

ASTRONOMY

Springtime Stars Appear

With the arrival of March, new groups of stars typical of the spring season appear in the east before the winter constellations are out of view, James Stokley reports.

► WITH THE COMING of March the evening skies reflect the impending arrival of spring. This occurs, in the Northern Hemisphere, on Tuesday, March 20, at 9:30 p.m. EST (8:30 CST; 7:30 MST and 6:30 PST). At that moment the sun, which has been moving northward in the sky since the beginning of winter, will be directly over the equator.

In the evening the familiar winter constellations are still on view, although descending toward the western horizon. New groups, typical of the spring season, are becoming prominent in the east.

These are shown on the accompanying maps, which depict the skies as they look about 10:00 p.m., your own kind of standard time, at the beginning of March; an hour earlier at the middle of the month; and two hours earlier as it comes to an end.

In addition, planets are returning to view. Earlier this year all of the five that are visible to the naked eye were so nearly in the same direction as the sun that they could not be seen very easily. But now Venus has moved to the east, so it remains in the western sky for a little while after sunset. By the end of March it will be more than an hour behind the sun; you will be able to see it as a brilliant star very low in the western sky as dusk is falling.

In Morning Sky

And, in the morning sky, Jupiter and Saturn are making their appearance low in the east before sunrise. At the first of March Saturn rises about an hour and a half ahead of the sun—and about two and a half hours ahead on March 31. It is equal to a first magnitude star in brightness. Jupiter, even more brilliant, comes up a little later—about an hour before the sun at the end of the month.

As for the stars of the March evening, Sirius, the dog star, is still the brightest. It shines in the southwest, in Canis Major, the big dog. Above it is Canis Minor, the little dog, with the bright star called Procyon. Still higher are the twins, Gemini, with Pollux as the brightest star.

To the right from Canis Major is Orion, the warrior, with two stars of the first magnitude. Betelgeuse is above and Rigel below. Between them is the row of three fainter stars that form Orion's belt. And farther to the right stands Taurus, the bull, with bright Aldebaran, a star that is noticeably red in color. Above this group is Auriga, the charioteer, in which Capella shines brightly.

These are constellations that were prominent on winter evenings; those of spring,

now coming into view, are visible in the east. High in the southeastern sky is Leo, the lion. Regulus is the bright star, at the bottom of a sub-group called the sickle. Below Leo is Virgo, the virgin, in which Spica stands. This is another star of the first magnitude, although it is so low that increased atmospheric absorption of its light makes it look much fainter.

Over most of the United States, and in Canada, the familiar "big dipper," which is part of Ursa Major, the great bear, never goes below the horizon. But in the autumn and early winter, it is very low in the north. Now it is high in the northeast, with the handle pointing downward and directed towards Bootes, the herdsman, with the bright star Arcturus. At the top of the dipper are the pointers—two stars whose direction, followed downward, indicates the position of Polaris, the pole star, always seen in about the same position in the north.

Low in the south, just to the left of Canis Major, the southern map shows the constellation of Puppis, with five stars, and Pyxis and Vela, each with one. Two of the stars in Puppis are of the second magnitude, and others are all considerably fainter.

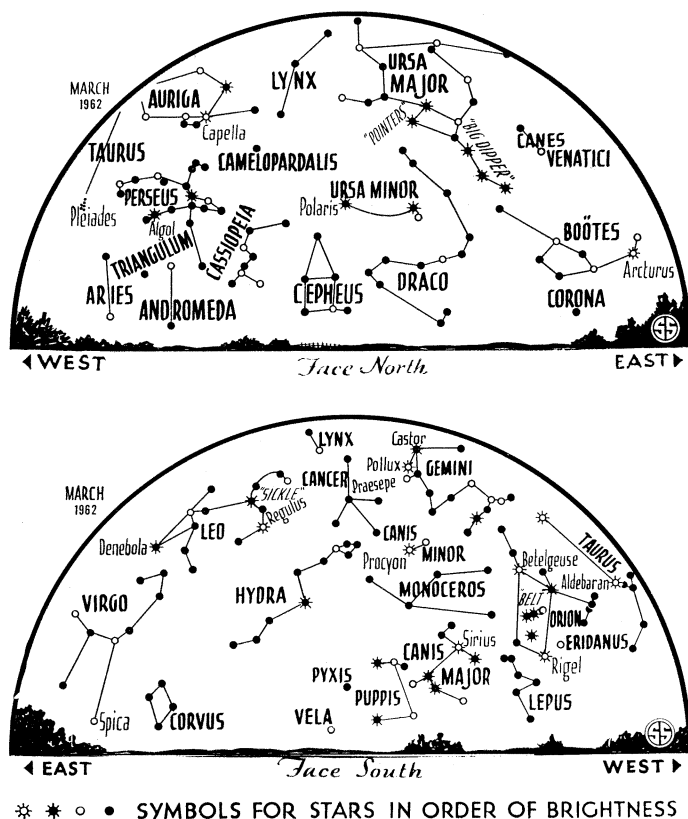
Part of this faintness, of course, is due to their low altitude.

These three constellations represent all that we can see, from most parts of the United States, of a very prominent group called Argo Navis, the ship Argo. According to mythological lore, this was the vessel that carried Jason and the argonauts on their quest of the golden fleece. The goddess, Pallas Athene, aided them by setting in its prow a piece of the speaking oak of Dodona, so that the Argo was "thus endowed with the power of warning and guiding the chieftains who form its crew."

Another Greek tradition said that it was the first ship to sail the ocean. An Egyptian story said that it was the ark that carried their gods Isis and Osiris over the deluge. The Hindus said that it performed similarly for their equivalent deities, Isi and Iswara.

To see Argo in its entirety, you must go at least as far south as Guatemala, where it just clears the southern horizon. Farther south it rises well overhead, so it can be seen in its full glory. Only the rear half of the ship is depicted, however.

Argo is the largest constellation in the sky, if you consider it as one. Actually, it is usually divided into four parts, each of which is regarded as a constellation. Puppis is the poop, or stern; Vela the sails; and Pyxis the compass box. Farther south, and not visible from most of the United States, is Carina, the keel, in which there is a



bright star called Canopus. This is the second brightest star of the nighttime sky, exceeded only by Sirius. It can be seen from the southern states. When Sirius is on the meridian (i.e., directly south) as it is in March at an earlier hour than the times for which the maps are drawn, Canopus is almost directly below it.

Celestial Time Table for March

March	EST	Event
2	midnight	Mercury farthest west of sun
3	5:00 p.m.	Moon passes Saturn
4	12:22 a.m.	Algol (variable star in Perseus) at minimum brightness
6	5:00 a.m.	Moon nearest; distance 221,800 miles
	5:31 a.m.	New moon
12	9:11 p.m.	Algol at minimum
	11:39 p.m.	Moon at first quarter
19	4:00 p.m.	Moon farthest; distance 252,500 miles
20	9:30 p.m.	Sun over equator, spring commences in Northern Hemisphere
21	2:56 a.m.	Full moon
26	10:57 p.m.	Algol at minimum
28	11:11 p.m.	Moon at last quarter
29	7:46 p.m.	Algol at minimum

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

Know the Sky to Watch Satellites

These star maps showing the positions of stars and planets can help you locate satellites when they flash briefly across the sky. Familiarity with the constellations and their relative positions makes locating artificial moons much easier whenever they are visible from your area.

• Science News Letter, 81:122 February 24, 1962

BIOPHYSICS

Cell Division in Humans, Bacteria Same Process

► HUMAN TISSUES and the one-celled animals, bacteria, have something in common: a similar process governing cell division.

Research on *Escherichia coli*, a tiny bacterium of the intestinal tract of man, shows that the bacterium has a "normal" distribution of cell generation; that is, it reproduces at the same rate as other biological units. This distribution "would seem to be the first evidence of common mechanisms of control of cell division," Dr. Herbert E. Kubitschek of the Argonne National Laboratory, Argonne, Ill., reported at the Biophysical Society meeting in Washington, D. C.

Comparison of information from this cell and other cells under study indicates some common factor is influencing cell division, he said.

Studies of reproduction rates for sister cells and mother and daughter cells also indicate that the forces underlying cell division are similar. A strong correlation between rates for sister cells points to inherited protoplasmic factors affecting generation time.

• Science News Letter, 81:123 February 24, 1962

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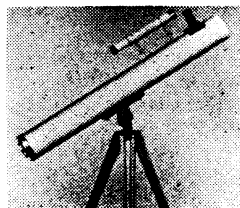
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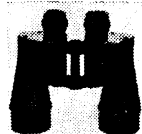
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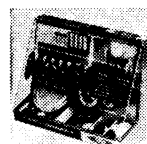
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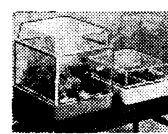
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