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## CONSEQUENCES OF BOSCOVICH'S THEORY – QUANTUM MECHANICS AND THE PARTICLES HIERARCHY OF MATER

The backbone of Bosckovich's monumental work "Theory of Natural Philosophy Reduced to a Single Law of Forces Existent in Nature" is the so-called Boscovich's curve, which shows the change in attractive and repulsive forces with a change in the distance between elementary points or particles of matter. Almost all of his other concepts are the logical consequences of this single law of forces, the elaboration of which leads to a multitude of applications in various fields of physics, chemistry and other natural sciences. This work discusses: the limits of cohesion and non-cohesion, movement along orbitals, forerunner of quantum mechanic, the principle of wave-particle duality, the contribution to the discovery of the structure of the atom, the similarity of Boscovich's and modern understandings of the hierarchy of matter, and the opinion of Nobel laureate Leon Lederman that Boscovich's theory is the key to all of modern physics.

**Keywords:** Roger Boscovich, Theory of natural philosophy, foreunner of quantum theory, discovery of the structure of the atom, hierarchy of matter.