THE DISTANCE OF THE SUN.

able that even a sunbeam requires an appreciable interval of time to span the abyss which separates the earth from the Eight minutes is approximately the duration of the sun. journey. In fact, if the sun were to be suddenly blotted out it would still be seen shining brilliantly for eight minutes after it had really disappeared. Viewed as a means of measuring the sun's distance, it would be necessary to determine this interval accurately to half a second. Does astronomy hold out any prospect of our being able to measure this interval with such nicety ? This question is intimately connected with two of the most brilliant discoveries in the annals of astronomy. Although they are well known to everyone who has paid any attention to this science, yet I must refer to them briefly to examine how far they admit of the needful pre-Everyone who has had the opportunity of using an cision. astronomical telescope is familiar with the exquisite system of four moons which grace the great planet Jupiter. These little bodies led two hundred years ago to the discovery of the velocity of light. In their frequent revolutions the little satellites plunge occasionally into the vast and dense shadow thrown by the mighty planet. The sun's light, which had previously rendered the little satellite a glittering point of light, is then cut off, the satellite becomes invisible, and we say that it is eclipsed. This is a most pleasing phenomenon to witness, and as the satellites revolve so rapidly, the eclipses occur with great frequency. From the discussion of previous observations of the satellites we have become aware of the nature of their movements, so that the advent of eclipses can be predicted, and even the time of their occurrence. But the time at which the eclipse takes place is not identical with the moment at which we see the eclipse. There is an old story of the French King who came to the observatory to see an eclipse. Unfortunately his Majesty was late, the eclipse had passed, and when this was explained to him, he wanted to know if it could not be done over again. The only way in which an eclipse could be done over again would be first to view the eclipse from Jupiter himself, and then, with the

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