CAN BIOQUANTUM THEORY HELP SOLVING THE PROBLEMS FACED BY THE GCP TEAM ?

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First version : february 13th, 2005.

The bioquantum theory is a "theory of everything", that is, a physico-mathematical synthesis of the existing. Here, the word "bioquantum" is very different from the one introduced by Roger Penrose, as it actually means "quantum complexity": the bioquantum theory is a natural fractal extension of quantum theory, based on the only true quantum principle, the de Broglie wave-corpuscle duality, the fractal extension of which is called the *wave-matter duality*. You will have understood it: at the highest complexity levels, the *mind-matter duality* becomes a natural component of the bioquantum frame and *mind-matter interactions*, natural quantum couplings between a highly organized "wave pattern" (mind) and material media (organized or not). The bioquantum frame is by essence the physical frame of so-called *PSI objects and processes* (PSI-charges & currents, PSI-fields & waves, PSI-interactions, propagation,…). A *PSI-field* can be either individual (produced by a single source) or collective. A typical individual PSI-field is the *individual spirit* generated by a *quantum brain*, that is, a brain/mind unified system. A typical collective PSI-field is *global consciousness*: this "collective spirit" interconnects all individual minds of a given species altogether. So, the answer to the question asked in the title of this short note is: yes, bioquantum theory *can* solve most of the analytical problems faced by the GCP team, if not all of them. Let us briefly see why and how.

Universality of analytical methods
Global Consciousness (GC) being a *collective phenomenon* produced by *critical situations*, it is ruled by the physics of *second-order phase transitions*. We retrieve notions such as *scale-invariance, universal properties, Weiss domains, power laws and renormalization*. Here, the dynamical variables are virtual, since they model minds. Therefore, when the number of regs in the network, the size of an EGG or both become very large, the final result should NOT depend on the statistic calculated (universality of critical systems at the so-called "thermodynamic limit"). As for blocking, long-term behaviours should show a convergence of statistics ("asymptotic limit"). Finally, renormalization will help "blowing up the anomaly" to reveal the non-trivial quantum structure of the GC PSI-field.

Functional analysis
Bioquantum theory uses multi-resolution analysis (wavelets & spline functions) in place of Fourier. Whereas the Fourier transform can only give time or spectrum informations but not both (exclusive or), the wavelet transform treats both simultaneously, which is exactly what is needed for a fine analysis of non-regular signals. Trying to find a periodic or fractal structure or long-term behaviours with Fourier is just like trying to find a needle in a haystack (which is exactly what the GCP is facing). Even Fourier with sliding window is not powerful enough. Furthermore, calculations with Fourier become quickly tedious and voluminous as soon as the signal shows no explicit regularity, which is not the case with wavelets.

Time
Whereas the first version of bioquantum theory (the 2002 version) still sticked to space-time relativity, the final version (the 2004 version) is based on *timeless physics*: time disappear from the physical frame, replaced by a more fundamental quantity, the *gravitational vacuum*. This gives a minimal (and thus, optimal) model in which time is again a mere dynamical *parameter* and all time-relativistic effects are shown to be derivable from an infinitesimal deformation of deterministic space by the

gravitational vacuum. The process is conformal (it preserves angles), contracting and *probabilistic*, the conformal factor acting on deterministic distances being exp(-V²), where V is the amplitude of the gravitational vacuum. This gives a differential relation between time t and distance l that writes, in a synchronous frame: dt = ±Vdl/c, where V is space-dependent (c is the speed of light in the vacuum). This relation can then be used as a general *redefinition* of the "physical" time (i.e. time as an inherent, human-independent property of the physical frame). However, it can be extended to specific vacua, such as those used in the GCP (thermal noise, electron tunnelling). We then get "specific" times ("experimental" times) that could be used as base references to date experiments. Notice that V being stochastic, so is t. This means that the whole time is a superposition of a "classical" time and time fluctuations around this deterministic quantity.

8) **Mind/matter interaction**
The ratio signal/noise being extremely weak, pertinent informations are completely drown into white noise. This is not surprising, as the equipments (hardware, software and transmission lines) are all conventional. Now, mind/matter interaction is a typically *bioquantum* (i.e. structured quantum) effect. Substantial advances should therefore be obtained using *quantum* devices and programs. For the time being, it is still too early. However, decisive advances can be made as soon as today on the theoretical plan. This covers PSI-signal theory, quantum information theory (quantum Shannon, PSI-source & quantum canal codings, quantum Kolmogorov-Sinaï entropy & K-systems), quantum communication (also known as *transcommunication* – TC) and Electronic Voice Phenomenon (EVP).

Bohm's implicate order
is equivalent to "internal" dimensions in particle physics or "virtual" states in bioquantum theory. These states are quantum duals to "material" or "external" dimensions (ordinary 3-space). They help solving the EPR paradox, as they are also equivalent to those "hidden variables". Indeed, in the EPR description, motion in "external" 3-space can be described as a triplet $x = x(a,b,c)$, $y = y(a,b,c)$, $z = z(a,b,c)$, where a, b and c are "internal" or "hidden" variables. But this description is actually nothing else than the reciprocal to the famous field description $a = a(x,y,z)$, $b = b(x,y,z)$, $c = c(x,y,z)$. What links them is the de Broglie wave function, which extends to the complex case replacing point-like variables x,y,z by non-zero size structured objects $x(e), y(e), z(e)$, where e is the complexity scale, and Planck's constant h by the so-called *Planck action* $H(e) = h-qe$, where q is a "virtual" momentum. Also, Bohm's notion of "wave form" or Sheldrake's morphogenic fields are equivalent to "wave patterns" in bioquantum theory.

7) **Non-linear resonances and neo-determinism**
Assuming that mind is a fractal object, its dynamics is related to a "virtual" chaos and so, to (strong) non-linear dynamical interactions. In those systems, Poincaré resonances rule the transitions to structural chaos, just as in "material" (or "substantial") systems (e.g. fluids). Prigogine has shown that these resonances can be completely eliminated passing from the deterministic frame of individual dynamics (trajectories) to the random frame of collective dynamics (sheaves of trajectories). I called this the *Prigogine trick*: instead of battling hard trying to determine all the details of a complex non-deterministic system from the local to the global in a deterministic physical frame (Schrödinger's painstaking problem), it is mathematically equivalent but physically much easier and much more pertinent to describe the dynamics of a *deterministic* system in a *random* frame: exchanging the natures of the physical frame and of the system studied raises the description level from the local to the global, from the individual to the collective. This is known as *neo-determinism*. The general problem of Poincaré's resonances is solved for random distributions are regular everywhere.

References :
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- *Les Saines Ecritures (ou le culte du scientifiquement correct)*, free upload on http://www.sixieme-sens.info/viola.html (PDF format). Solid nerves and open minds required !
- *Bioquantum theory I, theory of PSI-fields* (under writing)