great pressure was exerted by atmospheric vapours of water, and the molten material became saturated with these. Chemical processes took place, and gradually a firm crust formed. The lower layers of this crust came by degrees into the sphere of influence of the earth's own heat, and were there converted into a zone of "watery magma." This intermediate zone between the crust and the firm nucleus is, according to Sterry Hunt, the particular region in which plutonic and volcanic eruptions take origin. ("The Chemistry of the Primæval Earth," *Geol. Mag.*, 1868-69.)

Dana expressed the opinion that about two-thirds of the earth's mass are composed of iron, and form a rigid nucleus above which a viscous, hot magma forms an intermediate zone, while beyond that zone the earth's crust has a thickness of about seven or eight miles. Amongst other investigators, O. Fisher strongly advocated a molten viscous condition of the earth's nucleus upon which the firm crust rests. Within recent years it has become customary to apply a certain definite terminology to the various zones of the earth's spheroid, in accordance with the supposed physical condition of each particular zonal region. Thus Sir John Murray, in his Presidential Address (Geogr. Sect. Brit. Assoc., 1899), said: "When we regard our globe with the mind's eye, it appears at the present time to be formed of concentric spheres, very like, and still very unlike, the successive coats of an onion. Within is situated the vast nucleus or *centrosphere;* surrounding this is what may be called the *tektosphere* (*tektos*, molten), a shell of materials in a state bordering on fusion, upon which rests and creeps the *lithosphere*. Then follow *hydrosphere* and *atmosphere*, with the included *biosphere* (*bios*, life). To the interaction of these six geospheres, through energy derived from internal and external sources, may be referred all the existing superficial phenomena of the planet."

Recent seismological observations indicate the transmission of two types of waves through the earth—the condensational-rarefactional, and the purely distortional—and the study of these tremors supports the view that the centrosphere is not only solid, but possesses great uniformity of structure. The seismological investigations of Professors Milne and Knott point also to a fairly abrupt boundary or transition surface, where the solid nucleus passes into the somewhat plastic magma on which the firm upper crust rests.