

ASTRONOMY

Venus and Jupiter in Sky

Mars and Saturn appear later during February nights, and Mercury may be visible just before dawn about Feb. 20, when it is farthest west of the sun.

By JAMES STOKLEY

► THE TWO brightest planets both shine in the evening skies during February.

As the west darkens after sunset, Venus soon appears, shining with astronomical magnitude of minus 3.6, which is considerably brighter than any other star or planet. Since it sets before 10:00 p.m., your own kind of standard time, on Feb. 1, or 9:00 p.m. on the 15th—the times for which the accompanying maps show the skies—Venus does not appear on them.

However, its brilliance makes it so conspicuous it is easy to locate and there is no doubt as to its identity.

The second planet is Jupiter, which is seen to the east in the constellation of Leo, the lion, close to the star Regulus. Although Jupiter is of minus 2.1 magnitude, it still outshines all the stars and any planet except Venus, which is about four times as bright. Its brightness exceeds that of Regulus, a typical first-magnitude star, by about 25 times.

Other Naked-Eye Planets

Later in the night the other naked-eye planets become visible. Saturn, in Scorpio, the scorpion, comes up in the east about 3:00 a.m., and is somewhat brighter than Regulus.

Mars, now about the same brightness as that star, is in Sagittarius, the archer, and rises about 4:00 a.m.

Mercury, fifth of the planets that are visible without telescopic aid, is farthest west of the sun on Feb. 20, and about that date it may be possible to get a glimpse of it low in the eastern twilight just before sunrise. However, this is not a good time of year to see Mercury as a morning object.

As for the true stars—all of them bodies like the sun, which shine by their own light and not by reflected sunlight as do the planets—Regulus has already been mentioned.

The brightest of these bodies, however, is Sirius, the dog-star, in Canis Major, the great dog, which is visible in the south. Jupiter is about half again as bright.

Above and to the right of Sirius we see the magnificent constellation of Orion, the warrior. Three stars in a row form his belt.

Above and left is Betelgeuse, of the first magnitude. This, with second-magnitude Bellatrix, to the right, form his shoulders. Rigel, which is below the belt, is in one of his legs.

Still higher, and to the right of Orion,

Taurus, the bull, may be seen. In it is the brilliant Aldebaran, red in color and marking the animal's eye, as ancient fancies pictured it.

High overhead is Capella, in Auriga, the charioteer. Just to the south of this group, we come to Gemini, the twins, with Castor and Pollux. These stars, however, are not identical twins, for Pollux, of the first magnitude, is about twice as bright as second-magnitude Castor.

Below Gemini, between this group and Canis Major, is Canis Minor, the lesser dog, with the star called Procyon.

Brilliant Stars in February

Looking at the sky on a February evening, one is apt to be struck by the brilliance of the stars, even aside from the two planets which are added attractions this year.

Capella, Pollux, Aldebaran, Rigel, Sirius and Procyon (listing them in clockwise order) form an irregular hexagon around Betelgeuse, and many others, only slightly inferior in brightness, are nearby. No other area of similar size in the sky contains so many bright stars.

Not only is Orion outstanding as a constellation, there are many old myths connected with him. A great hunter, he was said to have boasted that there was no animal on the earth he could not overcome. Whereupon a scorpion came out of the ground and stung him in the foot, causing his death.

At the request of Diana, the moon-goddess, Jupiter placed him in the sky, directly opposite the scorpion, a constellation we see on summer evenings. Thus, the two can never be in our sky at once.

However, another legend relates that it was a shaft from Diana's own bow that

killed Orion. It seems that she fell in love with him, but the sun-god, Apollo, did not approve, and resolved to destroy him.

Apollo did this one day as Orion was bathing, by letting his brilliant rays shine upon the warrior, thereby making him a gleaming spot of light.

From some distance away, Apollo then challenged Diana to try her skill at archery, using this bright spot as a target. Not knowing that it was Orion, she accepted, and let her arrow fly, thus slaying him. In her grief, she appealed to Jove, who placed Orion in the sky.

Orion is closely associated with the next-door constellation of Taurus, for his is supposed to be warding off the attack of the bull. A curved row of stars, between Bellatrix and Aldebaran, represents the lion's skin he is holding up as protection. Overhead he waves a club with his other hand.

Extending southward from the three stars in Orion's belt is a row that forms his sword. In this, on a clear dark night, one may see a faint, hazy spot of light, the great nebula in Orion.

Nebula of Glowing Gas

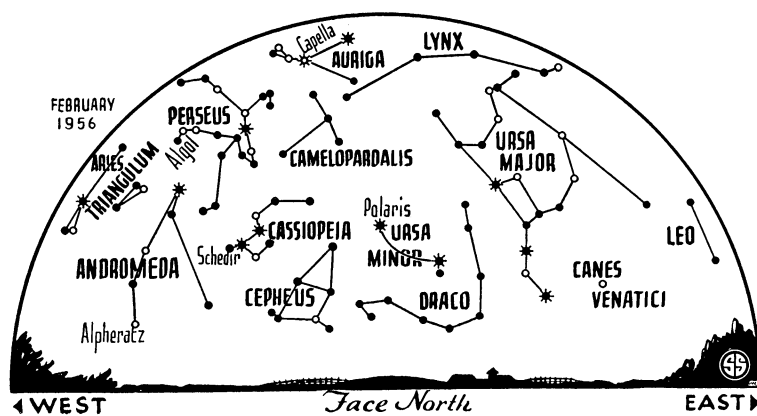
Through a large telescope this is a beautiful object—a huge cloud of glowing gas, excited to luminosity by radiations from a little cluster of stars in the heart of the nebula.

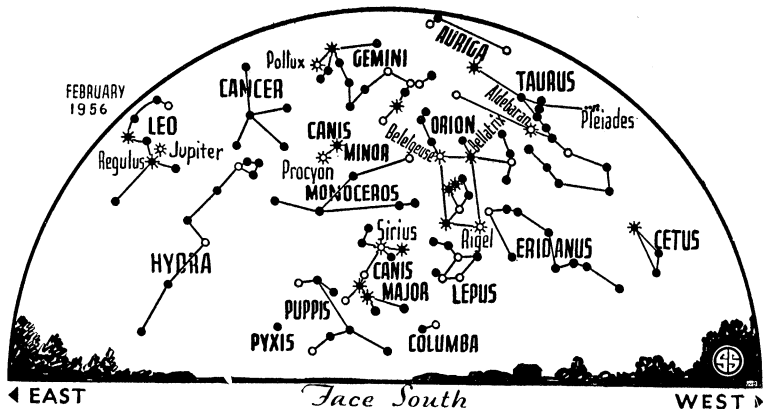
The great nebula of Orion is by many considered the most beautiful object in all the sky. It was once described by Tennyson as

*"A single misty star
Which is the second in a line of stars
That seem a sword beneath a belt of
three."*

The great nebula's greenish color is easily noticed in a small telescope.

Its light, traveling 186,000 miles every second, takes about 1,200 years to reach us, and about ten years to cross the nebular system. Its diameter is thus several times the distance from earth to the nearest star.





◊ * ○ • SYMBOLS FOR STARS IN ORDER OF BRIGHTNESS

Celestial Time Table for February

Feb.	EST	
1	7:26 p.m.	Algol (variable star in Perseus) at minimum brightness
3	11:08 a.m.	Moon in last quarter
5	12:01 a.m.	Moon passes Saturn
6	2:01 a.m.	Moon passes Mars
7	2:00 p.m.	Moon farthest from earth, distance 252,100 miles
11	4:38 p.m.	New moon
15	6:03 a.m.	Moon passes Venus
	12:00 p.m.	Jupiter opposite sun and near-

		est earth, distance 407,000,000 miles
19	12:22 a.m.	Algol at minimum
	4:21 a.m.	Moon in first quarter
20	8:00 p.m.	Mercury farthest east of sun
21	9:11 p.m.	Algol at minimum
23	1:00 p.m.	Moon nearest, distance 225,900 miles
24	6:00 p.m.	Algol at minimum
25	5:57 a.m.	Moon passes Jupiter
	8:41 p.m.	Full moon

Science News Letter, January 28, 1956

GENERAL SCIENCE

Critical Skills Listed

➤ THE LIST of critical skills that can spell a shorter time on active duty in the armed forces for many of the nation's young scientists and technicians was made public.

The Office of Defense Mobilization lists 24 occupations and 10 activities that will be used by the Selective Service System as guides in selecting those men who will be eligible to enlist in the Ready Reserve.

Under the new Reserve program, young men who are selected as eligible can complete their active duty for training in from three to six months. The rest of their military obligation will then be made up in Reserve training.

Whether young men with the proper skills and in critical jobs can enlist for the special program depends on the current needs of the military itself and critical defense-supporting industries.

For this reason, four occupations were not included in the list just issued, because the military is in short supply of these occupations. They are aircraft and engine mechanic, electronic technician, instrument repairman, and machinist.

Included in the critical civilian skills eligible for consideration by the local draft board are clinical psychologist, die setter, design engineer draftsman, all branches of professional engineer, geologist, geophysicist, laboratory apparatus glass blower, jig and template maker, professional nurse, orthopedic appliance and limb technician, osteopath, patternmaker, tool and die de-

signer, and tool and die maker. In addition, the following skills, whose holders have a master's or doctor's degree or the equivalent experience, education and training (generally considered not less than one year beyond bachelor degree level) are included: chemist, mathematician, micro-

biologist including bacteriologist, plant or animal parasitologist, pharmacologist, physicist and medical physiologist.

The list also includes college and vocational teachers of critical occupations and high school teachers who teach mathematics, and physical and biological sciences only.

There was no change in the list of ten activities as derived from the List of Critical Occupations and the List of Essential Activities issued previously by the Secretaries of Labor and Commerce respectively.

Science News Letter, January 28, 1956

HEMATOLOGY

Extract More and Purer Anti-Bleeding Factor

➤ MORE AND PURER anti-bleeding material for patients with hemophilia has been extracted from human blood plasma by use of the Blood Fractionator, Dr. Douglas M. Surgenor of Harvard Medical School reported at the Protein Foundation conference in Boston.

By collection through an exchange resin column to prevent coagulation, separation of plasma with removal of platelets, and treatment with dextran sulfate, Dr. Surgenor was able to obtain a concentration of the antihemophilic factor 20 times greater than had previously been attained.

The Blood Fractionator is a device for speedily separating plasma from red blood cells and then separating various components of plasma from each other.

Science News Letter, January 28, 1956

Each 1,000 acres of the irrigated portion of the North Platte Valley of Wyoming and Nebraska supports 134 persons on farms and in towns, compared with only five people per 1,000 acres of adjacent *dryland areas*.

OPTICAL STAR FINDER



Stars—Planets—Constellations—their stories are recorded in the skies. There before your eyes are the eternal records of the birth of science and history.

Not a telescope but a brand new optical method of positioning the outlined figures of the constellations on the night sky and directly naming the stars.

A precision instrument not a gadget. Charts register accurately over the actual stars in the night sky. Complete sky coverage with 30 illuminated charts for your study and enjoyment.

With one eye to the instrument and one eye to the sky optical illusion "projects" the battery illuminated chart on the heavens to name the stars, locate the planets and identify the constellations. Easily used. No technical knowledge required. Offered complete with satisfaction guaranteed, \$1.98 postpaid.

TRI G CO.

2717 Main St., Santa Monica, California

