line may possibly not exactly coincide with a plane in all its parts; and that a straight line may conceivably be a little curved. And in answer to the objection that a straight line may be *seen* to be straight, it is suggested that the lines of light may possibly also not be true straight lines. This last question of a straight line was referred to in an article in our last issue; and, as it is really the fundamental point of the controversy, we may confine ourselves to it on this occasion. If, indeed, we cannot be certain that a straight line is really straight, then we can be certain of nothing at all in geometry.

Confronted by the obvious fact that it is utterly impossible for the human mind to conceive either a boundary to space or its infinitude, not content with the modesty of an agnostic position, and animated by a desire to in some way solve this part of the problem of existence, the New Geometer imagines that it will help the matter by supposing that straight lines may possibly be a little curved, and that thus, when looking out on a starlight night, we may be looking along a line which, were our sight keen enough, would actually enable us to see the back of our own head, after our line of sight had passed by Sirius, the Southern Cross, and the Pole Star *en route*. Sir Robert Stawell Ball, in an article on this question of the possible crookedness of a straight line, in the *Fortnightly Review*, (quoted in Dr. Paul Carus's "Primer of Philosophy," p. 95) and referred to in an article by Mr. Underwood in our last issue, says:

"If any one should think this a difficulty, I would recommend him to try to affix a legitimate definition to the word 'straight.' He will find that the strictly definable attributes of straightness are quite compatible with the fact that a particle moving along a straight line will ultimately be restored to the point from which it departed."
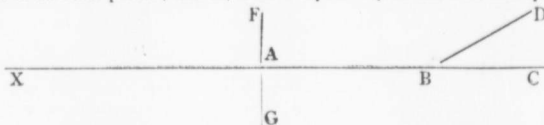
The absurdity of such a conception seems to need no exposition; and yet the notion is gravely put forward by one of the greatest mathematicians of our time.

Equally amusing, too, is the assumption that such propositions offer no difficulty to the experienced geometer; that, without special training, an ordinary man cannot comprehend what a straight line really is; and that a true conception of it can only be obtained by a man who has become so imbued with geometrical knowledge, that he can conceive of a straight line which is just a trifle different from a straight line as imagined by a common man.

And this may be true. But it only proves that, in these abstract speculations, the geometer has entered the same field as the metaphysician, He has endowed a formula of words with a meaning which has no relation to actual facts, and which can only be comprehended after a course of training that gives the inquirer a new key certainly, but one utterly useless to unlock the problems of reality.

The worst condemnation of such solutions is to be found in the fact that they in no way remove the difficulties of the original problem. Indeed, as in the case of the assumption of a superior and spiritual power controlling our material universe, or of a first cause, the proposition only calls for fresh explanations.

To illustrate the point: Let X A C be a portion of the postulated circular straight line. It is evident that what is true of any one point in this line must be true of all other points; and as, from the point A, we can look into space in