

# The Two Dimensions of Time

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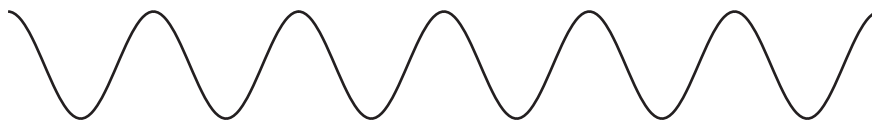
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During the course of human evolution, there have been two principal views of time: cyclic and linear. The cyclic view emerged first, during what is called the Great Mother Goddess epoch, when humans settled to cultivate the land and domesticate animals. In forming this oscillating view of time, our forebears were no doubt influenced by the seasons, day and night, the phases of the moon, and women's menstrual cycles. The linear view of time emerged at the dawn of history with the birth of writing and the patriarchal epoch in both East and West around 5,000 years ago, marked by the Fall in the Judeo-Christian tradition. So time has a very brief history.

These two views of time are central to the way human beings have learnt to deal with death over the years, for *Homo sapiens* is the first species on Earth to be conscious that every body is born and shortly afterwards dies, leading to what Ken Wilber calls 'immortality symbols' in *Up from Eden*. In the East, a cyclic view of time was maintained in the belief of a separate soul that reincarnates indefinitely. This is rather strange because when *Brahman* and *Atman* are one, as in Hinduism, or when *Anatman* is grounded in *Shunyata* 'Emptiness', as in Buddhism, where is this immortal soul?

The three principal monotheistic religions of Judaism, Christianity, and Islam, which believe that God is other, that there is a great gulf between the Creator and created that can never be bridged, have adopted the linear view of time to deal with death. In these cases, the separate immortal soul has everlasting life after death. Again, this is very strange, for two reasons. First, in the late nineteenth century Georg Cantor showed with the concept of power set (the set of all subsets of a set) that there is not just one infinite cardinal, but an infinity of them. So if eternity is infinite time, which infinity is being referred to? Secondly, those religions with a sequential view of time apparently do not believe that time is actually infinite, for they all have an eschatological view of human destiny, from Greek *eschatos* 'last'. In other words, there is an end to time, the subject of a set of dialogues between David Bohm and J. Krishnamurti in 1980.

How can this be? Well, this is because there are two dimensions of time: the horizontal and vertical. To see this, let us first explore the horizontal a little further, for both cyclic and linear time function in this dimension, as we can see with the mathematical sinusoidal curve:



Machines, like computers, function in the horizontal dimension of time, as we can see in this input-process-output diagram, corresponding to the read-eval-print loop in the LISP programming language, created in 1959 by John McCarthy at MIT to develop artificial intelligence in a machine.



But where did the first program come from? Programs are used, not only to process raw numbers, but to generate other programs, as with compilers and interpreters, like C++ and Python. There is thus a cause-and-effect chain running through the entire sixty-year history of the evolution of the stored-program computer. Aristotle could see a chain of causes and effects running through the entire Universe, leading him to posit the existence of an Unmoved Mover, which Thomas Aquinas took up as the first of his five proofs for the existence of God.

But the discoveries of quantum physics in the twentieth century have shown that the notion that every effect has a cause in the horizontal dimension of time breaks down. Noncausal effects have

been observed, which means that we need to drop the mechanistic worldview that has held sway since Descartes, still being maintained in physics with the term *quantum mechanics*, as David Bohm points out in *Wholeness and the Implicate Order*. Furthermore, the mechanistic worldview cannot explain how software developers can create programs in contrast to machines doing so. If human beings are machines and nothing but machines, where does the energy to do so come from?

Well, let us look in a little more detail at how we measure time, in the calendars of the world, for instance. The Buddhist, Christian, and Islamic calendars mark the beginning of time from when Gautama, Jesus, and Mohammad were teaching. In contrast, the Jewish calendar began in 3761 BCE, marking the dawn of history. In a similar fashion, in the middle of the seventeenth century, James Ussher calculated that the date and time of the Creation was “October 23, 4004 B.C., at nine o’clock in the morning”, although this date has mistakenly been attributed to John Lightfoot.

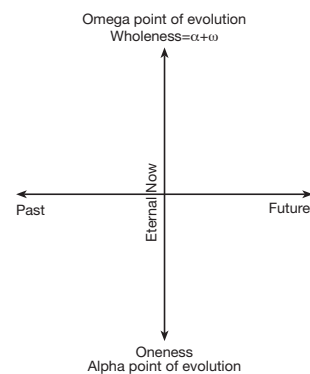
The beginning of the Kali-Yuga, an epoch of war, fear, and despair in the Hindu calendar, in contrast to the Krita-Yuga, an earlier ‘Golden Age’, was 3102 BCE, similarly marking the beginning of the mental-egoic age (me-epoch). But these Yugas are just two of four in the Mayayuga, lasting 4,320,000 years, which cycles for 311 trillion years, the lifespan of Brahma and hence the Universe in the Hindu calendar.

Matching the Long-Count calendar of the Mayans to the Gregorian calendar, the Great Cycle began on 11th August 3114 BCE and is due to end on 20th December 2012. But this 5,125-year cycle is just the last of a series of 13 cycles going backwards in time, each set of cycles being twenty times longer than the succeeding one, going back 27 octillion years. So the Mayan calendar is uniquely exponential in character, which has enabled Carl Johan Calleman of Dalarna University in Sweden to match the vigesimal Mayan cycles to major evolutionary turning points, from the most recent big bang onwards. For evolution is an accumulative process of divergence and convergence, proceeding in an accelerating, exponential fashion by synergistically creating wholes that are greater than the sum of the preceding wholes through the new relationships that are formed, apparently out of nothing. But an infinite series of diminishing exponential terms has a finite limit. For instance, the limit of this series is 2:

$$1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \dots$$

So, as the flyer ‘The Central Issue of Our Times’ shows, evolution is currently passing through its accumulation point in systems theory terms, the most momentous turning point in evolutionary history. To deal intelligently with this unprecedented situation, we first need to be free of our attachment to time, recognizing that in mathematics time is treated in exactly the same way as any other variable, like kilograms of potatoes that we might buy in the supermarket. The famous equations  $F = ma$  and  $E = mc^2$  are clear evidence of the equalitarian aspect of time.

Secondly, if we are to become free of our mechanistic conditioning, guided by Life arising directly from our Divine Source, we need to consciously move from the horizontal dimension of time to the vertical, as this diagram illustrates. For it is only in the Eternal Now, a notion made famous by Eckhart Tolle in *The Power of Now*, that we can reach our fullest potential as Divine, Cosmic beings, free of the fear of death in all its forms.



Thirdly, we cannot enter the us-epoch of universal spirituality in isolation, each doing our own thing in our own way. Governments and businesses are two integrated bodies, feeding each other’s war efforts in the erroneous belief that technological development can drive economic growth indefinitely. But the alternative movement is deeply fragmented, with very little synergy. So even though we are all unique beings, we need to work harmoniously together with a common vision and spiritual work ethic, recognizing the three things we all share in common: (1) We are all affected by evolution’s momentous turning point, whether we understand what is happening or not, (2) Love is the Divine Essence that we all share, and (3) Consciousness is the Cosmic Context for all our lives.