



SIDDHARTHA

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Niels Bohr was a Nobel Prize-winning physicist whose revolutionary theories on atomic structures helped shape scientific research. He was the first to apply the quantum concept, but how does quantum physics, Siddhartha and Buddhism inter-relate?

One of the interesting aspects of quantum physics from the Buddhist point of view is that particles are now regarded as processes consisting of continuously evolving and changing wave functions.

Therefore, the scientific view of the world has to some extent converged with the

Buddhist view. Buddhism holds that the underlying basis of reality is change, process and impermanence.

Buddhism claims the mind is a fundamental aspect of reality, in the sense of not being reducible to a physical basis, such as to physico-chemical activities in the brain.

Buddhists regard the mind as a primary fact of reality in which we live, move, and have our being. This axiomatic mind cannot be reduced to other facts. It is implicit and foundational in all facts and in all knowledge. Mind is clear and cognising, and for Buddhists is the basis on which all other explanations rest.

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Before we enter the mysterious world of quantum, in Tolstoy's *Husks of Religion*, chapter 40 of Tolstoy's last novel *Resurrection*, he writes about the Christian faith. Framed for murder, a maid, Maslova, is convicted by mistake and sent to a Siberia jail. A nobleman, who seeks redemption for a sin committed years earlier, goes to visit her, meets with other prisoners, listens to their stories and slowly comes to realise that all around his charmed aristocratic existence is a much larger world of oppression, misery and barbarism.

When he arrives, one of those present, from the inspector down to Maslova, seemed conscious of the fact that Jesus, whose name the priest repeated such a great number of times, and whom he praised with all these curious expressions, had forbidden the very things that were being done there.

Jesus prohibited not only the meaningless and blasphemous incantation over the bread and wine but had also, in the clearest words, forbidden men to call other men their masters and to pray in temples.

He had ordered that everyone should pray in solitude, had forbidden the erection of temples, saying that he had come to destroy them and that one should only worship in spirit and truth. And, above all else, he had forbidden not only to judge, imprison, torment and execute men, as was being done there, but had prohibited any kind of violence, saying that he had come to give freedom to the captives.

No one present seemed conscious that all that was going on at the prison was the greatest blasphemy and a supreme mockery of that same Christ in whose name it was being done. No one seemed to realise that the gilt cross with the enamel medallions at the ends, which the priest had held out to the people to be kissed, was nothing but the emblem of that gallows on which Christ had been executed for denouncing just what was going on.

These priests, who imagined they were eating and drinking the body and blood of Christ in the form of bread and wine, did in reality eat and drink his flesh and blood, but not as wine and bits of bread, but by

depriving them of the greatest blessings, submitting them to most cruel torments and by hiding from men the tidings of great joy which he had brought. That thought did not enter into the minds of anyone present as it had never been pointed out.

The priest did his part with a quiet conscience, because he was brought up from childhood to consider that the only true faith was the faith which had been held by all the holy men of olden times, was still held by the Church and demanded by the state authorities.

He did not believe that the bread turned into flesh, that it was useful for the soul to repeat so many words, or that he had actually swallowed a bit of god. No one could truly sanction this, but he believed that one ought to hold his faith.

What strengthened him most in his faith was the fact that, for fulfilling the demands of it, he had for the last 15 years been able to draw an income, which enabled him to keep his family, send his son to a gymnasium and his daughter to a school for the daughters of the clergy.

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The deacon believed, in the same manner and even more firmly than the priest, for he had forgotten the substance of the dogmas of his faith and knew only that the prayers for the dead, the masses, with or without the acathistus (a hymn in honour of Mary) all had a definite price, which real Christians readily paid and, therefore, he called out his “have mercy” very willingly, and read and said what was appointed, with the same quiet certainty of its being necessary to do so.

The prison inspector and the warders, though they had never understood or had gone into the meaning of these dogmas and of all that went on in church, assumed that they must believe, because the higher authorities and the tsar himself believed in it. Besides, though faintly—and themselves unable to explain why—they felt that this faith defended their cruel occupations.

If this faith did not exist it would have been more difficult, perhaps impossible, for them to use all their powers to torment people, as they were doing, with a quiet conscience. The inspector

was such a kind-hearted man that he could not have lived as he was living unsupported by his faith.

Therefore, he stood motionless, bowed and crossed himself zealously, tried to feel touched when the song about the cherubims was being sung and when the children received communion. He lifted one of them and held him up to the priest with his own hands.

The great majority of the prisoners believed there lay a mystic power in these gilt images, these vestments, candles, cups, crosses and this repetition of incomprehensible words, “Jesu sweetest” and “have mercy”, a power through which might be obtained much convenience in this and in the future life.

Only a few clearly saw the clear deception that was practised on the people who adhered to this faith and laughed at it in their hearts. But the majority, having made several attempts to get the conveniences they desired, by means of prayers, masses and candles and not having got them—their prayers remaining unanswered—were

each of them convinced that their want of success was accidental and that this organisation, approved by the educated and the archbishops, was very important and necessary, if not for this, at any rate for the next life.

Maslova also believed in this way. She felt, like the rest, a mixed sensation of piety and dullness.

Tolstoy delivered this withering attack on the behaviour of Christian dichotomy, between ordinary life and the mysticism of faith. And even Jesus, speaking at the Sermon on the Mount, decried the utter hypocrisy of shackling those who had sinned against the rich to be tortured in shame, abject ruin and persecution.

In Matthew 5.1, seeing the multitudes, Jesus went up on a mountain, and when he was seated his disciples came to him. He opened his mouth and taught them, saying, “Blessed are the poor in spirit for theirs is the kingdom of heaven; blessed are those who mourn for they shall be comforted; and blessed are the meek for they shall inherit the earth.

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More poignantly, he went on to teach that blessed are you when they revile and persecute you, and say all kinds of evil against you. Rejoice and be exceedingly glad, for great is your reward in heaven, for so they persecuted the prophets who were before you.

You have heard that it was said that you shall not murder, and whoever murders will be in danger of judgement. Whoever is angry with his brother without cause shall be in danger of judgement. Agree with your adversary quickly, while you are on the way with him, lest your adversary deliver you to the judge, the judge hand you over to the officer and you be thrown into prison.

You have heard that it was said you shall love your neighbour and hate your enemy but I say to you, love your enemies, bless those who curse you, do good to those who hate you and pray for those who spitefully use and persecute you, for you may be sons of your father in heaven.

For he makes the sun rise on the evil and on the good and sends rain on the just and on

the unjust. No one can serve two masters, for either he will hate the one and love the other, or else he will be loyal to the one and despise the other. You cannot serve both god and mammon.

There are certain similarities here with Buddhism in this context and also modern scientific beliefs. Buddhism is a tradition that focuses on personal spiritual development and the attainment of a deep insight into the true nature of life, much as in as Jesus' sermon. Its basic tenets are that all life is interconnected in which compassion is natural.

However, the Buddhist religion deviates from the Westernised theatre of faith in that there is no belief in a personal god and it is not centred on the relationship between humanity and god. Buddhists believe that nothing is fixed or permanent and that change is always possible. The path to enlightenment is rather sought through the practice and development of morality, meditation and wisdom.

The Theravada Buddhist sect covers The Four Noble Truths: 1) suffering, the failure to

realise we have no definite, unchanging identity; 2) cause of suffering, or craving, leading to attachment to any pleasurable sense object; 3) cessation of suffering, where one's mind is adjusted through detachment to bring about peace of mind; and 4) freedom from suffering, the path that Buddhists take towards Enlightenment: right view, right intention, right speech, right actions, right livelihood, right effort, right mindfulness and right concentration.

In classical physics people speak of a world of things that exist somewhere outside of us and that we make a description of this nature. But in quantum physics, nature itself is always a construction of mind. As Niels Bohr put it: "There is no world of quantum, there is only a quantum mechanical description".

The current cosmological consensus is that the universe began 13.7 billion years ago with the Big Bang, a model that holds everything that now comprises the universe was once concentrated in a single point of near-infinite density. The theory goes that there was absolutely nothing before this singularity.

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When it exploded and the universe began, even use the term “before” in this reference is subject to debate, as before the Big Bang time itself didn’t exist. Scientists believe that the universe underwent cosmic inflation for a fraction of a second, then settled into the much more gradual expansion that is still going on to this day, the universe will likely end with an infinitely expanded, featureless cosmos.

Sir Roger Penrose, a mathematical physicist at Cambridge University, pointed out that the universe as we know it is probably just one of many in a cyclical chain, with each Big Bang starting up a new universe in place of the one before. And when you look at quantum physics, much about what we have traditionally taken for granted about the world simply isn’t true any more, but we’re locked into certain human precepts without even knowing it.

It seems that we’re so conditioned in our daily lives, so conditioned to the way we create our lives, that we buy into the illusion we have no control at all. We’ve been conditioned to believe that

the external world is more real than the internal world. Quantum, the physics of possibilities, has changed traditional Western thinking in that this new model of science says just the opposite: what’s happening within us will create what’s happening outside of us. That is also the essence of Buddhism.

Quantum has caused scientists to back up and ask the question: is reality what we’re seeing with our brain or is reality what we’re seeing with our eyes? The truth is that the brain does not know the difference between what it sees in its environment and what it remembers because the same specific neural nets are firing.

As Niels Bohr, the scientist, teaches us that independent reality, in the ordinary physical sense, can neither be ascribed to the phenomena nor to the agencies of observation. Similarly, the Chinese Zen patriarch, Sengtsan, observed that things are objects because of the subject (mind); the mind (subject) is such because of things (object). Understand the relativity of these two and the basic reality: the unity of

emptiness. In this “emptiness” the two are indistinguishable and each contains in itself the whole world.

Penrose’s inflationary model of the universe offers much of the same: that all particles will lose their mass towards the end of the universe, so the contemplation of the subatomic realm is really like a Buddhist exercise or Jesus’ narrative for morality: it transgresses the narrow world of opposites that exist in the subatomic world into an undivided whole, where object and subject become inseparable.

Current vigorous debates concerning the relationship between the intellectual arenas of Eastern religions, Western spiritual beliefs, philosophy and the discoveries of modern physics have significant parallels and deep similarities.

The Buddhist philosophical notion of “emptiness” is now blurred, as the lack of inherent self-existence in all phenomena has deep significance in understanding the nature of quantum paradoxes. How wonderful we have met with a paradox.

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In an issue of *New Scientist*, precise quantum experiences clearly suggest: "We now have to face the possibility that there is nothing inherently real about the properties of an object that we measure. In other words, measuring those properties is what brings them into existence."

This insight into the lack of "inherent existence", or *svabhava* in Sanskrit, is the hallmark of emptiness, or dependent origination, which highlights the inescapable fact that at all levels of reality there is nothing that is completely independent of other phenomena: all appearances, from indivisible particles to vast forms, are mind.

To paraphrase the point in a parable on neurological mechanisms in the book *Godel, Escher, Bach*: "On a dusty maidan there hung a rectangular flag. It was solid except for a thin ring-shaped hole that had been cut out of it through which one could see the sky.

"One day a tortoise walked past and admired its beauty. By chance Zeno, a Greek philosopher from Elea,

walked by and said to the tortoise: 'It's neither wind nor flag; neither one is moving. The Fifth Patriarch taught me that reality is at once immutable and unchanging; only plurality changes; motion is but a mere illusion of the senses. The tortoise merely nodded in confused agreement.'"

Buddhists believe that everything in the universe is linked, since all particles—those out of which you and I are made of and those that constitute the most distant galaxy—were once together in the same state at the Big Bang.

In recognising this, quantum physics has provided us with a new opportunity for revisiting the problem of the existence of "god" in a remarkable new setting. Although the existence of an independent creator certainly cannot be rescued by a quantum expedition, it perhaps can be by the teachings of the Buddha and the philosophical dimensions of quantum theory.

Quantum theory has had a radically revelatory impact for our understanding of the authentic nature of

spirituality; a fresh approach which finds a significant and powerful context within the metaphysics of the process of reality. Beguilingly, it was perhaps known all along, even as far back as in the Buddha's time.

The traditional Jewish, Islamic and Christian religions speak about a creator that holds the world together. He represents the fundamental reality. If He were separated only for one moment from the world, the world would disappear immediately. There is a discussion in quantum physics about fundamental reality. What is fundamental in quantum physics: particles, waves, fields of force, laws of nature or mindsets?

Quantum physics expresses by the key words of complementarity, interaction and entanglement and, according to these concepts, there are no independent but complementary quantum objects; they are at the same time waves and particles. But to harmonise our position as spectators and actors in the great drama of existence we should be careful in merely presenting a Buddhist "non-solution" to the fundamental problems of physics.