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EDWIN E. SLOSSON, Director
WATSON DAVIS, Managing Editor



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HOW TO FIND THE NORTH STAR

By Isabel M. Lewis

of the U. S. Naval Observatory

Two well known and easily recognized groups of stars, Cassiopeia and Andromeda, furnish an excellent means of locating the North Star, Polaris, in the late fall and early winter evenings when they are to be found high in the heavens above the pole. The time-honored method of finding the North Star by means of "The Pointers" in the Big Dipper, though one of the best, cannot be used to advantage at this time of year especially by the unfortunate individuals who try to do their star-gazing from city streets. For the Big Dipper now rests nearly on the northern horizon and any obstruction in this direction, such as buildings or trees, conceals it more or less from view.

Cassiopeia, which can be quickly identified by its W-shaped grouping of stars and which is almost as well known as the Big Dipper, is on the opposite side of the pole from the Big Dipper so that when the Big Dipper is near the horizon, Cassiopeia rides high in the heavens and vice versa. To the south of Cassiopeia and about as far from Cassiopeia as Cassiopeia is from the north pole of the heavens will be found the three second magnitude stars in a line slightly concave toward the pole which outline the constellation of Andromeda. The most westerly of these three stars, Alpha Andromedae, is in the northeast corner of the Great Square in Pegasus which lies next to Andromeda on the west. Now let us locate the North Star with the aid of these two groups. Alpha Andromedae, which we have just identified, and Beta Cassiopeiae, which is the star farthest west in the W of Cassiopeia, lie almost exactly in a straight line with Polaris, the North Star. Beta Cassiopeiae is midway between the other two stars. Also Gamma, in Andromeda, the farthest east of the three stars in Andromeda, and Epsilon, in Cassiopeia, the third magnitude star farthest east in the W of Cassiopeia, lie in another straight line with the star in Cassiopeia again midway between the other two stars. In other words, two lines drawn respectively through the stars at the eastern and at the western extremities of the W of Cassiopeia and of the line of three bright stars in Andromeda meet at the North Star. A little practice will enable one to locate the Pole Star very quickly and easily in this way.

Practically every one knows the Big Dipper in Ursa Major, the Greater Bear, but the Little Dipper formed by seven of the stars in Ursa Minor, The Lesser Bear, is not so well known because it contains fewer bright stars than the Big Dipper. Polaris, The Pole Star, or North Star, at the end of the handle of the Little Dipper is a star of the second magnitude. The two stars that correspond in position to The Pointers of the Big Dipper, that is, that lie in the bowl farthest from the handle, are of the second and third magnitude, respectively, but of the four remaining stars two are of the fourth magnitude and two of the fifth, and therefore inconspicuous. Yet it is not a difficult matter to make out the outline of the

Little Dipper on a clear night and with its aid we can check up on the position of Polaris by recalling that it is located at the end of the handle.

There are times when we may find it very convenient to be able to get our bearings by the North Star. Everyone should know at least one way of locating this important star.

ISOLATION ONLY PLAGUE PREVENTIVE

The only preventive of the plague, a virulent pneumonia, which recently broke out in Los Angeles is the complete isolation of the patient.

"Careless disposal of the discharges of the patient is the main way of spreading the disease," said Dr. M. J. White, acting surgeon general of the Public Health Service.

The people infected with the disease in the present outbreak have been Mexican natives of Los Angeles. They were ranch workers and doubtless were infected by ground squirrels. Unlike the bubonic plague, it is not spread by the bite of animals but through droplets of sputum given off in the air by the patient. It is almost impossible to detect the difference between it and broncho pneumonia in the early stages except that it is more virulent from the first. An examination of the sputum of the patient will show the presence of the germs.

"The disease must have spread from the ground squirrels in California since no case of the plague has been recorded in Mexico for the last two years," said Dr. G. W. McCoy, director of the Hygienic Laboratory, U. S. Public Health Service.

The pneumonic plague is a native of Manchuria and other northern climates. The last great outbreak occurred in 1911 when over 50,000 people died in a few weeks. The first known case of pneumonic plague came to the western hemisphere in 1899 from Africa.

In 1919 fourteen cases were recorded in different parts of California. Ground squirrels were examined and found to be infected with the disease. The death rate in this slight epidemic was 100 per cent. It was not recognized definitely until the last case where an autopsy proved it to be plague and not pneumonia. It can never be particularly violent in California as the germs need a cold, damp atmosphere to thrive. Under favorable conditions they can lie dormant for years and still spread the plague.

It is probable that it was the pneumonic rather than the bubonic plague that swept through England and France in the Middle Ages.

Two specialists in contagious diseases, Dr. J. C. Berry and Dr. M. E. Wayson, have been sent out to the coast by the U. S. Public Health Service to study the conditions leading up to the plague.

The situation in California is not alarming to any except the ground squirrels as a war of extermination is being waged against them. Every precaution is being taken to prevent new cases. Rats are also suffering in the war. They have been in bad odor as carriers of plague for centuries. The same quarantine precautions are being observed as in diphtheria.

The germ was discovered and isolated by The Royal Academy of Science of