

**Post-human Consciousness  
and the  
Evolutionary Cosmology of Pierre Teilhard de Chardin.**

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**About the author**

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**Introduction**

For many Christian theologians humanity occupies centre stage in God's creation. We are considered the crowning glory, the high point of God's creative activity. Popular Christianity certainly accentuates the role and value of humanity as special and unique within the created order. It is largely assumed that all of creation has evolved, and continues to evolve towards a high point of physical, psychological, and even spiritual development.

However, recent discoveries and developments in the natural and human sciences have begun to show with increasing clarity the frailty and limitations of human beings. Resulting from this some theologians and scientists started questioning the teleological favouritism accorded to humanity within both theology and science. Notable amongst Christian Theologians in this area is Pierre Teilhard de Chardin, the French Jesuit, geologist and palaeontologist (1881-1955). Teilhard suggests, as do many others, that one can clearly perceive evidence of the evolution of the Universe towards a point of ever increasing complexity. However, his assertion is that the goal of this cosmological evolutionary process is not towards a state similar in complexity and sophistication to that of humanity. Rather, the evolutionary intention in creation is towards a much higher state of consciousness. It is important to realise that Teilhard does not devalue the position and importance of humanity within this far greater plan. He writes on both of the previously mentioned ideas that

[m]an is not the centre of the universe as once we thought in our simplicity. But something much more wonderful – the arrow pointing the

way to the final unification of the world in terms of life (Teilhard de Chardin 1970b:224).

Pierre Teilhard de Chardin was a theologian and scientist whose work was ahead of its time. During his lifetime he was often misunderstood. There can be little doubt, however, that his work was groundbreaking in its ability to hold in dialectic tension insights gained from both science and theology during a period of history in which there was often an antagonistic and exclusive relationship between these two disciplines.

The discussion that follows aims to draw out a few colours in the rich tapestry of Teilhard's evolutionary cosmology. The one bright colour that stands out from the depressed greyness of much secular evolutionary cosmology is Teilhard's notion of pleromization with the ultimate evolutionary goal of the Christ Omega. This notion of an evolutionary process that does not hold humanity as the pinnacle of creation, but looks beyond the frailty and brokenness of humanity to a much more significant cosmic state, serves as a significant theological model to critique negative views of a post-human society that have dominated popular culture and entertainment<sup>1</sup>. Teilhard's vision of creation evolving in complexity towards Christ consciousness, centred and founded in the person and bliss of unity in Christ, is fundamentally filled with hope.

The theological implications of understanding that all of creation is evolving towards true unity in Christ, and not simply towards the fulfilment of limited human potential, is entirely in accord with the Pauline vision of the *teleos* of creation (c.f. Ephesians 1:10, Colossians 1:16-17 as good examples). Ultimately Teilhard's understanding of a post-human, Christ-consciousness, serves a necessary corrective for a subtle humanism that has entered much secular thought and contemporary theology. This misconception presumes that the goal and purpose of all creation revolves around humanity as we know it. For Teilhard the purpose and goal of creation revolves, rightly, around the person of Christ.

In the following discussion I will present both Teilhard's theological perspective on a post-human evolutionary Christ-consciousness and some insights that can be gained from recent scholarship in related disciplines.

## **1. Consciousness.**

Central to understanding Teilhard's evolutionary hypothesis is the emphasis that there is a connection between evolutions of consciousness and the evolution of the cosmos as a whole. Evolution, or change, that is accomplished in any sphere of the cosmos is an accomplishment for the whole system. He writes,

The stuff of the universe, woven in a single piece according to one and the same system but never repeating itself from one point to another, represents a single figure. Structurally, it forms a whole (1970b:41).

Thus, he would maintain that, just as biological evolutionary leaps have held significance for the hold of the cosmos, an evolutionary leap in consciousness in human beings is of significance for the whole of the cosmos.

To the cosmic corpuscles we should find natural to attribute an individual radius of action as limited as their dimensions. We find, on the contrary, that each of them can only be defined by virtue of its influence on all around it. Whatever space we suppose it to be in, each cosmic element radiates in it and entirely fills it. (1970b:45, cf. 1970b: chapter 1 as whole).

Naturally there have been significant advances in research in the area of consciousness since Teilhard wrote his seminal work in this regard, *The Human Phenomenon* (1970b).

The field of human consciousness has become a hotbed of academic debate in recent decades. The source of the debate, however, dates back much further than the recent past. Ever since Plato it has been generally accepted that consciousness is ‘consciousness of something’. It was believed that the mind is a blank slate that is changed by stimuli provided from the outside world. John Locke, the seventeenth century philosopher said, “All ideas come from sensation or reflection. Let us suppose the mind to be, as we say, white paper, void of all characters, without ideas” (Locke in Zohar and Marshall 2000:67). In the same vein, Nobel laureate, Francis Crick commented that, “You, your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells, and their associated molecules” (Crick 1994:3).

More recent research has however suggested that individual consciousness is not merely a response to outside stimuli. Rather it is also an a priori reality, an intrinsic property of the human brain that pre-exists changes as a result of outside stimuli, if you will (cf. Albright 2001:491, d’Aquili and Newberg 1999:51 and 2001, Zohar and Marshall 2000:68-90). Such a notion is much more closely aligned to that of the mystical thinkers, and the views of Western idealist thinkers such as Kant, Hegel and Schopenhauer, on consciousness over the last two thousand years. The contemporary Pare-Llinas research on 40 Hz oscillations in the brain shows that all mammals share a common property of having an intrinsic consciousness. Furthermore, the research suggests consciousness itself is a transcendent process. Zohar sums up both views in saying that whilst our consciousness has some physical variables (both in terms of measurement and input), it also functions to “put us in touch with a reality far deeper and richer than the mere connection and vibration of a few nerve cells” (2000:68). If this is so, it can be concluded that consciousness is that aspect of being that creates both general and specialised associations based on outward stimuli (which to some extent can be manipulated) and inward states of being in the brain which pre-exist outward stimuli<sup>2</sup> (obviously these stimuli have some physical, and also measurable, characteristics), and that these associations are what help individuals and communities to grapple with the vicissitudes of life through making meaning and motivating behaviour, which could lead to evolutionary development, and ultimately transcendence.

## **2. Post-human evolutionary consciousness claims in strong artificial intelligence.**

An interesting development in the debate on consciousness has come from the field of computer science. The intrigue of the possibility suggested below has occupied the mind of a number of popular books and films in recent decades.

In essence, experts in theories of strong artificial intelligence suggest that machines will eventually be able to emulate the task of human consciousness to a high degree of accuracy. Some have even gone so far as to suggest that machines will be able to 'outperform' humans in this arena of human being, just as they have already done in linear processing (e.g. calculations and logic) and parallel processing (i.e. communication and networking) (cf. Kurzweil 1999, Kurzweil in Richards 2004 and Jonscher 1999).

Should this indeed be the case, two possible outcomes, or eventualities, may be predicted. On the one hand it has been suggested that we may move into an age of 'spiritual machines', where we are able to harness the power and accuracy of these machines or devices to aid us in our conscious and spiritual pursuits in much the same way as we have harnessed the power and accuracy of computers to aid us in linear and parallel processes. On the other hand it has been suggested that we may find ourselves in grave danger of being subjugated by such machines and devices, due to their superior ability<sup>3</sup> (cf. Joy 2001). The most vocal of such theorists is Ray Kurzweil<sup>4</sup>. He writes:

The combination of human level intelligence in a machine with a computer's inherent superiority in the speed, accuracy and sharing ability of its memory will be formidable. (Kurzweil in Richards 2002:32).

Those who argue for this latter view do so using applying a largely deterministic logic which is based upon an evolutionary understanding of the survival of the fittest species.

In either instance, there will be some significant theological implications that arise from the developments taking place in Artificial Intelligence.

## **3. Pierre Teilhard de Chardin's evolution of consciousness as a theological model which shows that cosmic evolution has a positive post-human teleology in the Christ-omega.**

The hypothesis which is shared above is merely one of many variations on a post-human cosmic evolutionary theme. As has already been suggested such theories seldom express a positive outcome for humanity within the larger cosmic plan. The suggestion is that, at best, humanity can hope for an existence of bane and subjugation to some superior species; at worst, humans will simply become extinct in the face of other superior life forms.

It is here where a model of the evolution of consciousness, such as that initiated by de

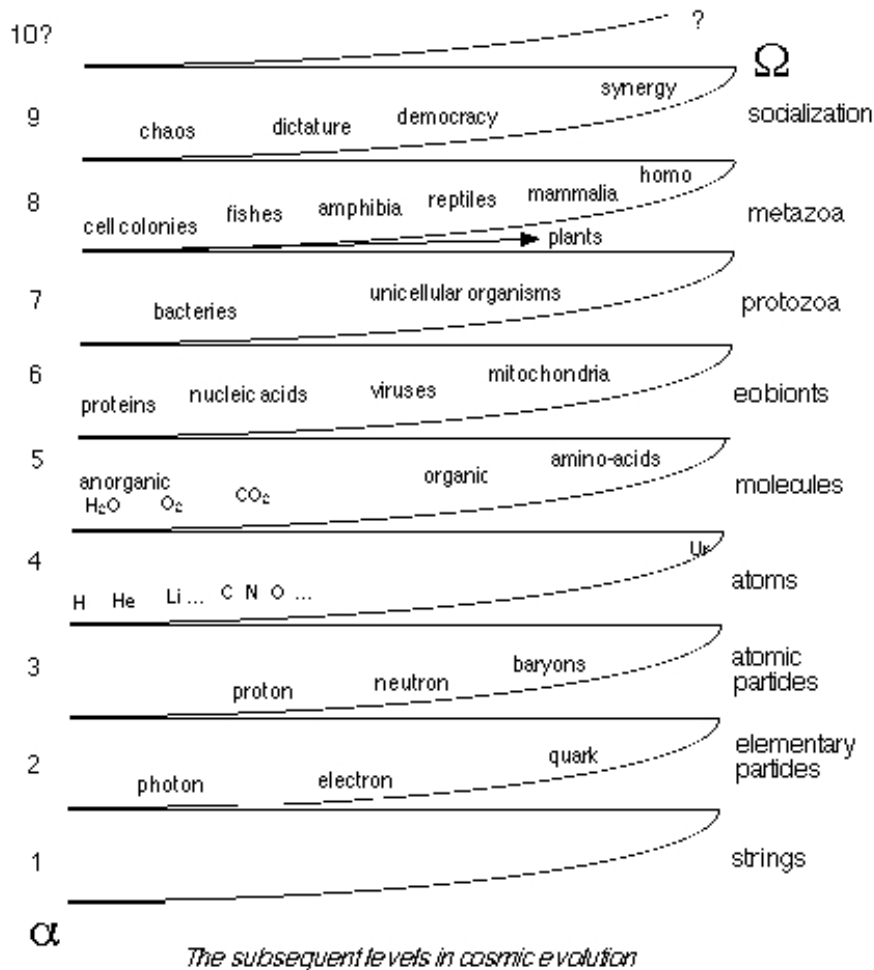
Chardin, can be of some value in considering the theological possibilities of developments suggested by the supporters of strong artificial intelligence.

Teilhard's model is fairly simple, yet extremely insightful, when it comes to understanding the evolutionary process of the cosmos, from its birth to its ultimate goal. His view of evolution divides the circumstances of evolution into four stages, which he calls:

- 1) Cosmogenesis – the evolution of the cosmos or universe
- 2) Biogenesis – the evolution of biological life
- 3) Noogenesis – the evolution of thought
- 4) Christogenesis – the evolutionary stage in which humanity transcends the physical world and merges with an Omega Point. (Scheirer 1980:114).

As was mentioned earlier a seminal aspect of Teilhard's view is the emphasis that there is a connection between the evolution of consciousness and the evolution of the cosmos as a whole. This simply means that in Teilhard's positive view of the evolution of the cosmos, changes that are accomplished in any sphere of the cosmos are an accomplishment for the whole system. Thus, if one applies this notion logically one could infer that an evolutionary leap in consciousness, even through the use of machines, is of significance for the whole of the cosmos.

According to Teilhard the identifiable pattern that is present in the evolution of the cosmos is the law of complexification. Essentially, as matter evolves it is becoming more complex. The atom is more complex than elemental matter, yet less complex than molecules, and so on. This complexification is accompanied by a tendency towards order, or 'centeredness'. The following diagram by Max Wildiers illustrates this point quite well:



([http://noosphere.cc/the\\_tendancies\\_of\\_evolution.htm](http://noosphere.cc/the_tendancies_of_evolution.htm))

It is worth noting that the theory of an expanding universe, based on the law of the conservation of energy, and the law of entropy (both of which are central to Teilhard's understanding of complexification), are commonly accepted explanations among astronomers.

Teilhard argued that humanity had almost reached the end of our biological evolution, an evolutionary boundary that he called a "critical point". This would infer, from his reasoning, that the universe had begun to swing into another evolutionary track, namely that of intelligence, also called consciousness.

Within this next level of complexity insight becomes the organising principle. Complementary to instincts, humans develop learning capabilities and move along even faster through enhanced possibilities for interaction facilitated by communication technologies. These include such things as language, then text (boosted by the invention of the printing press), the telephone, television, and of course most recently, the internet.

Teilhard believed that everything, to differing degrees, had both a “within” and a “without” (1970b:52-55). He regarded the within as consciousness. As matter complexified it changed the without. The co-existence of the within and the without naturally means that the within is also affected by changes in the without.

In discussing this connection he uses metaphorical language to describe material reality. He speaks of two forces that operate on all of reality. These are the radial and tangential forces. For him there is a centre or source out of which the world moves (a notion which is given credence in the work of leading quantum physicists such as David Bohm, Basil Hiley and Fritjof Capra). Teilhard suggests that at every moment of time there is, as it were, a sphere and the particles on that sphere are governed by a tangential force that corresponds to forces spoken of in physics, such as gravity and electromagnetism. The tangential forces are forces that organise order in matter (a view which has been given much credence by the research of biologist Rupert Sheldrake (1981, 1996) whose thesis is that there are morphogenetic fields that organise matter through similar resonant frequencies). The tangential forces, or energies, obey the law of entropy. It is expanded in physio-chemical reactions and in time will be dissipated. For Teilhard, this is the energy that causes elements to react causing changes to the without of matter, leading to greater complexification. Along with this force there is also a radial force that encourages an evolutionary outward movement to higher levels of reality. The radial force, according to Teilhard, is 'spirit', or within, which he speaks of in terms of Christ-consciousness. The point towards which the whole of the cosmos is evolving in consciousness is the "Christ-Omega" point of complete centricity (Teilhard de Chardin 1965:167)<sup>5</sup>. Lyons comments on Teilhard's evolutionary view saying that:

Creation, incarnation, and redemption constitute the one movement, which Teilhard calls 'pleromization'. It is a movement towards the 'pleroma', the fullness of being, in which God and his completed world exist united together (Lyons 1982:156).

Thus, as the universe evolves (an increase in the tangential force), the strength of the radial force increases in intensity. Simply stated, the expending of small amounts of tangential energy can lead to huge gains in radial energy. A vivid illustration of this can be found in the following example: an artist expends a few calories of physical energy resulting in the genius and beauty of a beautiful art work.

Within this theory Teilhard had identified a pattern of increasing evolutionary complexity. This pattern could be identified in all the known aspects of evolution, including the evolution of consciousness. As a result he concluded that the whole of the universe was emerging into a fuller consciousness as it evolved and became more complex.

This notion is not unique to the reasoning and theology of Teilhard de Chardin. There are many mystics and scholars who maintain that human consciousness can develop beyond its current level to that level that Teilhard called 'hypermental', a level that the sages of the East, such as Sri Aurobindo, called a 'supramental' consciousness, that is, a

level of consciousness and experience that is beyond the personal and mental. Such consciousness can be described as transpersonal and transmental (this theory is given credence by the groundbreaking work of the highly acclaimed transpersonal psychologist and theorist Ken Wilber<sup>6</sup>). The contemporary spirituality of Fr Bede Griffiths (OSB), whose theology was significantly informed and influenced by Teilhard, said that with this level of consciousness we discover within ourselves "the ground of the whole structure of the universe and the whole scope of human consciousness" (Griffiths 1989:27). Such a view of reality, as non-dual, evolving and conscious, fits well with the assertions of the new scientific paradigm, as stated by David Bohm "The entire universe is basically a single, indivisible... but flexible and ever changing, unit" (Bohm in Russell 1985:135, see also Bohm 1980 and 1993 and Keepin 1993).

#### **4. Concluding remarks.**

Research indicates that authorities on strong artificial intelligence are optimistic that intelligent, conscious, machines are part of the evolutionary future of the cosmos. Kurzweil gives an accurate summary of the possible outcome of such an evolutionary process.

When our technology achieves a sufficient level of computational architecture and complexity, it will become conscious, like we are.... If we're a carbon-based, complex, computational, collocation of atoms, and we're conscious, then why wouldn't the same be true of a sufficiently complex silicon-based computer? (in Richards 2002:10).

Richards comments on Kurzweil's suppositions saying that,

Accordingly, for Kurzweil the only salvation and the only eschatology are those in which we become one with our own more rapidly evolving, durable and reliable technology. If we seek immortality, we must seek it somewhere downstream from the flow of cosmic evolution, with its ever-accelerating rate of returns. (2002:11).

Many may find such a notion far fetched and unbelievable. However, humanity has always been intrinsically linked to our technology (fire, weapons, banking institutions, medical science and a host of instruments of comfort, protection and production have become an essential part of our daily existence). Many secular theorists see such a unity between creators and their creation as a negative eventuality.

Teilhard de Chardin's understanding of a post-human, Christ-conscious, cosmos where there is no radical dualism between spirit and matter, between persons and the agents of increasing complexification, offers a positive model for the future of the whole of creation. This is a future which embraces positive progress. It is a future in which the created order is interdependent. It has a positive salvific goal for all of creation, not just human beings. This is a future which longs for recapitulation under the one head, Christ Jesus (Ephesians 1:10).



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<sup>1</sup> The most notable in a series of public discourses on the plight of a post-human society is to be found in the ‘Matrix’ movie series. Nightmarish visions of a world in which human beings are dominated by other species, or technologies, are nothing new (c.f. as examples, War of the Worlds, 2001 a space odyssey, Dark City, Bicentennial Man). However, for the first time in recorded history the possibility of a world in which technology can self aggregate and evolve beyond the intellectual, physical, and spiritual capacity of human persons is a plausible eventuality. Such theories no longer occupy only the minds of artists and master story tellers, they are now debated and considered by leading scientists, theologians, and philosophers (c.f. Kurzweil, Waters, and Penrose as just a few prominent examples).

<sup>2</sup> These would include the neural operators which Albright speaks of (neural operators include 1) the holisitic operator; 2) the reductionist operator; 3) the causal operator; 4) the abstractive operator; 5) the binary operator; 6) the quantitative operator; and 7) the emotional value operator.) (2001:491). It could also point to d’Aquili and Newberg’s suggestion that within the brain there are genetically pre-programmed subassemblies, assemblies and super-assemblies or neurons that carry out specific sorts of operations (1999:51).

<sup>3</sup> Bill Joy is cofounder and Chief scientist of Sun Microsystems, was co-chair of the US presidential commission on the future of IT research.

<sup>4</sup> Ray Kurzweil’s argument is that there will come a time when humans harness the technology that they have created to re-create future generations of technology. He calls this law the law of accelerated returns. Interestingly he relies heavily upon a notion of increasing complexity as a necessary aspect of evolutionary growth. He attributes this growth phase to a

... link between the pace of a process and the degree of chaos versus order in the process. For example, in cosmological history, the Universe started with little chaos, so the first three major paradigm shifts (the emergence of gravity, the emergence of matter, and the emergence of the four fundamental forces) all occurred in the first billionth of a second, now with vast chaos, cosmological paradigm shifts take billions of years.... Evolution started in vast chaos and little effective order, so early progress was slow. But evolution creates ever-increasing order. That is, after all, the essence of evolution. Order is the opposite to chaos, so when order in a process increases – as is the case for evolution – time speeds up. I call this important sub-law the “law of accelerating returns”, to contrast it with a better know law in which returns diminish. (Kurzweil in Richards 2002:20).

<sup>5</sup> It is worth mentioning that scholars have developed notions based on Teilhard’s model that are not generally accepted in the academic community. Most notable is controversial work of Frank Tipler (1994), yet such views are extremely valuable in that they stimulate a great deal of worthy debate and scholarship.

<sup>6</sup> Wilber’s notion, first introduced in 1975, is that human consciousness is a multi-levelled manifestation or expression of a single Consciousness, just as in physics the electro-magnetic spectrum is a multi-banded wave (Wilber 1975:106). Thus as conscious beings we are manifestations of the one Ultimate Reality at different levels, depending on which level we identify with on the ‘spectrum of consciousness’. The spectrum ranges from the most complex consciousness, identity with God, others, self and the world through several gradations or bands to the drastically narrowed, simplistic, sense of identity referred to as egoic consciousness (Wilber 1975:106). At the deepest level the person’s consciousness is identical with the Absolute



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**Videos:**

Bicentennial Man

Dark City

The Matrix

2001: A Space Odyssey

**Web sites and electronic articles:**

Davies, P 2000. Quantum Computing: The Key to Ultimate Reality? <http://www.science-spirit.org>

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