Friday, September 17, 1999

The Sarfatti Lectures 5

"Passive frame transformations" mean that the same physical process, or even the same intellectual concept, have two different, physical or conceptual, representations respectively f(x) and f'(x') where

$$f'(x'(x)) = f(x)$$

Example 1, the 1-Morse saddle point basin attractor on a potential (classical V, quantum Q, or post-quantum Q*) in a 2D configuration space

$$f(x) = -x_1^2 + x_2^2$$
$$f'(x') = 2x_1x_2$$
$$x_{1'} = x_1 + \frac{x_2}{\sqrt{2}}$$
$$x_{2'} = -x_1 + \frac{x_2}{\sqrt{2}}$$

"Active frame transformations" mean that two different physical processes, or events in some cases, are represented by different functions in the same coordinate system. That is

$$f(x) \neq f'(x)$$

Example 2

$$f(x) = -x_1^2 + x_2$$
$$f'(x) = 2x_1x_2$$

are two different 1-Morse saddle basins on two different landscapes with respective attractor basin centers at the origin for the path X(t) of the control system point. Alternatively, if we use f'(x + a) they can be two different 1-Morse saddle basins on the same landscape whose basin centers are separated by displacement

$$a = (a_1, a_2).$$

Remember, in orthodox quantum theory based on Bohr's Einstein-incomplete idealistic epistemology and von Neumann's R-collapse there is no X(t) at all! In Bohm and Vigier's "casual theory" with "signal-locality" there is an X(t) (AKA the "hidden variable"), but there is no direct back-action dependence of the quantum potential Q(x,t) on X(t) as there is here in my post-quantum covering theory's Q*(x,X(t),t) with "signal-nonlocality" and Libet-Radin-Bierman "presponses" that are observed experimentally.

Example 3 Special Relativity

From the passive point of view we consider a pair of events 1 and 2 observed by two different inertial observers Alice and Bob. From the active point of view Alice accelerates a particle from rest to final velocity v described formally as a "Lorentz boost". Bob’s velocity happens to be exactly v.

Problem 1

Consider the alleged nano-engineered propellentless warp drives in the allegedly downed flying saucers at Roswell, New Mexico in 1947 described by the late Colonel Phillip J. Corso in his odd controversial ghost-written book "The Day After Roswell". For a less controversial reference see Paul Hill’s "Unconventional Flying Objects" suggesting the same advanced military super technology superior of any of our currently operational fighter air or spacecraft.

Do we need passive or active general coordinate transformations?

How does The Phipps Alternative modify our blueprints to build our own versions of these flying saucers?

"These ideas are subtle and profound…" Robert Gilmore "Catastrophe Theory for Scientists and Engineers" Dover p. 18