should give a lower rotational value than the mean. Adams and Lasby find[1] in 1908 that this line has an equatorial velocity 0.004 km per sec. above the mean; this is explainable by the fact that this line is strengthened, not weakened, at the limb and therefore should yield a larger value than the mean of the other lines which are for the most part weakened at the limb, if the spectrum of the haze is of sufficient strength. In those measurements the lines that are weakened at the limb show a mean residual of −0.003, while the lines that are strengthened at the limb show a residual of +0.005 in the mean, indicating a slight effect of sky spectrum. Similar means, −0.002 and +0.005, occur in the 1906-1907 series. All published results should be discussed fully from this point of view so that a correction can be made in the absolute values. A knowledge of the behavior of the lines at the limb is essential. Is it possible that the results (4) can be due to chance selection of the lines, so that at one end of the plate the lines will yield a smaller value of the rotation than do the lines at the other end? A cursory examination of Hubrecht's results would make this seem a possible explanation. It is assuredly not a physical effect depending on wave-length, for, if it were, there should be profound differences between series taken at widely different parts of the spectrum, and this is not the case. It may possibly be due to uneven illumination of the grating and one end of the plate being slightly out of focus. It is possible, too, that Hubrecht's result (3) may also be due to blended spectrum of the haze inasmuch as the wave-lengths in the latter are not midway between those from opposite limbs, which would result in effects of blending of different magnitude for the two limbs. It seems to the writer that many of these puzzling differences will vanish when accurate determinations of the effects of the spectrum of the haze are made. A later communication will deal with the effect in various series of observations.

SUGGESTIONS FOR FUTURE OBSERVATIONS

In the meantime it is necessary for all observers to pay special attention to the influence of the spectrum of the haze; it may be eliminated by the exact correlation of changing values of the solar

[1] See footnote 1, p. 177.