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TIME, FATE, AND FREE WILL IN THE CONTEXT OF QUANTUM THEORY

Background. ***The author tries to identify the connection between the phenomena of quantum physics and the philosophical concepts of "fate", "free will" and "time". By examining how the probabilistic nature of quantum mechanics challenges classical deterministic views, and bridging the gap between modern physics and age-old philosophical debates, the author seeks to offer a nuanced understanding of these fundamental concepts***

Methods. ***The investigation employs a multidisciplinary approach, incorporating scientific theories and discoveries alongside religious and philosophical perspectives. Various viewpoints and schools of thought are considered, spanning both Western scientific frameworks and Eastern philosophical traditions, to provide a comprehensive analysis of the topic.***

Results. ***The positions of total determinism and indeterminism are compared, highlighting their respective strengths and limitations. It delves into the parallels between Buddhist philosophy and contemporary quantum theory, suggesting that both share common ground in their understanding of reality. Additionally, the concept of creationism is examined within the context of quantum mechanics.***

Conclusions. ***The exploration reveals that the concepts of fate and free will, and their relationship with time, are deeply intertwined with the existence of a hidden quantum reality. This hidden reality, characterized by the inherent uncertainties and probabilistic nature of quantum mechanics, challenges the deterministic worldview upheld by classical physics. The investigation highlights that the interconnectedness of fate and free will with our understanding of time is profoundly influenced by the quantum realm, which introduces complexities such as the "measurement problem." As a result, the deterministic predictability of classical physics is replaced by a framework where probabilities and potentialities govern the behavior of particles. The study concludes that acknowledging the existence of this hidden quantum reality necessitates a re-evaluation of traditional notions of fate, free will, and time, suggesting that these concepts are more fluid and interconnected than previously thought. By bridging the gap between quantum theory and philosophical inquiry, the exploration offers new insights into the nature of reality and human agency, ultimately contributing to a more nuanced understanding of the universe and our place within it.***

Keywords: ***fate, free will, time, superposition, quantum world, reality, karma, determinism, indeterminism, uncertainty principle, probability package reduction.***

"Fate shuffles the cards, and we play"
Arthur Schopenhauer

Addressing the concept of time in the context of quantum theory is important for understanding the topic of fate and free will, but there is one: there is still no universal interpretation of this issue. Even Richard Feynman, a very respected quantum physicist, claims that "no one understands the meaning of quantum mechanics" and one of its important aspects – time. Faced with quantum phenomena, scientists have been trying to unravel their secrets for a whole century, because, as the great Heraclitus said, "nature loves to hide."

The paradoxes of the quantum mechanics tell us that there is another reality, incompatible with classical physics, which caused the so-called "measurement problem".

We already know that as soon as an observer tries to measure the behavior of quarks, they immediately move from the quantum state to the physical state. The result of this transition cannot be predicted in any way, since there are a huge number of probabilities and possible different options. This phenomenon was formulated by Heisenberg as the concept of "reduction of a package of probabilities." It is known that reduction inevitably leads to a new state and it is impossible to foresee what it will be. Unlike an already existing, "manifested", and measurable reality of classical physics, realized as a result of emerging from superposition, the quantum world disappears as soon as we try to measure it.

Since any measurement available to us is impossible outside of time, we have to come to terms with the fact that the impossibility of measuring the quantum world forces physicists to allocate time to a special position, give it a special status, or admit the correctness of the hypothesis that time does not exist in the quantum world.

Thus, in Wheeler-de Witt's interpretation, time is absent (at least in the usual, classical sense); his idea is supported by Prigozhin I., Stengers I. and others. The concept of timelessness is also central to the theory of quantum gravity, which attempts to unify the theory of relativity with quantum physics. Scientists such as Dirac, Fock and Podolsky proposed a "multi-time" theory when each particle has "its own" time.

But a revolutionary new theory developed by scientists at Griffith University's Center for Quantum Dynamics, the Australian Nuclear Science and Technology Organization, and the National Institute of Measurements, based on findings from experiments, has the potential to upend our understanding of time.

The authors of this theory assume the existence of a static and unchanging Universe, and suggest that the change of things over time is not an innate feature of nature, but the result of a "fundamental violation of the symmetry of time reversal," called "T-violation" in quantum mechanics.

Griffith University professor Joan Vaccaro suggests that time can flow not only forward, but also backward! Modern physical paradigm offers the following point of view on time: "It is legitimate to talk about two "times". One of them is our ordinary time – finite, unidirectional, closely related to actualization and belongs to the world of the realized. The other is time, which exists for the mode of being in possibility. It is difficult to characterize it in our ordinary terms, since at this level there are no concepts of "later" or

"earlier". The principle of superposition just shows that in potency all possibilities exist simultaneously. At this level of existence, it is impossible to introduce spatial concepts "here", "there", since they appear only after the "unfolding" of the world, during which time plays a key role" (Zajonc, Greenstein, 2005).

Thus, the temporal aspect of the quantum world is necessary for the interpretation of issues, the understanding of which is very important and interesting for our research.

Following the principle of superposition, everything that happens in the quantum world occurs immediately simultaneously in all possible states. It is not easy to accept this theory due to the fact that we, living in the physical world, are structured in such a way that we perceive all processes in the inevitable sequence of past, present and future. Many quantum physicists believe that time is just an illusion of our consciousness: there is no time and absolutely all events occur outside of its usual characteristics.

Now we will try to connect the hypothesis of the absence of time with a very important ethical question about the predetermination of the events of our lives, about "fate", and, as a consequence, about the freedom of our will.

For thousands of years, humanity has been pondering the eternal, insoluble philosophical question: does fate exist? Is our life subject to the prevailing fate or are we free in our decisions, being a significant element of the Universe? How often do we hear the phrase: "This is fate! ". Turning to philosophy, we will find a lot of interesting, different points of view on this topic, which has become relevant for quantum theory. Fascination with the theme of fate permeates all philosophy, art, and literature, which, of course, is a reflection of the doubts and painful thoughts of humanity.

William Shakespeare in "Hamlet" said: "But the order of actions is thought out, and the end of the path is inevitable...". The theme of fate is heard in the music of Beethoven, in the poems of Symbolist poets, in the paintings of artists depicting Fortune. ("Allegory of Fortune" by Salvatore Rosa, "Procession to Calvary" by Pieter Bruegel the Elder, "Parks" by Alfred Pierre Agache, "Three Fates" by Francesco Salvitati, etc.) And, of course, most philosophers, especially of the ancient period, were puzzled by thoughts about fate. In the ancient consciousness, fate controls not only the lives of people and gods, but also the entire Universe.

Fate was seen as the basic principle of existence that manifests the natural laws of the Cosmos and was represented in ideas of Logos (Heraclitus), Ananke (Democritus), Dike (Solon), Adrastia (Platon). Fate for the Greeks was a complex of ontological, epistemological and ethical manifestations that are expressed in the unity of Good, Truth and Beauty.

The ancient worldview was of a cosmological nature, where man was an integral part of the universe, which could not but affect his ideas about the meaning of life, about good and evil, about happiness and love. The life of the Cosmos, secret to ordinary consciousness, was accessible only to sages who were the standard of moral behavior. It's not for nothing that Aristotle defined a wise man as "knowing the consequences of principles"! As Heisenberg has noticed, Aristotle's idea of "being in possibility" largely coincides with the phenomenon of contemporary quantum theory – with "superposition"

Heraclitus pointed to Logos as the "essence of fate", Thales believed that "the strongest of all is inevitability", Solon in "Elegies" said: "but keeping silent, Truth (Dike) knows what is and what was." All these images seem to personify the laws in accordance with which the cosmic processes of the universe are carried out. Fate was seen as one of the principles of the Universe, reflecting the laws of cosmic processes; a logical category that characterizes the cause-and-effect relationships of phenomena occurring in the world. Moirai in ancient philosophy, for example, are the intelligent elements of fate. The images of Moira personify the destiny or lot of human life, Ananke – objective necessity, Dike – cosmic justice. Geymarmen represents the unknowable, inevitable fate, Fortuna is the goddess of luck, Tyukhe is the goddess of blind chance, Nus symbolizes the "impersonal world mind." All these images represent ancient Greeks' belief in the inevitable connection between the cosmos and ethical laws.

In the reflections of the Roman emperor and philosopher Marcus Aurelius "Alone with Oneself" there is a phrase that deserves our attention: "Either everything happens as if in a single body, originating in a single spirit, and the part should not complain about what is happening in the Whole, or there are atoms and nothing but mixing and scattering. ... The cycle of the world is unchanged in its movement up and down, from eternity to eternity. ...Soon the earth will cover us all, then it will change, and what will come from it will change indefinitely. And who, having reflected on the waves of changes and transformations rushing against each other with such speed, will not be filled with contempt for everything mortal? And again: Whatever happens to you, it has been predetermined for you from eternity. And from the very beginning, a web of reasons connected your existence with this event. Whether there are atoms or a single nature, it must first be established that I am part of a Whole governed by nature; After all, if I remember this, then, since I will recognize myself as a part, I will not be dissatisfied with anything sent by the Whole, for what is useful to the Whole cannot be harmful to its part" (Aurelius, 2002, p. 164,160-161, 169-170).

Antiquity was the rise of the human spirit, intellect, and heroism, personifying difficult but wonderful times. The philosophical traditions of Antiquity, as is known, were interrupted by the Middle Ages, but, having been revived in the Renaissance, received their further development and had a strong influence on the worldview of modern people. The Christian Middle Ages strengthened the belief in Fate, presenting it as divine predestination.

Evidence of this can be found in the lines from the Bible, where the prophet Jeremiah says: "I know, O Lord, that a man's way is not in his will, and that it is not in the power of a man who walks to direct his steps" (Holy Bible, 2018, Jer.: 10,11).

In the philosophy of the Early Middle Ages, the idea of the inevitability of fate was almost the main one. In this context, the dispute between Aurelius Augustine and the monk Pelagius about the essence of free will is important. Pelagius defended human free will, but only if his actions were moral and virtuous. Augustine pointed to the original sin of man, which led him to the loss of free will and complete dependence on the mercy of God. This idea was later firmly established in Protestantism.

Let us turn to the philosophical texts of the Renaissance, where the place of Fate was taken by Fortune, which granted man relative freedom. Pico della Mirandola argued that God did not initially determine man's place in Space and on Earth, giving him the right to choose. The philosopher saw in this freedom "the highest and most delightful happiness of a person who is given the power to own what he wants and be who he wants."

Another Renaissance philosopher, Niccolo Machiavelli, in the poem "On Fate," recognizes the power of fate, but provided that a person possesses "extraordinary valor," he gets the opportunity to change what is destined for him by a higher power.

Pietro Pomponazzi in his treatise "On Fate, Free Will and Predestination" presents fate as an objective cause-and-effect cosmic relationship. Pomponazzi does not deny the importance of objective chance, since each case, in his opinion, necessarily has its own cause. Thus, chance is a manifestation of universal necessity. But Pomponazzi also allows for the freedom of choice of a person, believing that it is determined not only by fate, but also by the subjective desire of the individual. The idea of divine providence, from Pomponazzi's point of view, eliminates the personal responsibility, which excludes the possibility of a fair trial of him. It should be noted that, although the theme of fate has been one of the main ones in world culture for centuries, gradually, already in the philosophy of the New Age, it is losing its dominant place, in contrast to religious and philosophical teachings.

Let us turn to the philosophy of Buddhism, and its approach to the to the issues that Europeans represented in the ideas of "free will" and "fate". In Buddhism, the concept of free will is replaced by the analog of "free will" and fate is the same karma that defines everything: our thoughts, actions, intentions, emotions. According to Buddhism, we are our own saviors and judges. What we earn is what we get. If not now, then in the next life!

Mingyur Rinpoche in his book "Turning Confusion into Clarity: A Guide to the Foundation Practices of Tibetan Buddhism" tried to combine the ancient philosophy of Buddhism with the latest discoveries of Western science. The book was written by him after participating in medical research on the effects of meditation, which was carried out at the Weisman Laboratory of Neurophysiology and Brain Function at the University of Wisconsin. We won't talk about meditation for now. At this point, something else is interesting – how Rinpoche understands the freedom of our choice in the context of quantum theory: "From a Buddhist point of view, quantum mechanics, in its description of reality, offers a degree of freedom that is unusual for most people and may seem strange and even slightly frightening to them at first. As much as Westerners may value the prospect of such freedom, the quantum idea that the act of observing an event can influence its outcome in a random and unpredictable way seems to impose too much responsibility. It is much easier to take the position of a victim and shift responsibility or blame for our experience to some person or force outside of ourselves. But if we want to take the discoveries of modern science seriously, we must take responsibility for our current experiences. And although this may open up opportunities for us that we could not even imagine before, it is still difficult for us to abandon the habitual role of the victim of circumstances. On the other hand, if we begin to take responsibility for everything we experience, our lives become a kind of playground, providing endless opportunities for learning and invention. Our sense of personal limitation and vulnerability will gradually be replaced by a sense of openness and possibility. We will see others in a new light – not as threats to our personal safety and happiness, but simply as people ignorant of the limitless possibilities of their own nature." (Rinpoche, 2009, p. 79).

Buddhism pays great attention to hard work on one's own consciousness, which involves not just a good education, but also special meditation practices. So, for most Buddhists, Fate is what we deserve, it is the law of the Universe, which they call Karma. But we create Karma ourselves by doing things... And what, having violated the laws of the Universe in the past incarnation, are we doomed to pay the bills in this life?

Some Buddhist researchers emphasize that Karma and Fate should not be identified, as this leads to determinism. Yet, the thin line between freedom and non-freedom has worried people at all times. We can bring up any number of interesting, varied theories that interpret fate from different positions, but let's return to science, which is also interested in answering the question about the existence of fate. We may have different attitudes towards the idea of predestination, but it is impossible to deny the fact that our fate is still predetermined, at least partially, and begins to take shape long before our birth, at least nine months. Geneticists claim that we are programmed by the information that our genes carry, transmitted to us by our ancestors once and for all. Our DNA is programmed with our gender, height, eye color, skin, hair, our abilities, temperament, illnesses... The genome of each person contains many possibilities, options that can be realized or not. It is impossible to ignore this fact, so we need to stop here and take a closer look. Yes, from birth, regardless of our desire, we receive a set of qualities that undoubtedly influence our lives.

Of course, you can make adjustments to your appearance, even change your gender, but these will be manifestations of will that can be regarded in two ways: as a continuation of the same line of fate (Well, that's fate!) or as a manifestation of a person's free will, denying fate.

The famous Jewish writer Isaac Bashevis Singer once joked: "...we must believe in freedom of choice – we simply have no choice." But the question of the existence of fate still remains open. Does a person have free choice? Or is fate dominating us, determining our lives? Will it turn out that all our efforts and worries will be in vain and everything will happen as prescribed from above? Is our "Today" the result of our choices made "Yesterday", which determined the direction of our life? Is there a program that determines our lives, and how does it fit with determinism? A huge number of sages tried to find answers to these questions, and today science comes to the rescue in revealing these secrets.

So, we cannot but agree that human life is limited by the physical laws of the Universe, which we cannot change. Physicists and mathematicians back in the 19th century tried to figure out how predetermined the events of our lives were, as a result of which the theory of total determinism was created. Pierre-Simon Laplace, a French mathematician, physicist and mechanic, expressed the idea that if he knew the position and speed of all particles in the Universe, he could calculate with absolute accuracy all events until the end of time.

Based on complex calculations, Laplace's theory was confirmed by some specific results, which terrified the common man, as it led to the realization of a person's complete helplessness in the front of a fate. To predict events, Laplace needed to make some measurements and calculations, which in classical physics was a completely feasible task. Thanks to Newtonian physics, a "mechanical" model of the Universe arose, where there is no room for chance, and everything works like a well-oiled mechanism. Unlike the idea that all events are determined by the past and closely connected to it, the theory of indeterminism, which emerged with quantum mechanics, denies the existence of fate. In the context of this theory, it is impossible to predict the future, since chance is always present in the

development of events. The latest research by scientists comes down to the fact that the world is indeterministic, but here, as it turns out, there is no unanimity.

Everyone knows the popular fortune telling in the form of tossing a coin: if we toss it by asking some question, the result will be either "heads" or "tails", indicating "yes" or "no". Indeterminists will say that this is the simplest typical case that confirms the randomness of everything that happens to us. We don't know in advance what will happen, which means that the world is unpredictable. But determinists will object: there are hidden parameters that are unknown to us, but they affect the final result. For example, the force with which a coin is thrown, its mass, size, air movement, humidity and other factors hidden from us, but present at the moment of the throw. And if we take them into account, we will be able to predict the result.

One can assume the same idea about the particles, if one assumes the existence of hidden parameters that are still unknown to physicists. But the fact of the matter is that these parameters have not yet been found, although experiments to search for them have been and are being carried out very actively.

Let's assume that we managed to measure the parameters of quarks and, using a super-powerful computer, calculate their movement. Then it will be possible to find out where, in what combination, and at what time they will be, which will make it possible to find out the future of the particle. From the point of view of classical physics, this is possible. But the uncertainty principle, formulated by Heisenberg, denies this possibility, since it states that it is impossible to make such measurements. Errors in calculations will grow exponentially and accidents will always prevent us from calculating the future.

So, does nature itself stand in the way of our futile attempts to look beyond the horizons of time? And the Universe is incomprehensible? At least today, most quantum physicists are inclined to believe that the world is undefined and determinism does not exist. At one time, Einstein did not like the uncertainty principle, which denies the possibility of calculating the future.

A hundred years ago, in an argument with Niels Bohr, he uttered his famous phrase: "God does not play dice." Yes, if you accept the idea of God as a creator, then it is difficult to believe that God allows accidents... Then another conclusion arises: The Universe is structured in such a way that the existence of matter is always accompanied by laws. Matter and laws are an indivisible whole, and all this is subject to some amazingly comprehensive law of "Everything", the discovery of which quantum physicists dream of, and to which the forces of Fate are subject. But this law, capable of explaining everything fatal and inevitable, is securely hidden from us! Let's imagine that we need to make some choice: change profession or not? We can either change or refuse the idea of changing a profession, and it will seem to us that we are making our own choice. From a determinist's point of view, the process of choice is an illusion. We just don't realize that in reality we can choose only one option, which "follows" from our previous experience and state.

If we consider consciousness as a product of brain activity (and the brain consists of tiny particles, the behavior of which can be described by the laws of classical physics), then we have a clear example of determinism. But if we take the position of quantum mechanics, we get a slightly different picture. The fact is that quantum mechanics allows you to operate only with probabilities. Since scientists do not have access to complete information about the direction of the electron's spin, it is not yet possible to make accurate measurements and determine the inevitability of one or another choice. Physicists have not yet invented such measuring instruments that could calculate with high accuracy the degree of probability of a particular event. This approach is called hidden parameter theory, which Einstein used as an argument against quantum physics.

By the way, when Einstein was asked whether he believed in God, the great physicist, in an interview published in 1930 in the book "Glimpses of the Great" by G. S. Sylvester Viereck, replied: "Your question (about God) is the most difficult in the world. This is not a question that I can answer with a simple yes or no. I'm not an atheist. I don't know if I can describe myself as a pantheist. This problem is too vast for our limited minds. Can I not answer with a parable? The human mind, no matter how well trained it is, cannot understand the Universe. We are like a small child who entered a huge library, the walls of which are filled to the ceiling with books in different languages. The child understands that someone had to write these books. But he doesn't know who wrote them or how. He does not understand the languages in which books are written. The child notices a certain order of these books, an order that he does not understand, but vaguely imagines. This, it seems to me, reflects the attitude of the human mind, even the best and most cultured, towards God. We see that the Universe is arranged amazingly, obeys certain laws, but we understand these laws only vaguely. Our limited minds are unable to comprehend the mysterious force that rocks the constellations. I am fascinated by Spinoza's pantheism. I admire his contributions to modern thought even more. Spinoza is the greatest of modern philosophers because he is the first philosopher who treats the soul and body as one whole, and not as two different things" (Viereck, 1930, p. 372-373). Here's what Albert Einstein thought about free will and fate: "I'm a determinist. I don't believe in free will. Jews believe in free will. They believe that man himself is the creator of his life. This doctrine I reject. In this respect I am not a Jew. How's that? Let's look further... In his letters to physicist Max Born, Einstein writes about his understanding of cause-and-effect relationships: "You believe in a God who plays dice, and I believe in complete law and order in a world that objectively exists and which I believe is absolutely speculative by trying to cover. I firmly believe and hope that someone will discover a better method or reason than my attempt to find them. Even the great success of quantum theory will not make me believe in the fundamental game of dice, although I know very well that some of our young colleagues interpret this as a consequence of my aging" (Adams, 1995, p. 17).

In the Universe, from the point of view of many philosophers, there is a principle of "cosmological determinism", the essence of which is approximately the following: there are no accidents in the world, and what we perceive as an accident is actually the result of a cause-and-effect relationship between the phenomena of our life. But let's return to the beginning of this section, where the question was raised about the connection between our idea of time and the concept of fate.

If we assume that fate exists, it means that there is some force that pre-programmed the course of events in our lives. When we say "course of events," it means we assume the course of events in time.

If quantum mechanics puts forward the assumption that time does not exist and everything that we observe does not happen sequentially, but simultaneously, it means that what we mean by the future has already happened or, more precisely, is happening at this moment. Neither the past nor the future, in the context of quantum theory, exists. By the way, Einstein, who, as is known, despite his disagreements with ideas of quantum physicists, still wrote in a letter of condolences on the death of his old friend Angelo Besso: "Now he has left this strange world, a little before me. It doesn't mean anything. For us, believing physicists, the difference between past, present and future is only a persistent illusion." (Goldsmith, & Bartusiak, 2006, p. 187).

This means that if, according to quantum theory, time is an illusion of our consciousness, which is only capable of perceiving events (or creating?) exclusively in an illusory sequence (and not simultaneously, as quantum physicists understand), then, trying to look into the future, we are running in vain towards those events that we imagine have not yet happened, but which, according to quantum theory, are already happening at the moment. In this case, how can one deny fate (program, predestination) if it came true before we felt and realized the events of our lives?

The theme of fate has always been popular in art and literature, religion and philosophy, since it worries and worries most people. But for the first time in the history of mankind, quantum theory attempted, from the point of view of fundamental science, to answer the question about the existence of predetermination in our lives. Of course, there is no practical evidence of this yet, there are only hypotheses, calculations and doubts. But if physicists manage to prove the existence of fate, this will be a grandiose revolution not only in the scientific world, but also in the worldview of people in general.

So, the topic of fate and free will is one of the fundamental ones for ethics, since morality is the subject of ethics and is determined by the degree of responsibility for committed actions. It is perhaps in ethics that we feel our greatest potential for freedom.

Let's assume that we live in a matrix, as some scientists suggest (Elon Musk claims that this is exactly so), therefore, we should not be responsible for our actions or thoughts, since they do not belong to us.

It seems that we are approaching a very strange and dangerous assumption for humanity, since if it is confirmed, it will remove responsibility not only for immoral acts, but also for serious crimes. Does this mean that the categories of good and evil are abolished? Is there anything left of classical ethics?

Fortunately, there are other points of view on freedom of choice. For now, we live in hope that, if fate exists, it will be as a general line set by the Creator, which does not exclude the will of man, his conscious choice, and responsibility for it.

Our already shaky traditional ideas about the nature of the Universe have been shaken quite strongly over the past hundred years, which has led to the intensification of scientific research in the field of quantum theory, which has given rise to a lot of questions that still have no answers. But, since the quantum world enters so tightly into our consciousness, humanity is obliged to accept and understand its phenomena, and therefore be prepared for the most unexpected discoveries.

The dichotomy of Fate and Freedom is one of the main issues that determines the understanding of the degree of their relationship. Quantum physics is one of the revolutionary theories that contrasted determinism with indeterminism, and if humanity manages to understand this confrontation, many secrets of existence will be revealed, and then, perhaps, the formulas of Fate and Freedom will be written on the blackboard!

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ЧАС, ДОЛЯ І СВОБОДА ВОЛІ В КОНТЕКСТІ КВАНТОВОЇ ТЕОРІЇ

В с т у п . ***Автор намагається виявити зв'язок між феноменами квантової фізики та філософськими поняттями "доля", "свобода волі" і "час". Досліджуючи, як імовірнісний характер квантової механіки кидає виклик класичним детерміністським поглядам, автор прагне запропонувати нюансоване розуміння цих фундаментальних понять, щоб зменшити розрив між сучасною фізикою та давніми філософськими дискусіями.***

М е т о д и . ***Дослідження використовує міждисциплінарний підхід, що включає наукові теорії та релігійні і філософські погляди. Розглянуто різні думки, що охоплюють і західні наукові рамки, і східні філософські традиції, щоб забезпечити комплексний аналіз теми. Проаналізовано різноманітні підходи, школи та напрями – як наукові, так і релігійно-філософські.***

Р е з у л ь т а т и . ***Позиції тотального детермінізму та індетермінізму порівнюються, з висвітленням їхніх відповідних сильних та слабких сторін. Проведено паралелі між буддійською філософією і сучасною квантовою теорією, висунуто припущення, що обидві доволі близькі в розумінні реальності. Крім того, окреслено концепцію креаціонізму та розглянуто її в контексті квантової механіки.***

В и с н о в к и . ***Дослідження показує, що концепції долі, свободи волі та їхнє співвідношення з часом глибоко переплетені з існуванням прихованої квантової реальності. Ця прихована реальність, якій властива невизначеність та ймовірнісна природа квантової механіки, ставить під сумнів детерміністський світогляд, підтримуваний класичною фізикою. Дослідження підкреслює, що на взаємозв'язок долі та свободи волі з нашим розумінням часу глибоко впливає квантовий світ, який вводить такі складності, як "проблема вимірювання". У результаті детерміністська передбачуваність класичної фізики замінюється структурою, у якій імовірності та потенціали визначають поведінку частинок. Дослідження робить висновок, що визнання існування цієї прихованої квантової реальності потребує переоцінення традиційних понять долі, свободи волі та часу, припускаючи, що ці концепції є більш гнучкими та взаємопов'язаними, ніж вважалося раніше. Поєднуючи квантову теорію та філософські студії, дослідження пропонує нові уявлення про природу реальності та людську діяльність, зрештою сприяючи глибшому розумінню всесвіту та нашого місця в ньому.***

К л ю ч о в і с л о в а : ***доля, свобода волі, час, суперпозиція, квантовий світ, реальність, карма, детермінізм, індетермінізм, принцип невизначеності, редукція пакета ймовірностей.***