

does not become what the almanacs call an evening star until Lady Day.

This one is Jupiter. To pick him out from the host of stars is easy enough. In the absence of the moon and Venus, he is the brightest of the whole lot. If the observer feels a doubt at present as to which of two is entitled to this distinction, he need not be in any hurry to settle this doubt. When he is better acquainted with both of them, and especially after he has tried which of them is easier to find (under similar conditions) in daylight or strong twilight, the question as to which is the brighter will no longer trouble him. But if, at present, he is in doubt as to which of the two is Jupiter, he had better settle that at once. There are several tests, some permanent, others temporary. The principal temporary one at present is that when Jupiter is in the east his rival is in the south. Of permanent tests, there are (1) difference of color, (2) difference of lustre, (3) difference in apparent size—these last two differences are most conspicuous and most striking in daylight, (4) difference in twinkling, (5) position among the stars constant or variable. The temporary test is sufficient to enable the veriest tyro to say which is Jupiter and which is Sirius. It will be good exercise for his eye and his judgment to try the permanent tests for himself. As to twinkling, he had better not be too sure at first. If repeated observations of Jupiter, in all sorts of positions and under all sorts of conditions, seem to confirm what the books teach on the subject, Venus and Mercury should be observed, too, before making up his mind about it.

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At the beginning of the month Jupiter rose at eight o'clock. This is for the latitude of Yarmouth and for a clock set to mean time. His usual habit is to rise about two hours earlier on any date than he did a month before that date. Most of the time it is less than two hours, but just at present it is more. On the first of April he will rise here at 5.37 mean time.

He will be on the meridian at midnight on the 25th, and that event marks his passage from "morning star" to "evening star." The distinction is of no practical importance, but young students of astronomy who find it in their almanacs are often puzzled by it. If they are given to observation they find it easy to understand the distinction in the cases of Venus and Mercury. These planets swing out on the east side of the sun for a space and then swing back. During the interval they are seen in the west after sunset, and are known as evening stars. Then they swing out on the west side and back again, and while out there they are seen in the east before sunrise, and are known as morning stars.

But with Mars and Jupiter and Saturn it is different. They pass the sun only from east to west. Before each passage they are left above the western horizon after sunset and are evening stars. After each passage they come above the eastern horizon before sunrise and are morning stars. When do they change their status? When should we cease saying, "after the last conjunction," and begin to say, "before the next?" When do we drop our "p. m." and begin again on "a. m.?" The answers to the second and third of these queries should help the anxious inquirer to puzzle out the first.

Jupiter is in Virgo for this year. At present he is between the stars Gamma and Eta. At the beginning of the year he passed Gamma on his way east. After a few weeks he stopped, then turned back, and passed her again on February 18th. After a six months' trip to the west he will be back to her once more in August, and then leave her for twelve years.

Those who are interested in close conjunctions should note that one will occur between Jupiter and Eta Virginis on April 11th, and another—not so close—on July 13th.

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In the middle of February Venus passed the sun on the farther side. In almanac language she was then "in superior conjunction." She usually makes this passage closer to the sun's disc, and she always makes it at a much more leisurely rate of speed, than when moving across on the near side, as she does when "in inferior conjunction." In the latter case it sometimes happens that the patch of sky between sun and planet is wide enough at the very time of conjunction to allow star-gazers to continue their daily observation of the planet without interruption. It happened so in February, 1894. One evening after sunset I saw Venus in the west, and next morning before sunrise I saw her in the east—with the naked eye on both occasions. But she allows no such liberties as these when she is in superior conjunction. She then gets so very close to the sun's disc and moves so very slow that naked-eye observation is impossible for some time both before and after conjunction. If the question, "How much time?" be asked, the answer is that it depends on several things: partly on Venus, partly on the sun, largely on the observer, and hugely on the weather. The last superior conjunction—I mean the one before that of February 15th—occurred in 1896 on July 9. Fourteen days before that date I had an eye observation of Venus when she was less than 4° from the Sun. She was Morning Star then—as she always is just before superior conjunction—but the observation was not a morning one; it was made at midday. And the first one after that conjunction was