Writing $X_1 = \frac{-\frac{1}{2}i}{n^2}$, $X_2 = \frac{-2i}{n^2}$ we have

$$\frac{\Delta^n 0^i}{n^2} = e^{-r} \left\{ 1 + r \frac{\frac{1}{2}i}{n^2} + \frac{r^2}{2} \left(-\frac{1}{n} + \frac{-i}{n^2} \right) \right\},$$

which is the foregoing approximate value.

2. On the Fossil Flora of the Radstock Series of the Somerset and Bristol Coal Fields. (Upper Coal Measures.)
Part I. By R. Kidston, Esq., F.G.S.

3. On the Achromatism of the Four-Lens Eye-Piece: New Arrangement of the Lenses. By Edward Sang, LL.D.

In designing a telescope for a particular class of observations, it was found desirable to have a field-bar in the focus of the object-glass, and, at the same time, to have an image of that object-glass exterior to the eye-lens. These desiderata cannot both be got by the achromatic arrangement of two lenses made of one material; they are combined in the ordinary four-lens eye-piece.

While investigating the action of the four lenses with a view to a third condition, found, however, to be unattainable, I was led to notice a porism altogether new to me, and which guides us to a new arrangement of the lenses. Believing that this porism has hitherto escaped notice, I venture to submit it to the Society.

Let B, C, D, E represent four thin lenses, all of one material, arranged along the axis of a telescope, whose object-glass A is at a distance beyond the limits of the page, and let us denote their focal lengths by f_1, f_2, f_3, f_4 ,

while their distances are b_1, b_2, b_3 ; then the condition of achromatism is contained in the equation