# Re: E = wLF Derived By Modified Quantum Logic

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Would energy be created from nothing if we allowed:

1) E = FL

in the energy conservation equation:

2) KE2 − KE1 + PE2 − PE1 = F(x2 − x1)

where work W = F(x2 − x1) is done on an object in moving it from x1 to x2 and KE is kinetic energy and PE is potential energy, respectively given by (1/2)mv^2 and mgh classically? This equation holds for a gravitational field as well, say with KE1 = KE2 and PE the gravitational potential. Here L is presumably not necessarily x2 − x1. The question seems relevant logically to whether E = wLF can be used in such contexts.

There are several relevant points.

A. If E = LF or wLF is used, say to replace F in the equation, then a larger system can be used than the one in question in which energy is conserved and the one in question can be taken as non−conserved. Energy is not necessarily conserved in all systems and subsystems − just presumably in a "large enough one". Examples of candidates for energy from higher dimensional space(time) include 10 or 11 dimensions of superstring/brane/M−theory.

B. Conservation of energy has a somewhat different logical and philosophical status now that acceleration of the universe about 2 billion years ago has been accepted in physics. Philosophy has not quite caught up, but it is quite plausible that energy is in fact changing from somewhere. It can still be regarded as quite often conserved, but now even "in large enough systems" may or may not be applicable.

C. If E = FL, it is possible that potential and kinetic energy do not exhaust types of energy. We may in fact have a dimensional or dimensionless "constant" k such that:

3) E = kwFL + k1KE + k2PE

and k stays constant for certain periods of time (long in cosmology), perhaps at 0, but then becomes another value at a certain time at which constants k1 = k2 = 1.

It is true that logically "potential" versus "actual" seem complementary or mutually exclusive and exhaustive, but potential and kinetic energies as usually defined even classically do not capture everything potential or actual in the scenarios described above. In other words, (1/2)mv^2 looks kinetic but isn't necessarily everything "actual", and mgh looks potential but isn't necessarily everything potential. A misnomer in words is involved here. Kinetic energy is not defined as "actual" but as (1/2)mv^2 in classical physics, and potential energy is not defined as "potential" but as mgh or various other potential functi