

**SCIENCE AND RELIGION WITH PARTICULAR REFERENCE  
TO P. TEILHARD DE CHARDIN**

by

**Conrad Bonifazi**  
Professor Emeritus of Interdisciplinary Studies  
Humboldt State University  
Arcata, California USA

The Fourteenth International Conference on the Unity of the Sciences  
Houston, Texas November 28-December 1, 1985

© 1985, Paragon House Publishers

Science and Religion with particular  
reference to P. Teilhard de Chardin

by Conrad Bonifazi

Religion will not regain its old power until it can face change in the same spirit as does science. Its principles may be eternal, but the expression of those principles requires continual development.

A. N. Whitehead<sup>1</sup>

Might not Christ be the world revealed to human knowledge - a kind of common sensorium, the idea of the whole that modifies all thought? And might not numerical difference be an exclusive property of phenomena, so that he who puts on the likeness of Christ becomes Christ?

S. T. Coleridge<sup>2</sup>

The heart of the Christian religion is revealed in the belief that God intervened in the processes of this world in the person of Jesus, his Son. This affirmation became possible in virtue of the momentum of Judaic antecedents, so that the Judeo-Christian world conceived of history as the unfolding of a pact or covenant between God and the human race which should eventually bring them both together. Over against this view many of our contemporaries regard history as a process of evolution which moves from the amoeba, through reptile and ape, to mankind. The outer forms of these two views of history are quite dissimilar, but the inner thrust of each seems to point in the same direction. Both envisage a movement from lower to higher, from worse to better, and a growth of consciousness.

And though it would be impossible to show the derivation of the one from the other, Whitehead recognized that the belief of the western world in the possibility of science was unconsciously derived from centuries of faith in the rationality of God "conceived as with the personal energy of Jehovah and with the rationality of a Greek philosopher."<sup>3</sup>

Our knowledge is chiefly description derived from contrast and comparison. And since God is thought of as other than humans and their activities, existing outside the processes of the world, it became possible, from this objectively existing Deity, to formulate the theological view that history was the unfolding of a pact between humanity and God. Unlike Buddhism, for example, wherein God and man are one and identical, the God of Judaism, Christianity and the Muslim faith is Other. These are petitionary or contractual religions for when the Ultimate is an immense Personage who watches over and disciplines his offspring, then the children, in return for blessing and protection, offer worship and obedience.

Over against this religious interpretation of the world which provided a working answer to the question of its meaning, the scientific view of history as evolution cannot suggest the meaning of the process inasmuch as there are no empirical tests for value.

There is however, another view of the relation of humanity to Divinity for which Leibniz coined the phrase philosophia perennis, in which a divinity is recognized in all

creatures and things. It finds in the soul something similar or even identical with divine reality, and believes the goal of life to consist in knowing and being one with the immanent and transcendent Ground of all being. It cannot imagine the Infinite as a creator set apart from its creations, from human beings events and things, but rather as their very condition or suchness. It is not other than all life-forms, but an integral oneness which undergirds and includes their multiplicity. But despite its non-existence as a separate entity we may not deduce that it does not exist at all, for such an original Ground is not more improbable than is Nature apprehended as the ground of the natural forms with which we are acquainted.

The goal of the contractual religions is to be saved - from pain and suffering, evil, and ultimately from death. The aim of the perennial philosophy, convinced that the ultimate is an integral wholeness in which everything participates, invites human beings to escape the delusion of separateness and embark upon a journey towards Oneness and the realization of themselves as whole. It understands history, therefore, as the unfolding of human consciousness. And in contrast with the religions which translate their moments of truth into theological formulations and ritual which then have to be defended, the mystical religions allow of much more ambiguity in their interpretation of what has been and continues to be revealed to them. Mystical experiences are widespread and diverse; they occur in every religion and in people of no

religion, and appear in a general sense as witnessing to monism rather than theism. Buddhism, Hinduism<sup>4</sup>, Taoism, Sufism<sup>5</sup>, and Christian Mysticism do not offer to scientific method the resistance which characterizes the doctrinally organised faiths, for if reality means the Totality of everything that is, then physics and mysticism are aspects of it. Between them, despite their profound differences and the fact that they are disciplines with very little in common, interdisciplinary dialogue is possible, based upon the hope that physics might be found to be compatible with a mystical world-view, but not that it might confirm or prove or contradict it.

Einstein maintained that the theory of relativity had nothing to do with religion; Eddington denied that the new physics gave any positive grounds for religious faith, whilst Schrodinger believed that the true domain of religion lay "far beyond anything in reach of scientific explanation". It was Plank's view that science and religion dealt with two different dimensions of existence between which there could be neither conflict nor accord, so that the attempt to set them at odds or to unify them led to a senseless confusion of religious images with scientific statements.

In the mystical awareness Reality is apprehended directly and immediately; subject and object become one in a timeless and spaceless wholeness beyond all forms of mediation, beyond words, thoughts, symbols, names and images. But when the physicist 'observes' quantum reality he is not looking at

"things in themselves", at direct, unmediated reality, but at patterns of events described in mathematical terms. Physicists themselves strongly insist that their methods do not penetrate beyond this symbolism; they recognize that the new physics has contributed nothing positive to mystical awareness except to set limits upon itself beyond which the human spirit may still choose to venture. Eddington informs us that

The frank realization that physical science is concerned with a world of shadows is one of the most significant of recent advances.<sup>6</sup>

This view is corroborated by Sir James Jeans who says that

all the pictures which science now draws of nature, and which alone seem capable of according with observational fact, are mathematical pictures....they are nothing more than pictures - fictions if you like, if by fiction you mean that science is not yet in contact with ultimate reality.<sup>7</sup>

This recognition of the symbolic nature of physics, of the fact that its disciplines do not lead to concrete reality but to a "shadow world" unexplorable by the method of science, has served to lead the inquiries of notable scientists into channels of reflection upon themselves. Eddington writes:

Feeling that there must be more behind (the symbols), we return to our starting point in human consciousness - the one centre where more might become known. There we find other stirrings, other revelations (true or false) than those conditioned by the world of symbols.

Physics most strongly insists that its methods do not penetrate behind the symbolism. Surely then that mental and spiritual nature of ourselves, known in our minds by an intimate contact transcending the methods of physics, supplies just that interpretation of the symbols which science is admittedly unable to give.

In its finest forms the perennial philosophy cannot be judged to be against science, but rather to be trans-science, or as Einstein suggested - ante-science:

The most beautiful emotion we can experience is the mystical. It is the sower of all true art and science. We to whom this emotion is a stranger... is as good as dead. To know that what is impenetrable to us really exists, manifesting itself as the highest wisdom and the most radiant beauty, which our dull faculties can comprehend only in their most primitive forms - this knowledge, this feeling, is at the center to true religiousness. In this sense, and in this sense only I belong to the ranks of devoutly religious men.<sup>9</sup>

Among the scientists who might also properly be referred to as mystics is Louis de Broglie who says:

For it is with Science as it is with all the greatest values in life: it is only on the spiritual plane that its full stature is attained. Science exacts our admiration because it is one of the great works of the human spirit.<sup>10</sup>

And along with him Wolfgang Pauli:

... contrary to the strict division of the activity of the human spirit into separate departments - a division prevailing since the nineteenth century- I consider the ambition of overcoming opposites, including also a synthesis embracing both rational understanding and the mystical experience of unity, to be the mythos, spoken or unspoken, of our present day and age.<sup>11</sup>

\*

It is quite probable that western monotheistic religions have been alone in placing restrictions upon the acquisition of knowledge which they have regarded as dangerous, for it meant becoming like the gods and acting against divine commands. In Christian civilization, certainly, the association of knowledge

with evil and pride has been widely believed. Beyond this element in Christian consciousness, the contractual religions, having translated their moments of truth into bodies of doctrine, find themselves much more gravely at odds with science. They have insisted on orthodoxy whereas the mystical religions were more concerned with orthopraxy and evinced small interest in doctrine. In the confrontation of religion with science concern must focus rather upon the immalleable structures of doctrine and the exaggerated authority which theology tends to attach to its pronouncements.

At the present time when one particular meaning of God is dissolving and another is emerging to take its place, theology must recognize not only that doubt has an important function in the growth of knowledge, but that in a world of relativity everything acquires meaning within and from its context and is therefore open to transignification. Cultural changes demand religious changes, but where these are resisted faith must move towards the irrational and the authoritarian. Over the long haul attempts to hold religious meanings fixed must fail, if only because the process of historical change slowly empties out the older meanings and abandons them as superstition. But religions do evolve and change. The Christian Church was totalitarian for centuries and executed heretics, but it is being forced to see that genuine sanctity is possible without subscribing to a particular set of doctrines; indeed, that a secular sanctity is possible. So a



fundamental requirement of the contractual religions may be a commitment to truth as living and relative in place of assent to doctrine regarded as absolute.

European consciousness, over the past four centuries, has undergone an enormous change in its perception of the nature of reality; the focus of its philosophical interest has moved from the out-there-ness of reality to the critical importance of human inwardness, from objectivity to subjectivity. This changed perception has had both far-reaching and profound effects upon multitudes of our contemporaries who now see the world, their origins and destinies in quite other than traditional light. The paragraphs immediately following offer a brief account of this journey to the interior. Then, within the religious and philosophical environment which the paper describes an attempt will be made to set forth the virtue of Teilhard's thought and testimony.

By internalizing religious authority the Protestant Reformation transformed the task of politics from one of enforcing obedience to sacred authority to that of establishing consent by public debate. It led also to a new emphasis in the philosophical enterprise embodied in the work of Descartes who believed in doubt as a way of examining his convictions, a method which encouraged a growing confidence in the power of unaided human reason. Descartes deliberately alienated the human mind from the rest of creation in order to observe the

world from the theoretical standpoint of a scientist. He thought of himself as a loyal Catholic, but his cogito erog sum pointed towards a new kind of self, autonomous and self-defining, his criterion of truth lay within himself, and whose knowledge was generated from his own resources apart from God or from his natural and social milieu.

His contemporary, Pascal, found Descartes' use of God - merely to set things going - totally lacking in religious seriousness. Pascal did not deny the results of the emerging science, but realized that they had made superfluous the God of the philosophers. So, inasmuch as the physical world no longer gave access to God, Pascal concentrated upon the human realm through which God revealed himself, that is to say - through Christ, and themes of grace and the inner life came into focus.

A temptation to which our minds may succumb is to believe that words designate things, and that truth is what corresponds with external fact; yet certain kinds of speech are not descriptive at all, but express our feelings, thoughts and intentions. This ambiguity of language, coupled with Pascal's rejection of metaphysical reason (*le coeur a des raisons que la raison ne connait point*) left him uncertain as to whether theological terms described a God who was actually 'out there', by bypassing the mystery of objectivity he sustained his religious life through faith in a non-objective or "hidden" God.

Descartes and Pascal embody a contrast which reaches into our own time. Descartes is orthodox; his metaphysics posit an objective God, but his Catholicism makes small difference to his life or thinking. Pascal is a man of religious seriousness and passionate faith who, rejecting metaphysical support, remains uncertain of an objectively existing God.

Despite the boost given by Descartes to the powers of human reason, doubts about the reliability of our sensory apparatus were not lacking, and these were concentrated in the questions asked by David Hume. He recognized the distinct and particular perceptions he experienced, but did not know how we were justified in joining them together to form ideas of things which we then supposed were 'out there'; he also failed to grasp how, from this stream of discreet experiences, we could argue that there must be a self who encounters them. But Immanuel Kant, his contemporary, was able to deal with this extreme scepticism by drawing attention to certain ordering principles such as space, time, substance, causality, present in our understanding, through which raw, unstructured sense-data passed, thereupon to be construed as experience of an objective world. We are so constituted as to believe that we are selves set in such a world, but if we are to acquire knowledge of it we must order our experience in terms of time, space, substances and their qualities, then by imposing universal laws upon it, we are able to grant it objectivity.

It had been customary to believe that our minds reflected an already existing order of things; Kant reversed that judgement by saying that the ordered world was a creation of our minds. This meant that we could have no knowledge of things apart from experiencing them, and that what we could know was limited to possible experience. We might link experienced together in causal fashion, but could not link the world to God of whom we can have no theoretical or speculative knowledge.

This principle of ordering experience determined also the realm of ethics; inasmuch as human reason recognizes the authority of moral principles, moral dignity itself rests upon our ability and the obligation to be self-legislating.

Descartes had alienated the human mind from the rest of creation. Kant established a new relation between them: for him the creative task of ordering the world, of turning chaos into cosmos, once ascribed to God, now rested squarely, not arrogantly, but necessarily, upon human shoulders.

This revolutionary idea that humans must order, autonomously, the realms of knowledge and morality caught the imagination of Hegel who developed the idea that the whole of reality was a product of reason which unfolded itself by generating contradictions which it then reconciled at high levels. Life in its entirety - God, nature, history, the self - could be described in terms of this dynamic process which moved from the bare perception of earliest times, through

understanding, towards that knowledge which constituted the return of Absolute Spirit to itself.

Outside this process Hegel appealed to nothing of a transcendent character; he obliterated the distinction between God and the world, so that his philosophy could be transformed into a secular and atheistic humanism. This is what happened. His belief that Reason generates reality, that thought is prior to being, was inverted by Karl Marx who affirmed that "thought arises from being", indeed, that theory and practice are one. Feuerbach had transmuted theology into anthropology, but Marx - sensible of the burdens borne by working people - intensified this antropocentrism with political implications:

The criticism of religion ends with the teaching that man is the highest essence for man, hence with the categoric imperative to overthrow all relations in which man is debased, enslaved, abandoned, despicable essence.<sup>12</sup>

Although humans are obliged, according to Kant, to order the domains of knowledge and morality, he still conceived of God as a transcendent, ideal goal. In Hegel's system, however, even the ultimate questions were immanently soluble. Drawing upon these sources Marx carried their implications into the realm of politics, and this at a time when the institutions of Church and State were not only failing to fulfil the aspirations of individual persons, but also encouraging a drift toward their anonymity. Protest became necessary, and Kierkegaard sounded the warning note.

Over against Hegel who had advocated the mediation of life's polarities in ever higher syntheses till all were overcome, Kierkegaard believed that human spirit to be ennobled not by the mediation of opposites but by maintaining the tragic contradictions of life. And these he found most poignantly expressed in Christ. It was the paradox of the Incarnation which informed his mind when he defined his "subjectivity is truth" as "an objective uncertainty held fast in an appropriation-process of the most passionate inwardness".<sup>13</sup> Here is the ground of his opposition to the Church: it misled people into thinking that religious truth consisted in accepting objective facts or credal propositions about God, when such forms of objectivity became true only when they had been made one's own by acting upon them. We have no objective knowledge of God whose existence cannot be proved. That God remains transcendent foils the speculative reconciliation of opposites in an immanent system. Thus Kierkegaard endorsed the anthropocentric tradition without losing sight of the demands of genuine Christianity.

Kant's view of the formative power of the mind was reflected in Schopenhauer's belief that the world is our representation. But unlike Kant, he held that the real nature of the world could be known. It is the will-to-live, and it is insatiable. But the unhappiness it thus engendered could be mitigated by acts of compassion and the contemplation of works of art. Influenced by Indian religion, Schopenhauer recognized

the world as a sphere of many faiths whose saints had achieved inward joy by denying the will-to-live, and whose intuitive knowledge - from which virtue proceeds - had not been thwarted or diverted by the variety of theologies. Though the outer garments of religion serve their purpose, its essence is not doctrine but holiness which, in its turn, expresses ineffable mystery.

Schopenhauer's message was closely related to that of the Buddha, and must be recognized as an important mediator of Eastern religiousness to the West. A slight shift of focus reveals his one-time ardent disciple Nietzsche whose self-tormenting spirit probed existence to say that human beings are products of nature, and that the origins of morality, art, religion and the will-to-truth must be understood as "human-all-too-human". He differed from Schopenhauer in asserting that a will-to-power is the fundamental nature of existence, and that even our most intentional actions are but moves in the game of necessity. There are no facts, only interpretations, and no truths, only useful fictions. But the idea that life is basically chaotic and without purpose led him unexpectedly away from pessimism towards a joyful wisdom which says that if everything is necessary then all is innocent; guilt and self-accusation vanish; our highest task is to affirm life in its totality. Beyond affirmation, however, our love of necessity and

consequent innocence of becoming must lead us "to look upon the world as upon a god".

Although Nietzsche chose Dionysus as the affirmer of life and attacked Christianity as a life-denying faith, his bold announcement that God is dead (Karl Jaspers notes that he did not say, "There is no God") echoes a fundamental fact of our age: the notorious loss of belief in any external reality which might guide and sustain our life. This extremity, he believed, was due to Christianity's sense of truthfulness concerning its own moral and fictitious view of the world. That post-Kantian theologians trans-valued metaphysics to understand faith not as assent to dogmas but commitment to ideals, was interpreted by Nietzsche as holding on to the shadow of God, and nostalgically refusing to come to grips with the fearful realization that we must now create our own values.

Hitherto Christianity had been unaware of creating its own values, but was now being pressed to realize that God was unknowable, that his observation of us was our looking at him, that religious ideas are inescapably human, and not always effective either in constraining us or in shaping our lives. This movement towards anthropocentrism has been completed in Feuerbach and Marx, but with Nietzsche its gravity struck home. Looking back it was clear to him that understood in an objective way religious beliefs easily became instruments of oppression; looking forward, however, he could envision the



dissolution of Christianity, but not that it might come to itself, and become conscious both of its humanness and its power to liberate the human spirit. He realized that his dramatic announcement of loss of belief in any external reality to guide us, even after centuries of reflection, was premature. And now, a century later, we too recognize the validity of his caution that "deeds need time, even after they are done, to be seen and heard."

\*

In today's climate wherein both loss of faith and sense of direction are constituent elements, a revolution is need without the drama which supposedly attaches to such upheavals. Heisenberg's recipe for a quiet revolution in science is not inappropriate to a similar change in theology. The revolution occurs, he says:

By trying to change as little as possible; by concentrating all efforts of the solution of a special and obviously still unsolved problem, and proceeding as conservatively as possible in doing so. For only where the novel is forced upon us by the problem itself, where it comes in a sense from outside and not from ourselves, does it later have the power to transform.<sup>14</sup>

It is not a matter of destroying old forms without which we would not find what is new. The new, of course, does not emerge of its own accord; we have to shape it ourselves. But new forms arise from new content, not the other way round. Like the creation of new art, the vitalizing of theology means making its contents visible and audible, but not inventing new

forms. The doctrinal surfaces may remain; the problem is one of their transignification.

Eddington thought the use of terms precisely understood in the vocabulary of science unfortunate as references to God. Words like force or energy belong to those symbols used to construct the external world of physics, whilst it is of the essence of the unseen world that the concept of personality dominate it. As the world of science is built out of mathematical symbols, so the spiritual world needs symbols taken from personality inasmuch as our whole approach to it is bound up with those aspects of consciousness in which personality is centered. In addition to this Eddington felt that religious creeds and doctrines, and particularly the way in which they were held, were a great obstacle to full sympathy between the scientific outlook and that which religion supposedly required. In dispensing with the necessity of doctrine religion, he believed, would hold out a hand to science whose objections were not simply to particular creed which no longer convey inspiration to life, but rather to the spirit which regards any kind of creed as its goal, for the rejection of creed is not inconsistent with being possessed by a living faith. Repellent to science are those confident theological doctrines which purport to have settled for all time just how the spiritual world works, and that these previous 'results' must now be subscribed to and recited. Our knowledge of the universe and our consequent relation to it,

however enthusiastic, will not survive 'in the letter', but the certitude that we are 'on the way' need not be lost.

The history of Christianity shows that its representatives have usually feared doctrines which promised religious immediacy, and have punished those who wished to bypass the religious bureaucracy in order to participate in immediate communion with God. But in spite of his pressure, changes of meaning have occurred over the centuries. A classic instance was accomplished by the Hebrew prophets with respect to the concept of holiness. Originally the holy was associated with the sacred and dangerous power said to protect religious objects from profanation by impious persons. But this quasi-material energy came to be expressed ethically as closely akin to righteousness:<sup>15</sup>

the LORD of hosts is exalted in justice,  
and the Holy God shows himself holy in  
righteousness.

It is stated that Jesus did not wish to destroy the law, be he did internalize it. Christianity sought to use the Old Testament similarly, and in spite of the differences between the testaments the religious values and the inwardness of Judaism came through and found fulfilment in a new religious reality. But now a further internalization of traditional Christianity has become necessary to preserve its values and its faith in the emerging spiritual reality characterized by the autonomous and post-theistic consciousness. Creed and doctrines, therefore, may be more wisely interpreted according

to their inwardness rather than their theoretical or objective-looking truth. We need a shift from theology to a religion of inwardness; from professional criticism of the musical score to the actual playing of the symphony - which the score itself will neither enhance nor impair. It is no longer a matter of offering a fresh portrait, different in style, of an objective being, God. Religion has become human. If our contemporaries have lost faith in God it is in part because our theological vocabulary and the idea of God which informs it no longer function satisfactorily as means through which to articulate their highest goals. The power that orders the world, turns chaos into cosmos, is no longer ascribed to an objective, metaphysical creator, but to the human mind. There is no fixed, eternal and intelligible world-order. Reality, or the world we know, is an endless flow of perceptual interpretations which we have learned to make in common with those who share our culture. And God is a unifying symbol which personifies and represents us all that the religious requirement demands of us. God's will equals the requirement, while his attributes are qualities of the spiritual life. God is our religious concern objectified, the expression of a non-theistic spirituality.

The idea that religious truth consists in ideological correctness or in the objective correspondence of doctrinal statements with historical or metaphysical facts participates in the decline of religious seriousness. religious truth is

subjective, not objective. In speaking to the contractual religions, particularly to Christianity, we may affirm that religion is not metaphysics, but rather salvation, with the understanding that salvation is a state of the self, and that creed and doctrine are not to be accepted with reverential insensibility, but made our own, appropriated subjectively. And in this way religion may come to recognize its contribution along with science to a sense of the whole. Therefore the task involved in the interiorization whence genuine religiousness emerges is not the move from an objective, god-centered theology to a man-centered theology, nor is it to put humans and their psychology in the forefront of interest; it is a matter of placing at the heart of things the religious and its demand to be subjectively appropriated by us. Our religious observances then become symbols of transformation and aids to transcendence, and are not simply translations of concern for personal assurance; in a word, they express the movement from external reality to inner realization.

\*

In The Phenomenology of Mind Hegel states that "to supersede is at once to negate and to preserve",<sup>16</sup> and it is generally acknowledged that each phase of evolution goes beyond its predecessors yet includes and integrates them into its own advanced order. This general observation will permit us to

share something of Teilhard's insight and provide a means of assessing the thrust of his work.

Louis de Broglie believed that science would achieve its full stature "on the spiritual plane", and Wolfgang Pauli considered "the ambition of overcoming opposites, including a synthesis embracing both the rational understanding and the mystical experience of unity, to the the mythos, spoken or unspoken, of our present day and age." Indeed, the scientists cited earlier recognized the frontiers of their disciplines and the existence of regions into which the methods belonging to science were unable to penetrate. It was Teilhard who essayed an understanding of the world in terms of the personal, a category which embraced and transcended those of body and mind without vitiating the actual methods of his scientific discipline.

Philosophies and theologies have tried to reconcile this duality of body and mind, but the sciences, in Teilhard's view, have hitherto omitted human beings as such from their calculations. Of course, human beings have been analyzed and laboriously examined, but they have been regarded as beyond the scope of science when considered as spiritual or personal wholes, as though personality were not as aspect of evolutionary change. Inasmuch as humans in their totality also belong to the world of phenomena, Teilhard sought to enlarge our understanding of evolution to include the biological and spiritual dimensions of humankind.

This application of the category of the personal to our planetary existence is difficult to conceive, and must undoubtedly meet with resistance. But in the pursuit of scientific knowledge abstractions like 'body' and 'mind', for example, may come to be judged so inappropriate to future understanding as to demand the invention and trial of paradigms more encompassing of the phenomenon of life. The exploration of such a model, transcending body and mind in a single concept, may prove as illuminating and valuable as that which surpasses the duality of matter and energy, and prepare a way for research in which the biological and physico-chemical sciences might be enfolded within a single conceptual framework depicting life as one whole.

Teilhard's hyperphysics is one such effort which sought to envisage the whole person within the context of an evolving universe. It went beyond the traditional limits of science by looking at the inwardness of things (consciousness) in relation to their outwardness (complexity), and thus involved philosophical and theological considerations, always in the belief that

The true physics is that which will, one day, achieve the inclusion of man in his wholeness in a coherent picture of the world.<sup>17</sup>

His understanding was that science and religion point in the same direction. His primary concern, therefore, was not to reconcile a conflict but to create a new synthesis wherein each discipline has its function and both were at home.

In the foundations of our knowledge lies an understanding of the nature of the cosmos, but so long as this fails to cover the interior as well as the exterior of things, mind as well as matter, Teilhard found it unsatisfying. Physics and metaphysics were characteristic products of the static world of the past; hyperphysics attempted a unifying science appropriate to a world in process of becoming. It was therefore an extension of physics and a replacement for metaphysics, resting upon the general theory of evolution, not upon Christian belief, but in the transcendence created by their interplay, understanding of the dynamic evolving universe and the spiritual world of the Christian faith was enlarged.

His contribution to the self-understanding of Christianity relevant to the modern world was first to replace its present cosmological foundation with a contemporary world view. More pointedly stated, he juxtaposed the hypothesis of evolution and the myth of Incarnation to disclose a transcendent reality which, in respect to science enlarged its world view without beclouding its observations, and in respect to religion brought Christian doctrine - hitherto notoriously indifferent to the universe - to a new moment of revelation wherein the world appeared as the tangible and palpable being of God.

At the heart of his interpretation of life in the cosmos was a mysticism of Earth and action. In the mystery of the Mass in which elements of matter are transignified and bear the



weight of divinity, Teilhard looked beyond the too constricted sacrificial and redemptive aspects of the sacrament and believed that

Physical and moral evil are produced by the process of becoming: everything that evolves has its own sufferings and commits its own faults. The Cross is the symbol of the arduous labor of evolution - rather than the symbol of expiation.<sup>18</sup>

The sacrament embodies a cosmic function, planetary dimensions, and illuminated the interwovenness of Christ and the cosmos: "Through your Incarnation, my God, all matter is henceforth incarnate."<sup>19</sup> The divine significance accorded the material elements magnified through him to reveal the world as a divine milieu, "the flesh of Christ"<sup>20</sup> and to issue in the affirmation that Christ and the cosmos constitute one whole.

Enhancing this cosmic interpretation of the Mass was Teilhard's visionary experience in which "the manifold universe took on the likeness of Christ". Contemplating a picture of Christ which hung from the wall of a church, he beheld its two-dimensional surfaces change to fields of force which radiated outwards to infinity. The entire universe became vibrant without destroying the individuality of any single thing; yet "it was as though the planes which marked off the figure of Christ from the world surrounding it were melting into a single vibrant surface whereon all demarcations vanished." The vision faded, but not without leaving its residue of conviction that

I live at the heart of a single, unique Element, the Centre of the universe and present in each part of it: personal Love and cosmic Power."<sup>21</sup>

The impact of this cosmic function of the Mass and Christ's organic and structural relationship to the world make a significant impact upon his theology, do not disfigure the phenomena of the world, but alter his perspective upon them. With the help of the hypothesis that potentially or actually a psychic dimension is present in matter he sees evolution as a stream of events in whose flow of energy two dissimilar but intimately related movements are discernible: one of outwardness or growing physical complexity, and another of inwardness or growing psychism. This dual-flow of energy - radial and tangential - reaching a high point in human beings is directed towards the integration of total human actuality - biological and spiritual - into the structure of the cosmos. In human being, he believed, the real nature of the universe is revealed, and in them the deepest potentiality of matter comes to fruition.

Genuine theology implies a grasp of cosmic reality, and faith is relevant when it functions in the light of our total experience of the world. Beyond theological pronouncements, therefore, which still rely upon a medieval world-view, or reckon only in part with modern experience of reality, or remain content to make a correction here or there, Teilhard's hypothesis calls for a reinterpretation of Christianity whose earlier presentation were informed by a concept of hierarchical order whilst the core concept of our age is that of evolution. The older view that Christ came to restore a world which,

though created in good order, was subsequently disrupted by original sin, struck him, not as unworthy, but as outmoded and irrelevant. He was curious to know how Christ might function in an evolutive world. Inasmuch as the cosmos operates on a christic principle the Incarnation should not be construed as a visitation 'from above' but rather as a culmination of natural processes, an emergence 'from below'.

Long ago St. Paul had affirmed that through Christ the universe has been created, and unto him, as the final goal, it is tending . . . And in him as the binding and sustaining power, nature coheres and consists.<sup>22</sup>

Tielhard echoes this viewpoint and binds it closely to an evolutive world: Christ is the principle of its unity, its energy and its completion. In its human phase cosmic structure shows a convergent character pointing towards an ultimate condition of the whole process, Point Omega - a cosmic unity within which individual awarenesses would be preserved and heightened. Wherever this destiny may lie, it is not independent of present events. The Parousia is meaningful only when the planet and its people, by virtue of their unity and their personal condition, are ready for transformation: "When we are ready, he will come."

The Parousia will be realized in a creation that has been taken to the climax of its capacity for union.<sup>23</sup>

All human activity contains both a cosmic dimension and an inner religious value. Everyone, therefore, has a creative

role to play, not only because Christ is the goal of creation, but also because he is the centre of radiation in everybody, of the energies which transfigure the world. We are not encouraged to await the return of Christ; we have to work towards it, for we are co-creators of the world, and in this task every corporate group according to its genius, and every individual, has personal contributions to make to its unfolding and completion.

\*

Descartes' alienation of the human mind from the rest of creation in order to observe the world from a theoretical standpoint has had enormous scientific success from which there can be no retreat. And when science is advertised as value-free, it seems to indicate that the researcher vigorously tries to exclude himself and his evaluations from the material of his study. Kierkegaard pointed out the impossibility of such non-relatedness: "The existing individual is precluded from becoming altogether objective by the very fact that he himself exists."<sup>24</sup> Nietzsche objected more colourfully: "We are not objectifying and registering apparatuses with cold entrails,"<sup>25</sup> he said, and judged such objectivity as "simply having nothing to do with the subject". Planck insisted that "a chaos of elements", by which he meant a collection of results, did not qualify as science until it had been judged and assembled in accord with an imaginary hypothesis, and not

rationality, but this vision together with faith was alone capable of creating order, coherence, and science.

In order to move human beings away from the sidelines of life into some kind of scientific focus as human beings along with the rest of creation, Teilhard explored the "imaginary hypothesis" that cosmic processes are a christogenesis: they express the birth and growth of Christ. The exploration itself he called hyperphysics which he developed from accepted scientific theories, especially from evolution; its object was to attempt a coherent account of the total phenomenon of man within an evolutive world.

Science which is largely concerned with relational structures that are real and intelligible, though not tangible and visible, uses models with greater explanatory power than have things themselves. In spite of the temptation, therefore, to imply from the existence of relations things that are related, science mathematizes nature and seeks to define the structure of the world in ideal terms.

This objective-scientific world of exact knowledge devalues the subjective world of commonsense and lived life, even though the practical world is the arena in which all human activity occurs. With the demise of the geocentric theory of the world, people who had imagined themselves at the centre of creation were moved to wonder about their place in it; Earth's spatial shift prompted the thought that life was perhaps an

accidental occurrence of slight importance in the overall picture. Teilhard disregarded the spatial dimension which had given rise to this reversal of value, and appealed to a dimension which had given rise to this reversal of value, and appealed to a dimension of organization, to the arrangement of a fixed number of elements within a closed whole such as an atom, a molecule, a cell, which produced a unity and a centrality.<sup>26</sup> Differences of species were then accounted for in terms of the changing arrangements of elements, so that no new kind of energy had to be postulated for any transformation in the world. All actions and interactions within and between the living and non-living aspects of the world flowed from the same source:

In the last analysis somehow or other there must be a single energy operating in the world.<sup>27</sup>

In isolation, of course, this yardstick of complexity is of small value, but accompanied by another appreciable, though not exactly measureable criterion, it acquires serious significance. The criterion of increasing complexity is the development of the nervous system, including the brain, so that consciousness is as fundamental as complexity, and cannot be overlooked in any scientific analysis of evolution; it, too, is a parameter of development, and this relationship between energy and consciousness is described as hyperphysics, under whose rubric spirit and matter may not be regarded as antithetical, but rather as mutually supportive and complementary.

So, the energy of repulsion and attraction in magnetism is the same kind of energy which produces sophisticated human behaviour but to interpret this as purely materialistic, and to imply that on this principle even the higher activities of mankind are only more complex kinds of physical activity, is to misunderstand Teilhard. We are collocations of atoms, yet human personality transcends its atomic structure, and on this account Teilhard wishes to interpret the atom from the perspective of human beings, and not human beings from the life of the atom. Contrary to the analysis of the physical world which explains higher organisms in terms of physical laws, Teilhard uses the activities of higher organisms to shed light upon the nature of lesser developed entities, and therefore places emphasis upon psychic activity. This however, is not a replacement of physical with psychical activity, but an attempt to emphasize the unity and continuity and homogeneity of the entire evolutionary process; for complexity and consciousness are inseparable yet distinct aspects of matter, each co-extensive with the other. And in speaking of energy as psychical Teilhard maintains that it has two clear modes of operation: a tangential or physical mode identified with complexity, and a radial or psychical mode expressed as consciousness. From proton to primate there is a development of complexity with its interrelated consciousness, and the mechanism is the same throughout. The power of attraction at

lower levels becomes the power of love in the higher strata, though 'love' is not to be understood as sentimentality, but as "mutual internal affinity". In seeking to interpret earlier stages of growth from our present state of being and suggesting that love must have existed at all levels, Teilhard sounds like a vitalist, but he is not, for he inserts into the process thresholds upon which small increases in complexity result in radically new types of psychic behaviour. These thresholds or shifts in molecular arrangements which lead to concentrations of psychic energy lie upon the main axis of evolution, so that life and mind are not simply epiphenomenal in character but are evidence of the way in which matter grows. Evolution, then, is simultaneously both a process of physical expansion and psychic concentration issuing in self-reflecting creatures in whom the planet has become aware of itself. Indeed, inasmuch as our thoughts spill over into other minds and lives, this shared human knowledge has created a psychic skin within which Earth is now enveloped. Intermingling with the biosphere it is yet distinct, and is now known as the noosphere. And Teilhard asks that this noosphere itself be included in the scientific world-view, not used simply as a basis for operations but understood as a phenomenon among others, laying no claim to neutrality, insisting not upon its transcendence but upon being included within the judgements of science. And science, if it will mediate the fullest truth about the world, must take into



account the whole phenomenon of mankind, for a mechanically or even organically understood world is not enough. It has to be a personally understood world. If, therefore, Teilhard succeeded in revealing a relationship between matter and consciousness, it should be explored in hope of providing that category of understanding within which the disciplines of science and religion may complement one another.

For Teilhard the mystic the vast cosmic realities are the garment of god, and are to be loved as his tangible presence:

No one, I think, will understand the great mystics - St. Francis and Blessed Angela, and the others - unless he understands the full depth of the truth that Jesus must be loved as a world.<sup>28</sup>

And now his statement of faith in the world may be safely quoted:

If, as a result of some interior revolution, I were to lose in succession my faith in Christ, my faith in a personal God, and my faith in spirit, I feel that I should continue to believe invincibly in the world. The world (its value, its infallibility and its goodness) - that, when all is said and done, is the first, the last, and the only thing in which I believe. It is by this faith that I live.<sup>29</sup>

Arcata, California  
11th July, 1985

Footnotes:

1. A. N. Whitehead, Science and the Modern World (New York: The Free Press, 1967) p. 189
2. J. H. Muirhead, Coleridge as Philosopher (London: Allen and Unwin, 1954) p. 250. This was a marginal note in Coleridge's cope of Kant's Religion innerhalb der Grenzen der blossen Vernunft, p. 297: ΧΡΙΣΤΟΣ = Κόσμος ἐπιστημᾶτικός Ἀνθρώπων sensorium quasi commune? Idea totalis cogitationum omnium modificatrix?
3. Whitehead, p. 12
4. The main thrust of Teilhard's work bears comparison with the evolutionary orientation of Hinduism which is both progressive and spiritual.
5. Compare Teilhard's mysticism of the Earth with poems by the thirteenth century sufic poet Rumi, noted by Dr. Sir Muhammad Iqbal, The Reconstruction of Religious Thought in Islam (Lahore, Pakistan: Sh. Muhammad Ashraf, 1962) pp. 121-122 and 186-187.
6. Sir Arthur Eddington, The Nature of the Physical World (New York: Macmillan, 1929) p. 282
7. Sir James Jeans, The Mysterious Universe (Harmondsworth: Pelican Books, 1938) p. 153
8. Sir Arthur Eddington, Science and the Unseen World (New York: Macmillan, 1930) pp. 73 and 36
9. Quoted by J.C. Gowan, Trance, Art and Creativity (Northridge, California: 1975) p. 245
10. Louis de Broglie, Matter and Light (New York: Dover, 1956) p. 11
11. Werner Heisenberg, Across the Frontiers (New York: Harper and Row, 1974) p. 38. Quoted by Heisenberg in his essay on Wolfgang Pauli.
12. K. Marx and F. Engels, On Religion (Moscow: Foreign Languages Publishing House) p. 50. Contained in an essay entitled: Contribution to the Critique of Hegel's Philosophy of Right which first appeared in the Deutsch-Französische Jahrbucher, 1844.
13. Søren Kierkegaard, Concluding Unscientific Postscript (Princeton Princeton University Press, 1960) p. 182 (Translation by Swenson and Lowrie)

14. Heisenberg, pp. 151-152
15. Isaiah 5.16 (Revised Standard Version)
16. G. W. F. Hegel, The Phenomenology of Mind (Translation by J. B. Baillie) New York:: Macmillan, 1959)
17. Teilhard de Chardin, The Phenomenon of Man (London: Collins, 1960) p. 36
18. Teilhard, The Prayer of the Universe (London: Collins, Fontana Books, 1973) p. 105
19. Teilhard, Hymn of the Universe (New York: Harper and Row, 1965) p. 24
20. Teilhard, p. 69
21. Teilhard, p. 54
22. Colossians 1.15-20 (passim) (J. B. Lightfoot translation)
23. Teilhard, Science and Christ (New York: Harper and Row, 1969) p. 84. Compare also his Future of Man (New York: Harper and Row, 1964) p. 120 which offers a way of envisaging the 'end of the world' in conformity with the law of complexity: "the planetisation of Mankind...presupposes in addition to the enclosing Earth, and to the organization and condensation of human thought yet another factor...I mean the rise on our inward horizon of a cosmic spiritual centre, a supreme pole of consciousness, upon which all the separate consciousnesses of the world may converge and within which they may love one another: the rise of a God."
24. Kierkegaard, p. 182
25. Friedrich Nietzsche, Joyful Wisdom (New York: Ungar, 1960)
26. Teilhard, Man's Place in Nature (New York: Harper and Row, 1966) p. 20
27. Teilhard, The Phenomenon of Man (London: Collins, 1960) p. 36. This insight is shared by Dylan Thomas:  
 The force that through the green fuse drives the  
 flower  
 Drives my green age;  
 . . . that drives the water through the rocks  
 Drives my red blood;. . .  
The Collected Poems of Dylan Thomas (New York: New Directions, 1946) p. 10

28. Teilhard, The Prayer of the Universe (London: Collins, Fontana Books, 1968) p. 139
29. Teilhard, How I Believe (New York: Harper and Row, Perennial Library, 1969) pp. 19-20