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No.	Limits of λ .	Mean λ .	Length of Tail in Degrees.	Probable Identification.	Remarks.
9	4239 } 4282 }	4260 ...	1'4 ...		A very faint line is given by Campbell at λ 426 in comet <i>b</i> of 1893.
10	...	4360	...	...	Faint bright spot in continuous spectrum. A bright line is given by Campbell at λ 4366 in comet <i>b</i> of 1893.
11	4523 } 4584 }	4553 ...	1'1 ...	Cyanogen ? ...	Campbell gives a band near λ 455 in comet <i>c</i> of 1893.
12	4650 } 4736 }	4682 ...	'4 ...	Blue band of carbon.	Max. brightness estimated at λ 4682.

Kodaikanal Observatory.

Note on the Ancient Solar Eclipses discussed by Mr. Cowell.

By A. C. D. Crommelin.

The results derived from these eclipses by Mr. Cowell are so important and far-reaching that it is desirable to remove all uncertainty as to possible errors, especially in view of the fact that Mr. Nevill published some results purporting to be deduced from the same formula, but inconsistent with those given by Mr. Cowell himself; I accordingly undertook an independent calculation of the six eclipses - 1062, - 762, - 602, - 584, - 430 and + 197, which are the most important and best authenticated ones. I obtain results practically identical with Mr. Cowell, the discordance in no case exceeding 2", which is an absolutely negligible quantity.

Several smaller terms in latitude were then introduced, which had some slight effect on the residuals, but not enough to affect the argument in any way; they possibly produce a small diminution in the relative acceleration of the Sun and the node, but only to the extent of $\frac{1}{2}$ " or less.

Two points suggest themselves as worthy of mention regarding the eclipse of - 1062; viz.—(1) Mr. King's recently published book gives a translation of the inscription in which it occurs, which is a record of omens occurring in the city of Babylon (wild beasts entering the streets, dogs entering the temples, etc.); hence there

can be no reasonable doubt that the extinction of the Sun, recorded as an omen, was likewise witnessed from Babylon itself.

(2) The date of the phenomenon is given as Sivan 26 ; now, as the months began with the first observation of the Moon, the 26th of the month must be within a day or two of new moon ; this decidedly increases the probability that the recorded solar darkening arose from an eclipse.

Both Professor Newcomb and Mr. Nevill have rejected the suggested explanation of the apparent acceleration of the Sun as arising from a diminution of the Earth's rate of rotation. The point, however, is such a simple one that it seems worth while to restate it in other words, in the hope that they may more definitely indicate their reasons for dissenting from it.

(1) A slowing of the Earth's rotation from tidal friction necessarily involves an increase in the Moon's distance, in order that the moment of momentum of the Earth-Moon system may be conserved.

(2) A rough calculation was given showing that the lengthening of the Moon's period arising from this may be nearly as great as the apparent shortening due to the increase in the length of the day.

(3) In the case of the Sun's period, the shortening due to the latter cause would act unimpeded, so that an apparent acceleration of the Sun comparable with that of the Moon would result.

Note on the Permanency of some Photo-visual Lenses.

By William J. S. Lockyer, M.A., Ph.D. (Plates 1, 2, 3.)

The Solar Physics Observatory at South Kensington is in possession of numerous photo-visual lenses which are employed in several instruments in frequent use. All these objectives have in time developed curious markings on one or more of their internal surfaces. The object of the present note is to draw attention to, and to give a brief description of these markings.

Each of the lenses in question consists of a combination of three elements, the front and back lenses being double convex and the middle double concave. The front and middle lenses are nearly in contact, but a small air-space separates the middle from the back lens.

The material with which the lenses are made is as follows :—

The front lens is made of Schott's baryta light flint glass (O 543), the negative or middle lens is of Schott's boro-silicate flint glass (a variety of their O 164), while the third is made of a light silicate crown (Schott's O 374).

The lenses to which reference will be made vary in aperture from 3 to 12 inches, and have been left, as regards their inner surfaces, untouched in their respective instruments for periods varying from 23 to 83 months.