Nearly all of Adams' plates were made with the observed points close to the limb, and this final correction is in the majority of cases inappreciable and only reaches in a few plates, around latitudes 45° and 60°, 0.01 km. per second. Nevertheless, as it is always in the same direction, it should be applied. This is especially necessary in our own observations where the distance from the sun's limb is frequently much greater and where the value of the correction may reach 0.03 km. per second. Two methods have been followed here in reducing the observed to the actual velocity. The first consists in applying a correction to Adams' method for the change in angular velocity, thus obtaining the sidereal rate at the radially projected point on the limb, while the second determines the corrections to be applied to obtain the sidereal velocity at the observed points. In order to make the methods clearly understood it will be desirable to give a brief summary of the formulæ used.

Let R = Radius of sun's disc.
r = Distance of observed points from centre of disc.
χ = Position angle of observed point.
φ = Heliographic latitude of observed point.
λ = Difference of heliographic longitude between the observed point and the earth.
D = Heliographic latitude of the earth.
i = Inclination of sun's equator to ecliptic = 7° 15′.
Ω = Longitude of ascending node of sun's equator on ecliptic = 74° 31′.*
$\odot$ = Longitude of the sun.
ρ = Angular distance of observed point from centre of apparent disc as viewed from sun's centre.
η = Angle between direction of motion and line of sight.
s = Sidereal correction at limb (Dunér's Tables).
v = Measured velocity (linear).
V = Corrected velocity.
$\bar{\varepsilon}$ = Daily angular sidereal velocity.

11. First Method—Projection to Limb.

Latitude at limb. $\quad \text{Sin } \varphi = \cos \chi \sin \text{D}$

Angle at limb $\quad \text{Sin } \eta = \dfrac{\sin i \sin (\odot - \Omega)}{\cos \varphi}$

* At the time of writing new values obtained by the Maunders for i and Ω have appeared but these corrections would introduce only quite inappreciable changes in our computed values.