—*i.e.*, that earthquakes are in a measure dependent upon the behavior of the axis of rotation. On the other hand a few investigators believe the earthquakes are accountable, to some degree, for the variation of the axis of rotation by the displacement of mass within the earth. This rather extended reference to the wandering of the pole within the earth is introduced to show its connection with the interior of the earth, its rigidity, its elasticity.

We now come to another source of evidence regarding the interior of the earth, it is the principal one that we have for consideration to-day.

Earthquakes and the Interior of the Earth.—Let us tarry for a moment with the word wave as understood in physics. A wave is a vibration propagated from particle to particle through a body or elastic medium. We may distinguish different classes or types of waves: gravitational, as in water; longitudinal waves or waves of compression and dilatation, such as manifested in sound; and lastly transverse, as are manifested in the propagation of light. It is certain that the hypocentre or origin of earthquakes is not situate at any great depth compared with the radius of the earth. From deductions based on direct observation within the epicentre, or area within which destruction takes place it appears that probably thirty miles is the very extreme depth at which earthquakes occur. Hence the study of the interior of the earth can not be made from any records within the epicentral region, for the waves received there can not come from or through any greater depth than that of the hypocentre which, as has been said, is within say thirty miles. It is evident we must get farther and farther away to obtain greater and greater depths for the path of those earthquake waves that enable us to study the interior of the earth. Let us consider the first impulse recorded by a number of seismographs or earthquake instruments situate at varying distances of some thousands of miles from the seat of disturbance. Each record would show an abrupt and rapid oscillation. Let it be granted that the origin is known and hence the distance along the surface of the earth and