the place where the plane of the earth's orbit would intersect the sky if it were an actual sphere, as it appears to be. The sun always is on this line, the moon and



planets are always close to it, and the zodiac is a band seven degrees either side.

Usually it is stated that there are 12 constellations in the zodiac. In addition to the six shown on the maps, there are Libra, the scales (in which Jupiter is seen when it rises about midnight); Scorpio, the scorpion; Sagittarius, the archer; Capricornus, the sea-goat; Aquarius, the water carrier and Pisces, the fishes. One way of remembering these is from a verse written by Dr. Isaac Watts, famous writer of hymns such as "Oh God, our help in ages past." He wrote a book on astronomy, first published in 1725, containing this rhyme, which is usually misquoted:

"The Ram, the Bull, the heavenly Twins,
And next the Crab, the Lion shines,
The Virgin, and the Scales.
The Scorpion, Archer, and Sea-Goat,
The Man that holds the Water-Pot,
And Fish with glittering tails."

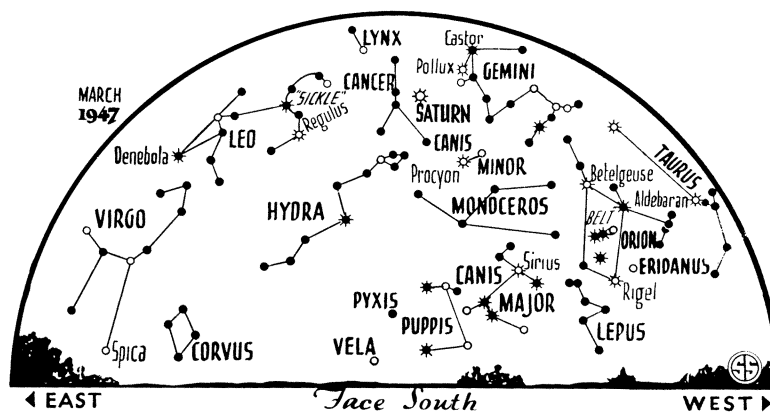
Actually, however, there are more than these 12 groups through which the moon and planets travel. For example, on March 14, when the moon is at last quarter, it will stand in the constellation of Ophiuchus, the serpent bearer. Not considered a zodiacal group, this figure really comprises more of that band than does the scorpion, which is next to it. Also parts of Cetus, the whale; Auriga, the charioteer; Orion; Sextans, the sextant and Corvus, the crow, come into the zodiac.

Celestial Time Table for March

| March. | EST | |
|--------|------------|---------------------------------------|
| 3 | 3:00 p.m. | Moon nearest, 227,800 miles |
| | 9:15 p.m. | Moon passes Saturn |
| 6 | 10:15 p.m. | Full moon |
| 8 | 5:00 p.m. | Mercury toward sun |
| 12 | 9:56 a.m. | Moon passes Jupiter |
| 14 | 1:28 p.m. | Moon in last quarter |
| 15 | 12:01 a.m. | Algol at minimum |
| | 12:00 noon | Moon farthest, 251,000 miles |
| 17 | 8:50 p.m. | Algol at minimum |
| 18 | 8:08 p.m. | Moon passes Venus |
| 20 | 5:39 p.m. | Algol at minimum |
| 21 | 6:13 a.m. | Sun crosses equator, Spring commences |
| 22 | 11:34 a.m. | New moon |
| 29 | 8:00 a.m. | Moon nearest, 230,000 miles |
| | 11:15 a.m. | Moon in first quarter |
| 30 | 7:00 p.m. | Neptune nearest, 2,721,000,000 miles |
| 31 | 2:16 a.m. | Moon passes Saturn |

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

Science News Letter, February 22, 1947



◄ EAST Face South WEST ►
* * ◦ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

AERONAUTICS

Plastic Radar Dome Has Fiber Glass Base

➤ A NEW PLASTIC substance with great impact resistance, stronger than any other yet made and lighter than aluminum, has been developed by the Cornell Aeronautical Laboratory to house radar and increase its efficiency in high-speed aircraft.

A radar dome made of this new fiber-glass reinforced plastic, developed by the laboratory's wood and plastic section under the direction of Norman E. Wahl, will be installed in the nose of an AT-126 plane around new radar equipment.

Mr. Wahl said the new plastic has special electrical properties which cut absorption of radar waves to only 3%, increasing radar efficiency in flight more than 10%. With earlier plastic radar domes as much as 18% of radar waves was lost.

This new and as yet unnamed plastic is 20% to 30% stronger than aluminum and is 4% lighter, Mr. Wahl said. It has 30 times the impact strength of other plastics and is slightly more resilient.

The new material, he explained, is a significant step in the development of a plastic suitable for aircraft construction. The biggest drawback now is its price but he believes it will be widely used to build both planes and automobiles when costs are lowered through mass production.

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America, which in early days was a tea-drinking nation, can now be said to be a coffee-drinking country; England, on the other hand, switched from coffee, and its famed coffee houses, to tea about three centuries ago.

INVENTION

Throttle Valve Keeps Car From Stalling on Red Light

➤ HAVE YOU EVER STALLED your car, on trying to start after waiting through a red light with your not-fully-warmed-up engine idling? If you have ever had this embarrassing experience (and who hasn't?) you will appreciate a new gadget invented by L. E. Perrine of Detroit, which he calls a thermostatic throttle stop.

The stop on your throttle, which lets just enough fuel through to idle a warm engine, isn't set right for a cold one. To remedy this, the inventor adds to the carburetor a cam-controlled throttle valve, the position of the cam being determined by the expansion or contraction of a heat-responsive bimetallic strip actuated by the heat of the engine. It is adjusted to let more fuel through when the engine has not had time to warm up properly.

Rights in the patent, No. 2,415,529, have been assigned to the General Motors Corporation.

Science News Letter, February 22, 1947

Oil from flaxseed, with melted amber added, was used by ancient Egyptians as a varnish.

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