The figures shew that the Clock is under compensated for temperature; but the larger portion of the variation in Rate, does not seem to be due to differences of temperature. If we take the residual temperature correction as '0162 T, the rates for the months of July, Aug. Sept. Oct. and Nov., are brought into every close agreement, the losing rate then rapidly diminishes, and reaches its minimum in March, after which time it again rises, the rates as at temperature zero, with the correction '0162 T, applied, are shewn in column five of the Table.

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The only way in which I can account for this, is by supposing that there must be a periodic shifting of the foundations of the Clock, which affects its rate. This supposition will perfectly account for the minimum occurring in March, when the amount of frost in the ground has reached its maximum. The rapidity with which the changes take place, varies a good deal from year to year, and at the beginning of December last, seems to have been unusually rapid. In obtaining the errors at various times, I have assumed, as being in close agreement with the observations, that the losing rate was diminishing at this time by 07, of a second per day, independently of the Temperature residual of 0162 T. The adopted errors of the Clock, when it shewed 12 hours, on the different days, were accordingly, as follows:

Date.	Error.			Daily Rate.
	h.	m.	8.	S.
Nov. 28	5	16	50.88	3.28
·· 29			54.16	3.20
" 30			57.36	3.15
Dec. 1			60.51	3.13
" 2			63.64	3.02
" 3			66.66	2.91
" 4			69.57	2.89
" 5			72.46	2.86
" 6			75.32	2.76
" 7			78.08	2.61
" 8			80.69	2.48

In taking the Transits for time, the collimation error was obtained by reflection from mercury, the level error was determined frequently, but I have been compelled to assume a uniform Azimuth error from the 29th of November to the 8th of December, as the weather was such that it was impossible to obtain satisfactory observations for determining the error of Azimuth between these dates, the agreement, however, between the errors obtained, from stars of different Declinations, was such, as showed, that any residual error was small as compared with the uncertainty of the Clock.