

The Convergence of Modern Science and Mysticism

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Science and mysticism are finding common ground and Yoga can be a bridge for this extraordinary process.

Yogic, Tantric and Samkhya texts and teachings have always said that the manifest universe is nothing but one total energy field, called Shakti; out of this field, arises 'solidified' energy, or matter. In the early part of last century, Einstein showed that this is indeed the case when he proved that matter is energy with form (signified by the equation $E=mc^2$).

We see, therefore, that the wheel of understanding has turned full circle – instead of being in opposite camps, both science and mysticism agree that the entire universe is composed of energy taking myriad forms.

The Observer and the Observed

Newton, you may remember, posited that the physical world is made up of separate, irreducible building blocks of matter, the movements of which could be predicted and observed by a neutral observer. The possibility of the experimenter influencing the experiment did not (and still does not) enter into Newtonian or classical physics.

With the arrival of quantum physics, this presumption was turned on its head. Astonishingly, quantum physics makes the seemingly unscientific declaration that *the act of observing actually influences the results* of an experiment. Whilst this is best illustrated by experiments involving the measurement of light and subatomic interaction, it logically applies to all natural phenomena. This discovery challenges our presumptions about the nature of the universe.

To repeat: modern quantum physics claims that the subject (the observer or person doing an experiment) directly influences the object (the experiment). This being so, physicists are obliged to question and investigate the very process and function of our perception and its relationship to the manifest world (which is exactly what mystical systems such as Yoga is all about). Renowned physicists, John Wheeler¹ for example, are making seemingly outrageous comments such as:

Observers are necessary to bring the world into being².

Wheeler³ calls this theory the 'Participatory Anthropic Principle' and elsewhere writes:

In some strange sense, this is a participatory universe. Beyond particles, beyond fields of force, beyond geometry, beyond space and time, is the ultimate constituent of all there is, the still more ethereal act of observer/participancy.

These ideas, especially from a scientific point of view, seem to be mind-boggling. However, they have existed for thousands of years and are a fundamental aspect of Yogic thinking.

Prakriti and Purusha

Yoga, Tantra and Samkhya all postulate two principles which constitute existence: *Purusha* (the Subject; Consciousness; the underlying Background) and *Prakriti* (the object; nature; energy; matter and mind). Existence is a constant play between these two principles both on a macrocosmic and microcosmic level. You and I are also here because of the constant

¹ In: Zohar, D. (1990). *The Quantum Self*. London: Harper Collins.

² This has philosophical and mystical associations with the question 'does a falling tree in a forest make a noise if no-one is present to cognise it?'

³ Wheeler, J., Wojciech Z. (1981). *Quantum Theory and Measurement*. Princeton Univ. Press.

interaction of these principles. Figuratively, the eternal Subject (Consciousness) dances with the eternal Object (manifest existence). Consciousness permeates every object in existence.

The realm of Prakriti encompasses everything in the universe that we consider 'real': everything that can be perceived through the senses and conceptualised through the mind. Prakriti represents the realm of nature, mind, energy, karma, life and death. The Sanskrit word Prakriti literally means 'that which moves' and refers to the fact that everything in the universe is in a constant state of flux. Even such a seemingly unmoving object as a mountain is in constant motion: not only is it whizzing around on the surface of the planet, which is whizzing around the sun, which in turn is whizzing around our galaxy; but on an atomic level there is also constant movement. In fact, apparently solid, unmoving objects are far from being so.

Science is basically concerned with investigating the realm of Prakriti. Yoga also investigates Prakriti and even proposes different theories regarding Prakriti. However, Yoga also hints at another fundamental principle *beyond* Prakriti, which it accepts as being beyond words, description and concepts. This principle is labelled Purusha: Consciousness or Primal Intelligence.

Kshetra and Kshetragya

In chapter 13 of the *Bhagavad Gita*,⁴ Krishna talks about Prakriti and Purusha. He also describes them with the Sanskrit words *kshetra* and *kshetragya*.

The word *kshetra* literally means 'field' – in the context of the *Bhagavad Gita* it means 'the field of manifestation or experience.' It corresponds exactly to the word Prakriti that we have already mentioned: nature, including matter and energy or manifestation on every level.

The word *kshetragya* literally means 'the knower of the field' – in this context it means 'the knower of the field of manifestation; that is, 'the observer.' It corresponds to the word Purusha, Consciousness.

In this classical Yoga text, Krishna, the master of Yoga, instructs his disciple Arjuna:

O Arjuna, all that exists, moveable and immovable, comes about by the union of the kshetra and the Kshetragya. (A)

Verse 13:26

We can paraphrase the above verse (A) in two ways which seem at first to be very different, but which ultimately mean exactly the same thing. Firstly, on a more ontological and cosmological level:

O Arjuna, all that exists, moveable and immovable, comes about by the union of energy and Consciousness. (B)

Secondly, in terms which correspond more concretely with the findings of quantum physics:

O Arjuna, all that exists, moveable and immovable, comes about by the union of the observed and the observer. (C)

The secret of existence is contained within this ancient dictum, as we will explain shortly. Using whichever translation or interpretation you wish, this statement, written hundreds, if not thousands, of years ago, is a perfect definition of quantum physics! Now we can understand why so many quantum physicists become mystics.

The Space of Fullness

⁴ For an introduction to the *Bhagavad Gita* refer to the article in Chapter 7.

Quantum physics proposes a ‘quantum vacuum’ as a description of the underlying background of manifestation, the source of all matter and energy from which has arisen the physical world. It is beyond time and space; in fact, time and space arise from it. This underlying plenum is called ‘the quantum vacuum’ not because it is a vacuum as such, but because it can’t be perceived or directly measured. In fact, as we have already stated, the quantum vacuum is filled with the potentiality of everything in the universe.

This terminology lines up with Yogic and Buddhist concept of *shoonya*, which is also used to describe the primary background to all phenomena and experiences. *Shoonya* literally means ‘void,’ but in its philosophical context, it implies the ‘emptiness that is full of potential.’

This quantum vacuum is like a bubbling soup of particle/anti-particle pairs. A general theory of this vacuum would be a theory of everything. It is the ‘Field of fields’ or ‘Sea of potential.’ It contains no particles, and yet all particles come about as excitations within it.

In Yogic philosophy, it corresponds to *Moola Prakriti* - Primordial Nature or Energy before it takes form to produce everything in the manifest universe.

The play of *Purusha*, Consciousness, on *Moola Prakriti* brings about the manifest existence. This concept is essential in both quantum physics and Yoga.

But Yoga goes much further: it says that beyond both *Purusha* and *Prakriti*, beyond name and form, there is something which defies all definition and description. This ‘Something’ is arbitrarily called *Brahman*, the underlying Reality. Out of **It** comes both the observed and the observer, both the object and the subject.

Pointing towards the Inexplicable

Yoga accepts that it is rather futile to try to explain the inexplicable. Instead, it simply points a finger through various philosophical concepts. Unfortunately, most of us are hypnotised by the pointing finger and miss the full moon that is being indicated. That is, we get lost in labels and concepts and in so doing, we fail to perceive that which ever present – Consciousness.

Many quantum physicists have come to the same conclusion: that fundamental levels of existence cannot be explained by scientific concepts. Moreover, some have realised that the function of science is not to explain the basis of existence, but rather to give us *a framework for understanding our perception of it*. This is a quantum leap in scientific attitude and is lining up exactly with Yoga thinking.

Yoga has always accepted that the universe is inexplicable and, furthermore, that our fundamental nature is inexplicable. But despite this, Yoga insists that we can realise our own essential nature, and in this way realise the essential nature of everything. Explanation belongs to the mind, and realisation is a quality of our essential nature. In realisation we can live with the mystery of existence and our own being, without requiring explanation. As the *Tao Teh Ching* insists in its first verse:

He who says doesn't know and he who knows (has realised) does not say.

That is, a person who tries to explain the inexplicable in words is just reinforcing and demonstrating their fundamental ignorance, whilst a person who has realised (Consciousness) knows that It cannot be described or talked about.

The Common Aim of Yoga and Science

Modern science and mystical systems are starting to speak the same language. Interestingly, the Greek word *physis*, the root of the English word physics, means ‘the ultimate essence.’ Therefore physics means ‘the investigation into the ultimate essence,’ which is exactly the

same purpose of Yoga. They both present different yet equally valid approaches to the understanding of existence, the cosmos, life and our place in it.

In conclusion, we see that the more science understands, the more it resembles mysticism. Yoga has been bequeathed to us all. Along with science, it can help open up the unknown dimensions of human experience and knowledge. It is an indispensable part of the ongoing evolution of science and of the unceasing search of humans for understanding, creativity and meaning.

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