

The Ray System in the Neighbourhood of Proclus.

BY

REV. J. MITCHELL, M.A., F.R.A.S.

IN the drawing I send with these notes I have made an attempt to sketch the Ray System radiating from Proclus. I fear I have succeeded but very imperfectly. The rays are very difficult to see and very difficult to get on paper when seen. Probably in future this kind of work will be better accomplished by photography, but so far as I have seen no photograph has brought out clearly the finer rays, such as I, II and III with their junctions. Rays such as VI, VII, VIII and IX are seen fairly well (though not clearly defined) in good photographs, but the components of X and XI are quite invisible, being smudged up in one hazy ray.

In the above system there are two distinct kinds of rays :—

- (1). Those in Mare Crisium.
- (2). Those in the rugged region between Mare Crisium and Palus Somni.

(1). The bed of Mare Crisium is very smooth and even, and I find that the rays appear almost as soon as the Mare is completely illuminated, *i.e.*, when the Moon is a little over 3 days old. I have seen the rays faintly when the Moon was $3\frac{1}{2}$ days old. They are fairly easy at 4 days and quite easy when 5 days. X and XI are seen duplicated beautifully on the 5th day, perhaps better than at any time during the lunation.

(2). The surface between Mare Crisium and Palus Somni, in fact the whole territory between Mare Crisium and Mare Tranquilitatis, is most rugged. It is broken up in a most bewildering manner. A good photograph of the Moon on the 4th or 5th day shows this clearly. The rays in my sketch map, marked I, II, III and XIII, are not visible until the Moon is at least 6 or 7 days old. When first they appear it seems to me as if they follow the course of lines of peaks, and that they are nothing but ranges of hills rising up into peaks here and there. But strange to say, these peaks are not visible on the 4th or 5th day of the Moon. A rough parallel to this system may be seen in the Sierras of Spain, though they don't radiate from any centre. In any case they differ from the rays in the Mare, in that they are not continuous. This can be seen in any of the components, but particularly well in the case of (A. XIII).

I should be glad if other members of the Society would take up this work. Perhaps the sketch will serve as a guide and beginning for a careful and systematic survey of this region. In this way only will our knowledge of these most interesting and little understood rays be advanced.

The sketch I send is based upon a drawing sent by Mr. Tomkins. This appears in the lantern slide which I am forwarding. It will be well to notice the differences between the two.

Ray System Radiating from Proclus.

5" Cooke Refractor. Powers varying from 140 to 300.

