

AUGUST STARS

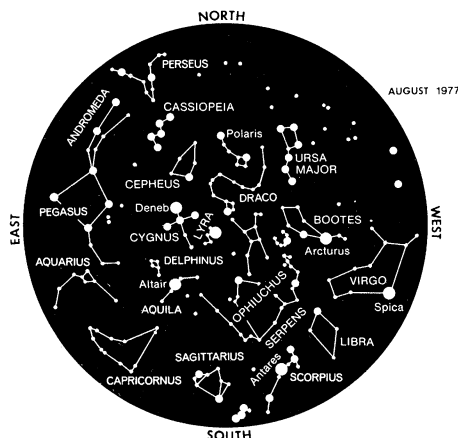
BY JAMES STOKLEY

August this year provides a good opportunity to see meteors of the Perseid shower. They appear annually, but bright moonlight sometimes interferes with their observation, as it did last year. Now the moon will be out of the way, and if you want to see them at the best advantage go out into the country where the sky is dark and the city lights are low.

At the height of this year's shower, the night of Aug. 11, you may see one every minute or two, overhead or in other parts of the sky. Although they move in parallel paths all seem to come from the constellation Perseus, low in the northeast, but this is an effect of perspective. Meteors are more numerous after midnight when they hit the earth headon. In the evening they have to catch up to us, and are much fewer in numbers.

The Perseid meteor stream is a long ellipse, extending out some four billion miles from the sun and coming a little nearer to it than the earth's distance of 93 million miles. Vast numbers of the meteoric particles, generally no larger than grains of sand, are scattered around the stream. When the earth crosses the stream in August many of them enter our atmosphere at a height of perhaps 60 miles. As they collide with atmospheric atoms and molecules, atoms are knocked off each particle to form a hot, glowing cloud of gas, which is what we see as a meteor.

Five bright stars are prominent these evenings. Directly overhead is Vega in the constellation Lyra. Because of its brilliant blue-white color it has been called the "arc light of the sky." Stars of such color are very hot, nearly twice the surface temperature of a



To use star map hold over head with directions oriented as indicated.

August 6	4:40 pm	EST	Moon in last quarter
8	4:00 pm		Mercury farthest east of sun
	8:00 pm		Moon farthest
9	7:00 am		Moon south of Mars
10	9:00 am		Moon south of Jupiter
11	10:00 am		Moon south of Venus
12	early am		Perseid meteors
13	2:00 am		Saturn behind sun
14	5:31 pm		New Moon
21	9:04 pm		Moon in first quarter
24	5:00 am		Moon nearest
28	4:10 pm		Full Moon

yellow star like our sun (about 10,000 degrees F). Relatively close, compared to most stars, Vega's distance is 27 light years, or nearly 160 trillion miles. It emits about 45 times as much light as the sun.

Arcturus, in the west in Böotes, is a giant star, rather reddish in hue. It's 24 times the sun's diameter (865,000 miles) and gives out 96 times the sun's light. Its distance is 36 light years.

Just east of Lyra stands Cygnus with Deneb, at the top of the Northern Cross. And in the south is Altair, in Aquila. Low in the southwest is Scorpio with Antares, another red giant, about 300 times the sun's diameter.

Mercury will be the only planet in the evening sky. On the eighth it will be farthest east of the sun and set about an hour after sunset. You'll have difficulty finding it in the still-bright twilight.

But three other naked-eye planets will appear in the east after midnight. Mars rises about 1 a.m., local daylight saving time. On Aug. 1, about 3 a.m., Jupiter will rise, quickly followed by Venus. Jupiter is about 13 times as bright as Mars and Venus, more than 5 times the brightness of Jupiter. Thus, they will make a striking sight in the east as they climb higher into the sky before dawn. During the month, Venus will draw away from Jupiter. On the 31st, Jupiter will rise about 1 a.m. and Venus about 3:30.

Saturn passes behind the sun on the 13th and won't be visible. But on Aug. 31 it will rise more than an hour before sunrise. You might glimpse it below and to the left of Venus. □

... Liver

boons. In a six-year follow-up study of the animals, he found that baboons that had such lesions, and were in the degenerative, fatty liver stage, went on to develop cirrhosis; those without the sclerosis did not.

The Bronx team is in the process of determining whether the same results could hold true for human populations. "We found that a significant percentage of our alcoholics have this lesion at the fatty liver stage," Lieber said. "And if we can verify the evolution toward cirrhosis we may have a tool to segregate in our alcoholics those that have a propensity to develop cirrhosis."

Last year, Lieber reported on a blood test to detect early heavy drinking. In both animal and human studies, he found that 80 percent of verified alcoholics—compared with 1 percent of controls—exhibited astronomically high levels of alpha amino-n-butyric acid in their bloodstream. The test will prove useful, Lieber says, in patients being treated for liver disease who may be hiding their drinking problem, and in the "objective evaluation of treatment modalities" among the approaches employed by various alcoholism programs. □

Eiseley: Into the ultimate night

Loren C. Eiseley, the well-known anthropologist and writer, died earlier this month of cancer. He was 69.

A distinguished scientist and faculty member at the University of Pennsylvania for 30 years, Eiseley served variously as Benjamin Franklin Professor of anthropology and the history of science, as Provost of the University, and as curator of early man at the University Museum. He published frequently in his field, received numerous national science awards and fellowships, and held 36 honorary doctorates.

Perhaps his greatest contribution, however, and the works for which he will be longest remembered, are his 10 books of natural philosophy, observations and poetry. Eiseley was dedicated to interpreting the natural world and the early history of mankind for lay audiences, and did this most effectively with his metaphoric literary style. Among his popular works, four books, *Darwin's Century*, *The Night Country*, *The Firmament of Time*, and *The Unexpected*

Universe, drew vast audiences and brought Eiseley major awards for science and nature writing.

His last book, an autobiography, *All the Strange Hours: The Excavation of a Life*, was published in late 1975. For those raised on Eiseley's nature essays, this brooding account of his troubled life (SN: 2/14/76, p. 109) helps explain the serious tone and deep reflection in his other works.

He had a tragic childhood: a quarrelsome family, a deaf mother, a long, lonely exile during a bout with tuberculosis. He was a railroad hobo during the depression, an introverted, serious scholar, then, for years, a solitary researcher in an isolated outpost in the Badlands of Nebraska.

He was obsessed during his childhood, and even later, as a scientist and teacher at the University of Pennsylvania, with the impermanence of the individual and the "absolute control of chance." He talked frequently in his autobiography about death and about his own "escape," his immortality. One might safely venture, after reading his writings, that Loren Eiseley so enriched the views of his readers toward science and nature (and thus ultimately toward themselves) that he has, indeed, affected his own "escape." □