

ASTRONOMY

April Evening Skies

This is Last Chance to See Winter's Stellar Attractions; Curious Naming of Constellations by Ancients Had Plan

By JAMES STOKLEY

APRIL evenings offer the season's last opportunities for us to see the conspicuous constellations that decorated the winter skies.

At about 10 p. m. on the first of the month, 9:00 on the fifteenth and 8:00 on the thirtieth, times at which the skies appear as represented by the accompanying maps, Orion, the mighty warrior, is low in the west. The three stars of his belt are nearly horizontal. Above them is Betelgeuse, and below, Rigel.

Farther to the south is brilliant Sirius, the dog star, brightest of all the stars in the sky. Above is Procyon, marking Canis Minor, the lesser dog. Just to the north of Orion and about the same distance above the horizon, is Taurus, the bull, with the brilliant and reddish Aldebaran.

High in the western sky are the twins, Castor and Pollux, side by side. Pollux, the brighter, is to the south. Shining brilliantly in the northwest is Capella, in Auriga, the charioteer.

Almost overhead in the south is Leo. Like Gemini and Taurus, Leo is one of the twelve constellations that mark the zodiac, the path of the sun, moon and planets. It can be recognized from the "sickle" with the bright star Regulus marking the end of the handle, which points to the south, while the blade curves around to the southwest. The blade forms the head of the lion, while the star Denebola, a little farther to the east and at the apex of a small right triangle, is in the animal's tail.

To the north of the zenith is the great dipper, upside down and easily identified. The stars of the handle of the dipper curve around towards the east, and by following this curve one is brought to another brilliant star, now directly east. This is Arcturus, in Bootes, a star of which much was heard last summer when its light, after travelling forty years, was used to switch on the illumination of the Century of Progress exposition in Chicago.

In the southeast is a very bright ob-

ject whose steady glow shows it to be not a star, but a planet. This is the giant Jupiter, largest member of the sun's family. Just below Jupiter is Spica in the constellation of Virgo, the virgin, another group in the zodiac.

When a person begins to study the stars and their groupings into constellations, he is often surprised at some of the names and wonders how anyone, even with the most active imagination, ever saw such figures around apparently indiscriminate groupings of stars. This is one problem that even the astronomers can not help him solve.

No Longer Important

As a matter of fact, the astronomer today does not bother about the figures. Years ago astronomers did designate stars by their position in the imaginary figure, and a star was referred to as "the eye of the bull" or "the heart of the scorpion." But now there are other and better ways of designating the stars, and so the constellation has become merely an area in the sky.

Just as the United States is divided into forty-eight states, so the entire sky is divided into eighty-eight constellations. Just half of this number have been invented in modern times, but the other forty-four date back to remote antiquity, and no one knows where or how they originated. Yet the same fig-

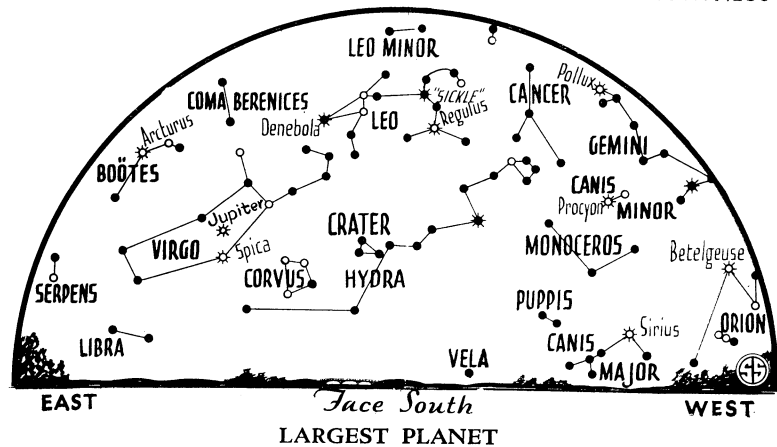
ures are given to the same stars in widely scattered parts of the earth. There is considerable evidence of some plan in the arrangement of the figures, and so it has been suggested that the figures originated in some one place in the earliest days of human history.

Take, for example, the constellation that appears high in the north these April evenings, commonly called the "great dipper." The handle of the dipper points to the east ending in the star Benetnasch. Next is Mizar, and close by is Alcor, a faint star that can be seen by a good eye on a dark night. Then comes Alioth. Megrez is the star where the handle joins the bowl. At the bottom of the bowl, now uppermost, are Phad and Merak, and just below the latter is Dubhe. The last two are the pointers. If you imagine a line drawn between them and extended down it will bring you to Polaris, the pole star, so called because it is close to the north pole of the heavens.

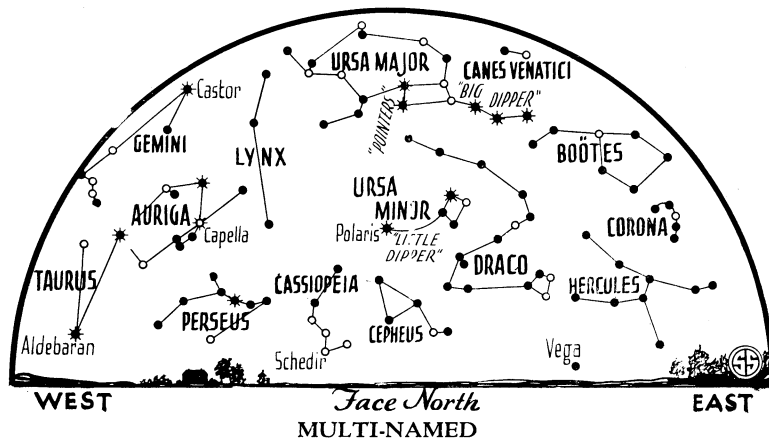
This group has other names besides the "dipper." The English call it "the plough" or "Charles' wain," but on the old star maps it is a bear, Ursa Major. It takes an active imagination to see a bear in these stars, especially when one finds that the handle of the dipper forms the long tail of the bear, a species of bear evidently quite different from any in captivity in zoological gardens today. Yet it was a bear to the Chaldeans, to the Finns, and to the American Indians.

But it seems as if our Indians knew

✧ ✨ ○ ● SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS



The only planet visible this month is Jupiter, which is so large that if it were hollow all the other planets could be placed inside with room to spare.



The familiar constellation near the pole star and well known to most Americans as the "great dipper," has several other names. The English call it "the plough" or "Charles' wain," while on old star maps it is a bear, Ursa Major.

their bears somewhat better than the others because they said that the three stars of the handle of the dipper represented three hunters pursuing the bear. The first hunter, they thought, carried a club with which to slay the bear, the second a pot in which to cook his meat (the faint Alcor representing the pot), and the third a bundle of twigs to make the fire. This constellation has also given us a much used word. The Greek word for bear is "arktos"; the northern parts of the earth's surface are those where the constellation of the Great Bear is overhead, hence the "arctic" regions are those under the bear.

Legend of the Bear

There are many ancient legends about the bear. According to one, this group represents Callisto, the daughter of Lycaon, King of Arcadia. Jupiter was in love with Callisto and Juno was jealous. To protect Callisto from the wrath of his wife, Jupiter had her turned into a bear. However, he neglected to inform Callisto's son, Arcas, of the change. That precocious youngster saw the bear and was about to kill her, not knowing that she was his mother, when Jupiter changed him into a bear also and placed both in the sky, out of harm's way.

Callisto is Ursa Major; Arcas is Ursa Minor, the little bear. He, too, has a long tail, even longer in proportion to his body than that of the greater bear. The pole star is at the tip of the little bear's tail. This latter group is also called the "little dipper," and here again the tail of the bear and the handle of the dipper are made of the same stars.

Just in front of the great bear is a region containing no very bright stars,

and there is a similar region to the rear, just south of the handle of the dipper. The ancients, who named the constellations, paid no attention to these regions, and so for ages the few stars that could be seen in these parts of the sky belonged to no constellation. In 1610, however, astronomers began to use the telescope to observe the stars, and then they discovered bodies that had previously been invisible. This made the introduction of new constellations necessary.

Some of the most important were invented by the Polish astronomer Hevelius, in 1687. Then he published his famous set of maps, the "Firmamentum Sobiescianum," dedicated to the Sobieskis, the ruling family of Poland. In this work he showed a number of new constellations, most of which have been retained.

At the rear of the bear, pursuing him, he placed the two hunting dogs, Canes Venatici. In front he placed Lyncis, the lynx, because, it was said, the keen eyesight of a lynx is needed to see stars in this region. In other parts of the sky he placed Leo Minor; Vulpecula, the fox; Sextans, the sextant; Scutum Sobieskii, or Sobieski's shield, and Lacerta, the lizard. Another large group of modern constellations was introduced when astronomers began to observe the heavens from the southern parts of the earth and saw stars which never rise above the European horizon.

Only one planet is visible in the April evening sky. This is Jupiter, which can be seen low in the southeast. Its brightness, greater than that of nearby stars, and its steady glow, so different from the scintillating brilliance of the stars, immediately distinguish it and prove it to be a planet. Just below is the star

Spica, marking Virgo, the virgin.

Jupiter is the largest of the planets including our earth that revolve around the sun and form the solar system. The earth is only 7,918 miles in diameter, Jupiter 86,718 miles, so that 1,300 earths would be required to make a planet as large. Jupiter is so large that if it were hollow, all the other planets could be placed inside with room to spare. However, it is minute compared with the sun, for that body, with a diameter of 864,392 miles, is about a thousand times as large as the planet.

All the other naked-eye planets are morning stars, to the west of the sun and visible, if at all, just before sunrise. Mars is close to the sun, where it cannot be seen at all this month. Then comes Mercury, which may be glimpsed early in the month when it is farthest west. Still farther west shines Venus, a brilliant object in the morning twilight, like it was a few months ago in the evening. Saturn, much fainter, is above and to the south of Venus.

During April the moon is at last quarter on the sixth, new on the thirteenth, first quarter on the twenty-first and full on the twenty-ninth. This means that the last half of the month we will enjoy moonlit evenings.

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ZOOLOGY

Darwin's Route Followed; Strange Animals Studied

SNAKELESS as Ireland itself, is southern Chile, homeland of the "Irish" potato. So Dr. W. H. Osgood, curator of zoology at the Field Museum of Natural History, said, in an address given under the auspices of Science Service.

Dr. Osgood was telling of a scientific pilgrimage that followed the trail of Charles Darwin, famous as the apostle of evolution, who a hundred years ago made a memorable world voyage which started him on his revolutionary career. It was along the coast of South America and on the nearby islands that Darwin saw many of the strange animal species which could be accounted for most readily by the theory which he later evolved.

The coypu or nutria, source of a soft, beaver-like fur familiar to the trade, was one of the interesting animals encountered by Dr. Osgood on his expedition. Like the beaver this animal is aquatic, but lacks the broad, flat tail that aids its North American cousin in swimming. Its most peculiar feature is