

Question 7. I do not see what else the "waters above the firmament" could naturally mean than the supply, whatever it may be, from which rain comes; and the commonest observation connects rain with clouds. Only a person who knew a little of science would think of invisible vapour as a source of supply.

P.S.—The above was written a considerable time ago. Since then Mr. Lockyer has put out a theory of the nature of nebulae, according to which they consist of vast swarms of meteorites, coming constantly in collision with one another, and by the heat of collision converting small portions of the matter of which they consist into incandescent gas. This theory is still under discussion, and cannot be said to have been either accepted or rejected by the scientific world. As regards what is written above, it signifies little or nothing which theory of the nature of nebulae we adopt.

Dec. 17th, 1890.

PROFESSOR PRITCHARD ON GENESIS.

I.

1. The present state of our *knowledge* indicates that the earth has cooled down after the lapse of unknown ages from a fluid or semi-fluid of intense temperature. This condition of things is without any further hypothesis as to a nebular origin.

2. If this be the case (as it *certainly* is), then at any period before the earth had cooled down to its present temperature, all *springs* would of necessity have been thermal to an extent inconsistent with the existence of any vegetation, such as we know it. Fruit trees could not have existed. This bears upon the assertion by Mr. Gladstone and others, that fruit trees existed before the sun cooled to its present normal condition.

Independently of this cooling of vegetation, unless the sun's actinism or radiation is direct, fruit (*i.e.* seed) could not have ripened.

Consistently with this gradual refrigeration of the earth "in the beginning," water as such could not have existed. Even steam would have been dissociated into hydrogen and oxygen, and possibly into *their* elements (if they exist). In this sense "darkness" could not conceivably have been over the face of the *deep*.

It is not conceivable, consistently with our knowledge, that WATER could have existed before the consolidation of the earth or the aggregation of the sun. Genesis i. 2 is not tenable in any natural sense of the words.

Ver. 3. Light is conceivable quite independently of *the sun*.

So that vers. 3, 4, 5 are not incredible on the score of their anteriority to the sun.

Ver. 6. Say what you will, the word "firmament" was by the ancients used to imply some sphere, however thin, in which a planet or the stars were whirled round the earth; and they did suppose that it rained through holes (windows) in this firmament, and it is the most obvious and natural interpretation to be put upon vers. 7 and 8. (*I have no doubt that such is the real meaning, and I do not see how this error could effect a sincere theology of an ancient seer.*)

Vers. 9, 10, 11, 12 are unobjectionable, excepting as to the time which was certainly expended during the operation, and excepting that it took place before God made two great lights.

Vers. 14-18 are unobjectionable, excepting in their asserted posteriority to the grass and the fruit trees.

Vers. 18-25 are objected to by palæontologists as inconsistent with known facts.

Thus the existence of water before the concentration of the sun into the form of a sun is inconceivable with a competent knowledge of the facts of nature. So too is the

existence of grass and fruit trees antecedent to the same, or even under the condition of the invisibility of the sun as a sun.

Genesis i. is therefore (if interpreted in a natural sense, and as intended to be a true description of the genesis of the earth and all that is thereon) not tenable.

It is inconceivable that such a description, intended to be a literally true description, could have been dictated by the Author of all truth to Moses in the mount.

I must now, in my utter weariness of the subject, refer you to my article in the *Guardian* for what I am convinced is an approximate solution of all difficulties; and the more so, the more I cogitate. But read carefully what I have said there and here. A *young child* I would teach Genesis as it stands in a natural sense. To an intelligent youth I should say: This is the tradition of an ancient vision, aided by God, for the purposes of teaching men, in the infancy of the world, that the God of the Hebrew fathers created the world, and all that therein is, in love and wisdom. The verses or visions are pictures of what God has done, not of the order, or the means by which He did it.

It is a Divine moral tale, not a scientific memoir.

PROFESSOR STOKES ON GENESIS. (2.)

II.

YOU wish me to make remarks on Dr. Pritchard's letter.

1. On the nebular hypothesis I think it more probable than not that the earth had cooled sufficiently for vegetation before the sun had condensed into a definite globe.

2. Vegetation demands light, but not necessarily *direct* sunshine. The coal flora shows large cryptogams, equisetæ, ferns, etc.; and many kinds of ferns do better in shady places than in direct sunshine.

3. In the conjecture I threw out, I supposed "face of the