

A New Interpretation of Quantum Physics Based On a New Definition of Consciousness

Zhi Gang Sha* and Rulin Xiu*,†,‡

**Institute of Soul Healing and Enlightenment
30 Wertheim Court, Unit 27D
Richmond Hill, Ontario L4B 1B9, Canada*

*†Hawaii Theoretical Physics Research Center
16-266 E. Kipimana St, Keaau, HI 96749, USA*

‡rulin@htprc.org

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Although quantum physics has led to the most accurate predictions to date about the nature of matter and the universe, a metaphysical interpretation of its non-deterministic and subjective nature still remains an ongoing debate. In this work, we will review the nature of the debate and propose a new way to address the controversies about the non-deterministic and subjective nature of quantum physics. In our previous work, we have shown that everything is made of information, energy and matter. We propose to define spirit or soul as the content of information, spiritual heart as the receiver of information, and mind as the processor of information. In this paper, we show that the intrinsic uncertain and non-deterministic nature of quantum physics can be explained by the insights from these definitions. Information relates to the possibilities and potentialities of an object. Information is intrinsically uncertain and non-deterministic. Since quantum physics is the fundamental physics theory describing the information, energy and matter of everything, quantum physics has intrinsic an uncertain and non-deterministic nature. We further demonstrate that the process of quantum measurement can be interpreted as the role played by soul, spiritual heart and mind in the manifestation of physical phenomena. We conclude that our insight that everything is made of information, energy and matter and the definition of soul, spiritual heart and mind provides a simple metaphysical interpretation of quantum physics. They can help us understand and resolve the two controversies about quantum physics.

Keywords: Metaphysical interpretation of quantum physics; universal wave function interpretation of string theory; spiritual heart; spirit; soul; mind; consciousness; quantum measurement; information; foundation of quantum physics; subjective and non-deterministic nature of quantum nature.

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1. Introduction

Quantum physics is the most fundamental theory of physics. Quantum physics is the study of what everything is made of and how it behaves at the atomic and subatomic levels.^{1–4} Classical physics, including Newtonian mechanics, classical electromagnetism and thermodynamics as well as Einstein's relativity theories describe the macroscopic world. It has been shown that classical physics is an approximation of quantum physics. Quantum physics yields the most accurate predictions about nature and has led to many great advances in science and technology.

However, the basis of quantum physics is still not well understood, because it challenges the foundations of physics and natural science at their core. The meta-physical interpretation of quantum physics is an ongoing debate.

Studies in quantum physics indicate that everything is made of various vibrations, also called waves. Vibrations or waves are periodic oscillations. Because quantum vibrations are not limited by space and time, everything according to quantum physics is basically a vibrational field consisting of different vibrations. These vibrational fields are described mathematically by a "wave function". A wave function is the mathematical formula that expresses the properties and quantities of vibrations or waves of an object.

The first controversy about quantum physics is related to the question of whether the world we observe is deterministic or not. In classical physics, everything is described by equations of motion. They are deterministic, meaning that theory can predict what happens in the future if you know the current or past state of an object. Quantum physics is fundamentally non-deterministic. In quantum physics, everything is described by wave functions, which can only tell the possibilities and chance for certain things to happen. Because of the probabilistic nature of quantum physics, some scientists, including Albert Einstein, do not accept quantum physics as the fundamental theory of physics. The measurement problem in quantum physics involves the debate about why our world appears to be definite while the underlying quantum nature is the superposition of many possible vibrational states.

The second controversy about quantum physics is that the concept of quantum phenomena drastically conflicts with one of the cornerstones of natural science and scientific research, which is objectivity. It is generally accepted in natural science that natural phenomena are objective. Their existence does not depend on the action of the observer. In quantum physics, however, phenomena are subjective and depend on the action of observers and the measurement process. For instance, in quantum physics, the measurement of the location of a light particle depends on where the observer put the detector. The measurement of the polarization of a light depends on how the observer directs the polarizer.

The above two distinguishing and other qualities such as non-local effect existing in quantum physics have caused many scientists to question whether quantum physics is a complete or correct theory about reality. Many interpretations have been proposed to make sense of quantum physics, such as the Copenhagen interpretation,

pilot-wave theories, many-world interpretations, and more. Interpretations of quantum mechanics deal with two problems: (1) how to relate the mathematical formalism to the experimental facts, and (2) how to state the physical meaning of the mathematical formulations and experimental phenomena in terms of ordinary understanding, as well as in philosophical and metaphysical terms.

The generally accepted Copenhagen interpretation^{1,4} of quantum physics discards the idea of the objectiveness of physical reality and reduces physics to a subjective discipline that only deals with our knowledge of physical reality. To maintain the deterministic and objective nature of reality, the pilot-wave theory, also called de Broglie–Bohm theory and the causal interpretation,⁵ postulates an actual configuration that exists even when unobserved, in addition to a wave function. The many-worlds interpretation^{6,7} asserts the objective reality of the universal wave function by suggesting that wave function describes the actual existing parallel universes, the multiverse. Wolfgang Pauli, John von Neumann and Eugene Wigner suggest that the subjective nature of quantum reality is due to the fact that quantum theory was about mind–matter interaction.⁸

In this paper, we are going to present a new way to address the controversies about quantum physics based on our understanding about the constituents of the existence. In our previous work,⁹ we have shown that everything is made of information, energy and matter. We show that this understanding can lead to a scientific definition of spirit or soul, spiritual heart and mind. We demonstrate that with this definition, one can use quantum physics to explain spiritual phenomena such as intuition, telepathy, clairvoyance, psychokinesis, distant healing and more. It can help one to understand the function of spiritual heart in determining the observed phenomena.¹⁰ In the following section, we will first review this work, then we will discuss how it yields a new and simple metaphysical interpretation of quantum physics.

2. Matter, Energy and Information

To truly understand both our existence and quantum physics, we suggest that we should first understand what everything is made of. In our previous paper, we demonstrate that everyone is made of matter, energy and information.

Here, we consider matter as everything we can measure and observe. For example, length, width, height, distance, weight, mass, charge, electric field, spin, force and many more are all different properties and phenomena of matter.

Energy is the ability to move and change matter, such as lifting a weight or heating up a pot of water.

Information is that which informs. It gives form to the phenomenon we observe. For instance, information in our bank determines how much money we have. The blueprint of a house determines the shape and dimensions of the house. Information theory tells us that information describes the possibilities and potentialities of something.

A wave function describes the possible states, i.e., waves, as well as the energy and other physical quality of the waves. It is the mathematic description of the information, energy and matter of an object.

Information has three aspects: the content of information, receiver of information and processor of information. We show that we can define soul, spiritual heart and mind as representing these three elements of information, respectively. Soul is the content of information carried in everything. Spiritual heart is the receiver of information. Mind is the processor of information. From the wave function, we can calculate soul, spiritual heart and mind of an object.

In our previous paper,⁹ we show that with this definition, we can use quantum entanglement phenomenon to explain spiritual phenomena such as telepathy, clairvoyance, distant healing, intuition, direct knowing and psychokinesis. In another paper,¹⁰ we show that quantum physics can help us understand why spiritual heart helps determine the physical phenomena one observes.

3. A New Way to Interpret the Controversies in Quantum Physics

We suggest that the insight that everything is made of information, energy and matter and the definitions of soul, heart and mind as three components of information inside something yield a new way to address the controversies in quantum physics in simple terms.

Let us first address the controversy about the intrinsic uncertainty and non-deterministic nature of quantum physics. We propose that the reason quantum physics is intrinsically uncertain and non-deterministic is due to the fact that everything is made of information, energy and matter. Here by matter, we mean what we see, hear and observe. Energy is what moves and changes the matter. Matter and energy are discussed in all physics theories. According to Claude Shannon's discovery of Information Theory,¹¹ information describes and measures the possibilities and potentialities within an object. Information is intrinsically probabilistic. If information is one of the basic constituents of everything, everything has fundamentally an uncertain and non-deterministic nature. The information aspect is addressed in quantum physics and thermodynamics. This is why quantum physics, as the fundamental theory about how everything works at the microscopic level, is fundamentally uncertain and non-deterministic. We conclude the insight that everything is made of information, energy and matter can explain why the fundamental nature of quantum physics is uncertain and non-deterministic.

Regarding the controversy about the subjective nature of quantum physics, we suggest that our definitions of soul, spiritual heart and mind may explain why quantum phenomena are intrinsically subjective. This is related to how the quantum phenomena are determined by soul, spiritual heart and mind.

In quantum physics, one needs to use detector or detectors to observe a quantum phenomenon. A detector is an instrument specially designed to absorb vibrations and show visible and measurable changes as a result. For instance, a camera is a detector.

The kinds of detectors one uses and where one places the detectors determine what we observe. To observe a quantum phenomenon, one must receive vibrations from what is being observed. In quantum physics, detectors are used to receive vibrations.

According to our definition of spiritual heart and mind, the detectors used in the measurement correspond to the hearts and minds. Therefore, the subjective nature of quantum physics is basically the fact that our hearts and minds play a crucial role in determining quantum phenomenon we observe.

Everything is a vibrational field, which contains information, energy and matter. Within the vibrational field, there are many possibilities, which correspond to the informational aspect of a thing. Which possibility or possibilities are manifested depends on what our spiritual heart receives and how the mind processes what has been received. Heart and mind determine the phenomena we observe. Because of this, quantum phenomena and in fact everything we observe is fundamentally subjective.

4. Conclusion

In this paper, we show that the intrinsic uncertain and non-deterministic nature of quantum physics can be explained by the insight that everything consists of information, energy and matter. Information relates to the possibilities and potentialities of an object. Quantum physics is the fundamental theory of physics that describes the information, energy and matter of everything. Because of this, quantum physics has an intrinsic uncertain and non-deterministic nature. We demonstrate that with the definition of soul, spiritual heart and mind as the content, receiver and processor of information, the measuring process of quantum phenomenon can be interpreted as the role that soul, spiritual heart and mind play in the manifestation of physical phenomena.

We conclude that our insight that everything is made of information, energy and matter and the definitions of soul, spiritual heart and mind provide a simple meta-physical interpretation of quantum physics. This can help us understand and resolve the two controversies of quantum physics.

References

1. N. Bohr, *Atomic Physics and Human Knowledge* (Wiley, New York, 1958).
2. E. Schrödinger, An undulatory theory of the mechanics of atoms and molecules, *Phys. Rev.* **28**(6) (1926) 1049–1070.
3. M. Born, Physical aspects of quantum mechanics, *Nature* **119** (1927) 354–357.
4. N. Bohr, The Quantum postulate and the recent development of atomic theory, *Nature* **121** (1928) 580–590.
5. D. Bohm, *Wholeness and the Implicate Order* (Routledge, London, 2002).
6. H. Everett, Theory of the universal wavefunction, thesis, Princeton University (1956, 1973), pp. 1–140.
7. H. Everett, Relative state formulation of quantum mechanics, *Rev. Mod. Phys.* **29** (1957) 454–462.

8. J. von Neumann, *Mathematical Foundations of Quantum Mechanics* (Princeton University Press, Princeton, NJ, 1955).
9. Z. G. Sha and R. Xiu, Composition of existence and the definition of spirit, heart, and mind according to quantum physics, *Int. J. Inf. Res. Rev.* **5**(1) (2018) 5072–5075.
10. Z. G. Sha and R. Xiu, Spiritual heart and the manifestation of physical reality, *Int. J. Curr. Res.* **10**(7) (2018).
11. C. E. Shannon, A mathematical theory of communication, *Bell Syst. Tech. J.* **27** (1948) 379–423 and 623–656.