

in Airy's equations for the determination of that element. Neglecting those unknowns which have small coefficients, these equations are from 1806 to 1851,

1806—15	10.66 W	+	28.14 V	=	+	17.2
16—24	9.45	+	30.92	+	24.9	
25—33	9.43	+	29.26	+	42.1	
34—42	9.29	+	27.28	+	10.8	
43—51	9.05	+	23.36	+	7.9	

$$\text{Sum, . . . } 47.88 W + 138.96 V = + 102.9$$

In these equations $W \times 0''.73$ represents the correction to the coefficient of variation, and $V \times 3''.77$ that to the coefficient of parallactic inequality. We now know from recent special investigations that the latter coefficient is very near $125''.50$. Airy's provisional one was $122''.10$, whence

$$V = \frac{125''.50 - 122''.10}{3''.77} = 0.90$$

The sum of the preceding equations gives

$$W = 2.15 - 2.90 V = -0.46.$$

The resulting correction to the provision variation ($2370''.3$) is therefore $-0.46 \times 0''.73 = -0''.34$, making the variation derived from observation $2369''.96$, while Hansen's theoretical value is $2369''.86$, and Delaunay's $2369''.74$.

The differences are too minute to found any theory upon. Leaving the evection and variation, the other inequalities are so minute that their product by Hansen's coefficient is altogether insensible.

Summing up the results of our inquiry, it appears that in the case of the evection, the supposed discordance between theory and observation would not follow from Hansen's hypothesis, and, therefore, even if it exists, cannot be attributed to that hypothesis as a cause. In the case of the variation no such discordance has been proved. In the case of the other inequalities the discordance would be insensible. The hypothesis is therefore without logical foundation.

The question whether the evection given by observation is really greater than that deduced from theory, although it does not affect our conclusion, is yet interesting and important. It