

VILLAGE VIEW

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As the fabulous photographs and a wealth of as yet uninterpreted data have come back to us from Voyager I's passage through our solar system, our appetites are whetted and new interest is awakened in the mysteries of space. From time immemorial, men have gazed at the night skies, watched the planets, our moon, and the constellations rise and set and have tried to fathom their mysteries.

Fascinating as Voyager I's travels may be, studying the celestial bodies and learning the legends connected with them can be rewarding as well. Stargazing may seem to some a waste of time, but many of us find deep satisfaction and feel a sense of Eternity and awe as we grow more familiar with the heavens.

A clear winter's night is a fine time for studying the skies; the atmosphere when it's cold holds less moisture and particulate than warm air, and the stars appear closer, brighter and more are visible. If you choose a location shielded from artificial light and allow your eyes to adjust to darkness, you'll find the sky teeming with stars. There are so many, they seem to be almost as numerous as grains of sand on the beach.

Among the multitudinous points of light, some twinkle brightly while others are dim pinpricks. Using the brightest ones as guides, other stars and constellations can be identified. Since all heavenly bodies change positions during the year, they look different from season to season. Perhaps the easiest constellation to locate is the Big Dipper, always visible on clear nights in the northern sky.

At 9 P.M. in October, the Big Dipper is in a position to "hold water," its handle on your left, and the two stars that point to Polaris, the Pole Star, on your right. These two stars are called "pointers" because you can follow upward the line they define and easily spot Polaris, the first bright star above them.

Again, in January, at the same time of night, look at the Big Dipper and you'll find its handle has swung down, counterclockwise, around Polaris, but the constellation has risen and moved to the right of the Pole star. By April the Big Dipper will be high in the sky and "pouring water" with its handle to the right. The "pointers" always lead the eye to the Pole Star.

The constellations' spatial relationships to each other do not change; however, as the seasons progress, they all rotate their positions around Polaris, just as the Big Dipper does. And, each night as the earth turns on its axis, they rise and set just as the moon does.

Once familiar with the Dipper, you can locate its neighbors. In October, follow the curve of the handle more to the left; at a distance about equal to space occupied by the whole Dipper's length, a bright yellow star will be shining, quite low in the sky. This is Arcturus.

By January, Arcturus will have slipped below our horizon but about halfway between Arcturus and the Dipper's handle, and slightly above, you'll see a circlet of stars. This is the constellation Corona Borealis or the Northern Crown.

Return, now, to the Dipper's pointers and follow them beyond Polaris a similar distance. Here five stars form an inverted W. This constellation is Cassiopeias Chair. In mythology, Cassiopeia was a beautiful and vain queen. The northern portion of the Milky Way passes through Cassiopeia.

Even higher in the sky is the spiral galaxy of Andromeda. She was the daughter of Cassiopeia, according to the ancients and was chained to a cliff for a sea monster to devour but she was rescued by Perseus, who later married her. Andromeda lies between the constellation Perseus, who also slew Medusa, and Pegasus, the winged horse. Sandy Neck is a good place to study the northern sky.

from time to time, blocks their light from view.

Turning now to the southern sky, you will find it spectacular in December and January. Most prominent is a brilliantly sparkling blue-white star rising in the southeast around 9 p.m. This is Sirius, the brightest star in the firmament. (Some planets look brighter, but none are blue-white.) The ancients called Sirius the Dog Star because it always follows westward the constellation Orion, the Hunter; its brilliant scintillations seem a visual manifestation of "barking."

Orion, an outstanding constellation, is found to the right of the Dog Star; a line of stars forming Orion's Belt points to Sirius. Just below the Belt, the naked eye sees a hazy patch of light which, according to legend, is a Lion's Skin hanging from Orion's Belt. Actually, it's a great nebula, a cloud of luminous gases emitting greenish light.

Above the Belt, at some distance and to the left, is a conspicuous reddish star. This is Betelgeuse at Orion's shoulder. Also above the Belt, and to the right, is a bright yellow star, Bellatrix, at Orion's other shoulder. And, again below the Belt and to the right, is a blue-white star, Rigel, which marks Orion's knee.

Betelgeuse, a "red giant" star, is 250 times larger than our sun. It is so huge that were it placed where our sun is, the earth would be **inside** it. Most stars appear yellow, white or reddish, but many, viewed through field glasses or a small telescope, show beautiful shades of color. Brilliant green, lilac, orange and garnet are clearly discernible.

Many stars appear single to the naked eye but are actually double, triple or even quadruple stars. Some seem to vary in brightness and these often have a dark companion which,

Sirius has a very small dark companion, visible only through the most powerful telescopes and so dense that a teaspoon weighs a ton. It was discovered because Sirius appears to wobble; through study of that phenomenon, the Dog Star's partner was found.

Looking at the great panorama of the night skies, we realize some stars must be further away than others, and some must be larger than others. How far are the stars? The nearest, our own sun, is ninety-three million miles away. How far is the next nearest star? It is 4.3 light years away.

Since light travels 5.8 trillion miles in a year, the next nearest star is 25 trillion miles distant. These numbers are incomprehensible and meaningless. In another column, sometime soon, perhaps we'll attempt to put them into perspective, but for now, we'll simply admire the stars in the sky.

Years ago it was easy to find good places for gazing at night skies. Street lights were unheard of, lighted signs, unknown. The only light one might see at night, except for that of the moon or stars, came from an occasional house or barn where lamplight within shone out through window or an open door. If you walked out at night or, in winter, went skating on the ponds, sometimes the only light was starlight. You'd be surprised how much light is shed by the stars alone.

True darkness is hard to find in our neighborhoods, but beaches and isolated sections of some golf courses offer possibilities for good stargazing to dedicated sky-watchers.

Some clear and moonless night in January, bundle up in your warmest woolies, choose a companion with enthusiasm as keen as your own, and find a place sheltered from artificial light and piercing winds. Lift your eyes to the heavens and exult in the splendor of the celestial sphere.