

II. Science

Despite the advances of modern physics, Western psychology still operates within a framework derived from Newtonian physics. This is understandable: Mainstream physics has espoused relativity and quantum theory without divorcing the materialism that lingers from uncritical acceptance of Newton's linear conception of time and space. Ironically, Newton thought of himself mainly as an alchemist and theologian. He did not believe that material objects in time and space define reality.

This article challenges the adequacy of Western science's hylotropic perspective by examining ideas about time and space. It is the second in a series of essays, beginning with "Consciousness," sketching a cosmology that gives credence to past life experiences and other important Holotropic phenomena.

Time and Space

Newton begins the *Principia* by describing measurement of matter and motion and types of force. Conspicuously, he does not define any of the terms. Amazingly, he builds his entire edifice of physics on this evanescent foundation. He includes time and space as critical parts of the foundation, does not define them either, because he says, they are "well known to all." Nonetheless, he makes a crucial distinction between the way they are commonly understood and an absolute existence he attributes to them:

Absolute, true, and mathematical time, of itself, and from its own nature, flows equably without relation to anything external ... Relative, apparent, and common time is some sensible and external ... measure ..., which is commonly used instead of true time; such as an hour, a day, a month, a year.¹

Common time measurement in the 17th century lacked our modern precision. The ancient reckoning of hours as fractions of daylight, longer in summer, shorter in winter, persisted in rural sensibility. The mechanical clocks had introduced equal hours to cities, but lacked accuracy. Time was not a matter of minutes the way it is for us with wristwatches and tight schedules. Our modern time reflects Newton's concept of absolute time, infecting us with linearity. "Absolute space" Newton describes similarly to absolute time as fundamentally linear—equable, even, unaffected by anything external to itself.

Uncritical acceptance of Newton's characterization of absolute time and space gives rise to the prevalent doctrine of matter in Western science, which depicts time and space as a sort of

¹ *Principia*. Definitions, Scholium, I.

absolute medium or container holding all existence.² This depiction of time and space invites caricature as an infinite molded salad in which visible objects float like pieces of fruit and nuts in an invisible, intangible gelatin. The present moment is an infinitesimally thin slice across the infinite expanse. Grof severely criticizes the prevalent doctrine of matter for discounting phenomena ranging from ESP to past lives.³

The critical difficulty with the Newtonian model of time-space arose from efforts to explain the behavior of light. A kind of insensible “aether” pervading space had been postulated to make it possible for light to travel through what would otherwise be an immaterial emptiness. Just as sound requires some medium to travel through such as air or water, it was thought that light also required a material medium, even though far less tangible even than air. In 1881, however, two scientists, Michelson and Morley, caused consternation when their experiment determined the “aether” did not exist.⁴ This experiment was central for Einstein’s Theory of Relativity, which suggested that space was as wobbly as a thin slice of gelatin. But the situation was even more difficult, because Michelson and Morley’s determination had eliminated the gelatin and left only the fruit.

After Einstein, time and space could not be described as everywhere “equable.” Space was now described as bent by the things in it, and time was said to slow down the faster one traveled. These contorted descriptions of space and time were required in order to maintain them as the absolute container of existence, foundation for the matter that comprises reality, according to the doctrine of Western science. These contortions have moved theory even further from common experience than the original Newtonian formulations.

Psychotherapy, emulating the manner of mainstream science, is similarly bound by doctrinal framework. The therapist, using technique developed from theory constrained by that framework, stands as the knowing expert who determines what is real in the patient’s experience. Given the ineffectiveness of theory-driven psychotherapy, Grof suggests the holotropic strategy of letting experience itself speak.⁵ Guided by analogous strategy, let us set aside the materialist concept of absolute time. It is not only contorted by the requirements of materialist doctrine, but

² See Whitehead, A.N. *Concept of Nature*. Cambridge, England: The University Press, 1920. Chap. 1.

³ Grof, S. *The Cosmic Game*. Albany: State University of New York Press, 1998. Chaps. 2, 8.

⁴ Several good descriptions of this experiment can be found on the Web, for instance at <http://galileoandstein.physics.virginia.edu/lectures/michelson.html>.

⁵ Grof, S. *The Future of Psychology*. Albany: State University of New York Press, 2000. Chap. 5.

it also denies the reality of experiences that can broaden our scope of understanding. Let us turn to common, and uncommon, experience.

In everyday experience our sense of time varies greatly. The last ten or fifteen minutes of a tedious class or workday seems never to end. Amusement rides finish too quickly. Even greater time sense modification happens during intense experience. After a session breathers often exclaim how much more (clock) time passed than they experienced. Stuck in BPM II, we despair for aeons. The eternity of mystical rapture supplants any sense of things passing, and we can appreciate Plato's profound and poetic description of time as "a moving image of eternity."⁶

A moving picture provides a modern model for Plato's description. Strictly speaking, a movie is just a sequence of still pictures projected on the screen. Nothing moves: The film itself is simply a set of slides linked together so they can be fed readily to the projector. Each individual picture projected on the screen is timeless, but rich and vivid—a moment of eternity. Our sense of time comes from the sequence of timeless images moved through the projector.

Temporal moments are not, of course, as regular as frames in a film or Newton's absolute flow, but the model helps us understand how the concept of time is an abstraction from living moments. Reality, however, lies in each moment, not the abstraction. But what ties the moments together? They are not glued on a strip of film, or quasi material called time. A Zen story is to the point: Two monks are arguing about a flapping temple flag. One says the flag is moving, the other says the wind is moving. The Patriarch reprimands them both: Neither wind nor flag is moving. Your minds are moving.⁷

Mind holds moments together, not a material container like time and space. The present is no more material than the past, so the doctrine that events can only communicate through a material medium is baseless. Since time and space do not connect events, neither do they separate them. All are accessible to mind, whether they be too remote for material communication in distances reckoned either by rulers or by clocks, or whether they happen in places beyond the immediate reach of our physical senses or in worlds preceding our own.

⁶ *Timaeus*, 36d.

⁷ Mumonkan, Case XXIX. After Blyth, R. H. *Zen and Zen Classics, Volume Four*. Tokyo: The Hokuseido Press, 1966.