

seemed to me the next best thing. I have submitted the question to half a dozen of my friends, and asked them to tell me what they thought it was that the querist wished to know, so that I might be in a better position to tell him what he wanted.

A says he thinks the inquirer wants to know if he can use the "sunset" column of his almanac as a test to regulate his clock by.

B says the inquirer has found the "sunfast" column alongside the "sunset" column in the almanac, and thinks the entries mean that the sun would set at 5, if he were a well behaved body, but does really set 15m. 21s. before 5.

C thinks the inquirer has been reading up about the *mean* sun and the *true* sun, and that he wants to know if it is the *mean* sun that sets at 5 and the *true* sun 15m. 21s. before 5, or *vice versa*, or how.

D says the question is one that used to puzzle himself in his younger days, until his minister explained the matter to him. The explanation is this: The sun does really set on that day at 5, but owing to the acceleration of the equinoctial he is 15m. 21s. fast, and, therefore, at the time of his setting the clock should show 15m. 21s. to 5.

E treats the matter as a joke, and F says he gives it up.

D's minister's explanation — so far as it is within my mental grasp — seems much the same as B's view of the matter; and this has been noticed in a previous paragraph. It may be worth while to add that if the entries in the "sunset" column here given in *apparent* time (that is, in true sun time), then the entry in the "sunfast" column would have to be taken into account in answering the proposed question. But in the computation of the "sunset" entries for almanacs now-a-days the "sunfast" business has been already allowed for in the reduction to *mean* time.

As to C's view of the difficulty it should be sufficient to say that it is always the real sun whose settings are recorded in the almanac. The *mean* sun sets at 6 o'clock mean time always and everywhere — refraction being neglected.

A seems to think the inquirer has the idea that his clock should have showed the almanac hour of the almanac "sunset" at the time when he observed the sun to set. If inquirer and his clock are in St. John, and if he knows exactly what it is that his almanac calls "sunset," and if he can manage to observe this particular "sunset," then the above idea is correct. But if any of those three *ifs* are not satisfied — and to satisfy the third one exactly would probably be rather difficult — then the idea is not correct. If not in St. John but at some other place in

the same latitude, the time of almanac sunset on that day would be the same as at St. John, viz., 5 o'clock; but this 5 o'clock would not be 5 o'clock St. John time. If not in St. John but at some other place in the same longitude, the sun would set by St. John time, but the hour of its setting on that day would not be 5 o'clock.

The conjunction of Mars and Jupiter on November 13 will probably be past before the REVIEW is out, but the two planets will be near each other for some time after. They have not been so close together as on the 13th since June 1886, and will not be so close again until — will somebody kindly figure it out?

A month or two ago it looked as if Venus would overtake Mars long before he could overtake Jupiter. But just an hour before the conjunction between Mars and Jupiter she came to a dead stop in her eastward journey among the stars. During the next six weeks she will have to back up to where she was in the middle of October. This set-back will handicap her so badly that she will not catch up with Mars until towards the end of next August. The conjunction then will be a very close one, so close that the eye will not be able to see even a streak of sky between them; but they will not then be well placed for observation.

I wish some of the REVIEW readers would try how late in November they can still see Venus, either during daylight or in the evening, and either with the eye or with a glass. If you do, please send me your latest date, with particulars as to the *others*.

If any of you would like to look up Neptune in a field glass during the next six months, drop me a card to indicate your wish, and I will try to give you some help in the next REVIEW.

A. CAMERON.

Yarmouth, N. S., November 1886.

MCGILL University has again made another rapid stride in scientific education. A few days ago the corner stone was laid of the technical and mechanical buildings that the governors of the college are enabled to erect owing the liberality of two public spirited citizens of Montreal — Mr. W. C. McDonald and the late Thos. Workman. In establishing such institutions McGill will extend its usefulness by providing for Canadian students that instruction which they have been compelled to seek in technical schools abroad.

COMPULSORY education is receiving a large share of attention both in the press and on the platform throughout the Maritime Provinces. Chief Supt. Crockett, in a recent address before the St. John County Teachers, intimated that when the government perceived that there was a strong sentiment in favor of compulsory attendance it would add a clause to the education act giving power to enforce it. He complimented the teachers of St. John County that they unanimously passed a resolution favoring compulsory attendance at schools, even though they knew it would add materially to their labors.