The equivalence of dark matter and dark energy and other thoughts.

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If we represent all the dark matter in the universe by M, then:

1) $M \equiv \Lambda$, where Λ is the total dark energy in the universe. The Λ behaves differently on a mass, m, depending on the location of 'm' within the universe.

2) Based on the theory, "On the consequences of a probabilistic space-time continuum", we have, $\Lambda = \sum_{m_v(T)} AGF(m_v)$ Here, AGF = the anti-gravitational field of visible matter m_v and $m_v(T)$ is the total visible matter in the universe.

3) Thus, $M \equiv \sum_{m_v(T)} AGF(m_v)$.

4) If we have an object, m, near the edge of the universe, then there is will be an unbalanced force from Λ that will push the object farther away, i.e causing the expansion of the universe.

5) If we have an object, m, well within the universe, i.e quite far away from the boundary, then the object will experience pressure from Λ which is equal on all the sides. However, the object does not collapse into a point because Λ also pervades within the object itself thereby causing an outward pressure on it and trying to tear it apart. These two forces, both of which are Λ , balance each other out and allows the object to maintain it's form.

6) As an object moves closer to the edge of the universe, it will

experience increasing unbalanced  with less force from  on side of the object facing the boundary. This will cause the object to not only move with increasing speed or accelerate towards the boundary, but also causes it to start deforming. If our object is spherical, then the curvature of the object facing the boundary of the universe will be greater than the curvature on the other sides. The object will gradually start to flatten and will start to tear apart the closer it comes to the boundary of the universe. Initially, the other two forces, the electro-weak and the strong nuclear force will hold off against the force from  . Then the combined electro-weak and strong nuclear force will equal the force from  . After this point the force due to  dominates and starts to first deform it and then shred it into it's most elementary particles. The point where the force due to  is equal to the sum of the forces from electro-weak and strong nuclear force can become the starting point to unify the gravitational force and the other two forces. Hence, from this equality the equations for a unified field theory can be obtained.

7) The balloon analogy that is usually used to describe the shape of the universe with the 3D surface of the balloon representing the universe and the 2D spots on the surface representing the galaxies has to be wrong. This analogy is usually used to visually show the expansion of the universe and the apparent movement of the galaxies from each other in all the directions. This analogy shows that the more distant a galaxy from us the greater is the apparent speed with which it is moving away. But with the experiments which proved the existence of dark energy, it is clear that the more distant a galaxy the greater is the absolute speed with

which it is moving away from us. It is not apparent but real. This means unlike the balloon analogy which shows the universe to be finite and unbounded, the real universe actually has a boundary which is accelerating away from us and from every other point within the 4D universe.

8) From # 6 we see that if we take $m_v(T)$ only the matter that is visible, then we will be grossly underestimating the total amount of $m_v(T)$, since, there is likely to be an immense amount of m_v near the boundary of the universe that is an invisible visible matter.

9) From the theory, "A relativistic theory based on the invariance of Newton's second law for motion and the constancy of the speed of light in vacuum", we have $\Delta t' = (1 - \frac{T'}{c})\Delta t$. Hence, for light $T' = c$, and $\Delta t' = 0$. This means eventhough relative to us light takes a finite non-zero amount of time to reach us, it takes zero amount of time relative to light itself to reach us. The theory also allows particles to move at any speed. Hence, if we have a particle that moves so fast that eventhough the speed is finite, but to us it "appears" to be "infinite", then we have a source carrying information that "appears" to us as being instantaneous and this solves the problem of quantum entanglement. This particle will transfer information from one end of the universe to the other in what "appear" to us to be instantaneously and allow two particles on the opposite sides of the universe to communicate with each other, in what "appears" to us to be instantaneous. However, since the universe is expanding at an accelerated rate, there will be a time when even this particle will appear to take a finite amount of time

relative to us in transferring infromation between two particles on the opposite sides of the universe. At that time we will realize that the quantum entanglement is not instantaneous as we think it to be today but takes a finite amount of time or putting it in other words, we will then see that the quantum entanglement is not instantaneous. This situation is similar to the time when we once thought the speed of light to be infinite, until we measured it and found it to be finite. Then we realized that the speed of light being infinite was an illusion due to the distances we were considering.

References:

1) On the consequences of a probabilistic space-time continuum. Mustafa A. Khan. viXra:1401.0234. viXra.org.

2) A relativistic theory based on the invariance of Newton's second law for motion and the constancy of the speed of light in vacuum. Mustafa A. Khan. viXra:1406.0054. viXra.org.