

Studying Quantum Physics in the light of Microvita Theory

Advancing a new curriculum with an important role for tanmatra's and propensities

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"Everything should be made as simple as possible, but not simpler." - Albert Einstein¹

Studying quantum physics is a humbling experience - its unbending precision means that you're often times mercilessly reminded that there is no room for fantasy. The most difficult thing is not even assimilating new concepts, but getting rid of ingrained, but restrictive notions about how the universe works, you're not consciously aware that you have them. Also it is a vast field. A friend during his PhD in quantum physics once said that he felt as if he knows almost nothing. And the more you learn, the more you realize how much there is that you do not know - the Dunning Kruger effect² in reverse.

The same is the case with microvita theory, published under the title of "Microvitum In A Nutshell"³ - or at least it should be. Unfortunately, in microvita theory there is currently no culture of scientific rigor which prevents fantasies flying all over the place. Certain publications could rightfully be titled "Microvitum In A Nut". Indeed, *"It is one of the human wants that whatever we do not know, in order to conceal our limitations or hide our imperfections, we either say that it is non-existent, or in a more intelligent style, we will say it is an abstract"* - Shrii P.R. Sarkar⁴. Or, we create a pseudo-scientific fantasy around it, an escape equally from the demands of scientific rigor, and the challenges of philosophy. This obviously doesn't entail serious struggle - it is little more than freeloading on a new subject readily conceived and served in a notoriously insular community.

This is not to say that quantum physics is perfect - it isn't. To cite Dutch physicist Gerard 't Hooft: *"Quantum physics is extremely accurate in predicting how particles behave. So we don't need to change it. But we need to change our interpretation of it"*⁵. In other words, rather than saying, quantum physics is imperfect, better say it is incomplete. This was also Albert Einstein's conclusion, when he and others published their famous "EPR" thought experiment related to quantum entanglement⁶, which was the incentive for the equally notorious Bell theorem⁷ and experiments⁸, where entanglement was indeed confirmed.

It might be quite exhaustive to summarize the great open questions in quantum physics as: a) the existence of quantum realism, and b) the existence of Yang Mills theory at high energies⁹. Both closely relate to foundational concepts in the Standard Model of particles and interactions. And there is of course the issue of Grand Unification with Gravity, that is, with General Relativity. One other thing to note here, which the general audience is probably less aware of, is that already since half a century there have been no fundamental novelties or breakthroughs in quantum physics, at least not conceptually. The relative successes of CERN in finding a signature of the Higgs boson¹⁰ is based on theory dating back to the '60's¹¹. In other words, of quantum physics' total life span so far, half of it has virtually

been stagnant in terms of its conceptual framework.

By way of a somewhat contrived comparison, Shrii Sarkar has indeed made such a conceptual leap in his days. There is perhaps a sense of drama in that Sarkar, after, over the course of 3 decades, having disseminated a vast, diverse and obviously exhaustive curriculum of spiritual and social philosophy, he unexpectedly came up with yet a completely *"new line of thinking"*, all but overturning some of philosophy's most fundamental notions³. And more so, of the series of around 40 discourses on microvita, in the last of those, published as *"Microvita and Cosmology"*, he made numerous allusions, not to say obvious connections to quantum physics. It seems that, in those later days, Shrii Sarkar manifested himself as a truly natural scientist.

Clearly the question presenting itself is: *could Microvita Theory have something to do with unsolved issues in quantum physics, and perhaps help make it complete?* The scope of this essay is not to go into technicalities. There is a prevailing theme however, which could be summarized with a few key citations:

- *"According to the modern biologist, protoplasmic cells are made of carbon atoms, but in the microvita age the biologist will say that the protoplasmic cells are not made of carbon atoms, rather they are the collective solidified form of innumerable microvita."*¹²
- *"Microvita of different characters, either of positive or negative nature, collectively maintaining the balance of the actional universe creating initial forms of carbon atoms* that help macro- and micro-propensities in having their pure physical auxiliary media with mass and wonds."*³
- *"A day is sure to come when an omega of mathematics will coincide with an omega of biochemistry."*¹³

(* *"carbon"* here is obviously somewhat metaphorical, referring to the various elements that constitute animate matter)

Based on these poignant notions, a new line of thought and new curriculum in quantum physics could be envisioned that incorporates a theory of *"auxiliary media"*, that is, the biophysics and biochemistry of propensities. This could be exemplified based on a recent contribution by R. Gauthier, discussing the function of C-14 radiation in the formation, ultimately, of prokaryotes¹⁴. These primordial, unicellular life forms possess no distinct nucleus, let alone any discernible organs or a nervous system. Yet in some fashion, certain environmental vibrations, within a certain spectrum, to them must have carried a feeling quality, perhaps eliciting a primordial response of "like" vs. "dislike" (not implying the present day social media interactions appealing to equally primordial tendencies). The most basic propensities might be loosely associated with "smell", others with "taste", "vision", and so on, as those entities struggle on, leading up to an ever so rudimentary form of mental expansion which comes along with jumps in structural complexity. In other words: evolution.

An *"omega of mathematics"* might indeed coincide with such a set of paradigm shifting notions on, essentially, the advent of life on this planet or in the universe. Referring to Gauthier's hypothesis, the question arises, *what is the mathematical spin on Gamma rays' "smell", and what is its relation to quantum reality resp. probability and Yang Mill's existence at high energies?* Or, more generally, how do *"tanmatra's"* (sensory inferences)¹⁵ relate to unsolved issues in quantum physics and its physical media? The following simple table may

yield a useful insight:

Quantum wave	Tanmatra
kinetic energy	Knower-I
wave function	inference (wave)
potential energy	Known-I or propensity

Table 1 - Comparing quantum waves with tanmatra's

Bearing in mind that Shrii Sarkar introduced the term "*Jina Purusa*", referring to it both as "*Knowing Principle*" and as expressed energy, a comparison of a quantum wave and a tanmatra is plausible, whereby apparently the potential energy corresponds to propensity. The latter is also indicated by Sarkar as the objectified Jina Purusa. The comparison also suggests that the concept of tanmatra as a whole is closer to a matter wave than to, for example, a light wave. This is justified by a tanmatra's definition as the minutest fraction of elementary factor, that is, of the objective portion of macrocosmic and microcosmic expression. A light wave does NOT qualify as tanmatra - it is energy, and thus Jina Purusa, meaning it constitutes a subjective faculty. A thoughtful physicist will agree that energy represents a rather subjective quantity. A tanmatra is the light that is seen, that is, actually being perceived. Special note for physicists: Sarkar's definition of Jina Purusa is obviously highly reminiscent of Noether's Theorem¹⁶.

Does this mean that quantum physics, after all, is readily a theory of tanmatra's, and thus of propensities? Certainly not explicitly, but, in the line as indicated by 't Hooft, it could be like that in the realm of interpretation. In view of Sarkar's citations on microvita and propensities, it is therefore proposed that microvitum is a new principle or agent that makes it possible to interpret quantum waves as tanmatra's, and thus, in the broader sense, understand the role of quantum physics in the origin of life. It is not true, on the other hand, that nothing would need to change in quantum physics at all - obviously a theory that caters to nothing less than the origin of life implies a paradigm shift that comes with a whole new set of definitions and requirements. The latter can however be mapped quite transparently:

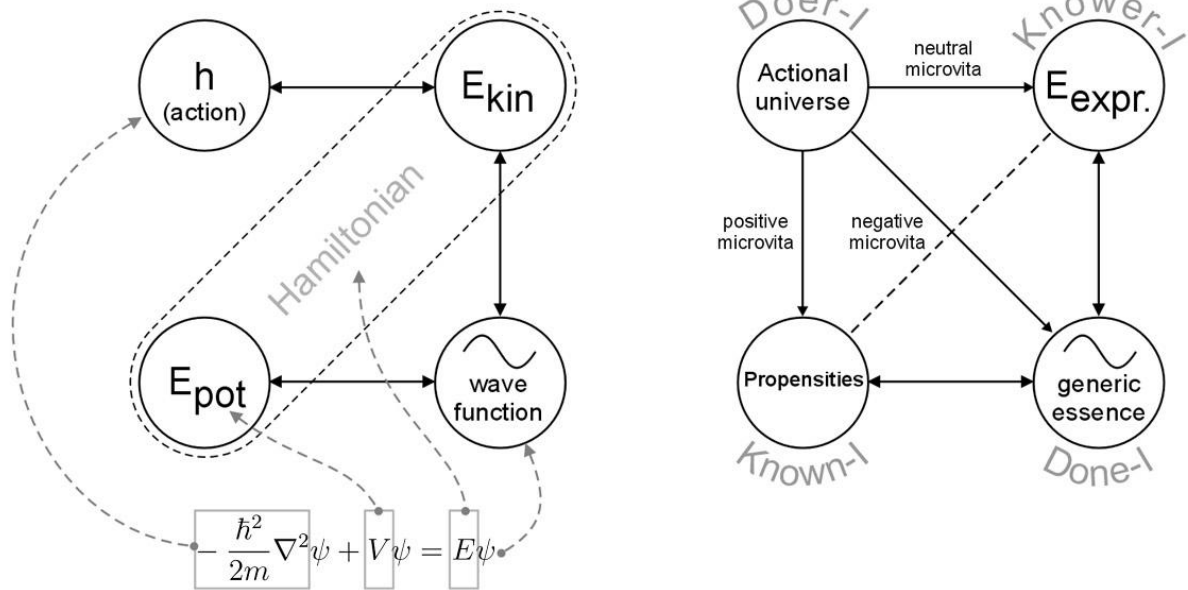


Fig. 1 - Standard action in quantum mechanics vs. “microvitic action” in tanmatra. At the left: functional model of the matter wave, with Schrödinger's wave equation¹⁷. Right: Shrii P.R. Sarkar's Four Chamber model³. The specialization of the action lies in dynamically factoring in the mass component, roughly according to the Higgs mechanism, so that the structure becomes functional, and the potential energy assumes the characteristic of a propensity.

Clearly the more striking difference lies in the diversification or specialization of the action. This is not evident in present quantum theory, it is however implied and arguably mainly presents a change in perspective, rather than in principle. To explain this in more detail would go beyond the scope of this essay. Animate matter aside, the more obvious implication, at least for physicists, is that the Four Chamber approach³ is thought to provide a theoretical framework for studying larger, quantum (-like) aggregates - that could be amino acids, proteins, RNA, DNA, prokaryotes, eukaryotes and multi-cellular organisms. It is hypothesized that in cases of systems where there is a comprehensive, potential energy or otherwise functional potential, or still more evolved controlling nuclei, this is indicative of propensities.

With regard to quantum realism, the concept of propensities would introduce a shift from a conservative to a functional cause of structure (quantum, bio-chemical, anatomical), to start with that of a wave, abolishing the probability convention. It is speculated that for a similar reason there is only Yang Mills relevance in the more obvious local gauge scenario's, anything other than that is probably contrived. A solution along these lines was proposed by the author in a research paper on Hydrogen stability¹⁹, however this is primarily a quantum physics subject with only a sideways reference to microvita theory. According to Sarkar, “microvita are carried by tanmatra's”¹⁸. Preliminary research by the author related to quantum entanglement suggests that, if we loosely identify microvita as a form of “information”, the latter could be encoded in the polarization of electromagnetic waves, and could as a matter of fact be responsible for entanglement in the first place.

In summary, some leading principles in microvita theory related to animate matter have been invoked that could provide a framework for studying quantum-like behavior in relatively larger systems. Especially system-wide or otherwise functional potentials are thought to be indicative of propensities, and thus, of animate matter. As the approach is

centered on the concept of tanmatra, which appears similar to, but is more visceral and relatable than quantum waves, new teaching and learning modalities for quantum physics could be developed.

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