Re: E = wLF Derived By Modified Quantum Logic

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From: OsherD (*mdoctorow_at_comcast.net*)
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What about an application to physics in the rather simple cases of expanding and/or accelerating universes including the early inflationary period, with the resultant one−dimensional forces being gravitational versus expansion (the latter can be the Cosmological Constant, Dark Energy−based, Quintessential (partly contained in the first), etc.)?

One might first be tempted to deny the accuracy of E = wLF based on the fact that gravitational potential energy (PE) is:

1) PE = −km1m2/r

where m1, m2 are the two masses involved and r is the distance between them and k is constant. The potential energy is supposedly assigned to the system of two masses rather than to either one individually, which makes one wonder about the accuracy of the assignment, but we will ignore this slight problem. Work is then defined as the difference of two potentials at two points (supposedly attributed to one of the original pair of point masses).

The force field on a unit mass m1 = 1 exerted by a
central mass m2 = M at the origin (0, 0, 0) in Euclidean/rectangular coordinates gravitationally with magnitude GM/r^2 for Newton's gravitational constant G is:

2) F(x,y,z) = −GM(x,y,z)/(x^2 + y^2+ z^2)^(3/2)

where (x, y, z) is the vector r = (x, y, z). The work done by force F in moving a unit mass from point
(x1,y1,z1) to (x2,y2,z2) is:

3) −grad(F)(x1,y1,z1) −(−grad(F)(x2,y2,z2) =
MG(1/r2 − 1/r1)

with F = −grad(−MG/r) where PE is −MG/r since the force is irrotational.

Thus, it looks as though work W = LF1 − LF2 where
L is proportional to 1/r, and so as in the earlier
posting it is the difference in energies rather than
the energy which is proportional to the work times
the displacement.

Nevertheless, it makes sense to attribute an energy
E = LF to each point mass even in this case, which
also resolves the quandary about only assigning
a gravitational potential to the system and not to
each point mass (and similarly for string masses)
and can be easily extended to an expansive force
like Dark Energy's force as well.

To see this, it is useful to read the machinery of my
arguments that P(A−−>B) is a proximity function
which is a one−sided partial inverse of the Euclidean−like metrics. I
developed this over several years at geometry.research through the Math
Forum site, although within the last few months I moved from there to
almost exclusively the sci.stat.math site.
It is one−sided in the sense that everything is
ordered by cause vs effect. For example, in one
dimension if x is the cause and y the effect, then
p(x,y) = 1 + y − x is the proximity between x and y, and it is not
reflexive since it does not equal 1 + x − y, but it is nonnegative and
between 0 and 1 and has some other interesting features. You might try
to begin with p(x,y) − 1 and examine its properties.
Notice that when the distance d(x,y) = /x − y/ = 0
with the ordered condition y < = x, we have 1 + y − x = 1 and when
d(x,y) = 1 with y < = x we can only have x − y = 1 which for x, y in
[0, 1] and y < = x implies x = 1 and y = 0 so p(x,y) = 1 + y − x = 1 +
0 − 1 = 0! As expected, proximity goes up when Euclidean−like
distance goes down in the unit n−hypercube. pn(x, y) for x, y
n−dimensional is defined as 1 + average of x−coordinates − average of
y−coordinates.

Osher Doctorow