

day will arrive. On the longest day the sun, at latitude 40 degrees north, will rise at 4:31 a. m., and will set at 7:32 p. m., eastern standard time. (For daylight saving time, it would rise at 5:31 and set at 8:32.) There are thus more than 15 hours of daylight on the day of the summer solstice.

These figures refer to the actual setting of the sun itself. Of course, twilight continues for several hours after sunset, and begins several hours before sunrise. This is an effect of the earth's atmosphere. While the sun is below the horizon for a person on the surface of the earth, the air above him may still be illuminated. If we lived on an airless planet—Mercury, for example—this would not happen. Darkness would come immediately at sunset, and the day would come exactly at sunrise. As it is, with evening twilight lasting at the time of the solstice until 9:35 p. m., as the astronomer reckons it, and morning twilight beginning at 2:27 a. m., there are only about 4 hours and 52 minutes of real darkness on the night of the 21st of the month.

Farther north, as in the British Isles, darkness does not come at all at this time of year, but morning twilight begins before the evening twilight has ended. And then if one goes still farther north, to North Cape, for instance, the sun does not set at all, and one sees the strange phenomenon of the midnight sun. On the other hand, at 40 degrees south latitude, the parallel of which passes through New Zealand, they are now enjoying their winter months. There, at our summer solstice, they have the winter solstice, and the times of sunrise and sunset are just about the same as they will be for us on the 22d of next December.

Venus shines brightly in the early

evening western sky as it did last month and as it will for several months to come.

The June evening sky is occupied by an unusually large number of bright stars. Almost directly overhead is Arcturus, in the constellation of Boötes, the Charioteer. Arcturus is one of the brightest stars in the heavens, for of all the stars that we can see, it is only exceeded in brilliance by Sirius, Vega and Capella. Sirius was visible in the winter sky and it has now departed, but Vega can be seen high in the eastern sky, in the constellation of Lyra, the Lyre. Capella is low in the northwest, hardly visible because it is so near the horizon, though during the past few months it was better placed.

Below to the right of Vega is Altair, in the constellation of Aquila, the eagle. Pollux, one of the two twins, Gemini, is low in the northwest not far from Capella. Spica, in Virgo, the Virgin, is in the southwest, while to the west, at the end of the handle of the "sickle" in Leo, the lion, is Regulus. The ruddy Antares, in Scorpius, is in the southern sky. The "Northern Cross" in Cygnus, the Swan, is in the eastern sky, with the cross lying on its side, and with the bright Deneb at the northern end.

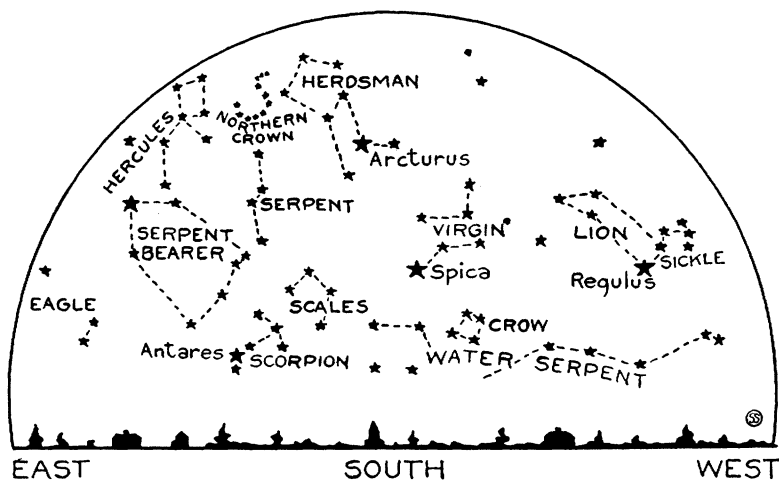
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### Mirror

THE 69-inch mirror of the new Perkins Observatory telescope has reached the polishing stage and is now having its surface given its final shape. It is the largest piece of optical glass made in the United States and when completed will be placed in service at Ohio Wesleyan University, Delaware, Ohio. It will then be the third largest reflecting telescope in the world.

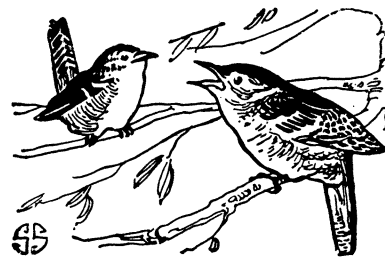
*Astronomy*

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## NATURE RAMBLINGS

By Frank Thone



Wrens

WHOEVER has had the foresight to put up a wren house probably has tenants by now, with Mistress Jenny scolding at cats, fighting sparrows and in general comporting herself like the competent little domestic shrew that she is. Her husband, about the most henpecked of male birds, is nevertheless of a cheerful disposition, and manages to get in a good deal of really melodious singing in the intervals between fits of domestic worries.

Men and wrens have probably shared habitations from the very earliest cave-dwelling days, for the house wren is a cave wren where there are no houses. Its Greco-Latin scientific name is a recognition of its cave-dwelling habits: *Troglodytes*—a title, it will be recalled, bestowed also upon cave-dwelling men.

The wren's long bill, its inquisitive habits, and its nervous, incessant activity, all fit it admirably for its great trade of insect-hunter. More than almost any other bird, the wren is carnivorous, only about two per cent. of its food normally consisting of vegetable matter. Thus the wren is not only a close neighbor but a good friend and ally of man.

If one wants bird neighbors, wrens are easier tenants to secure than any birds except the undesired sparrows. They will move into any kind of a bird house; even a tin can with a hole in the end furnishes a wren family a suitable apartment. Only the hole should be small. The proper diameter is one inch, or the size of a twenty-five cent piece. This prevents larger robber birds, especially sparrows, from entering, and is quite big enough for the diminutive body of the wren to slip through.

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