

ASTRONOMY

Brilliant Stars in South

Orion, the warrior, and many other stars crowd the southern part of the sky. The planets will appear later on January nights.

By JAMES STOKLEY

► AS one looks at our accompanying maps of the January evening skies, particularly that for the south, he gets a very definite impression of crowding. This is not from any fault of the draftsman, but from the fact that the stars happen to be arranged that way. For this part of the sky actually contains more brilliant stars than any similar area.

The maps show the skies as they appear around 10 o'clock on the evening of Jan. 1, an hour earlier at the middle of the month and two hours earlier at the end. Perhaps the best group to start with is that of Orion, the warrior, characterized by the three stars in a row forming his belt. Above the belt is Betelgeuse, whose name is marked, and Bellatrix (just under the I in Orion) which are supposed to indicate the shoulders. The two bright stars below the belt—Rigel, and Saiph, to the left—are in his legs.

The curved row of stars to the right of the name form an upraised club which he uses to defend himself from charging Taurus, the bull, next constellation to the right. Here we find the bright star Aldebaran, marking the animal's eye, and the V-shaped group called the Hyades which forms his face. To the right, in his shoulder, is the little cluster of fainter stars we call the Pleiades.

Two Dogs Are Visible

Following Orion are two dogs, Canis Major and Canis Minor. The greater dog is lower, and contains Sirius, the "dog-star," brightest of all the stars visible in the night sky. The lesser dog, above, is marked by another brilliant star, Procyon. Still higher, and toward the east, we come to Gemini, the twins, with Castor and Pollux, the latter of the first magnitude. And almost overhead is another of the first magnitude, Capella, in Auriga, the charioteer.

Just a little to the west of Auriga is the constellation of Perseus, the champion. Below Perseus, toward the west, is Andromeda, the princess he rescued in an old story of mythology. And below this group is Pegasus, the winged horse.

Saturn to Rise

This is not a very good month for planets, and none are marked on our maps. Venus, which has been so brilliant in the western twilight recently, can still be

glimpsed low in the west after sunset at the beginning of January, though later it will disappear. On the 31st it will be in the same direction as the sun. Saturn rises about 11 around Jan. 1, in Leo the lion, part of which is shown on our maps low in the east. Leo is followed by Virgo, the virgin, and this group is the present location of Mars, which appears by 1 a.m. Mercury is farthest east of the sun at the beginning of the month, and remains in the sky after sunset, but it will be hard to locate. Jupiter is too nearly in the direction of the sun to be seen.

Taurus, now so conspicuous, is probably one of the most ancient of the constellations. More than 4000 years ago the sun stood in this group at the vernal equinox, the beginning of spring, but because of the slow turning of the sky, called "precession of the equinoxes," it is now in Pisces, the fishes, when that season starts. In Grecian mythology, Taurus was supposed to represent the bull into which Jupiter turned himself to carry Europa over the sea to the continent that now bears her name.

Dust Surrounds Pleiades

The little cluster of stars in the bull's shoulder called the Pleiades has several other names. Sometimes it is erroneously called the little dipper, because the stars are arranged something like a dipper. Another popular name has been the meat cleaver. Like Taurus, the Pleiades are famous in mythology. They were the seven daughters of Atlas, their mother being the nymph Pleione. Their names were Alcyone, Merope, Celaeno, Taygeta, Sterope, Electra and Maia, and these same names are given

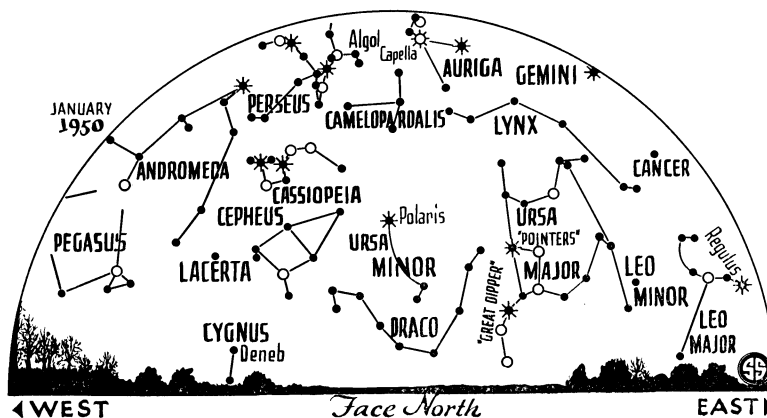
to the brighter stars in the cluster. In addition, the names of their parents are also given to two of the stars, making nine that have names, and these are doubtless the faintest stars in the sky to which proper names have been applied. It is hard to see all nine with the naked eye, and only six are ordinarily visible.

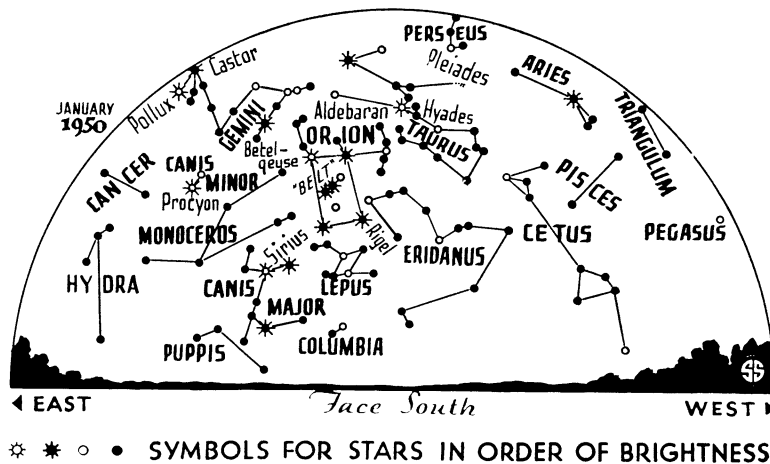
Through a small telescope this cluster forms a remarkable sight, as dozens of stars are then seen. The entire group is surrounded by a faint nebulosity not visible even with a telescope, but which shows up on astronomical photographs. This seems to be a vast cloud of cosmic dust through a wide region of space, of which parts are made to shine by the light from nearby stars.

Perseus Near Pleiades

Another interesting star seen in January is in the figure of Perseus. This group has somewhat the shape of two fish hooks. One of the hooks, which marks the foot of Perseus, almost reaches to the Pleiades, and passes near the star Algol, one of the best-known of variable stars. Its name comes from the Arabic "al Ghul," meaning "the demon," making it rather peculiar, for the Arabs rarely gave uncomplimentary names to the stars.

Though only the brighter is visible, Algol is really two stars—a bright and a faint one revolving around the center of gravity of the pair. Every two days 21 hours the faint star partially eclipses the brighter, causing it to appear considerably fainter than usual. In the astronomical time table following this article are given the times of minimum light. It takes about 10 hours to go down and come back to normal brilliance. The faint star is not really dark, as we know by the fact that there is a slight reduction in light when it is eclipsed by the bright member. The system normally shines with the combined light of both,





◉ * ◐ ◑ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

the bulk of the light coming from one only.

Time Table for January

Jan.	EST	
1	6:00 a. m.	Mercury farthest east of sun
3	1:00 a. m.	Earth nearest sun, distance 91,445,000 miles
4	2:48 a. m.	Full moon
8	11:53 p. m.	Moon passes Saturn
10	5:08 a. m.	Moon passes Mars
11	5:31 a. m.	Moon in last quarter
13	1:00 a. m.	Moon nearest, distance 225,700 miles
	2:15 a. m.	Algol at minimum

16	11:04 p. m.	Algol at minimum
17	noon	Mercury between earth and sun
18	2:59 a. m.	New moon
19	8:37 a. m.	Moon passes Venus
	7:53 p. m.	Algol at minimum
22	4:42 p. m.	Algol at minimum
25	5:00 p. m.	Moon farthest, distance 251,200 miles
	11:39 p. m.	Moon in first quarter
31	2:00 a. m.	Venus between earth and sun

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

Science News Letter, December 31, 1949

GENERAL SCIENCE

Vogt's Stand Costs Job

► URGING birth control as a means of reducing populations and therefore conserving a nation's natural resources has cost a man his job.

The man is William Vogt who has been chief of the Pan-American Union's conservation section since 1943. In that position, Mr. Vogt studied soil and other conservation problems in Latin America and advised the governments of those nations on resources and conservation problems. His work has been internationally recognized by fellow scientists.

Last month Mr. Vogt quietly resigned from his post at the Pan-American Union. Digging into the situation, Science Service found the following facts:

1. Mr. Vogt had been told last July to cease his literary activities. This followed publication in the Saturday Evening Post of his article on weaknesses of President Truman's Point Four Program.

2. A year earlier, in May or June, 1948, Ambassador Felix Nieto del Rio of Chile had voiced objections before the Pan-American Union's governing board to parts of Mr. Vogt's book "Road to Survival" following their publication in Harper's Magazine. (An embassy spokesman, in the absence of Ambassador del Rio who he said is out of the country, said the objection was not to Mr. Vogt's scientific observations

but to his political references. The ambassador felt, said the spokesman, that Mr. Vogt should make a choice: either "continue to propagandize or leave the Union.")

3. Dr. Alberto Lleras, Secretary General of the Pan-American Union, declined to comment on the assertion that Mr. Vogt had been muzzled, saying, "There seems no reason to issue a statement. Mr. Vogt knows why he submitted his resignation. He did so voluntarily. I did not ask him for it."

4. Another official of the Pan-American Union, who refused to allow use of his name, stated that the question had arisen "whether you can appropriately work for an international organization and at the same time write popular articles which criticize member governments."

In his book and other writings Mr. Vogt has bluntly charged that governments in Latin America as well as throughout the world have failed to handle their problems of reducing populations and conserving natural resources. He contends that unless steps are taken to check the growth of population, there will never be enough food and other resources, no matter how carefully they are conserved.

Mr. Vogt himself when asked to comment said, "As far as I am concerned, there is no controversy between me and

the Pan-American Union.

"I would prefer to tell you about my new book," Mr. Vogt said. It will be about "how the Scandinavians have come to terms with their environment. It will be a sort of sequel to 'Road to Survival,' answering some of the questions raised there," he said.

When his present researches on it are finished, he plans to go to Europe next year to gather further material for the book.

Science News Letter, December 31, 1949

MEDICINE

Pattern of Diabetes Heredity Explored

► A TENDENCY, or predisposition, to diabetes is inherited through a single recessive gene, Drs. Arthur G. Steinberg and Russell M. Wilder of the Mayo Clinic reported at the meeting of the American Association for the Advancement of Science.

A gene is a unit in the chromosome which carries a hereditarily transmissible character.

When both parents are diabetic, every one of their children is a potential diabetic, the Mayo scientists stated. Half the brothers and sisters of a diabetic person are potential diabetics if one parent is diabetic, and one-quarter of a diabetic's brothers and sisters are potential diabetics if neither parent is diabetic.

The report, the doctors stated, is preliminary and based on the first 422 case histories which have been collected. The study was undertaken to clarify the nature of the hereditary pattern in diabetes, which has been a matter of "considerable disagreement." Because the disease starts at a "variable and usually late age," the doctors pointed out, the "possibility of prevention is great."

The age of a diabetic parent at the time the diabetes started does not influence the age at which the diabetes will start in diabetic children.

The disease is more frequent, the doctors found, in children of lower birth order, that is the first born children, than among those of higher birth order.

If neither parent of a diabetic is diabetic, about 6% of the diabetic's brothers and sisters have the disease. If one parent is diabetic, about 12% of the brothers and sisters of the diabetic have the disease.

Science News Letter, December 31, 1949

The U. S. Bureau of Mines has several *minerals reference "libraries"* containing drill-core samples of ore and records of each sample; these specimens are cylinder-shaped, being bored out of the earth with hollow drills.

The new roof on the U. S. Capitol at Washington contains a two-inch insulation of "glass" in the form of a special type composed of millions of tiny glass cells filled with air.