Contiguity of Parallel Worlds: Buddhist and Everett's

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ABSTRACT
Niels Bohr himself pointed out to similarity of some philosophic approaches in quantum mechanics and in Buddhism. Some modern interpretations of quantum mechanics go even closer to the Buddhist approach, such as Everett interpretation and, specifically, the recent 'Extended Everett Concept' developed by M.B. Mensky. The present paper shows that both Buddhist thinkers and modern physicists, using very different methods, arrived basically at the same description of reality we live in. This is the point where the parallel worlds of Buddhism and Physics unexpectedly touched each other, and the deeper meaning of this contact is yet to be appreciated by both parties.

Key Words: Everett, Buddhism, reality

Introduction
On September 10th, 2010, at the Institute of Philosophy of the Russian Academy of Sciences, well-known Russian scientists, philosophers and Buddhist scholars were discussing striking similarity of the views on reality in Buddhism and in the 'Extended Everett Concept' by M. Mensky. Such a top level meeting took place in Russia for the first time (Terentyev, 2011). What brought eminent Russian physicists, neurophysiologists, philosophers and the Buddhists at the round table?

Prehistory of this meeting goes back to the very beginning of quantum mechanics (QM) when Niels Bohr took notice that "...in search for the parallels to the atomic theory, as a lesson of applicability limitations of the ordinary ideations, we are to refer to quite different areas of science like psychology, or even to specific philosophical problems - like the problems addressed by such thinkers as Buddha or Lao-tse when trying to correlate our position of both observers and actors in the great drama of existence" (Bohr, 1971).

V. Pauli discussed these problems with C.G. Jung (Kopeikin, 2010), HH the Dalai Lama XIV studied quantum physics with C. von Weizsecker and D. Bohm and sponsored series of scientific conferences on this subject.

Probably the deepest common idea of modern physics and of Buddhism is the idea about falsity of the view of self-sufficiency of phenomena and their independence from each other, and understanding that reality should be regarded from the viewpoint of inter-conditionality - not only in terms of epistemology but of ontology as well. This idea now seems to be getting more or less generally accepted.

However, some recent interpretations of QM correspond to the Buddhist (first of all, Mahayana) worldview in unusually precise manner. Here we shall discuss some Buddhist parallels of the Everett Concept and the 'Extended Everett Concept' by M. Mensky (2005; 2007; 2011; 2012).

The basic philosophical outcome of Everett based interpretations of the measurement problem consists in recognizing the fact that actually we live in the quantum
world which is a superposition of macroscopically distinct states of different 'Everett Worlds' or 'classical alternatives' as Mensky would call it. More than that: Mensky identifies these 'classical alternatives' with the 'acts of consciousness', and this approach implicitly or explicitly presupposes the existence of some kind of superconsciousness in the state of superposition while the classical consciousnesses of observers in the 'classical alternatives' are illusory (as much as the 'classical worlds' themselves), because they mistakenly perceive their worlds as the 'whole', or 'real': "Everett's concept deals with two aspects of consciousness. The consciousness as a whole (we could compare this 'consciousness as a whole', or superconsciousness, with Buddha's mind or jñāna – A.T.) splits between alternatives, and a 'component' of consciousness (Buddhist vijñāna – A.T.) lives within one classical alternative" (Mensky, 2005; 401).²

What Buddhist ideas are close to this view? In Buddhism we consider two levels of being (Sanskrit: satya – often translated as 'truth'): vyavahāra – "ordinary reality" of phenomena, illusive in the sense that we imagine all phenomena and events as really existing the way we perceive them as if "objectively independent" from each other and from our consciousness; and paramārtha – real "supreme reality":

"The Awakened One, the best of teachers, spoke of two truths, conventional and higher; no third is ascertained; a conventional statement is true because of convention and a higher statement is true as disclosing the true characteristics of events" (Khāthāvatthu Āṭha kathā).

Or:
"These two [truths] are neither one nor separate as between the existing and non-existing there is and there is no difference"

(Maitreya/Asanga. Dharmadharmatāvibhanga, 7.)

In Mahayāna the supreme reality is "dharma" or "tathātā" wherein the phenomena and events do not exist as separate entities, but only, as a physicist would say, in 'entangled' state, where they condition each other, being "empty" of any "self-being": they exist only in their inter-conditionality. Perception of reality – at the lower or higher level – is determined by the level of our consciousness: and it is for the sake of transition to higher levels of comprehension that training of consciousness is performed in Buddhism. As formulated by Nāgārjuna:

"The Teaching of Buddha is based on two levels of being (satya):

ordinary manifesting being and essence of being.

Those who do not understand the differences between these levels of being,

Do not understand the deep reality (tāttvam) discovered by Buddha.

Without relying on the ordinary, the supreme cannot be grasped;

without reaching the supreme, nirvāṇa cannot be reached" (Nāgārjuna, Mūlamadhyamakakārikā, 24.8–10).

This indicates that nirvāṇa is reached by means of spiritual practice resulting in direct perception of emptiness which enables one to perceive the essence of being – dharmatā or tathātā.

That which one names dharma here, is saṁsāra, while dharmatā is nirvāṇa in [all] the three Chariots...

The definition of dharmatā is suchness (tathātā)⁴, indivisible into

² Šunyātā - "emptiness" is to be understood as interconditionality and as "The Heart Sutra of Prajñāparāmitā" says: "...in emptiness... there are neither eye, nor ear, nose, tongue, body nor mind, nor forms nor sounds, nor smells, nor tastes, touchables nor dharmas...". The uninitiated often mistakenly understand Buddhist emptiness as "nothingness" and even compare it to vacuum. This is just a misapprehension, emptiness in Buddhist philosophy means 'dependent arising', which is the absence of any 'independent quality' by all phenomena.

⁴ "Suchness" (Sansk. tathātā) is the essence of phenomena unperceivable by an individual who has not reached the level of ārya (characterised by direct perception of emptiness), and this essence "appears" (as Hegel used to say), i.e. appears in the appearances, or phenomena, dharmas. That is, both profane and 'real' levels of reality are of one entity, one nature.
object and subject, into expressed and expressing (Maitreya / Asanga. Dharmadharmatāvibhanga, 3:5).

Tathātā, dharmatā as well as dharmadhātu, or tathāgatagarbha, or ālayavijñāna etc. (different Buddhist thinkers sometimes use these terms with slightly different meanings) may be considered as kind of ontological correlates of emptiness. Emptiness is understood here as primarily epistemological perception of universal interdependence. All phenomena (dharmas) exist, in 'entangled state' with all other dharmas. We don't find any separate dharmas such as 'beings' or entities like 'table' or 'bottle' (because all such things are empty – they do not have any 'own-being') – here we deal only with the totality of their interrelations – the 'total world', maybe we can even call it 'the real world'.

Also, when in Everett/Mensky interpretation of QM, they talk about a world where Schrödinger's cat is dead and the world where the cat is alive, there is again a direct parallel to this in the Buddhadharma. There it is said that our perceptions and circumstances are arising depending on our karma. It is explained in this way in many sutras, such as Vimalakirti-nirdesha sutra:

"... venerable Sariputra had this thought: "If the buddha-field is pure only to the extent that the mind of the bodhisattva is pure, then, when Sakyamuni Buddha was engaged in the career of the bodhisattva, his mind must have been impure. Otherwise, how could this buddha-field appear to be so impure?"

The Buddha, knowing telepathically the thought of venerable Sariputra, said to him, "What do you think, Sariputra? Is it because the sun and moon are impure that those blind from birth do not see them?"

Sariputra replied, "No, Lord. It is not so. The fault lies with those blind from birth, and not with the sun and moon."

The Buddha declared, "In the same way, Sariputra, the fact that some living beings do not behold the splendid display of virtues of the buddha-field of the Tathagata is due to their own ignorance. It is not the fault of the Tathagata. Sariputra, the buddha-field of the Tathagata is pure, but you do not see it."

Then the Brahma Sikhin said to the venerable Sariputra, "Reverend Sariputra, do not say that the buddha-field of the Tathagata is impure. Reverend Sariputra, the buddha-field of the Tathagata is pure. I see the splendid expanse of the buddha-field of the Lord Sakyamuni as equal to the splendor of, for example, the abodes of the highest deities."

Then the venerable Sariputra said to the Brahma Sikhin, "As for me, O Brahma, I see this great earth, with its highs and lows, its thorns, its precipices, its peaks, and its abysses, as if it were entirely filled with ordure."

Brahma Sikhin replied, "The fact that you see such a buddha-field as this as if it were so impure, reverend Sariputra, is a sure sign that there are highs and lows in your mind and that your positive thought in regard to the buddha-gnosis is not pure either. Reverend Sariputra, those whose minds are impartial toward all living beings and whose positive thoughts toward the buddha-gnosis are pure see this buddha-field as perfectly pure."

Thereupon the Lord touched the ground of this billion-world-galactic universe with his big toe, and suddenly it was transformed into a huge mass of precious jewels, a magnificent array of many hundreds of thousands of clusters of precious gems, until it resembled the universe of the Tathagata Ratnavyuha, called Anantagunaratnavyuha. Everyone in the entire assembly was filled with wonder, each perceiving himself seated on a throne of jeweled lotuses.

Then, the Buddha said to the venerable Sariputra, "Sariputra, do you see this splendor of the virtues of the buddha-field?"
In this way the Buddha showed that our perception of the world depends primarily on our state of mind. If we ask which of the worlds – the Shariputra’s world, or Brahma’s world is more ‘real’, it becomes clear that the question is improper: each world is real to the consciousness which perceives it. But both are unreal or, better to say partially real, in the sense that they belong to only one of the relative levels of reality.

This seems similar to Everett’s interpretation of QM: by doing ‘measurement’ we are ‘separating’ (‘isolating’) the components of this ‘superposed’ state from each other, so that each of the superposed worlds is perceived as the only one existing, seeming ‘real world’ for us. As mentioned earlier, M. Mensky also argues that this ‘separating the possible realities’ is the act of consciousness, and, this ability to divide the ‘superposition’ into separate ‘realities’ is the function (maybe the basic, or primordial function) of observer’s consciousness:

8 This identification of splitting the quantum reality into ‘classical alternative worlds’ and the act of consciousness of observer, is special Mensky’s contribution to Everett’s concept: “If objectively (i.e., in accordance with QM laws) no selection of alternatives occurs and nevertheless the observer always becomes aware of a single alternative, this means that the alternative selection takes place in the observer’s consciousness.” (M. B. Mensky, 2005; 401).

But how does the “real” quantum world wherein we are living, looks like from the viewpoint of physics? It is difficult and, strictly speaking, even impossible for us to imagine, because we cannot perceive particles when their probabilities are less than unit, and, as Mensky explains, in the quantum world: “there are correlations between any remote domains and in virtue of these correlations, the future of local system depends on the present in all of the remote domains... It means that knowing the state of some space domain, one cannot even approximately forecast which would be the state of this domain in the future” (Personal letter to the author of 08.09.2010).

In other words, in quantum world there is a cause-effect dependence of everything upon everything, therefore it turns out to be impossible to single out, perceive and designate the independent individual things and phenomena (dharmas) – they are just missing.

In Buddhism such state is denoted by the term šūnyatā – “emptiness”.

9 Some clever people in Russia realized the practical possibilities of this idea years ago, and now you can find at every esoteric bookshop in Russia and elsewhere books by V. Zeland on the so-called “Transurfing Reality” – this is how they named the efforts and techniques to choose a world where this or that desire is fulfilled.
If we accept the main thesis of Mensky – that essentially consciousness has the ability to ‘divide’ the quantum world, or ‘to choose’ from the superposition one classic world, corresponding to our state of mind – we come to entirely new ground for better understanding many aspects of reality in general and of the Buddhadharma in particular.

Here I shall mention only few points.

First of all there is definite similarity of negation of ‘real existence’ in both physics and Buddhist philosophies based on Madhyamaka. We cannot speak about the ‘real existence’ on the relative level: in terms of physics ‘the reality’ is the state of superposition of ‘classical worlds’, where all events depend on each other; in Buddhism it is tathātā – the state of complete interdependence, where no phenomena/dharmas exist separately, by itself - all events also depend on each other.

The Buddhist belief in ‘pure lands’ is another interesting example. Up to now, as far as I know, there were no attempts to correlate the possibility of existence of pure lands with any ideas of physics or cosmology. Sukhavati, Abhirati and other Buddhist ‘heavens’ are considered as only a part of Buddhist Mythology. Now the Everett/Mensky Concept seems to hint on possibility of existence of such ‘classical alternatives’ created by powerful minds of Buddhas and Bodhisattvas. Why not? If our ordinary ‘classical world’ is in a way a creation of our deluded minds, the trained and pure mind of Buddhas and Bodhisattvas can perceive very different picture – as in the above quotation from Vimalakirti-nirdesha sutra. The same may also refer to other realities of Buddhist Cosmologies.

One more aspect refers to visualization practices used in different Buddhist Schools. In Vajrayāna, for example, the yogi usually starts by dissolving the surrounding world or some parts of it into emptiness, and then creates from the realm of emptiness such things as offerings, or the whole mandala. From the point of view of Everett/Mensky interpretation of quantum mechanics, these processes may correspond to dissolving the ‘classic reality’ of the ‘practitioner’ ordinary consciousness into superposition of all possible states (= emptiness/dharmadhātu?) and then ‘choosing’ a new ‘classical reality’ from this superposition.

**Conclusion**

In terms of cognition, both Science and Buddhism are pursuing one aim: to find out the real state of things. Physics says that the one feature of the quantum world is interdependence of ALL events in it. In other words, we live in the quantum world and the superposition of alternatives is the very true state of things, while our ordinary consciousness presents us only an illusory image of external macroworld as the one and only existing reality. But in reality there are no individual entities with their own nature; everything exists in an interrelated way. This is the way how things really are, and this conclusion is completely in accord with the Buddhist view. Therefore, it seems to be heuristically interesting to correlate the quantum-mechanical idea of “classical alternatives” by Everett/Mensky with the Buddhist notion of relative reality as the world of phenomena, and the idea of superposition of classical alternatives – with the notions of dharmatā, tathātā, dharmadhātu, etc. as “true” reality in Buddhism.

Specifically, I’d like to stress that here we are not just considering analogies in different fields of human endeavor; in fact, both Buddhist thinkers and modern physicists, using very different methods, arrived basically at the same description of reality we live in. This is the point where the parallel worlds of Buddhism and Physics unexpectedly touched each other, and the deeper meaning of this contact is yet to be appreciated by both parties.

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10 Here I must mention that a recent interpretation of Nāgārjuna’s view of emptiness in Caponigro and Prakash (2009) as ‘relational ontology’ where “events as we observe them are not real, just the relations are real” is not correct: the relations in Madhyamaka are NOT real - they are also ‘empty’, as everything else.
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