

ASTRONOMICAL NOTES.

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The eclipse of the moon, March 10th, was very widely observed, and many interesting notes made of the varying hues of the disc when totally immersed, occultations of faint stars in the path, etc. Total disappearance of the moon when in the shadow has been but rarely recorded; nor is the explanation very satisfactory which is offered to account for the possibility of the phenomenon: If the atmosphere were everywhere charged with vapour, the rays of sunlight would be all absorbed, the red, which ordinarily, easily gets through, as well as the blue and other rays. We cannot readily believe, however, that the atmosphere would at any time be so completely vapour laden. During April Saturn reaches opposition with an angular diameter of 17 seconds of arc. On the evening of the 23rd, when the planet is directly opposite the sun, the largest satellite Titan, easily visible in almost any telescope will be seen at greatest elongation west of Saturn. The very rapid motion of Mars across the heavens brings the planet very near to Jupiter on the evening of April 25th. With a low magnifying power on the telescope they will be seen in the same field. Jupiter is now in the constellation Gemini and in a region where the stars are very numerous. The planet will frequently appear to have five moons by the near approach of a faint star.

Venus is most conspicuous in the evening sky and the excess of brightness over Jupiter or Sirius is readily seen, although she is far from being at her greatest brilliancy. Venus forms a beautiful picture with the young moon on the evening of April 27th.

In the sidereal heavens we find

Sirius and the brilliant Orion well to the westward at sunset, while the great yellow star Arcturus is becoming a conspicuous object in the east. This star has probably given rise to more sensational reports than any other stellar object. In 1890 very elaborate observations were made at Harvard with the view of determining, if possible, the parallax of Arcturus.

The published result placed it at an enormous distance from the solar system and this, combined with its brilliancy, assuming the same intrinsic lustre as the sun has, gave an actual diameter for the star which would fill the whole distance from the earth to the sun. Much as we may admire the delicacy of astronomical measurements, we can scarcely credit that any instruments have been constructed or observations conducted which would allow the astronomer to confidently say he had measured an arc of the one-fiftieth part of a second, as was reported in the case of Arcturus. The general opinion, calmly expressed by the most experienced observers, is that, less than one-third of a second, all observations for parallax are unreliable. This means a distance of about ten years of light travel and this distance we are perfectly safe in naming as the least possible for Arcturus. Even this would give the star a diameter five times that of the sun, and a mass, possibly, 125 times as great. The very great velocity of Arcturus through space is more readily demonstrated and offers field enough for speculation. There seems to be no explanation offered of the astounding velocities with which some of the stars are endowed, except that they came so from the hand of the Creator, *ab initio*.