

for the little satellite, being a body of considerable size, takes a certain time to roll into the shadow; still it is very rapid, not taking more than a few seconds.

Again, supposing the Almanac says that the second satellite will re-appear on the left side of Jupiter at 10.27 p.m. You have a friend with you, and have been showing him Jupiter, who is riding high in the sky, accompanied by three of his moons. Number 3 on the left, numbers 1 and 4 on the right—so your friend, who has his eye to the glass, tells you at 10h. 26m. 30s. You reply that he must be mistaken, that the configuration in the Almanac shows two moons on each side of Jupiter for tonight. He looks again, and lo, even as he gazes, a little moon gradually emerges from the darkness, and serenely takes up its position alongside of number 3, as though nothing had happened. All this occurs 450 millions of miles away, yet the godlike intelligence of man has bridged this vast gulf, and predicts with unerring accuracy what is going to happen in these distant worlds. And without any trouble or inconvenience on our part, we are permitted to enjoy this spectacle at our ease. Am I not right in calling this "recreation?"

Before tearing ourselves away from this most attractive planet I may just say one word as to the much debated question of the visibility of Jupiter's moons to the naked eye. It has been alleged that individuals gifted with rarely acute vision have detected one or more of these tiny objects. Thus, a German named Nernst asserted that he saw one satellite, and drew a diagram of its position—but when the telescope was applied, it was found that three satellites had approached very near one another, and their united brightness had caught the piercing eye of the observer. Miss Clerke tells the story of a Siberian who stated that he had seen "a bright star eat up four little stars and cast them up again," which exactly describes the eclipses, transits and occultations of these moons, as they would appear to the untutored eye of a savage. There is no doubt that the closeness of these little bodies to Jupiter is the main reason why, at any rate, the third satellite cannot be seen, for could it be viewed by