In quantum theology, the creative potential emerges (evolves) from *within* the cosmos. "God" co-creates in conjunction with the evolutionary process. Questions of the "beginning" or "end" of creation are considered to be anthropomorphic speculations (i.e., human constructs) that distract from the immediacy and challenge of how we *experience* our world as participants in its emerging evolution.

c. Traditional theology is characterized by a strong fear of pantheism, the notion that God becomes so identified with the created order that (s)he has no identity apart from it. Scholars like the late J. A. T. Robinson adopted the notion of "panentheism" — God is present in all aspects of creation but not confined to it — to offset that fear. Quantum theology wishes to transcend the dualistic (either/or) undercurrents that lead in the first place to the perception that God must be either inside or outside the created order. As we shall see in later chapters, quantum theology seeks to demolish all dualisms, on the conviction that life is fundamentally one, that there is no inside or outside, that the divine energy operates as an open-ended, creative vibration, full of surprises, probabilities, unpredictabilities. Pantheism may be of concern to us humans, but it is unlikely to be of any consequence to the creative life force which impregnates and enlivens our world with prodigious resourcefulness.

d. For quantum theology, idolatry and blasphemy are among the great sins of traditional theology. By attempting to state clearly, logically, rationally, and philosophically the attributes and nature of God, traditional theology begets an *ideology* (blind, irrational, and irrevocable convictions) rather than a *theology*, of God. It has generated images of God largely made in the image and likeness of man(kind). It has stripped God of the splendor, elegance, and intimacy of the divine co-creativity.

Quantum theology seeks to recapture the mystery of God without in any way diminishing the incarnational aspect (cherished by Christianity). In conjunction with Buddhism, it refrains from confining the divine power to religious categories. It opts for more dynamic namings like the creative energy, the ultimate life force, the source of being, rather than the word "God," which is perceived to be loaded with idolatrous and ideological connotations. In conjunction with Islam, it seeks to uphold a sense of reverence, awe, and respect for the divinity, and with the great Eastern religions advocates deep silence as a primary mode of connecting with the divine wellspring of pure possibility.

Quantum theology abhors the human tendency to attribute literal significance to the sacred writings of the various religions. It

acknowledges that the sacred texts of all the religions may be divinely inspired, but that inspiration has been, and continues to be, mediated through the human mind and imagination and is committed to human language which is always conditioned by the particular influences and nuances of specific cultures. Language is a human invention, a symbolic system which seeks to convey meaning in local cultural settings. It can never be absolutized to communicate the depth or totality of the divine intent.

e. Finally, quantum theology radically challenges the cosmology (worldview) of traditional theology. Although mainstream theology has changed many of its views on the world — quite profoundly in some cases — it has not made the quantum leap of acknowledging the evolving world as the arena for the drama of divine revelation; this marks the starting point for quantum theology.

Although the quantum theory highlights the illusive and transitory nature of the observable world, its primary concern is the pervading and permanent sense of reality that both underwrites and transcends that transitoriness. In the quantum view, the reality of our world does not need an external supernatural raison d'être or explanation to uncover what is really real. No, the ultimate rationale is within the creative, evolving process itself. Our world is not devoid of, nor lacking in, reality; its potential is vast, largely unmanifest in the creative dance of energy that will unfold — perhaps forever — certainly for billions of years into the open, unlimited future.

The dance and its vibrating music are key metaphors for this new theological vision. They help to uncover that sense of dynamism and movement which characterizes the divine unfolding within the evolutionary process. There are other dimensions to this dynamic for which the metaphor of the *holon* is frequently used. We'll explore its meaning in the next chapter.

of matter, influenced as it is by consciousness, is a recapitulation of all past creation and carries an inherent propensity to become something more than it is at any present moment. For this continuous, creative movement, Bohm coined the term "holomovement."

Everything in the cosmos is made out of the seamless, holographic fabric of the implicate order. An electron is not just an elementary particle; it is a name given to a certain aspect of the holomovement, one of the several dancers in the great cosmic sequence of movement and pattern. Despite the apparent separateness of things at the explicate level, everything is a seamless extension of everything else, and ultimately the implicate and explicate orders blend into each other. These considerations lead us to a second important tenet of quantum theology:

> *Wholeness, which is largely unmanifest and dynamic (not stable) in nature, is the wellspring of all possibility. In seeking to understand life, we begin with the whole, which is always greater than the sum of the parts; paradoxically, the whole is contained in each part, and yet no whole is complete in itself.*

The World as Subject

Traditional Christian theology, along with Judaism and Islam in particular, tends to focus on the parts rather than on the whole. Consequently, mainstream theology portrays quite an ambivalent attitude toward the *world.* All the major religions view the world as an object to be studied, analyzed, and dissected, not as a subject to be related to with love, respect, and admiration.

When we look on the world as object, we then tend to adopt toward it a confrontational, clinical attitude. We set ourselves up as the masters of nature and the conquerors of alien forces. Finally, we develop a notion of God as the supreme (masculine) controller — loving the world, yes, but from a safe distance. We retain the divisive, dualistic mode that begets fragmentation and destruction rather than growth and development.

Haught (in Birch et al., 1990, 171) reminds us that the perception of the universe as subject marks a return to a very ancient wisdom underpinning evolution itself. Our tendency to perceive and treat the cosmos as an object to be conquered and controlled has alienated us humans, not merely from the cosmos (especially from the earth), but from our very selves as relational creatures. Because everything in

our universe is interdependent, evolutionary growth is fostered not by the competitive ability of the various life forms to outwit each other (as in the Darwinian-type survival of the fittest), but by the cooperative and concerted interaction, characterized by mutual respect and a communal commitment to the advancement of all. For us humans, to let go of our adversarial and arrogant stance, over against the universe and the earth, and learn instead to befriend universal life, as *subject* in relation to *subject,* is the unique and most urgent challenge of our time.

When we begin with the whole, of which we ourselves and everything around us is a particular aspect or manifestation, we are invited to engage with some fresh insights:

a. Our universe is so vastly complex and mysterious that no one species (no matter how enlightened) and no one religious system (no matter how sophisticated) could comprehend and understand its totality.

b. The creative energy which makes all things possible and keeps all things in being is *within* and not outside the cosmos. The notion of an external creator is a construct of the human mind, a projection initially adopted to assuage our fears of threat and possible annihilation. Creation is sustained from within, not from without.

c. The cosmos survives and grows amid continuous flow and change, in an evolutionary unfolding of great age, complexity, and destiny (developed at length in Part Three). In itself, the evolutionary process is the greatest "proof" of a divine creative energy at work in our world, a conviction that is beautifully illustrated by Swimme and Berry (1992) in their rendition of the universe's story.

d. As a human species, we grossly exaggerate our role within the evolutionary process. The monotheistic religions in particular — Judaism, Christianity, and Islam — consider ours to be the final and ultimate species to inhabit, not just the earth, but the entire universe. This is anthropomorphism of a dangerous and delusory type, leading not merely to a grossly inflated self-image, but also to a caricature of *our* God as the one and only true one.

e. And from our exaggerated anthropomorphism comes another misguided notion of our time, namely, "specieism," the tendency to set humans over against and superior to all other

subject with whom we *relate,* a living organism within which we live, and move, and have our being, and without which we have neither meaning nor purpose in our daily lives.

Our universe is a sphere of belonging. Planet Earth is home to the human species and to all other life forms too (see especially, McFague, 1993, 103–29). It is our sense of "cosmic homelessness" (Haught in Birch et al., 1990) that alienates us, not just from life around us but also from our true inner selves. We are largely out of tune with the creative energies that form and mold us, that sustain and engender our growth, that nurture and enliven our inner being. We are not the masters and controllers of our own destiny; we are not the ultimate species. We belong to something bigger and greater than ourselves which is forever unfolding and evolving, and within that dynamic, creative process we rediscover, again and again, the meaning and purpose of what life is about.

Whither Revelation?

Our considerations of field theory and the sense of our universe as a realm of belonging invite us to address the major theological issue of *revelation.* This is a distinctly Christian notion and a central focus in the dialogue taking place between the major religions (see Hick and Knitter, 1988; Tracy, 1990). Although specifically a Christian concept, all the religions express a sense of divine disclosure. God has "spoken" through specific persons, writings, or experiences, and each religion considers its version to be superior to any other. The Christian church goes further, claiming that what it has inherited from the divine disclosure (contained in the Bible) is *unique* and embodies the *fulness* of revealed truth, not merely for Christians but for people of all creeds. Therefore, from a Christian viewpoint, the revealed truth of other religions is *valid* but not *complete;* only the Christian version is complete.

Not all Christian theologians would be as dogmatic as that; increasingly they appreciate that this understanding of revelation is constricted (and constricting). It arises from an isolated, adversarial view of Christianity and religion in general. It fails to acknowledge the spiritual evolution of the human species over thousands of years before formal religion ever came into being.

In prehistoric times, people acknowledged and responded to the divine disclosure from an innate, primordial sense of the sacred. The divine "spark" within sensed a divine energy without. This led to a

wide range of prereligious rituals ranging from animism (based on the notion that everything has a soul), to nature worship, totemism, magic, etc. No longer do we consider these to be infantile, prelogical, primitive, pagan rites; they were appropriate for our ancestors at their stages of evolutionary development. More significantly, they embody primal and primordial aspirations that are fundamental to our human condition and have been largely subverted by modern, formalized religion.

The primitive urge to connect spiritually is innate to our human nature and, from a quantum viewpoint, it is also considered to be an intrinsic feature of universal life, manifested in the attraction and repulsion of subatomic particles. There is in all things a "within" forever yearning to connect with a "without" which in fact, is itself a larger "within," already described as a realm of belonging. According to Rahner (1969, 16), human beings are essentially and always listeners for a possible revelation from God, because innately we are disposed to fuller life and truth.

Our consciousness does not need to be informed by formal religious awareness in order to be disposed and receptive to the divine disclosure. Our very nature as human beings is to be open and porous to deeper meaning. And the spiritual story of humankind, unfolding over the millennia, suggests that the divine life force (God) reveals itself with a prodigious generosity of presence, power, and cultural expression.

That we can be blind to the divine disclosure, that we can block or hinder its impact on our lives, that we can resist the challenge to change and become whole (conversion), is a painful truth that millions vehemently deny today. To a degree, the religions themselves are culpable for this recalcitrant attitude. Not infrequently, the very system that was intended to mediate divine life and create a climate of openness and receptivity, has been the one that has alienated seeking souls from the wellsprings of hope and truth.

Religious dogma often assumes ideological significance because it fails to acknowledge the initial, experiential context. This applies particularly to the manner in which revelation is portrayed in the various religions. The emergence of formal religion, about five thousand years ago, undoubtedly marks a new stage in human and planetary evolution. But there is a shadow side to this, as there is to every major cultural development. As already stated, formal religion emerged from within the culture and context of the Agricultural Revolution and assumed many of the positive and negative qualities of that development.

Today we focus a great deal on the pros and cons of the Industrial Revolution, to such a degree that we tend to underestimate the enormous impact of the Agricultural Revolution. Culturally, it was a supreme moment of breakthrough, but also one of long-term negative and destructive repercussions. For the first time in history, we humans carved up and fragmented our world, imposing divisions and categories that in time became the basis for separate tribes, cultures, nations, and religions. The dominant patriarchal orientation was to divide and conquer, and hence the introduction of the deadliest divisive force of all: warfare. The idea of *man* being master of creation emerged at this time and became ingrained in the formal religious creeds of subsequent centuries.

The fact that each religion sought individual autonomy and integrity, setting itself in opposition to all others, *with its own unique body of revealed truth,* confirms the "divide and conquer" mentality of the Agricultural Revolution. Today we are rediscovering our sense of *one* world, an essential unity, that we choose to divide and fragment at a terrible price. This creates a new agenda for politics, economics, education, and also for our understanding of religion as a global, cultural reality. It is not the uniqueness of each part that matters anymore, but the uniqueness of the whole, which is fluid and open-ended, an unfolding matrix of possibilities, unlocking the mysterious divine potential as it impregnates creation with hope and meaning.

Consequently, we are invited to move toward a new revelatory horizon. It is new in terms of recent theological reflection, but very old in terms of our human, spiritual unfolding. It suggests that the creation itself is the *primary* revelation (Collins, 1995, 11–12, 219, 224; La Chance, 1991, 79; Swimme and Berry, 1992, 243, 255), of which the various disclosures of the major religions are particular expressions offered in the specific context of a certain historical and cultural milieu.

Two important considerations emerge here:

a. The creative process itself — with its beauty and elegance, but also with its pain and destructibility — is our primary, tangible source for experiencing the divine energy. In this way we have had access to the "divine power" for possibly a hundred thousand years, whereas the formal religions, with their official perceptions and interpretations of divine disclosure, are no more than five thousand years old. To reclaim the sacred nature of the cosmos — and of Planet Earth in particular — is one of the outstanding spiritual challenges of our time. It has also within it the potential for a whole new sense of what theology is about.

b. If revelation is mediated primarily through the creative processes of our universe, then our primary call is to be listeners at the heart of our world (and not just in the context of the church). Our human responsibility as one voice among so many throughout the universe is to develop our capacities to listen as incessantly as the hovering hydrogen atoms, as profoundly as our primal ancestors and their faithful descendants in today's indigenous peoples. In the words of Swimme and Berry (1992, 44), the adventure of the universe depends upon our capacity to listen (see also Grey, 1993, 89–92).

There is nothing particularly revolutionary or heretical about these ideas, because it is exactly what we humans had been doing for thousands of years before formal religions emerged in the wake of the Agricultural Revolution. The role of the church, therefore, is to keep us focused on the world and on the divine unfolding forever emerging therefrom. This is essentially what Jesus was suggesting when he spoke of the New Reign of God (the Kingdom), for which there are over 140 references in the Gospels, with only three allusions to the church (more on this topic on p. 115 below). Contrary to the dominant asceticism of the past few thousand years, Christianity is a world-loving religion, and not one based on dismissing, fleeing, or distancing itself from the world. A church which claims to be opposed to the world is fundamentally alienating itself from God's prodigious creativity at the heart of creation. Little wonder that many people today are abandoning the church.

When we suggest that the world is the arena of divine disclosure, we need to outgrow our dualistic tendency to attribute all goodness to God and all evil to Satan (whom we perceive to be the opposite of all that God stands for). In a quantum universe, dualisms of this nature make no sense. Very negative and destructive experiences may also be deeply enlightening, particularly as we humans co-create (or fail to do so) in conjunction with the creative divine energy. Fresh questions also arise on how we understand the divine energy and whether or not we can develop a sufficiently inclusive orientation whereby we include (rather than split off) our negative perceptions and projections.

Along with the creation-centered focus for the divine disclosure, there is always a historical context that can be liberating or re-

strictive, perhaps both at different times. According to Boff (1987, 62), revelation is historical and uses the sociohistorical context to communicate its call and challenge. Its forms are influenced by the particulars of a place and time. It is important then always to discern the transient historical expression from God's permanent communication. History and revelation are always intermingled, but the revelatory call will always embrace larger vision than that embodied in any one historical or cultural context.

It is this expanded understanding of God's disclosure that engages the quantum theologian. It evokes a whole new way of doing theology and grounds the theological enterprise in the heart of creation itself.

For quantum theology, therefore, *the expanding horizon of divine belonging is the context in which revelation takes place; all creatures are invited to respond, to engage in the co-creative task of being and becoming. All life forms have unique roles in this process, the primary focus of which is creation itself rather than formal religion.*

So where does this leave formal religion? In responding to this question, it may be helpful to return to the field theory. On a universal scale, there is the field experience of spiritual emergence in which the whole of life, animate and inanimate, participates. How the animate and inanimate forms experience this probably constitutes separate but overlapping fields. Within the field of human spirituality, we may consider the various religions to be subfields with a particular cultural realm of influence. For example, Hinduism clearly explores and articulates the Indian subculture (without being necessarily confined to India) in a manner that Christianity cannot do. In this context, the religions have a cultural relevance and may retain their relevance, but it will have to be *within* the horizon of belonging that we call *spirituality*. If the religions can accept and integrate this new challenge, then their self-understanding, along with their cultural and historical relevance, is likely to change significantly. Without that change, religion will fail to have any significant meaning in our quantum universe.

Undoubtedly, some religions will fade into oblivion. That is also appropriate. In a quantum universe, birth-death-rebirth is an unceasing process. And with the death of a religion comes the end of a particular God-concept, which by that stage has probably become an idolatrous burden and hence a barrier to fresh spiritual growth. The life-giving ferment is in the spiritual unfolding, not in formal religious adherence. Quantum theology seeks to safeguard the primacy of spiritual growth rather than the promotion of formal religion.

Spiritual unfolding is a universal field of influence and belonging. We all inhabit it and are inhabited by it. It constitutes a central aspect of our being and becoming and unites us indelibly with the tapestry of creation itself. It stretches far beyond the realm and influence of religion, which for many people is synonymous with spirituality. And this is one of the great misconceptions of our time, one that leaves the spiritual potential of many people dormant, underdeveloped, and often repressed. More than anything else, our world today and its peoples need to be spiritually liberated.

Reclaiming our spiritual identity is not a case of becoming religious again, going to church on Sunday, following the rules and laws of a particular faith, reading the Bible or Koran everyday. No, it goes much deeper than any of this. As many of the great faiths suggest (but poorly implement) spirituality is about *enlightenment* and *liberation*. The spiritual journey is about opening up new horizons of love and understanding, not by ignoring or bypassing the darkness and pain of life, but precisely through experiencing and integrating them. Through this process we are liberated from the confines, restrictions, and limitations imposed on us frequently by our own personal ignorance, but also by the collective oppression of our man-made institutions.

Our spiritual enlightenment is above all else a journey into the mystery of belonging where all is one, and the patriarchal dualisms and distinctions are seen for what they really are: destructive, controlling devices that fragment and alienate. Although we are surrounded by *interconnectedness* (which for Grey [1993] is the core element in the contemporary theology of revelation), we can spend a whole lifetime in the enclaves of our cultural darkness and fail to comprehend or appreciate the mystery of belonging, within which we are all intractably united. And that universal call to unity manifests itself particularly in *relationships* which are the embryonic web of all life forms. And there are quantum ramifications to all our relationships, which we'll explore in the next chapter.

Chapter 7

Beyond Our Isolation

Science cannot solve the ultimate mystery of nature. And it is because, in the last analysis, we ourselves are part of the mystery we are trying to solve.

—MAX PLANCK

I realize I am a maverick, for I can settle for nothing less than the whole.

—RENEE WEBER

Gravitation binds everything so closely that alienation is a cosmological impossibility.

—THOMAS BERRY

The suggestion that our world is an interconnected web of relationships was initially voiced by the physicist Werner Heisenberg. It is a notion that no serious quantum scientist is likely to dispute.

When J. J. Thompson succeeded in splitting the atom in the 1890s, little did he think that he was opening up a mysterious horizon of belonging and interrelatedness. His intention and dream were exactly the opposite: the discovery of the ultimate building blocks, out of which everything is made, a reductionistic pursuit of the tiny units of matter, the bits and pieces, that make up the fabric of universal life. In pursuing the elementary particles, which we presumed (and many still do) to be *isolated and independent,* we continued to split the subatomic particles. We then proceeded to bash them to pieces in powerful particle accelerators of which CERN near Geneva and Fermilab near Chicago are among the better known. By 1960, we had already identified over a hundred different types of particles, without as yet any clear sense on how they related to each other.

In the early 1960s, scientists identified a new set of subatomic particles, about which they became immensely excited. They named them "quarks" (and proceeded to call their opposites "leptons"). At the time everything suggested that these might well be the ultimate

building blocks, the final units of matter out of which everything else was made. It took over thirty years to identify and assemble the total quark repertoire; the sixth and final quark was discovered in March 1995 at Fermilab. The elegance and beauty of the quark world has led to such namings as "strange," "charm," and "truth." (On the discovery of the quarks, see Riordan, 1987; see also the special supplement in *New Scientist,* July 10, 1993.)

The excitement was eminently appropriate, yet it dissipated rapidly when the quarks refused to fit the mechanistic expectations. In experimental conditions quarks cannot be isolated. The hadron within which they are embodied cannot be split nor bashed into smaller units. Nature refuses to reveal her truths in the form of isolated, independent quarks (hence the oft-quoted quip of the 1960s: "Nature seems to abhor naked quarks"). Perhaps nature can't do that; maybe she has never done it!

For the physicists, this was not good news. It posed a threat to the subconscious desire to conquer and control. The quarks were proving to be highly elusive, making sense only in groupings of *two or three,* displaying an elegant versatility to manifest their existence only in *relationships.* The capacity to relate seems to be at the heart of the quark world!

And this was not all! Quarks insisted on playing to the quantum dance of the particle-wave duality. Whether it manifested itself as a particle or as a wave, no one could ever be sure. All one could be certain of was that the energetic force was operative, but it was elusive, strange, and yet so attractively elegant, it continued to command attention and fascination. All of this suggests that in the final analysis, nature is made up of *patterns of energy interrelating,* and not of isolated building blocks.

Physicists were becoming impatient with this uncertainty, despite the relatively wide acceptance of Heisenberg's uncertainty principle (which states that we can never be certain of a particle's velocity and position at the same time; certainty in regard to one automatically means uncertainty regarding the other). So the scientific community has agreed to spend billions of dollars building bigger and more powerful accelerators that, it hopes, will eventually provide the experimental conditions to crack open the quarks into smaller isolated, independent units of matter.

Perhaps they'll succeed, but many are skeptical. The quarks might well be the end of the particle line. We may have discovered the "ultimate building blocks," and we are left with the mysterious, paradoxical dilemma that they are not "blocks" with which we can

build a Newtonian edifice. But perhaps they are bundles of experience (quanta) which will enable us to engage more meaningfully in the dance of life and understand afresh the creative energy at the heart of our quantum universe.

Trinitarian Relatedness

While the scientific community continues on the (misguided) task of trying to split the quarks into the hoped-for ultimate building blocks, their very discovery raises urgent theological questions which will occupy our attention for the rest of this chapter. The quarks demonstrate in a compelling and exquisite way that life in our universe thrives not on *isolationism* but on *the capacity to relate*. Zohar (1990, 206; 1993, 190ff.) goes even further and suggests that bosons as the basic glue in the particle world should be described as "particles in relationship." Everything is created out of relatedness, sustained through relationships, and thrives on interdependence.

This is an ancient wisdom, long known to mystics and sages and courageously reclaimed by many feminist theologians today (e.g., Heyward, 1982; King, 1989; Zappone, 1991; Brock, 1992; Grey, 1993). It is also a fundamental, archetypal conviction underpinning all the great religions known to humankind. Over the centuries, that basic, pristine truth has been couched in sacred dogmas which, paradoxically, have often camouflaged rather than disclosed deeper meaning. I refer to what Christianity calls the mystery of the *Trinity.*

In the early centuries of Christendom, theologians grappled with the mystery of the Godhead and concluded that God is fundamentally a unity (hence, monotheism) but one within which there coexist, in total equality, three separate persons, Father, Son, and Holy Spirit. What the councils of the early church understood by "person" continues to be debated even to this day. Seemingly, the intention was to offer an understanding of God as deeply personal, taking personhood (as then understood) to be the supreme mode of meaningful existence. The dogma of the Trinity retains this deep, personal connotation in its description of how the Trinity functions. The Father begets the Son in a manner that includes biological procreation but far exceeds it, and the Holy Spirit is born of the loving union that exists between Father and Son; the Spirit is that bond, but also a "person" in his or her own right.

Belief in the triune nature of God is considered essential to the Christian faith. Most Christians don't comprehend the "mystery,"

nor does it have any real significance for them in their daily lives. Nor indeed do the heavy patriarchal overtones make it a credible or attractive notion for a world yearning for more wholistic and inclusive modes of perception and action (see Brock, 1992, 4, 54–55; Kimel, 1992).

At this juncture we note that many of the major religions have a similar notion in their belief systems. Examples that spring to mind include: (*a*) the triune figures of Vishnu, Shiva, and Shakti in Hinduism; (*b*) the Buddhist doctrine of the three bodies (manifestations) of the Buddha, namely, the dharma-kaya (eternal dimension), nirmana-kaya (appearance body), and sambhoga-kaya (bliss body); (*c*) the Zoroastrian triplicate of Zurvan, the mighty god of time, and his two sons, Ahriman (active force) and Ormazd (passive force); (*d*) the Egyptian cult of Isis, Serapis, and the divine child, Horus; (*e*) the Neoplatonic triplicate of the Good, the Intelligence, and the World Soul. Traces of this triune relationship also occur in the literature on the Great Mother Goddess worshiped by humans for some thirty thousand years in prehistoric times, echoes of which occur in one of the most unexpected of sources — an early version of the Islamic Koran (see Hayes, 1994, 165ff.). We are dealing with something that is not unique to Christianity, but an archetypal phenomenon that transcends all the religions, a key ingredient of universal life and culture.

Greenstein (1988) and Barrow and Tippler (1986) also allude to this trinitarian aspect of universal life. They note that the three-dimensional nature of space is an inherent quality of cosmic interdependence, on the one hand, necessary to maintain appropriate distances of space between the various planets to facilitate their orbital trajectories and, on the other hand, essential to the proper functioning of the human nervous system and the flow of blood in the human body. In two-dimensional space, objects settle down to rest or to stable orbits, whereas those interacting in three dimensions show a unique complexity and a potential for novel behavior as they weave in and around each other. Of the entire range of conceivable dimensions only one number — three — is amenable to life. Any choices above three make it impossible for planets to remain at proper distances from their suns. Anything below three scrambles the orderly communication so crucial to living beings. For gods and creatures alike, *three* seems to be a number of immense cosmic significance.

The Dutch theologian Van Beeck (1979) claims that theology thrives on overstatement. In regard to the doctrine of the Trinity, the

problem may be that we Christians explain it (or explain it away) by understatement. By inventing a type of theological jigsaw puzzle, trying to fit the three into one, we have created a rather mechanistic paradigm for the Godhead that makes little sense in a wholistic age.

For orthodox theology and mainstream religion, dogmas serve as landmarks for guidance and certainty. In a quantum world, they serve a different purpose: they are pointers to a deeper truth, the totality (whole) of which is never fully grasped and demands fresh reformulation in each new cultural epoch. I suggest that the doctrine of the Trinity is an attempted expression of the fact that the essential nature of God is about relatedness and the capacity to relate, that the propensity and power to relate is, in fact, the very essence of God.[15] God's individual identity is of no real consequence (as Buddhists claim). God becomes meaningful in the very process of relating. God's revelation or self-disclosure is, in essence, an invitation to mutuality (see the pioneering work of La Cugna, 1991). In the plain but profound language of the Christian Bible: God is love!

Judaism, Christianity, and Islam pride themselves in being monotheistic religions. They promote and safeguard the oneness and unity of God (particularly, Islam). But historically, monotheism is based on a very spurious polemic. It is very much the product of the political and religious aftermath of the Agricultural Revolution when the planet was divided into continents, religions, tribes, and races. Monotheism became a powerful ideology to suppress and overthrow prehistoric belief systems in which a polytheistic faith (in numerous gods) was widespread, a notion that has been retained in Hinduism, the oldest of the major religions.

The development of the monotheistic religions (as in Judaism, Christianity, and Islam) is often portrayed as a maturation of an inchoate, disparate, primitive set of beliefs, incorporating the notion of many gods rather than one. But that is a perception born out of a particular mode of consciousness, appropriate (perhaps) to humans at a certain time in our cultural and evolutionary development but today inappropriate and irrelevant for our emerging, wholistic (quantum) consciousness.

The real issue for our time is not whether God is monotheistic or polytheistic, a distinction with dualistic overtones of bygone days. What science — for long the perceived enemy of religion — reveals and confirms is what many belief systems have been struggling to articulate in their trinitarian doctrines: God is first and foremost a propensity and power for relatedness, and the divine imprint is nowhere more apparent than in nature's own fundamental desire

(exemplified in the quarks) to relate — interdependently and interconnectedly. The earthly, the human, and the divine are in harmony in their fundamental natures, in their common propensity to relate and to enjoy interdependent coexistence.

Questions arise which become immensely disturbing for orthodox theologians. "Does God, then, have no independent existence?" "Is God somehow dependent on evolution?" (a misgiving often voiced against process theologians). "Doesn't your argument about relatedness slide into pantheism?" These questions — and many others — arise from a human need to couch the God-question in specific, man-made theological categories. They arise from a certain mode of patriarchal consciousness, characteristic of our mechanistic age, needing certainty, precision, and authoritative clarity. They are valid questions, but of no real interest to a quantum theologian, who is happy to live with unanswered questions and wishes to refrain from casting profound, evolving truths into too neat a set of human constructs.

For the quantum theologian, the doctrine of the Trinity takes on a very vibrant meaning, intensifying the call to relate, in love and justice, to all life on Planet Earth and beyond. This in turn calls into question the tendency in traditional Christian theology to uphold the dignity of the *individual* person as a special duty. The notion of individual uniqueness is a relatively recent one in human evolution. Indeed, it is very much a byproduct of industrial society when personal competence and the ability to compete became core values. Around these expectations, covert rather than overt, there grew up an array of cultural systems — educational, medical, ecclesiastical — with the focus on the robust individual, independent and alone. Thus for much of the twentieth century, indeed ever since the time of the Reformation in the sixteenth century, the salvation of the individual soul was considered to be the ultimate goal of the Christian faith.

In prehistoric societies, and in many parts of today's world (especially Africa, Latin America, and Asia), the individual's value and worth are esteemed relative to the person's role within and contribution to the common good. Cooperation rather than competition is the guiding value. But something much deeper is at stake, a conviction that is resurfacing in the emerging consciousness of our time, namely, *we are our relationships.* What we are as individuals, and what we will become in the future, is determined by the quality of our interdependence on others — humans and nonhumans alike.

Our very being as persons is dependent initially on the procreative act of two people. The quality of our life, health, and well-being very

capture this central concept without which its existence is largely a charade.

The Christian churches have also developed a sacramental system, with — in some cases — quite an elaborate ritual (as in the Orthodox churches) to celebrate, communally, the living out of their faith. Baptism and Eucharist are two of the more widely practiced sacraments (with interesting parallels in other major religions). Baptism celebrates the welcome and formal admission into the Christian community, while Eucharist provides a sacred, ritual meal in which members of the community reenact the breaking of bread and sharing the cup, as a celebration of new life bestowed on them by Jesus, their Savior.

Sacraments are intended to serve a purpose similar to rites of passage in other cultures. The participants move into a different mode of being, not to escape from the realities of life, but to reenter, renewed and refreshed for the ongoing task of human, planetary, and cosmic regeneration. A sacramental experience is a distinctly social, communal event; it awakens a desire for communion and confirms the sense of community that already exists. Sacraments in their pristine meaning were never intended to be ritualistic acts designed to set the *individual* at rights with God, and insofar as they have evolved along these lines (as has largely happened in the Catholic tradition) then, proportionately, they have lost their power to be communal and transformative experiences. They have become insipid rituals instead of life-giving experiences.

Donovan (1989) is one of a number of modern theologians who provide a timely critique on how we celebrate sacraments in the Christian tradition and offer creative alternatives, encouraging a relocation of sacramental celebration from the cloister-like, antiworldly atmosphere of many of our ecclesiastical buildings to the heart of real-life experience. He suggests that in our celebration of Eucharist we try to rediscover the original tradition of the *sacred meal* — celebrated initially in people's homes (a custom still retained by the Jews in the weekly shabat) — and develop a contemporary context in which the celebration of Eucharist becomes a real experience of life around the sacredness and sharing of food.

Ritual and sacraments are not merely inventions of formal religion. We humans are essentially creatures of symbol and ritual. We use symbolic behavior to express and communicate some of our deepest relational intentions, e.g., in the act of sexual intimacy where the physical aspect is transcended into a deeply tender "mystical"

experience. In our contemporary culture, our capacity to relate symbolically and imaginatively is poorly developed; we have become too individualistic, literalist, rational, logical, and clinical. We have largely lost our capacity to dream, to imagine, to be playful, to celebrate, to ritualize, and being thus impoverished, we have lost our capacity *to relate* wholistically. A rediscovery of meaningful ritual and inspirational sacrament is one of the more urgent needs of our time, a prerequisite for rediscovering an authentic sense of human, planetary, and global community.

The search for community is not merely a pursuit of security and intimacy to obviate our loneliness in an anonymous and impersonal world. It is much more than that. It is the expression — however haphazardly and imperfectly made — of a yearning from deep within the created order itself, a groaning arising from the heart of creation (to paraphrase St. Paul), seeking reciprocity and mutuality. The very fabric of creation and the very nature of God sing in unison a song of love. According to Plato, love is the pursuit of the whole. Our broken, fragmented world yearns to be whole again. We humans imbibe this longing and, on behalf of creation, we give it conscious expression, particularly in our desire and efforts to recreate a sense of the earthly and cosmic community (see Swimme and Berry, 1992, 257).

Thus the quantum theologian is concerned with church at the heart of the world rather than with church over against the world. And church is, first and foremost, community gathered around the exploration and articulation of a deep, spiritual yearning. To engage with that yearning, we commune through rituals and sacred rites, in which we become present to one another in a quality of relatedness that often transcends words. In the depth of that sacred experience, we encounter the trinitarian relatedness of the Godhead itself. At some deep, mysterious level, we know in the depth of our hearts that we are in touch with the Whole, the source of all we are and have.

From these reflections we offer another central element of quantum theology: *Because the capacity to relate is itself the primary divine energy impregnating creation, we humans need authentic ecclesial and sacramental experiences to explore and articulate our innate vocation to be people in relationship.*

Humanity today hungers for genuine love, the ability to interrelate and interconnect. We yearn to realign the disparate parts and outgrow our man-made, competitive, and destructive isolation. The future toward which we are evolving, the call to participate in the

Chapter 8

In the Beginning

The nature of the universe was from the beginning such that it would come alive however and wherever possible.

–Elizabet Sahtouris

Only now can we see with clarity that we live not so much in a cosmos as in a cosmogenesis, a cosmogenesis best presented in narrative; scientific in its data, mythic in its form.

–Brian Swimme and Thomas Berry

Every child, and the child in every one of us, is ready to plead: Tell me a story. For the role of stories is to explain life, and the good stories, in their very substance and in the structure of their language, become revelation.

–Andrew M. Greeley

In the beginning, the energy of silence rested over an infinite horizon of pure nothingness. The silence lasted for billions of years, stretching across aeons the human mind cannot even remotely comprehend. Out of the silence arose the first ripples of sound, vibrations of pure energy from the nothingness of the creative vacuum. The stillness became restless and tiny bubbles of ether emanated from the space of infinite emptiness, the featureless ferment of quantum possibility.

And a mighty sound ruptured the tranquil stillness as a single point of raw potential, bearing all matter, all dimension, all energy, and all time, exploding like a massive fireball. The temperature exceeded 1,000,000,000,000 degrees centigrade, so hot that even elementary particles like electrons and protons could not exist. The time, according to human reckoning, was somewhere between fifteen and twenty billion years ago. From that time on, the silence begets the dance and the dance explodes into story.