

The Octahedral Periodicity of the Atomic Elements

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Twenty-six years ago I discovered that the periodicity of the atomic elements is octahedral. This is readily seen in the numerical series established by the atomic numbers of He Mg Sr Ra, 2 12 38 88, each of which is twice the number of simple octahedra, 1 6 19 44, in a compound octahedron of edge length 1 2 3 4. It follows that each of the atomic elements is a crystalline structure of identical regular octahedra.

The simplest crystalline grouping of octahedra is the triplet, the deuterium form of the H-atom. Two triplets combine to form the He-atom which is a compound octahedron. The quantum numbers which were thought to describe the orbits of the electrons are, instead, the xyz-locations of the Deuterium and He-atoms within the crystalline atom. Elements with even atomic numbers are composed solely of He-atoms; those with odd atomic numbers have one unpaired Deuterium atom. The elements are formed by the sequential addition of triplets so as to produce as near a regular octahedron as possible.

Octahedra in crystalline order are joined edge to edge. Each edge of the octahedron has magnetic polarity. The polar interaction between edges of adjoining octahedra is mutual and simultaneous. The interaction between edges is always mutual and simultaneous however remote. As the orientation of one octahedron changes relative to another octahedron it affects the interaction between their edges. If it is possible to detect a pattern of polar changes due to the manipulation of octahedral orientations, a means of real time interstellar communication awaits.

The regular octahedron is one of the five regular polyhedra. Octahedral structures account for the other regular polyhedra—cube and tetrahedron are crystalline forms of the isometric system; icosahedron and pentagonal dodecahedron are the quasicrystalline forms of Bucky balls and viruses.

Diffraction patterns have led to the belief that light has wavelike properties. That belief is incompatible with the octahedral atom and prompted a successful search for a geometrical explanation. It shows that the pattern is due to multiple reflections of photons from the tubular wall of the pinhole. A length of brass tubing and a light source provided confirmation.

Studies of the emission of light from what are called black bodies show that the wavelength of the emitted light is a function of temperature only. The material of the black body has no effect. Since photons are atoms or groups of atoms which are thrown loose from the material of the body, and the reciprocal of the wavelength is the momentum of the photon, and the photon of one material has a different mass than the photon from another material while each has the same momentum, then, they have different velocities. Hence, the speed of light is not constant.

The octahedral atom shows that the basis for Eddington's analysis of the constitution of stars, the Rutherford atom, is false. The internal temperature of stars is much lower than he thought. The abundance of helium and hydrogen derives from the fission of the octahedral atom into its subassemblies. A star is a planet whose surface is atomically afire. Humans discover naturally occurring unstable atoms and collect them as fuel for reactors. The fire is triggered when the unstable atoms produced in reactors are concentrated as radioactive waste and reach criticality.

The atoms which are emitted by a star at the same time and travel radially outward at the same velocity are mutually attracted to their nearest neighbors. This attraction has a retarding effect on their velocities. The farther they travel the slower they move. This is the red shift—photons slowing, not sources receding. Like the Rutherford atom and light as wave, the Big Bang is a delusion.

The periodicity of the atomic elements is octahedral. It shows that the atoms are crystalline assemblies of identical regular octahedra. The elusive building block of the Universe is the regular octahedron. The basis of every thing and every phenomenon is the regular octahedron of which all is made. It defines the Universe.

There is a book length document of 500 pages on my website which describes the discovery and its implications—Octahedron1stEd.pdf— <http://homepage.mac.com/whitby/>

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