rather by the particular case of collision in which the contact is only grazing, or in which there is only a near approach. The chances of these two latter conditions are of course much greater than direct collision. In such cases the tidal strains induced, added to the eruptive tendencies of highly heated gaseous bodies, will cause masses of matter to burst out and recede to great distances. They show mathematically that the tendency will be to assume a two armed spiral form; and the secondary nuclei with the planetesimals, as the finer matter is called, will revolve in elliptic orbits around the central sun. The secondary nuclei at irregular intervals in the arms of the spiral will gradually attract the smaller finer matter in these arms, and will, in doing so, tend to have their orbits made more nearly circular and become the planets. Explanations are given by this hypothesis of many of the difficulties of Laplace's theory, but only in a qualitative way, and, it seems to me, it has yet to stand the test of the quantitative criticism that was so long directed at the older hypothesis.

More recently, about two years ago, a series of abstruse papers dealing with the effect of a resisting medium in modifying the orbits of planets and satellites has been published by T. J. J. See but so far as I can learn the author's opinion of them is much higher than that of any one else's.

The question of the origin and development of our own system, and of other systems as well, is still therefore in an unsettled condition. On some things all are agreed, the chemical unity of the cosmos, the nebular source of the whole system and its development under the action of gravitation, the transference of work into heat and other dynamical laws form common starting grounds and are in reality of course the essence of the whole matter. Whether the nebula was gaseous or pulverulent, planetary, spiral, or any other form, how it became ordered and organized and how it collected into spheres, the wisest are perplexed to decide. There seems to be no question that, while the Laplacian hpyothesis contains the germ of the truth, the process of development was by no means so simple and direct as was therein stated, and that we do not yet know the precise mode of development of the solar system.

And yet, behind and above and before all this development and evolution we have been talking about, even the most sceptical must admit the presence of a Supreme Power, a Power which must have created in the first place, and a Wisdom and Beneficence which so ordered and arranged the development of Creation as to make it the result of the action of natural laws. And yet not less wonderful is the Love, which created the human mind and gave to it the power, though inhabiting for only a