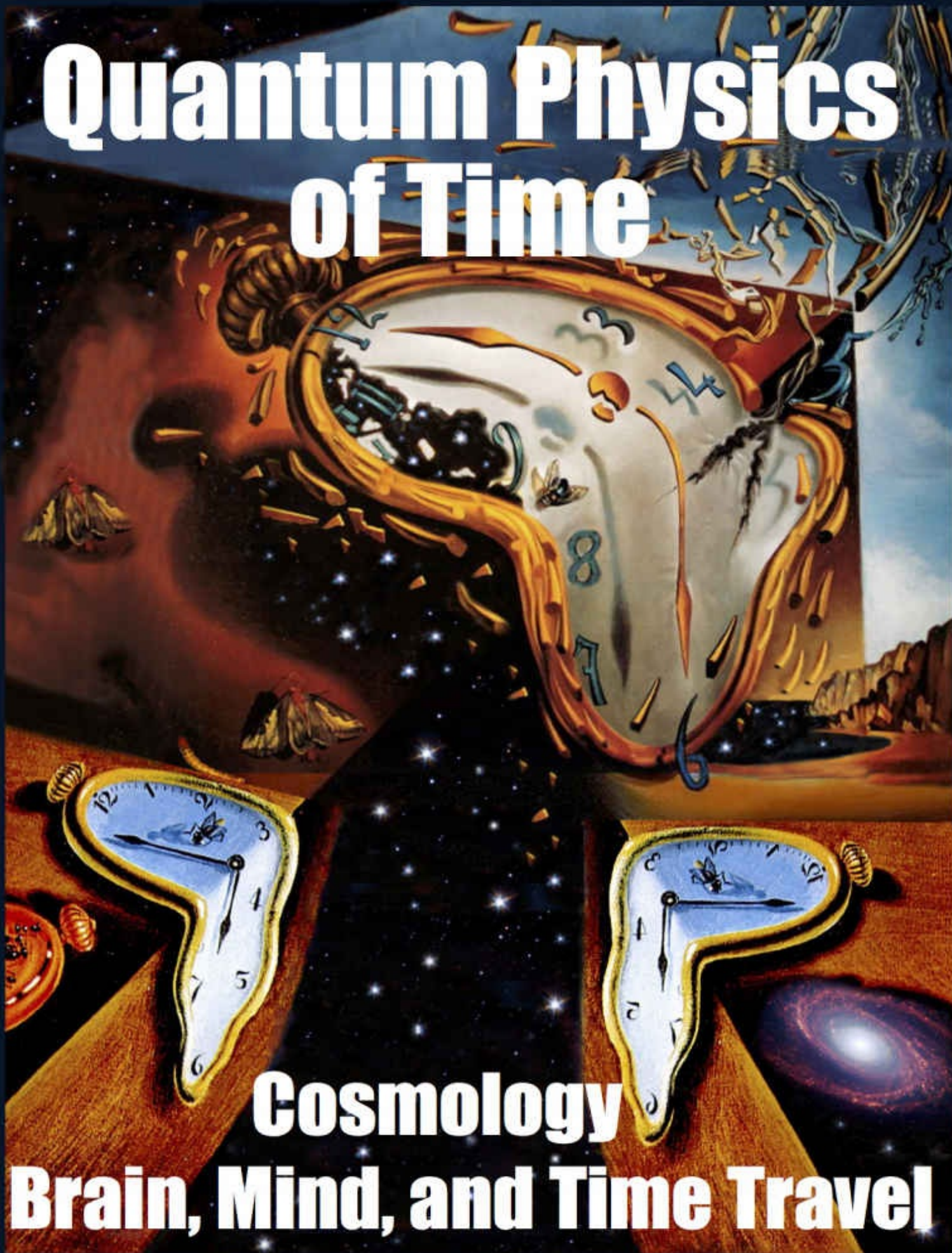
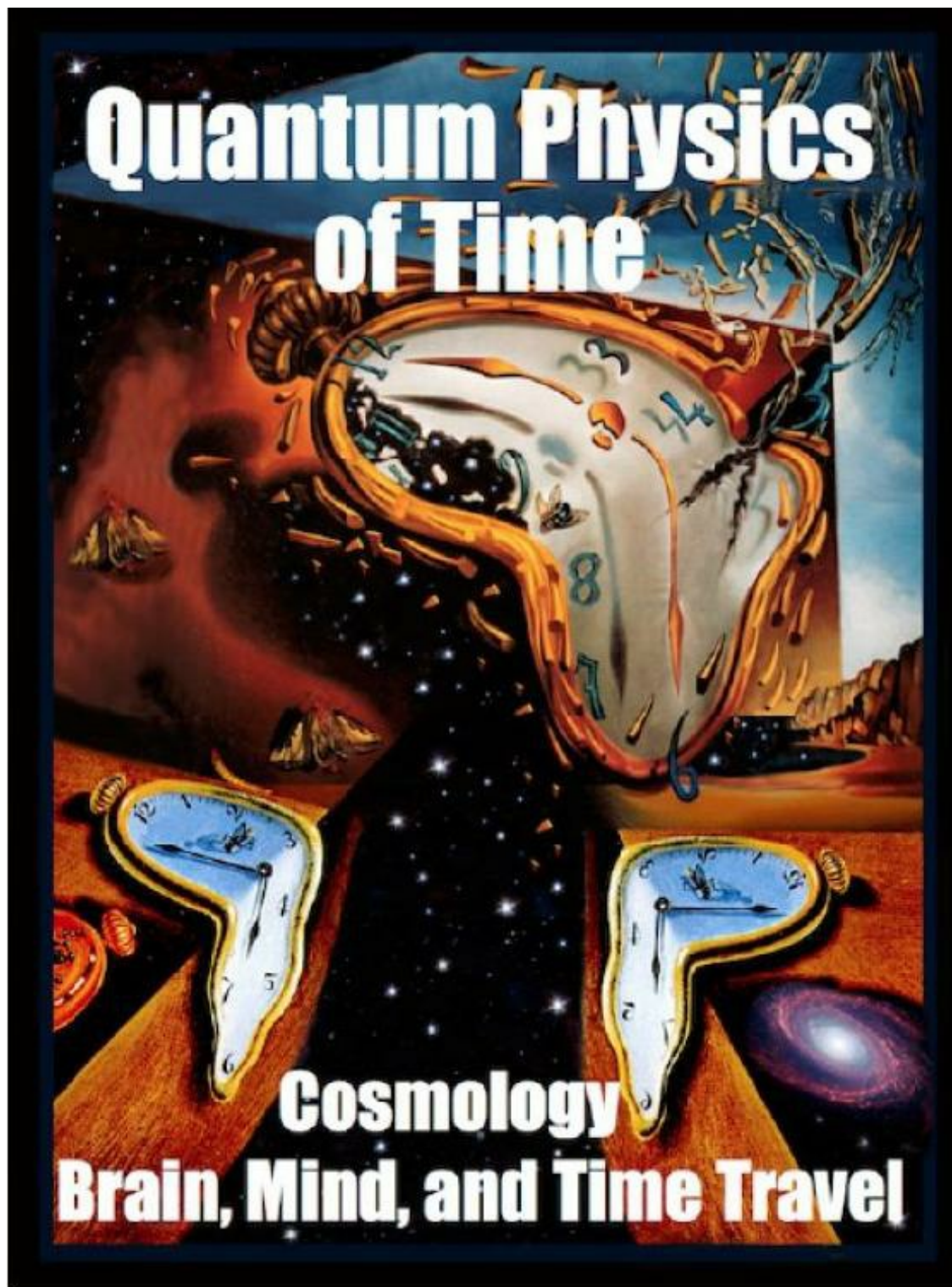


# Quantum Physics of Time

**Cosmology  
Brain, Mind, and Time Travel**





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# **Cosmology, Brain, Mind, and Time Travel**

By

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# **I: Time, Reality, Temporal Non-Locality Vedanta, Upanishads and Quantum Mechanics**

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## **1. The Nature of Reality, the Self, Time, Space and Experience**

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### **Abstract**

In this article we address the nature of Reality, universal Consciousness and the subjective Self found in monistic systems of India, particularly in many sūtras of Vedanta and Kashmir Śaivism. These monistic systems do not consider time (or space) as primary but treat it as a derivative of consciousness. A brief summary of monism's process of manifestation of all objective existence, including time, greatly adds to the present special volume. Monism complements western science. Indian schools of monism complement Western science through intriguing parallels with modern quantum theory and the role of the observer. Moreover, qualia, the innumerable qualities of subjective experiences, play a fundamental role in both monistic and scientific descriptions of consciousness as it unfolds from its source. The conscious universe is an emerging view in science, in accord with ancient views about the primacy of consciousness at every level of

reality.

**Keywords:** Consciousness, Self, time, Reality, experience, quantum mechanics, qualia

## **Introduction**

Several of the topics explored in this text, are at the very center of what constitutes subjective experience of time. However, the problems of experience, and, ultimately, of conscious self-awareness are not addressed by modern science as science deals with the nature of the objective world, with interactions between objects. Although attempts are made in a variety of fields, including psychology, neuroscience and even philosophy of science to address the issue of experience, the basic challenge remains that by its nature, science can only talk about objective reality, while self-awareness ultimately concerns itself with subjective experience and existence. Yet, Indian perennial philosophies have covered the issue of consciousness extensively and provide the means to merge intellectual understanding with personal experiences that begin with everyday perceptions but extend far into the possibility of mind as a force for altering reality “out there.” Monistic systems attribute time (and space) as being derived from experience itself, Consciousness being fundamental. This view is profoundly different from the ontology of science, wherein consciousness is a derivative of physical processes.

This introductory article offers a summary of the nature of Reality, consisting of universal Consciousness, the Self of every being and at every level of existence. The monistic explanation of manifestation and for the emergence of time and space has sufficient rigor to complement Western science and provide insights into the particularly challenging issues of experience itself.

## **Perennial Monistic Systems**

Perennial philosophies concern themselves with the nature of Consciousness, the relationship of the individual to the universe and the relationship of the individual to Consciousness itself. Below we will illustrate with a few selected statements some of these eternal truths and examine how they relate to experience, including how space and time themselves arise.

The non-dualistic systems originating in India, specifically Advaita Vedanta and Kashmir Śaivism, give us a higher view of the individual, the universe and the nature of consciousness. The underlying premise, is that the human being is a reflection of fundamental Consciousness and that in fact there is no difference between the individual and universal Consciousness. Śaivism and Vedanta are complete systems of teachings on the nature of ultimate reality, or the Absolute. This underlying reality is called Brahman in Vedanta and Paramaśiva or Supreme Śiva in Kashmir Śaivism. Both accept Absolute undifferentiated Consciousness as the ultimate Reality, as the underlying reality of all countless objects, subjects and the processes tying them together, such as observation, sentience, understanding, dynamics, cause and effect, etc. Although agreeing on the ultimate Reality, they do differ in emphasis: Vedanta emphasizes that Brahman is the only reality and the perception of the universe as something separate from that as an illusion; while Śaivism accepts the universe as real, being itself, as we will see below, part of universal Consciousness. The universe is part of the whole, albeit being the physical, mental, subtle and in fact all objective experience, of the great underlying sea of Consciousness.

### **Advaita Vedanta**

Vedanta accepts the authority of three sets of works, spanning several centuries: The Upanishads, the Brahma Sūtras, and, the Bhagavad Gītā (Kuiken, 2006). Its basic principles are summarized in the Viveka Chudamani (Crest-Jewel of Discrimination) by Adi Śankarā:

a) “Brahman is Reality” b) “The world is an illusion” and, 3) “The individual Self is nothing but Brahman”.

Śankarā’s “illusion” is taken to mean the misinterpretation of experience (and not “non-existent.”). To see the world as independent and separate from the Self, is an illusion. To know reality is to experience the diversity of the universe (Brahman) as identical to one’s Self (Ātman). Sutra 4 of the Isha Upanishad asks: “How can the multiplicity of life delude the one who sees its unity?” And the Nrsimhottaratapaniya Upanishad states: “All this is Ātman, all this is Brahman, all this is consciousness”.

The Viveka Chudamani (Crest-Jewel of Discrimination) of Adi Śankarā states: “The Ātman is one, absolute, indivisible. It is pure consciousness. To imagine many forms within it is like imagining palaces in the air. Therefore,

know that you are the Atman, ever-blissful, one without a second.” The Aparokshānubhuti (Self-Realization) of Adi Śankarā states in sūtra 45: “There exists no other material cause of this phenomenal universe except Brahman. Hence this whole universe is but Brahman and nothing else”. While sūtra 49 states “Inasmuch as all beings are born of Brahman, the supreme Ātman, they must be understood to be verily Brahman”. In short, Vedanta’s ultimate teaching is that Ātman (individual Self of any being) is identical to Brahman.

### **Kashmir Śaivism**

The ancient system, Śaivism and its more recent specific form as developed in Kashmir, (Dyczkowski, 1992, 1994; Singh, 1980, 2006), constitutes a body of philosophical teachings, with practical implications for everyday life. Kashmir Śaivism flourished in Kashmir between the 8th – 12th centuries CE, and was developed and built in the tradition of Vedanta. Kashmir Śaivism was developed in that brief but very active period by sages such as Vamana (779 – 813 CE), Vasugupta (875 – 925 CE), Utpaladeva (disciple of Vasugupta, 900 – 950 CE), Kallata (also disciple of Vasugupta), Bhaskara, Somananda, the great Śaivite master Abhinavagupta (950 – 1020 CE), and Kṣemarāja (a great disciple of Abhinavagupta). They have left us a rich, dynamic vision of the universe and our place in it.

Śaivism is a Trika (triadic) system, consisting of Paramaśiva or supreme Śiva, the Absolute, undifferentiated Being; Śakti (universal Energy), also known as Citi (universal Consciousness, as the creative power of the Absolute); and the individual soul. The triadic teaching holds that there is no difference between Śiva and Śakti/Citi, and in fact no difference between Consciousness which is the One Paramaśiva/Citi and the individual. The monism could be also viewed as a three-fold Reality, consisting of Consciousness, the universe, and the individual; or, alternatively, the object, the subject and the processes tying them together: Paramaśiva, the supreme Being is identical to supreme Consciousness, the Self of everything in the universe. The view of the underlying Reality in Śaivism is in harmony with Vedanta (Pandit, 1977). Paramaśiva is the Absolute, undifferentiated universal Being, and as Brahman in Vedanta, is the underlying substratum of all existence. As Citi unfolds the universe, She (the Creatrix of everything) is the ultimate source of all manifestations, all objective existence, all