he omitted the sun's perigee from this argument by the authority of La Place, himself, who now attributed the inequality to a difference of compression between the two hemispheres of the earth. The function was also changed from *sin* to *cos* and the coefficient altered. The adopted term thus became

$$\delta l = -12''\cdot5 \cos\left[291^\circ\ 57' + (2^\circ\ 0'\cdot45)(t-1800)\right]$$
$$= 12''\cdot5 \sin\left[201^\circ\ 57' + (2^\circ\ 0'\cdot45)(t-1800)\right]$$

Succeeding investigators have regarded the theoretical coefficients of both of these terms as insensible. It does not seem likely that there is any such difference between the two terrestrial hemispheres as could produce the second, but I am not aware that the coefficient of the first has ever been shown to be insensible by any published computation. This coefficient is of the ninth order and the argument is,

In Delaunay's notation, $3D-2F-l+3l'$;
In Hansen's, $w-3w'$.

The period is 184 years, and the large value of the ratio of this period to that of the moon itself might render the coefficient sensible. Both Hansen and Delaunay pronounce it insensible, but neither publish their computations of its magnitude.

These terms have ceased to figure in the theory of the moon since Hansen announced that the action of Venus was capable of producing inequalities of the kind in question. So far as I am aware, Hansen's first publication on this subject is that found in No. 597 of the Astronomische Nachrichten (B. 25, S. 325.) Here, in a letter dated March 12, he alludes to La Place's coefficients, and says he has not been able to find any sensible coefficient for La Place's argument of long period. But on examining the action of Venus on the moon he found, considering only the first power of the disturbing force, the following term in the moon's mean longitude:

$$\delta l = 16''\cdot01 \sin(-g-16g'+18g''+35^\circ\ 20').$$

$g$, $g'$ and $g''$ being the mean anomilies of the moon, the earth and Venus respectively. As this expression still failed to account for the observed variations of the moon's longitude he continued the approximation to the fourth power of the disturbing force, and found that the terms of the third and fourth order increased the coefficient to $27''\cdot4$, the angle remaining unchanged, so that the term became

$$27''\cdot4 \sin(-g-16g'+18g''+35^\circ\ 20'),$$

But this increase made the theory rather worse, and the term depending on the argument of Airy's equation between the earth and Venus was then tried with the result—

$$\delta l = 23''\cdot2 \sin(8g''-13g'+315^\circ\ 30').$$

The introduction of this term seemed to reconcile the theory with observation.