Discussions.

[*The contributions contained under this heading are comments on articles in the previous number of the* CHURCHMAN. *The writer of the article criticized may reply in the next issue of the magazine; then the discussion in each case terminates. Contributions to the "Discussions"* must *reach the Editors before the 12th of the month.*]

ASTRONOMICAL EVIDENCE FOR THE DATE OF THE CRUCIFIXION.

(*"The Churchman," April,* 1912, *p.* 265.)

THE Rev. D. R. Fotheringham, in his article on "Astronomical Evidence for the Date of the Crucifixion," has done me the honour to mention my name so many times that I feel bound in courtesy to make some reply.

My interest in this discussion is purely astronomical, not chronological. The observation of the heavens, out in the open, and with the unassisted sight—"Astronomy without a Telescope," "Astronomy before the Telescope"—has always appealed to me strongly. But I find few who care for this subject, or have any practical experience of it, and therefore I welcomed a paper by Dr. J. K. Fotheringham on "The Smallest Visible Phase of the Moon" that appeared in the "Monthly Notices" of the Royal Astronomical Society for May, 1910.

But a year ago, the Rev. D. R. Fotheringham, in an article appearing in the CHURCHMAN for April, 1911, and based upon his brother's paper, stated that, "It is a happy circumstance that astronomy not only narrows the uncertainty of the year, but also definitely decides once and for ever the still more engrossing question as to the exact day of the Crucifixion"; and again: "Long as the controversy has been, it must be settled now. There was not a single year during the procuratorship of Pontius Pilate in which the fifteenth of Nisan fell on a Friday." Colonel Mackinlay brought this article to my notice, and asked me if these two statements were correct. There was only one answer possible. These two sentences were expressed too absolutely, and were not warranted by the astronomical facts that Mr. Fotheringham had brought forward.

Turning back to Dr. J. K. Fotheringham's paper, it is necessary now to point out, that, useful as it was, Dr. Fotheringham was in error in each of the three conclusions that he had formed in it.

First: he laid down a rule for determining a limit below which the young moon cannot be seen. The limit thus determined is, in fact, that above which the young moon ought to be seen if properly looked for; quite a different matter.

Second: this rule was determined from observations made only in N. Lat. 38°. The latitude, therefore, naturally does not appear in the

rule, and Dr. Fotheringham drew the unwarranted deduction, in which his brother has followed him, that the smallest phase of the moon visible is independent of the latitude of the place of observation.

Third: he drew the conclusion, which he strongly emphasized, that it is also independent of the atmospheric conditions. This is manifestly absurd; and was only reached by including a great number of irrelevant observations, and by disregarding those which were relevant but inconsistent with the conclusion sought. In effect, Dr. Fotheringham committed the solecism of asserting that the young moon could not possibly be seen under conditions, when the observations he was discussing stated that it had been seen. It has been since easy for me to collect other well-authenticated instances in recent years of similar "impossible" feats having been successfully performed.

It is interesting to note that the Rev. D. R. Fotheringham, while accepting his brother's emphatic conclusion that the smallest visible phase is independent of the atmospheric conditions, is at the pains to refute it; for in his recent article (CHURCHMAN, April, 1912, p. 271) he claims that an observation in the morning might be made at a smaller distance from the sun than in the evening, on account of the better atmospheric conditions of the morning air.

On page 273, Mr. Fotheringham criticizes Colonel Mackinlay for asserting that the new moon can be seen more easily in Palestine than in England or in Athens. Colonel Mackinlay did not owe this statement to me, but in any case he, and not Mr. Fotheringham, was right. The problem is analogous to that of the visibility of Mercury, and it is well known that Mercury is much more easily seen in low latitudes than in high; indeed, it is a fact that I have often verified by my own observations. Mercury, generally a difficult object here in England, is not only an easy object, but a conspicuous one in the latitudes of Athens or of Jerusalem.

If now we come to the particular question before us—the young moon of March, A.D. 29, was it first seen in Judea on March 4 or March 5?—it is evident that, given clear weather, it would be an easy object on March 5, but a difficult one on March 4. But for a keen observer and under good conditions, we cannot say that it was quite impossible.

What is the probability of the keen observer and the good conditions? Mr. Fotheringham correctly summarizes the rule of the Mishna (pp. 266 and 267): "The evidence of two independent witnesses, each of whom had actually seen the crescent, was required. Messengers hastened with the tidings to Jerusalem, and refreshment was provided for them on their arrival. On important occasions, such as the first and seventh months, they were allowed even to profane the Sabbath, if need were, in order to make their tidings known." But what was the intention of

requiring two independent witnesses, each of whom had actually seen the crescent? Why should they hasten to Jerusalem and be allowed even to profane the Sabbath in order to make their tidings known? "As a rule, when anybody saw the moon everybody might see it" (p. 268). If all that was wanted was to know when the moon was clearly visible to everyone, what need to wait for witnesses at all? The rule could have but one purpose—to engage the whole nation in the work of observation in order that even the thinnest, faintest crescent might never be missed, that the month might begin on the earliest day possible. We are, therefore, right to assume that, if the conditions approached those under which in modern times the moon has ever been seen, no matter with what difficulty, it would have actually been seen and employed for their calendar by the Jews in the time of our Lord.

The rule could only work one way. It could never put the beginning of the month later than common general observation would have done; it could only put it earlier. It could, and did sometimes, put it too early. Thus, only a few years after the Crucifixion, an attempt is stated to have been made by the Baithusites to bribe witnesses to declare that they had seen the moon one day before it actually appeared.[1] Another instance, referred to by the Rev. D. R. Fotheringham, but apparently misunderstood by him, is still more to the point. The Rabbon Gamaliel (not the Gamaliel of the Acts, but his grandson), in the course of his struggle for the autocracy, made a mistake which would have been fatal to a weaker man, but turned it to his own advantage. Two witnesses had reported that they had seen the new moon, and Gamaliel had accepted their report, and pronounced the formula which declared it to be the first day of the month; in this case, Tishri, the most important month of the whole year. But the following evening, though the weather was clear, the moon could not be seen, and Rabbi Yehoshua and Rabbi Dosa Ben Hyrcanus objected that a wrong date had been given to them. The astronomical fact was not in dispute, and the month had been manifestly fixed *two days too early* (not one day, as Mr. Fotheringham supposes). But Gamaliel stood his ground, and compelled Yehoshua to journey to him, bearing stick and purse, upon the day which he, Yehoshua, held to be the true day of Atonement.[2]

We have, therefore, indubitable evidence that on one occasion, at least, in the first century of our era, the most important month of the Jewish year was reckoned as beginning two full days before the moon could have been seen.

As I mentioned above, and as I pointed out both to Colonel Mackinlay and to the Rev. D. R. Fotheringham, the question put to me was a purely astronomical one, and I answered it as such, irrespective

[1] *Rosh-hashanah*, fol. 22, col. 2. [2] *Ibid.*, fol. 25, col. 1.

of any chronological inferences. The Jewish method of determining the first day of any month necessarily led to the earliest possible day being chosen. The Rev. D. R. Fotheringham now refers to the question of the identification of the first month of the (sacred) year. Here the method of practical observation would lead, in the case of ambiguity, to the later month being chosen, and it is undeniable that in A.D. 29 the new moon of March fell very early indeed to be taken as that of Nisan. To my mind, this is a more serious difficulty for the advocates of A.D. 29 to face than the difficulty of observing the young moon on March 4, A.D. 29. E. WALTER MAUNDER.

Notices of Books.

PRIMITIVE CHRISTIAN ESCHATOLOGY. By E. C. Dewick, M.A., Tutor and Dean of St. Aidan's College, Birkenhead. *Cambridge University Press.* 10s. 6d. net.

Let us at the outset express a very warm welcome to this book. In its original form it obtained the Hulsean Prize at Cambridge in 1908. Since then Mr. Dewick has found time to revise it thoroughly and make some additions. He divides his subject into six sections. The first deals with the foundations of eschatological language and sentiment in the Old Testament. The second examines the important developments which took place during the period between the two Testaments. The third grapples with the crucial problems of Christ's views and teaching. The fourth and fifth deal with the history of opinion in the Apostolic and sub-Apostolic ages. The sixth tries to gather up points about the "evidential value of primitive Christian eschatology," and, in accordance with the intention of the Hulsean Prize, "to evince the truth and excellence of the Christian religion."

It may be worth while to compare the scope of this book with what occurs to us as its most obvious parallel, Salmond's "Christian Doctrine of Immortality," first published in 1895. Two of Dr. Salmond's sections find little parallel in this book. He gives a careful examination of the "ethnic preparation" in the primitive races and in five countries, India, Egypt, Babylonia, Persia, Greece. Mr. Dewick has only three short appendices on Babylonia, Egypt, Persia. Salmond, in his concluding section, examines modern views upon universalism, conditional immortality, and eternal punishment. These fall outside the scope of the present work. In their sections upon the Biblical teaching the two writers overlap. The great service of Mr. Dewick's book is that he adds two sections wanting in Salmond—one upon the apocalyptic literature of Judaism, and one upon the Christian literature of the period from the close of the New Testament to Irenæus and Clement. For these sections, if for nothing else, "Primitive Christian Eschatology" will be invaluable to all students of the subject.

We should like to say a little about the method of the book. It is the