

This theory, if true, presents rather a gloomy outlook for the smaller bodies in the solar system; for life as known to us must have combinations of certain elements to support it. But the amateur will find on studying the subject in its entirety, that the high velocity of the oxygen or hydrogen molecule is in the region of hypothesis only. No one ever measured it in the laboratory, and such velocities as are assumed as the results of experimentation, and of calculation, into which the "theory of probability" enters, are very much less than the ultimate velocities which, if they existed, the moon certainly could not control. The whole question is open for discussion and a satisfactory solution need not necessarily come from the most skilled observer or physicist.

Some explanation is wanting, however, for the fact that while upon the moon we see evidences of what we may rightly or wrongly call water action, there is not a line, there is not a mark upon it which meets our terrestrial description of a river bed. The nearest approach to such are those peculiar markings styled, "rills" or "clefts," and they are more than any others the most inexplicable features on the lunar surface. The rills were not noted at all until some considerable advance had been made in telescope construction. They have been now about one hundred years under observation, and the astronomer still discusses their origin, while now and then a keen-sighted amateur discovers one not hitherto mapped, but presenting no new features to aid in a solution of the mystery.

They might be cracks in the lunar surface (query, What cracked it?) but they go up hills and down dales and intersect each other in such a way as to present an appearance which we could

never reproduce by cracking anything. We cannot, try as we may, reconcile their appearance to that of river beds. So there they are. How were they formed? What are they? So as not to leave the student at a loss for data, we should add that the bottoms of the rills are all perfectly smooth, so far as can be judged by very excellent telescopic examination.

While it requires considerable optical power to examine the rills there is one feature of the lunar surface noticeable in every photograph, easily seen in a small telescope, and yet quite as inexplicable. This is the "streak" system. We are all familiar with that great ring-plain Tycho, in the southern hemisphere (a picture usually shows an inverted image), and with the series of bright rays extending in all directions from it. We cannot miss this feature, it is the most noticeable on the moon, and when we view it in the telescope, looking long enough to get the impression of a great globe standing out in space, we are reminded most forcibly of the appearance of a glass globe cracked by inside pressure, that of ice, for instance. But we cannot explain Tycho and his rays so easily as that. There are the bright streaks and the intertwining rills all waiting for some one to explain their origin.

The amateur, then, must not think that the moon is worked out. Easiest of all objects to observe, it is the most interesting, and while we no longer attribute to it occult influences, we find it still has the power to charm us away just a little from the gross things of earth.

Observations of the moon should be conducted systematically, and not too much attempted at once. The observer who is at all enthusiastic, is usually armed with a three-inch telescope, and this aperture will show more than