

$\frac{1}{16}$ th of an inch in length; but there was no appearance of ignition, although the same wire may be instantly ignited by a single pair of one inch plates immersed in a weak acid.

On the dispersive Power of the Atmosphere, and its Effect on astronomical Observations. By Stephen Lee, Clerk and Librarian to the Royal Society. Communicated by W. H. Wollaston, M.D. Sec. R.S. Read June 15, 1815. [*Phil. Trans.* 1815, p. 375.]

Although the appearances of colour given to low stars by atmospheric refraction be very well known, the comparative degree of refrangibility of the differently coloured rays does not appear to have attracted attention in proportion to its important effects on delicate astronomical observations.

The author endeavours to point out some of the principal errors that may arise from making allowance for mean refraction without due discrimination of the kinds of colour observed. It is evident that stars of different colours will require different corrections in observations of their altitudes.

The apparent altitude of the sun will also vary, according to the coloured glass employed in viewing its disc. For since there must, in fact, be several images of the limb observed at small distances from each other, it becomes a matter of choice which of them shall be selected by the kind of glass used; and it is possible, that to their cause may be ascribed the discordance which exists between the observations of the solstices, and possibly some disagreement between different observers.

Mr. Lee also suggests, from this source, an explanation of the apparent projection of Aldebaran and other red stars upon the surface of the moon,—a phenomenon that has been frequently noticed, but not yet understood. For if Aldebaran be nearly in contact with the upper limb, since the white light of the moon will be elevated more by refraction, it is evident that the stars may thus be made to appear within her disc a few seconds before or after contact.

The author refers to a great number of observations that he has made on Mars, Venus, and fixed stars; from which he infers the quantity of dispersion of light to be between one sixtieth and one seventieth of the total atmospheric refraction.

He also adds several remarks on certain alterations in the mode of making astronomical observations, by which the results deduced may have been affected, especially with reference to those of Dr. Bradley; noticing particularly the period when Hadley's sextant came into general use, and with it the employment of glasses variously coloured, which were soon applied to other instruments.

Mr. Lee concludes with suggesting such precautions as may lead to a more correct knowledge of atmospheric refraction, hoping that the subject may be pursued by astronomers more favourably situated than himself for such an investigation.