hypothesis would have to be accepted; should it be hopelessly discordant, the question would remain undecided. The author would be very glad to see the question examined in this way by some independent authority.

If, on the other hand, a perfect theory of all the inequalities in the moon's mean motion can be formed independently of observations, the question will, in all probability, admit of being settled by the modern observations alone. On page 25 of the present paper is given an estimate showing how accurately, on the hypothesis in question, the secular acceleration can be determined when the observations between 1620 and 1720 are substituted for the ancient observations. Comparing the probable errors there assumed with those of the final results given in the preceding sections, it will be seen that while the results of the observations near 1700 are perhaps a little less accurate than is there assumed, those between 1630 and 1670 appear more accurate. Making the most liberal allowance for uncertainty of every kind, the probable error of the secular acceleration to be derived from the modern observations alone could scarcely amount to 1″ in the case supposed, and would be considerably reduced by the observations which will be made before the end of the present century. Since the competing values, 8″.4 and 10″.9, differ from each other by 2″.5, a result derived in the way we have described would be likely to decide between them if its probable error was 1″, and would be almost sure to do so if it did not exceed 0″.5, which I think would prove to be the case.