Addendum.

By J. Evershed, F.R.S.

May I add a few remarks as to the actual performance of the liquid prism which may justify our long continued attempts to perfect it ?

The effective aperture is about $3\frac{1}{2}$ inches, and the solar spectra obtained are probably superior in definition and resolving power to the grating spectra used by Rowland for the Preliminary Table of solar wave-lengths (errors have been detected in the Table in the H and K region and at D).

With 2 transmissions only, the resolving power near K appears to equal the Mount Wilson grating spectrogram of the same region published in *Publications of the Astronomical Society of the Pacific*, **48**, 205, 1936, and the double line at 3925·986 of the Revision of Rowland is clearly resolved in my spectra. For fine lines in the arc spectrum, a separation of half the amount of this double, or 0·04 A is resolved.

For longer wave-lengths, 4, 6 and 8 transmissions can usefully be made, and many beautiful spectra of sunspots showing the Zeeman effect in lines near $H\beta$ and $H\gamma$ have been obtained with 4 transmissions, also high dispersion spectra of sections of the Sun's disc showing numerous

minute Doppler shifts. In the yellow near D, using Mr. Hargreaves' beautifully worked plates and mirrors. first-class definition is obtained with 8 transmissions.

It is astonishing that this can be done, since the light has to negotiate no less than the equivalent of 23 flat optical surfaces. The spectra obtained are certainly an eloquent testimony to the perfection of Mr. Hargreaves' work. There is also a great thickness of liquid and glass to be traversed, that is to say, about 4 feet of liquid near the base of the prism and the equivalent of 15 inches' thickness of glass over the entire aperture.

The question of the use of methyl naphthalene is at present *sub judice.*