

# A REVERSE-PARADIGM CREED FOR THE 21<sup>ST</sup> CENTURY: WHY MANY SCIENTISTS STILL HAVE THE CART BEFORE THE HORSE

Peter D. Cooper, DSc, PhD, MASM; Greenway, ACT, Australia 2900

*Science, religion and philosophy should ultimately come together like the meridians  
at the pole.*

Attributed to Fr. Pierre Teilhard de Chardin

The idea that Mind came first is as old as Mankind's creation myths but Science usually sets it aside the better to study nature's machinery. Brain-First seems to have gelled nowadays as the only acceptable scientific worldview. Lester Smith reintroduced Mind-First in 1975 (1), more elegantly than here and with much more scholarship, gently reminding us that the 'common-sense' Brain-causes-Consciousness paradigm was only a working hypothesis to test itself that had so far failed validation. He pointed out that quantum mechanics taught us to beware of such common sense and that the Mind-First paradigm solved many puzzles in cosmology and theoretical physics without bending nature's laws, incidentally blending with the intuitions of most of Mankind and, notably, the worldview highly refined by quantum theory pioneers (2). Forty years on Brain-First validation is still lacking and two remarkable contrary scientific facts have become thoroughly firm. These have been hitherto deliberately dismissed as impossible and so beyond science; hardly a scientific choice. As in 1975, humanity's problems and attitudes still stem from a mistaken world paradigm and its sensible re-take is even more urgent.

Fr. Pierre's insight suggests a walkable pathway to review this mistake, with the Walker an unversed, naive but very rational and intelligent student walking it for the first time. But this discussion cannot proceed without first accepting three premises.

1. *Energy is a basic fact of Nature.* What is energy? It is that which makes up all matter in the universe, is responsible for all its forces and phenomena, and fills all its space. But what *is* it, exactly? We don't know and don't even have a credible model.
2. *Consciousness is a basic fact of Nature.* What is consciousness? A much-debated topic, it is like information theory, a mix of hardware and software, engineering and message/meaning (3). But 'meaning' here seems to involve interpreting the context in terms of one's experiences - memories, innate and learnt personality traits (4). Where is all this activity happening? Some, possibly most, would say in a pattern of neural networks somehow derived and resident exclusively in the brain that has so far eluded mechanism or specific location; possibly it has no single place, like a hologram. Others will point out that there are aspects of information transfer that are independent of space-time, one of which was responsible for quantum mechanics; others that there is now overwhelming scientific evidence for a consciousness that is independent of space-time, previously arbitrarily dismissed; yet others who, from striking personal ('non-scientific') experiences, will know it to be so (derided by some lacking such experience). In whatever camp, again what *is* consciousness exactly? We don't know and don't even have a credible model. Possibly Mind and Energy are different aspects of each other.

3. *In all tests of scientific laws, what level of difference from chance is acceptable?* A subjective question depending on the result's credibility from the viewpoint of the observer. With a flawless methodology, one suggestion is  $p = 10^{-9}$ , a billion to one. Most researchers would accept that as a reasonable starting point if coupled with reproducibility.

## Is there a relevant, simple message from Science?

Our Walker sees in the panoply of Science a scintillating array of information jewels as awe-inspiring as the desert sky at night but more orderly, and a fraction of that which is not seen. Among them he/she chooses the following as bearing directly on our three premises.

1. **The Observer Effect and Wave-Particle Duality of Light.** Apparent wave-particle duality is the defining characteristic of small particles (electrons, atoms, molecules, photons) in which the act of *gaining information* of their normally wave-like state seems to abruptly contract or collapse them to a particle-like state. Reality seems to be created by observation (Mind?) (5), or by the *opportunity* to be observed (3). However, the maths of information theory has now allowed a rigorous conceptual basis for quantum mechanics that reveals basic particles such as electrons to be bits or packets of information (6). The history of the Universe is a story of increasing information content, and perhaps information per se is the ultimate reality (3). But we have no concept for pure information except in relation to a carrier, say computer code or letters on a page, or even the unknown entity that is Energy: it is meaningless until read out. Yet information as an idea in the mind is real enough. Thus information has the *potential* to be known, depending on how it is observed, but 'knowing' demands the presence of a Consciousness or Mind. Only then does it become an idea or thought. In fact it seems difficult to separate Mind and Matter at quantum levels.

But this led to another paradox, familiarly penned against an unrelated philosophical principle (7):

**“There was a young man who said ‘God  
Must find it exceedingly odd  
To think that the tree  
Should continue to be  
When there’s no-one about in the Quad.’”**

More on this later.

The **Entanglement Theory** developed from Bell's theorem (8). Non-locality (Quantum Coherence) shows mathematically and experimentally that quantum particles can be influenced *instantaneously* over macroscopic distances, i.e. outside space-time. Superficially similar, the **Eternity Box** concept (3) reveals a macroscopic timeless space through which information-carrying electromagnetic radiation can pass nearly instantaneously (quantum tunnelling, 9).

2. **The Finely Tuned Universe**, where (at least) six fundamental constants have all to be within very exact limits to allow galaxies, planets and carbon atoms

to form. These are in turn essential to permit the possibility of life as we know it (10) and, by setting the values for  $E$  and  $m$  in the relation  $E = mc^2$ , the nature of time itself. One is the cosmic constant, which must have a tolerance to the order of  $10^{-120}$ , and the combined tolerances permitted for all six is of the order of  $10^{-200}$ . These numbers are far beyond even astronomical sizes, and so the Multiverse concept (infinite number of parallel universes) was co-opted to avoid deliberate design. Such improbable infinity was welcomed while baulking at a (statistically) very but not infinitely improbable Primal Mind (11). The Multiverse provides a delightful intellectual toy but is not science, just an unverifiable and rather desperate conjecture; Rees himself was uncomfortable with it. In fact it is as useful to explain any inconvenient truth as the Act of God assumption (see below), and could be manipulated to render uncertain any of the observed Laws of Nature. An irony is that here the weight of probability is *for* the Primal Mind idea. A cogent rebuttal of the Multiverse concept, both philosophical and scientific, is now available (12).

3. **Paranormal (Psychic) phenomena.** For possibly a hundred years these have been considered outside the bounds of real science, a kind of pseudo-science relegated to the province of fools (13). Yet many reasonable persons have experienced them, religious or not, more stunningly persuasive than the strange coincidences of Jungian synchronicity. Their very mention may turn some readers off dead at this point; our Walker, innocent of prior ideologies, has the intellectual curiosity to continue. He/she stands aghast at the prejudiced derision of the sceptics but recognises that, thanks to their steadfast faith and intransigent criticisms, the methodology of psychical research has improved to the extent that reasoned grounds for objection can no longer be found. Several excellent, modern summaries of a century-plus of such research detail massive amounts of corroborated data and the important role of the die-hard sceptic (14); it is now unscientific, even irresponsible, to continue to ignore them.

The Walker observes that life did indeed develop on one suitable planet (earth). The odds against suitability were high – not only in the narrow habitable zone of the central star to allow liquid water, but enough mass to retain that water, enough iron to form a magnetic field protective against ionising radiation, enough carbon dioxide to precipitate the dissolved iron from that water, enough other elements to grow a diverse primordial soup, finally enough photosynthesis to convert almost all that carbon dioxide into oxygen to allow an ozone layer to protect the land surface from non-ionising radiation (UV) and permit oxygen-breathing land-life. This process has also been remarkably fast: after the Big Bang, the first stars were of hydrogen, manufacturing mainly helium; only secondary and large, very hot stars can explode to make heavier atoms from helium; earth's star is a cool tertiary formed from the debris of a secondary. An average star life is about 10 billion years; earth's star is almost half done (4.5 billion years) and was formed after only 9 billion years of our universe.

Life on earth also developed very quickly. Half a billion years to solidify, half a billion to form oceans. Primitive life (stromatolite) was already found; a further 3 billion years to develop multicellular life, only a half billion more years to the present huge biodiversity. The Walker found that many scientists think that life formed by chance also, much as a billion monkeys on a billion typewriters, given enough time,

could eventually produce all the sonnets of Shakespeare. However, the Walker noticed that, with some 40 keys on the QWERTY keyboard and some 40 letters/spaces per sonnet line, it would take  $40^{40}$  tries to get only one of the 14 lines of one of the 154 sonnets right. Since the solar system is  $<10^{18}$  seconds old and the universe itself not much more at  $<10^{19}$  seconds, there hasn't really been enough time for monkeys: somebody wrote the sonnets. Similar reasoning could apply to the simple protein proinsulin, with 40 amino acids and a pool of 40 candidates (D as well as L amino acid isomers in the primordial soup). However, proteins do not generally arise *de novo* and so cannot be thought of this way. One must look at their genes. Fortunately Dawkins (15) reminded the Walker of the cogent power of Darwinian selection to speed up random processes, producing this power as if explaining the rapidity of spontaneous life creation and evolution.

But Dawkins left it there and failed to follow up with the maths. Darwinian selection needs random mutations in DNA to select from, and these occur at about one per site per  $10^7$  generations. To work through the 120 base pairs of the proinsulin gene at random would take  $1.20 \times 10^9$  generations, say only ~38,000 years for modern microbes and for mammalian cells 60 times longer. However, this would produce  $2^{1,000,000,000}$  progeny, a number again beyond astronomical sizes; Darwinian selection would need to occur very often but the selection criteria are unclear for proinsulin, ignoring the need for its further processing and for specific and matching cell adaptations. Some purposeful direction seems involved; a *perceived need*, say for a light-sensitive skin patch to avoid predators, could guide a Creative Mind. The Walker realises that such speculation rapidly becomes specious, and daunting when applied to say the complex gene steps required in evolving a vertebrate eye, which Dawkins dismisses with his 'half an eye' concept. This does not even approach the entire gene pool on earth and serves only to show how hard it is to propose purely random generation of life, given the time constraints. Having accepted the overwhelming evidence for deliberate creation of a life-friendly universe, the Walker then sees no rational objection to deliberate creation of life and can only accept it as the least unlikely idea.

### **Is there a relevant, simple message from Religion?**

Our Walker, on confronting the massif of Religion, discovers a plethora of words. He/she rejects the non-rational issue of Faith as an acceptance of given truth without corroborative evidence, but acknowledges its value in the survival of scholarship and Faith itself through the dark Middle Ages. An abstract Consciousness or Primal Mind is generally central but a specific name is preferred, God in various languages who may assume different personalities.

ATHEISM. The Walker meets a vociferous band denying that a Primal Mind or God can exist, usually also denying any validity in supportive evidence. Some claim a Primal Mind is unnecessary or wildly improbable, it being simpler to assume nothing, but this belies the overwhelming non-simplicity of Nature. Many self-styled atheists cannot say they do believe God does not exist, only that they do not believe God exists; such a neutral stance hardly differs from agnosticism. Atheists puzzle the Walker given the foregoing data from Science, particularly as many of them are scientists. The sincere Christianity of the greatest explainers of Acts of God, Newton and Darwin, thus seems a paradox. Perhaps Science remembers the treatment of

Galileo, and the consistent obstructionism of the Act of God concept ('God of the Gaps'), routinely explaining any then-inexplicable aspect of science. Such blocks continue especially in the form e.g. of Creationist Theory. The Walker notes that no scientist, mindful of his grant source, mentions God in his papers.

Nevertheless the scientist must try hard to avoid the Act of God explanation lest he miss a 'rational' one; this has been the great gift of the Enlightenment to our understanding of nature. It follows that any Primal Mind interpretation may need overwhelming statistical odds but not that it is unthinkable; even then some sceptics persist apparently as an act of faith. This is becoming increasingly difficult, coinciding with a perception of a crisis in cosmology (12) and a call for a new paradigm.

In his enjoyable but very one-sided *The God Delusion*, Dawkins (11) rails against the God Hypothesis but he is here less than honest. No actual evidence against this idea is given except its high improbability whereas the real improbability is the existence of life itself. He is really criticising organised religion mainly Christianity, played out through the tribal viciousness of human nature. Possibly *The Religion Delusion* was not a very catchy title. The Primal Mind concept is little considered. The disgusting and barbaric bits in the Old Testament, the often-unattractive aspects of Jehovah and the emphasis on fear not love are all noted. The timely message of peace and love from Jesus of Nazareth is muddled by the bloodthirstiness of the age, superstition and the equally vile language in e.g. Revelations. He almost does not need to point out the more than two millennia of atrocities in Religion's name, and still going on. Dawkins is only partly right: the bathwater of Organised Religion stinks but does not negate the baby in it.

The almost universal human yearning for a God figure is ascribed to childhood gullibility where trust in authority has survival value (16) but it could equally derive from ancestral memories: Mankind may recall both its origins and intervals between incarnations, as well-documented memories and birth marks from previous lives persisting into subsequent childhood defy alternative explanation (17), not to mention striking near-death experiences that continue to surface (18).

CHRISTIANITY. The most numerically supported, Christianity relies on its Holy Scripture, the Bible; the Old Testament also underlies the smaller numbers of Judaism. The Walker notes this as transcribed oral history of a pre-literate nomadic desert tribe in a brutal world, with origin myths familiar in such societies. Moses' Ten Commandments provide specific instructions, six for peaceful group living while first enjoining non-material monotheism with respect and thoughtfulness of that single Mind-like deity at all times. Another constant was that Mind came first then created the world. The New Testament rests on the message of Jesus of Nazareth, a revolutionary novelty for a bloodthirsty age in the West, that of universal peace, kindness, respect, perhaps brotherly love, even outside the family/tribe. Alone among the Messengers, the later deification of Jesus parallels thinking in Ancient Rome, where several Emperors were deified too.

ISLAM. The second in numbers, Islam is a direct descendant of both Judaism and Christianity. Here the Walker finds a clear message: "There is no entity deserving of worship but God, and Mohammed is his Messenger." Moses, Abraham and Jesus are

also accepted as Messengers, mystics with special intuitive insights perhaps acquired during meditation. The Messengers were sent to instruct Mankind how God wishes it to live, particularly constant mindfulness of God, charity to Mankind and self-denial. Again, Mind came first. The sacred scripture the Qur'an also embodies the essentials of Christianity.

**HINDUISM.** The oldest and third largest, Hinduism has no single founder, scripture nor commonly agreed creed, and could be defined by what most Hindus believe. Hindus (mostly) believe in a Supreme God, or Mind, various aspects or attributes being represented by nominal deities. Particularly appealing to the Walker is Shiva the Nataraj, Lord of the Dance, where the entire Universe can be viewed as a performance with Mankind both audience and performer; the Dance stands with or without an audience. Life is a cycle of birth, death and rebirth governed by Karma or how previous lives were lived. One concept holds that Mankind created the Earth by its thoughts alone. The main Sacred Literature comprises the Vedas ('knowledge'), discussing dharma, or code of conduct, law, duty, virtue, morality. Centrally, the *atman* (spiritual being) has a human experience, rather than a human having a spiritual experience. Mind came first.

**BUDDHISM.** In contrast, Buddhists strive for a deep insight into the true nature of life but postulate no deity, focusing on personal spiritual development involving morality, meditation and wisdom. The Messenger was Prince Gautama, the Buddha (Enlightened One), ~500 BCE. Reincarnation is central with successive lives a progressive freeing from earthly desires. A core text comprises the pithy Sutras of Patanjali (19), 196 aphorisms referring to meditative absorption, the practice of yoga, the extraordinary abilities (*siddhis*) sometimes incidentally met, and to personal happiness and liberation. The Yogic path is mastering the skills of dispassion and deep meditation, a physical and mental exercise to separate oneself from thoughts and feelings. One aims to simply be, not think, not judge, just be focused and aware at peace. Meditation is part of virtually all religious practice although not often under that name. Much evidence indicates that meditation, religious or not, can benefit health and happiness.

While Buddhism has no deity, it may not need one as its total focus on Mind conforms to general religious concepts and practice. Significantly, paranormal phenomena difficult for Westerners to accept are commonplace to Easterners as the *siddhis* of experienced meditators (14), who incidentally perform better in paranormal tests than untrained subjects. There are several mentions of 'higher, divine or celestial beings' in the Sutras, i.e. a spiritual hierarchy. Conceivably any improvement in the individual mind by personal happiness or liberation can *ipso facto* improve the aggregate Mind.

**NEWER ASPECTS.** Jesus', Mohammed's and the yogis' healing and other powers were compelling to their contemporaries; parallel but rare stories of similar (psychic or *siddhi*) powers are found in recent times (20). In particular Sri Satya Sai Baba (21) was a modern Messenger embracing Hinduism (his own) but also Buddhism, Christianity, Islam and Zoroastrianism (Parsi), with a large following in India and worldwide, divine connotations and well-attested *siddhis*. His central message is the constant one: that Mankind is a spiritual being temporarily tied to a material body, needing to free itself from earthly desires in order to avoid continually returning to

earth. In this one must avoid evil, serve others and be constantly mindful of the divine.

### **Is there a relevant, simple message from Philosophy?**

The Walker sees all the foregoing as legitimately also the ancient province of Philosophy. The basic position of Science itself pre-empts many questions in Epistemology, with its prime emphasis on observation with which reason must also tally exactly. Both must ideally also be quantitated, with added experimentation wherein parameters are measured under systematically varied conditions. Logic, especially the definitive logic of mathematics, is vital but along with most scientific data has advanced far beyond that of the ancients. Ordinary, 'common-sense' observation suffices for classical (Newtonian) macrophysics but a new type of thinking was needed for sub-atomic dimensions. Here the manner of knowing affects the outcome, and Epistemology and Ontology became part of the deductive process; a wave/particle complementary duality became the defining paradigm. This is eerily analogous to a Mind/Energy (matter) duality, possibly also complementary, implied by aspects of paranormal phenomena. The implications of Quantum Theory go to the heart of Metaphysics, and the three scientific choices above to that of cosmology and ontology. Many scientists cannot contemplate Science without also straying into Aesthetics, while others are not bothered by that distraction.

Ethics or Moral Philosophy seems in a special position. The scientist is wedded to objective truth and is wary of self-deception or speculation except as a basis for practical experimentation, but truth in Religion is subjective. A universal emphasis in Religion is on good rather than evil, or questions of right and wrong. The Walker is at first not concerned about absolute standards, as usually it is clearly relative: what is right for the tiger can be decidedly wrong for the gazelle. All major religions insist on rules of behaviour that are incidentally necessary for a harmonious and prosperous human society reconciling tribal differences, especially as its size approaches the sustainable limit of the planet. Thus the primary religious emphasis is right if not essential for the human species although that species is slow to recognise it. The hard-wired instincts enabling human dominance in the jungle of Darwinian selection may have to be consciously overridden. There are signs this is slowly happening (in places) – no public executions then no judicial murder at all, no slavery, seeing the folly of war and what causes it (within Europe anyway), the horror of nuclear and chemical weapons (after bitter lessons), universal suffrage and the sexual revolution with manageable birth-rates - and the key may be universal high literacy and communication rates (22).

Another consistent feature is the repeated emergence of Messengers, charismatic personalities often with paranormal abilities and bearing essentially the same message. They are well spaced in time and the most recent may well be in living memory, Satya Sai Baba.

A further repeated injunction is to keep the deity, or a Universal Consciousness, constantly in mind. In pondering this, the Walker returns to the scientific conclusions that the Universe seems carefully created so that life could develop, Mind can on its own influence matter, and Life itself is more likely than not to be deliberately created. Mankind appears to be the only earthly species conscious of its own consciousness,

and therefore potentially conscious of another, possibly higher, consciousness. Given these, anything good for Mankind is good for the purposes of the Primal Mind if these include Mankind's consciousness of that Primal Mind, and this seems to be the consistent gist of the Messengers.

In November 2013, astronomers estimated (23) from the density of exoplanets in a defined portion of the Milky Way that there could be 11 billion earth-sized planets in the habitable zones of Sun-like stars within that galaxy alone. There are hundreds of billions of galaxies in the known universe. This raises the likelihood of Earth-like life forms existing elsewhere in the universe. Distance and probable limitations of civilisation life span will limit light-speed communication but, if distant perception (clairvoyance or telepathy) is reinforceable by group participation, then communication becomes feasible and may be a goal of the Primal Mind.

How may continued mindfulness of the Primal Mind be good for that entity? Perhaps to stay connected with and guide its creation, in a manner reinforced by meditation; many people are naturally helpful or prone to random acts of kindness and this could be directed usefully. A peaceful, even loving, environment (coherent thought-patterns?) is crucial for the maintenance of a meditative state, and so an ethical society is more conducive to that connection. The same calm state is crucial for manifestation of paranormal abilities. Theodicy ('tough love') holds that Mankind must if necessary learn its lessons the hard way as do species by Darwinian selection, and if the precious entity here is the Mind or Soul rather than the human person, then the birth-death recycling makes sense. The slow maturation of earthly human minds, finally not returning to earth, allows the Primal Mind to grow and include personal experience of the material world including the experience of time itself. In this sense, perhaps there is indeed an absolute standard of good and evil: if nothing exists except the Primal Mind and its Creation, then there is room for no other.

## Conclusions

SCIENCE. The Walker summarises these three lines of inquiry, all seemingly counter to our common-sense experiences, respectively:

1. Mind (in the shape of observation) can affect Energy (e.g. the wave property of light) to collapse it into particles, while Energy (in the shape of matter) can affect other Energy (entangled matter) non-locally, i.e. outside space-time.
2. The Universe is singular, and is composed *as if designed* to develop life with an unprecedentedly high certainty of departure from chance. Any other experimental situation would demand the conclusion that it *was* indeed so designed.
3. Wide-ranging paranormal phenomena are now shown to be real far beyond any statistical or methodological doubt. This includes Mind-Energy (as matter) interactions – psychokinesis; Mind-Mind information transfer outside space-time - telepathy; Mind-matter information transfer - perception at a distance, perception through time; and others.

Taken together these show clearly that Mind/Intention/Thought/Information and Matter/Energy do indeed all interact *outside space-time*, and Mankind is intimately part of this. Lacking prejudice, the Walker concludes that without doubt Mind came

first and created matter in such a way as to allow the opportunity for life to develop. Knox's (7) equally familiar riposte to his own limerick quoted above is here almost startlingly apt:

**“Dear Sir: your astonishment’s odd;  
I am always about in the Quad.  
And that’s why the tree  
Will continue to be,  
Since observed by, Yours faithfully, God.”**

Apt, that is, for fullerene molecules or smaller, if not perhaps for Knox's tree or Einstein's moon (3).

RELIGION. The Walker sees that problems in religion are no fault of Primal Mind, only Mankind's inadequate understanding of the mystics' messages, an irresistible urge to over-elaborate, and an innate tribal intolerance causing fragmentation. The Walker finds no rational basis for atheism or even strong scepticism (as opposed to the open mind of agnosticism), particularly as in Logic one cannot prove a negative proposition.

Shorn of elaborations, the Messengers asked Mankind to believe, on their word, their message. This was quite simple, unanimous and clear:

**“You are not a human being in search of a spiritual experience.  
You are a spiritual being immersed in a human experience.”**

**Fr. Pierre Teilhard de Chardin, using language found identically in Hinduism**

After this you return to spirit, for Hindus and Buddhists repeating this until 'graduation' to permanent residence, for Judeo-Christians and Muslims with no second chance at everlasting life.

They repeatedly iterated rules of how Mankind should live, which are simply exemplified in Sikhism, a fifteenth century, monotheistic fusion of Hinduism and Islam:

- do good actions not perform rituals
- keep God in heart and mind at all times
- live honestly and work hard
- treat everyone equally
- be generous to the less fortunate
- serve others.

These rules are necessary for a happy, peaceful and mature society whose calmness is conducive to meditation and creative pursuits. Such benefits seem self-evident. The Walker sees this as crucial for further growth in relation of Mind to Mankind.

The Messengers were no doubt compelling to their contemporaries, backed by apparent authority of the siddhis and their personalities, but this can fade over centuries with suspicion of the role of superstition. Overlaying with elaboration, misinterpretation and editorial interference has blurred some Messages, the whole set in stone as Holy Scripture that then must be accepted *in toto*.

PHILOSOPHY. The Walker sees Philosophy has no conflict with Science since its reasoning is based on sound observation, although they do not overlap in all areas. Philosophy can conflict with Religion, however, on the grounds of reasoning since its premises are based on allegations with the character of assumptions.

## Synthesis

Science and Philosophy are so inextricably entwined that it seems any outcomes must be convergent. Are Science and Religion ultimately compatible? The answer would seem to be no in the absence of supporting evidence. However, within the last two decades the three scientific selections of the Walker have fully provided that evidence, supporting the basic premises of the Messengers while noting that various aspects can have various names – Primal Mind, One Mind, Intelligence, God, spirit, soul and others. The open-minded Walker is left in no doubt that this is the way the Universe works. Finally, a striking concordance between Science and Religion is found in the most profound aspects of both, quantum mechanics and meditative absorption respectively: the essential unity of everything, All is part of One and vice versa.

The Walker concludes that the three meridians of Science, Religion and Philosophy have indeed come together as the 21<sup>st</sup> century dawns. The meeting point is the Primal Mind. Instead of ignoring the Mind First paradigm, cosmologists could do well to consider what effect this would have on their equations. It is also to be hoped that Mankind recognises this more widely, and quickly.

Finally, the gist of Lester Smith's 1975 well-known introductory quotation:

**“...the universe begins to look more like a great thought than a great machine....we are beginning to suspect... [Mind] as the creator and governor of the realm of matter.”**

Sir James Jeans, F.R.S. *The Mysterious Universe*, 1930

An atheist might rephrase this: “In the Beginning was the Meme...”

**Canberra, Australia. February 2015.**

## References

1. Lester Smith, E., Ed., (1975). *Intelligence came first*. Quest Books, The Theosophical Publishing House, Wheaton, IL, USA.
2. Schrödinger, E. (1944). *What is Life?* and *Mind and Matter*, Cambridge University Press. Heisenberg, W. (1958). *Physics and Philosophy*, Allen and Unwin. Bohr, Einstein, Heisenberg, Schrödinger and Tesla were all keen Vedantists, drawing scientific insights from the Upanishads to help realise that quantum mechanics was 'not so crazy'
3. Manley, S.M. (2013). *Eternity, God, Soul, New Physics*. Published by Amazon Inc.
4. Chalmers, D. (1996). *The Conscious Mind: in Search of a Fundamental Theory*. Oxford University Press, New York.
5. Rae, A.I.M. (2004). *Quantum Physics: Illusion or Reality?* 2<sup>nd</sup> Ed., Cambridge University Press.
6. Chiribella, G., D'Ariano, G. & Perinotti, P. (2011). *Informational Derivation of Quantum Theory*. Physical Review A, 84: 1-39.
7. Langford Reed (1924). *The Complete Limerick Book*. This verse by Fr. Ronald Knox was a spoof against the philosophical principle of George Berkeley (1685 – 1753): "To be is to be perceived".
8. Bell, J.S. (1964). Physics 1, p. 195  
Friedman et al., (1972). Physical Review Letters, 28:938-941.  
Aspect et al., (1982). Physical Review Letters, 49:91-94.
9. Nimtz, G. & Stahlhofen, A.A. (2008). *Universal Tunnelling Time for all Fields*. Ann. Phys. (Berlin) 17:374.
10. Rees, M.J. (1999). *Just Six Numbers: the Deep Forces that shape the Universe*. Weidenfeld and Nicholson, London.
11. Dawkins, R. (2006). *The God Delusion*. Transworld Publishers, London.  
p. 172. The real improbability is Mankind. From Primal Mind's viewpoint, one must add to the improbability of the friendly Universe that of the appearance of Life. Thus by Dawkin's reckoning Mankind is far more improbable than God, yet here we are. So much for improbability in this Universe.
12. Unger M.B. and Smolin L. (2015). *The Singular Universe and the Reality of Time. A proposal in Natural Philosophy*. Cambridge University Press, Cambridge.
13. For example, Dawkins (*ibid.*, p. 155). He does not read original literature, e.g. the careful and thorough *The Metal-Benders* (1981, by the respected experimental physicist John Hasted), Routledge & Kegan Paul, London.
14. Radin, D. (2009). *The Noetic Universe. The Scientific Evidence for Psychic Phenomena*. Transworld Publishers, London.  
Radin, D. (2013). *Supernormal. Science, Yoga, and the Evidence for Extraordinary Psychic Abilities*. Crown Publishing Group, New York.  
Dossey, L. (2013). *One Mind. How our Individual Mind is part of a Greater Consciousness and Why it Matters*. Hay House Inc., Carlsbad, CA.
15. Dawkins (*ibid.*, p. 139 et seq.).
16. Dawkins (*ibid.*, p. 202).
17. Stevenson, I. (1997). *Reincarnation and Biology: A contribution to the etiology of birthmarks and birth defects*. Praeger Publishers  
Stevenson, I. (1974). *Twenty cases suggestive of reincarnation*. University of Virginia Press.
18. Alexander, E. (2012). *Proof of Heaven. A neurosurgeon's journey into the afterlife*. Simon & Schuster Inc. There are very many publications on this topic, popular and more serious, since the classic work of Raymond Moody in 1975. Dr

Alexander's is particularly compelling given his background. All accounts are remarkably similar.

19. *Yoga sutras of Patanjali*. Presented by Swami Jnaneshvara Bharati, [www.SwamiJ.com](http://www.SwamiJ.com)
20. Danby, L.C. (1974). *The certainty of eternity as revealed by the mediumship of a Melbourne carpenter*. Hill of Content Publishing, Melbourne. PDC interviewed Mr Danby in Melbourne (March 1980), viewed the paintings and was persuaded of his sincerity. This book is now available from Amazon Kindle.  
Whitescarver, J. (1976). *The truth behind the spiritual surgeons of the Philippines*. Awareness Research Center, Butler, NJ. PDC attended a group session by one such visiting healer in Canberra, Australia, (~1980). He personally underwent and also witnessed others' invasive psychic surgery, in all cases with production of blood. There was no possibility of stage magic.
21. Murphet, H. (1973). *Sai Baba. Man of miracles*. Samuel Weiser Inc., New York, NY.  
Sandweiss, S.H. (1975). *The holy man and the psychiatrist*. Birth Day Publishing, San Diego, CA. There are many publications on Sai Baba. These are two of the earliest by Westerners.
22. Rosling, H. (2006). TED2006. *Don't panic*.
23. [www.nasa.gov/kepler](http://www.nasa.gov/kepler)