cyclical theory, was, for several reasons, an important step in astronomy; some of these reasons may be stated.

1. It obviously suggested, or confirmed, the suspicion that the motions of the heavenly bodies might be subject to *many* inequalities: —that when one set of anomalies had been discovered and reduced to rule, another set might come into view;—that the discovery of a rule was a step to the discovery of deviations from the rule, which would require to be expressed in other rules;—that in the application of theory to observation, we find, not only the *stated phenomena*, for which the theory does account, but also *residual phenomena*, which remain unaccounted for, and stand out beyond the calculation;—that thus nature is not simple and regular, by conforming to the simplicity and regularity of our hypotheses, but leads us forwards to apparent complexity, and to an accumulation of rules and relations. A fact like the Evection, explained by an Hypothesis like Ptolemy's, tended altogether to discourage any disposition to guess at the laws of nature from mere ideal views, or from a few phenomena.

2. The discovery of Evection had an importance which did not come into view till long afterwards, in being the first of a numerous series of inequalities of the moon, which results from the *Disturbing Force* of the sun. These inequalities were successfully discovered; and led finally to the establishment of the law of universal gravitation. The moon's first inequality arises from a different cause;—from the same cause as the inequality of the sun's motion;—from the motion in an ellipse, so far as the central attraction is undisturbed by any other. This first inequality is called the Elliptic Inequality, or, more usually, the *Equation of the Centre*.[35] All the planets have such inequalities, but the Evection is peculiar to the moon. The discovery of other inequalities of the moon's motion, the Variation and Annual Equation, made an immediate sequel in the order of the subject to

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[35] The Equation of the Centre is the difference between the place of the Planet in its elliptical orbit, and that place which a Planet would have, which revolved uniformly round the Sun as a centre in a circular orbit in the same time. An imaginary Planet moving in the manner last described, is called the *mean* Planet, while the actual Planet which moves in the ellipse is called the *true* Planet. The Longitude of the mean Planet at a given time is easily found, because its motion is uniform. By adding to it the Equation of the Centre, we find the Longitude of the true Planet, and thus, its place in its orbit.—*Littrow's Note.*

I may add that the word *Equation*, used in such cases, denotes in general a quantity which must be added to or subtracted from a mean quantity, to make it *equal* to the true quantity; or rather, a quantity which must be added to or subtracted from a variably increasing quantity to make it increase *equably*.