The Santora Model of the Atom

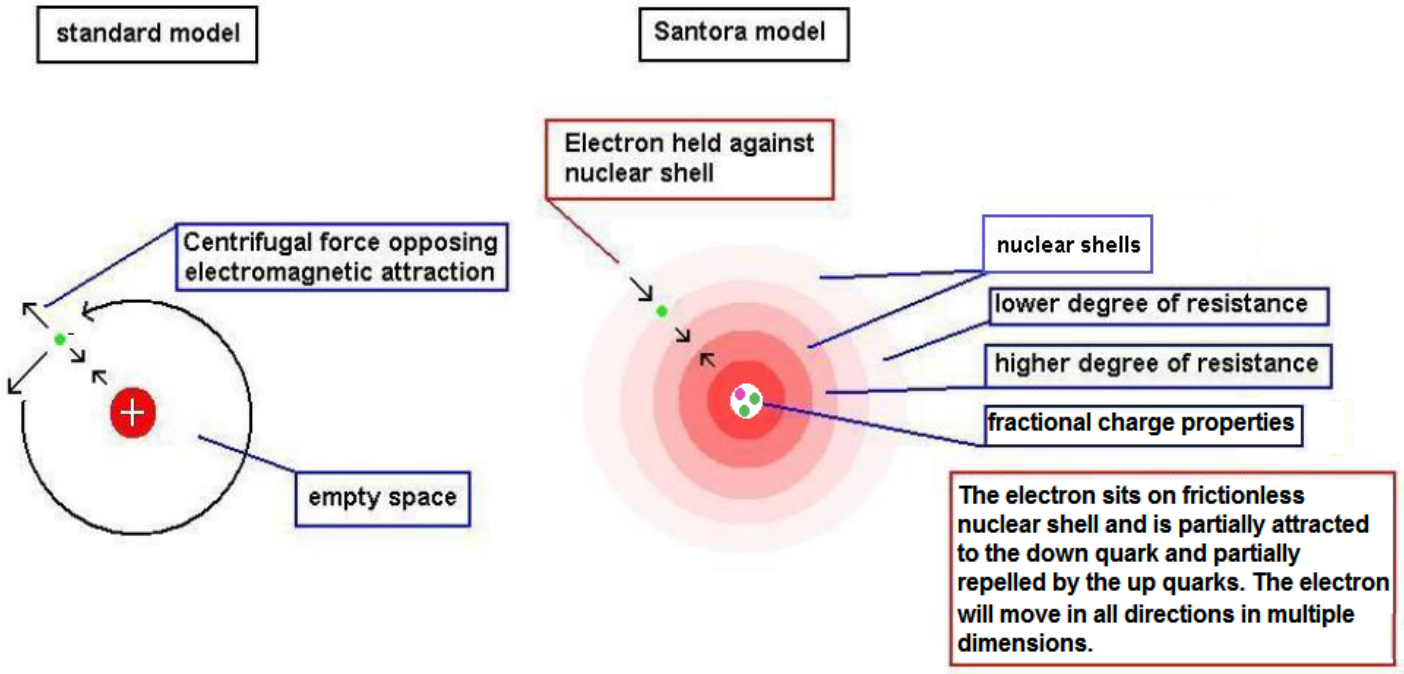
By Brandon M. Santora
October 11, 2006

Synchronic Attraction and Repulsion

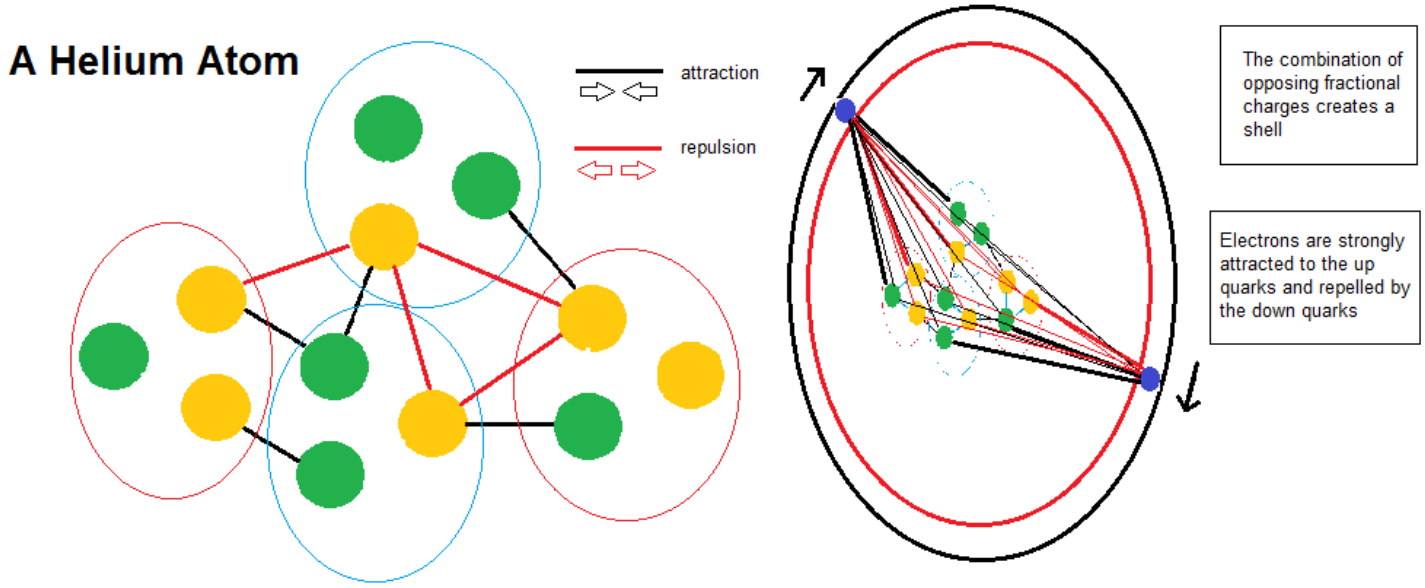
In the Santora Model of the Atom the nuclear shells are theorized to be responsible for the resistance and corresponding random orbital pattern of the electron and not centripetal forces. “The electron orbits the nucleus much the same as a planet like the Earth moves around the sun. To move in a circular path, the electron must have a centripetal force, a force pulling it toward the center, exerted upon it. This force is currently expressed by the equation F=m(v2/r). It is the electrostatic attractive force exerted on the electron by the nucleus.” *(Semat, White)* If the electron is pulled toward the atom by centripetal forces, which means proceeding in a direction toward the center, then this suggests that the mass and weight of the electron with its momentum is sufficient to keep it in orbit. However the mass and momentum of the electron seem far too small to be responsible for opposing the electromagnetic attraction between protons and electrons, which is strong on such levels of minute masses.

A simple analogy is to take a string and tie a heavy object such as an iron ball perhaps an inch wide and twirl it around. You’ll notice the ball goes in a circle fairly easily with little effort. Now attach something very light to another string such as a small shred of paper or a feather and try to twirl it. The string represents the electrostatic attraction between the electron and the nucleus. You’ll notice that it doesn’t twirl around very easily and actually requires more energy to keep it moving. The small shred of paper is too light to maintain a good tension on the string to keep it in motion. In order to put tension on the string someone would have to grab and hold the shred of paper and pull a bit. This is like what is happening with this new atomic model.

As with the Santora Model, the nuclear shells maintain the force of resistance. If we were to use an analogy to planetary orbits to atomic orbital we will see an inverse relation. A planet continues to centrifugally try and flee its parent star but is held in place by gravity. In view of the Santora Model an electron continuously attempts to reach its nucleus through electromagnetism but is opposed by atomic shells. The shells are acting as a frictionless sphere around the nucleus promoting the electron to move in any lateral direction. This way we can easily account for the tension of the string. The Santora Model is further theorizing that the nuclear shells are actually a kind of projected manifestation of the effects of the electron being attracted to the down quark and opposed by the up quarks. Since the charges are fractional the electron is able to jump orbits with some amount of energy provided or liberated. The resistance to the electron is a matter of degrees. This also elaborates on why the electron appears to be smeared around the shells rather than localized. The electrons motion is in a sense attempting to mover in multiple direction at once.



The fact that the electron is a full negative charge and an up quark is 2/3 of a positive charge means there will be a little "wiggle room", a variation in the charge comparison ratio. This makes it easier for an electron to jump orbits especially inward toward the nucleus. There being a -1/3 charge of the down quark the electrons will experience stiffer resistance the closer it tries to moves in toward the nucleus. So we seem to have a combination of centrifugal and centripetal forces at work simultaneously when observing this model of the atom.



Works cited: Henry Semat and Harvey White – *Atomic Age Physics*

For more papers in this type of theoretical physics visit www.sci-theory.com .