Essays on Science and Spirituality



Philip Clayton, Mary Coelho and the New Story Study Group

Profound changes in our understanding of matter and of the earth offer an opportunity to heal the largely unconscious, dangerous Western estrangement from the earth. Within the "New Story" our deepest spiritual aspirations and many central Christian insights can find a vast, full expression enabling us to embrace a deep belonging within the Earth community, and a caring, loving relationship with our home.

—Mary Coelho

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Philip Clayton
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and
The New Story Study Group

Published on-line by Quaker Earthcare Witness 173-b N. Prospect St. Burlington VT 05401-1607 802/658-0308 info@QuakerEarthcare.org www.QuakerEarthcare.org



Originally published as hard copy in 2007 by the New Story Study Group, members of Friends Meeting at Cambridge, Cambridge, Mass.

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With gratitude to the Special Sources Fund

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1. The New Story and Quaker Belief & Practice

Philip Clayton

QUAKERS are a practical folk, committed to making a difference in the world. We are also a mystical folk, believing that experiences of what we call "the Light within" are available to those who seek them with sincerity and openness.

In this booklet we describe some of the revolutionary changes that have taken place within the sci-

ences in recent years. Indeed, a variety of interpreters of science are suggesting that the "new story" that science is telling actually supports something very much like traditional Quaker ways of conceiving reality. Our goal is to introduce readers to these changes in the world view of science, which seem to bring it closer to the spirit of Quaker belief and practice.



Even Friends with no training or background in science are encouraged to browse their way through these pages. After all, there is tremendous liberation in the thought that scientific descriptions might turn out to be an ally in communicating Quaker concerns. Surely this would be good news of the greatest importance—news that could potentially strengthen our voices and support our testimonies within the world today.

The best way to understand these changes is to read the "new story" that follows—absorbing the details where one can and allowing the general impression simply to flow over one when the going gets too rough. Still, it might be helpful, especially for those who are encountering these ideas for the first time, to have in hand a sort of "road map," an outline of the main ideas, so that one will know in advance where the journey is headed. Here, then, is a brief description of five of the major themes that appear in the following pages:

1) Beyond the reduction of all things to lifeless matter. Over the last centuries, men and women have often worried that scientific theories will eventually eliminate all that matters to us: values, human intentions,

conscious experience, even the uniqueness of life. Some final theory in physics, it was feared, may someday steal from us the things that we hold most dear, leaving only inert particles, "matter in motion," and nothing more.

But the key results of the last one hundred years have actually pointed in the *opposite* direction. The

natural world seems not to work like a Swiss watch, where all the pieces turn together like clockwork to produce the illusions of thoughts, wishes, and values. Instead, interpreters of science now describe cosmic evolution as much more like a symphony, in which the individual players contribute to the results—or perhaps even like a jazz improvisation session! Within the new

view, evolution is not predetermined but involves the continual emergence of novelty, of new and unexpected phenomena. This view emphasizes the place of humans and other living things as unique actors within cosmic evolution, whose thoughts, actions, and moral convictions help the universe to become what it will become.

2) Reality as not only objective but also subjective.

For most of the modern era science was said to herald the victory of objectivity over subjectivity. Human aspirations and values, it was claimed, would ultimately give way to cold, unfeeling statements of "the facts and nothing but the facts." The *real* explanation of things would finally be given in terms of objective laws and physical particles, leaving no real place for the human subject.

In fact, however, the new story of science seems to have turned in the opposite direction. Physicists now talk about bits of information as the ultimate reality, rather than bits of matter. Fields of energy come first, and physical particles emerge only later. Some physicists believe that human observations and measurements help to make the physical world the way it is. And leading cosmologists speculate that,

before the Big Bang occurred, perhaps there was only Mind.

Surely this is a paradigm shift if ever there was one! One can't help but sense that this new acknowledgement of the role of subjectivity has great potential to strengthen Quaker life and practice. In these pages we invite Friends to reflect on the various ways in which the New Story and Quaker testimonies may overlap.

3) Retrieval of the concept of purpose. Modern science was said to be the enemy of all purposive language. When the evidence was finally in, it was thought, all talk of purpose would be replaced by purposeless laws and forces. Talk of values would suffer a similar fate. But the New Story suggests the *opposite* conclusion. Many of the new accounts of cosmic history allow for, and some even demand, the language of pattern, of directionality, of value. Human intentions and aspirations, far from being irrelevant, seem to play an irreplaceable role in this cosmic narrative. These results suggest a new significance for the type of prophetic testimony with which Quakers have traditionally been associated. It is crucial, and exciting, to reflect on how prophetic witness may actually be strengthened in this new context.

4) The immanence of the divine. Out of the New Story have arisen new modes of conceiving the divine. Theologians and philosophers, recognizing the implications of this paradigm shift, have begun to emphasize ways of speaking about divine immanence in a more radical way. Many of these new approaches fall under the heading of panentheism—the belief that the world is located within the divine, although God is also more than the world.

Of course, science cannot prove the existence of God or justify one theology over all others (the claims of "intelligent design" notwithstanding). But recent science has encouraged theologians to shift their attention away from traditional models of God as a distant being, somehow excluded from the world as a whole, and to replace them with powerful new models and metaphors. Some people of faith now speak of the world as being located within the "womb of God," of the world as "God's body," and of the mind-body relationship within ourselves as a model for re-conceiving the relationship between God and universe. These are great mysteries, and we offer no absolute answers here. But we do draw attention to some of these exciting new ways of conceiving the divine, since they are related to recent developments within the sciences. It should not escape our attention that these ways of talking are much closer to traditional Quaker language than were the older ways of speaking of God.

5) At home in the universe. It was generally held that modern science would leave very little place within the universe for anything like persons. Masses and particles and physical forces and laws care nothing for persons—for their hopes and aspirations, their values and sufferings, their sense of justice or injustice. "The more the universe seems comprehensible," wrote the Nobel laureate and physicist Steven Weinberg, "the more it also seems pointless." We are the products of blind chance, wrote the biologist Monod, and all talk of the significance of human life is sheer fiction and wishful thinking.

THE New Story, by contrast, suggests that we are "at home" in the universe. On the one hand, we are ourselves stardust; the matter that composes us was composed in the fiery furnaces of stars in the distant past, and the same fundamental energies that move the galaxies are at work in our own bodies. On the other hand, we are not merely the passive recipients of purely physical forces. What we do as persons—our moral aspirations, our creative endeavors, our efforts to leave the world a better place for our children and grandchildren—are themselves part of the cosmic evolutionary process.

Perhaps most shocking of all, some science writers are claiming that what we experience in our deepest spiritual moments need not be cast off as illusory. Instead, they write, subjectivity is part of the pulse of the universe. It may even be—science no longer has reason to exclude it—that in the end a deeper Mind or cosmic Power or transcendent Source underlies all that is. As persons, as moral and spiritual beings, we are not alone in a hostile physical world, struggling to stave off the cold of inter-stellar space for a few moments before life breathes its last and disappears. Instead, we are bone and sinew, breath and soul, of an ever-evolving Whole that is like us because it includes us as an intrinsic part of itself.

These, in short, are a few of the key themes of the New Story that follows. We hope that Friends will immerse themselves in it, and that they will recognize the various lines that connect it to Quaker belief and practice through the centuries. But what exactly what does this new story entail for Quaker practice today? In the end this is the most important question; and it is one that we must together struggle to answer. •

2. A Personal Journey into the New Story

Mary Coelho

I GREW up believing that one day I would come to know the Light if I waited in expectant silence. The community of Friends and family in a small Quaker meeting nurtured this important hope by their faithful attendance at Meeting for Worship, their messages in meeting and teachings in First Day

School. Sometimes the spoken messages in meeting were about the Inner Light, the seed of God, which might call someone to alleviate suffering or injustice, and then give them the hope and steadfastness to accomplish that task. It might lead a young man to refuse to go to war. People testified that through the power of this Light, evil weakens in them and the good is raised up.

In high school and college, as a student of biology, chemistry, and introductory physics, I learned about the world from a radically different perspective. I studied some of the known laws of chemistry and the laws of mo-

tion describing the behavior of matter. In that predictable world of particulate matter, illustrated by inert colored wooden balls and sticks, ideas of an indwelling Light that could influence the movement of matter and human behavior seemed to come from an earlier, unenlightened period.

Furthermore, I learned from my biology teachers that replication errors and random breaks in the DNA chain account for mutations. With the survival of those organisms made fittest by those random, chance events, a multitude of species, including the human being, had evolved over the millennia. How could the Light give any guidance and meaning to that randomly formed material foundation (it was assumed to be the foundation) of things? I eagerly attended all the "religious emphasis" weekends sponsored by my Presbyterian college, but I could not embrace the teachings about a God who had occasionally intervened on Earth and influenced the course of events. There was too great a conflict with the experimentally proven, predictable world described by science.

For a number of years in college and following, I

lived with the seeming contradictions between my early assumptions about the meaning of the word God and the science I was learning and then teaching. I was reluctant to give up the hope that I would come to know the Light and be guided by it. It was in my late twenties, in a moment of honest anger at not

> having actual experience of the Light, that I abandoned my spiritual hopes. Remarkably, it was only a few months later that a mystical experience launched me-rather, hurled and compelled me-into a transformed world and a search for a new understanding of the nature of things. For many years I told no one about the experience. One hesitates to write of sacred experiences, as they are very personal. It is only possible to hint at the nature of such experiences, but they are of such importance, they should not be entirely hidden, especially in our secular climate. I was alone in the apartment

where I lived with my family. As I entered the bedroom I felt compelled to kneel. As incomprehensible as it seems rationally, I *knew* that which is an answer to humanity's problems. It was an experience of knowing; not a rational knowing, one more piece of information, but a knowing (*noesis*) that is distinct from the subject-object type of knowledge.

I was to learn later when studying mysticism that experiences of Light, of Love, and of knowing, are the three most common forms of such experiences, not sharply separable from one another. The experience was also one of falling in love, in the sense of wanting to be intimately related to that which I had known. What I now *knew* was an answer in the sense that if people could truly live within that knowing, or in the Light, or within Love, that would indeed be the answer. I had come to know experientially of a powerfully healing and life-giving dimension of life not addressed in my science classes.

Since the experience resulted in significant psychological/spiritual changes, it seemed to me it must have also involved an awakening and healing of the



Self or Soul. During the experience I came to know what it is to *be*—an understanding related to the "I Am" statements in the Bible. I was a changed, healed person in the weeks that followed. For about a month, I was a more confident person psychologically and spiritually. Even though it was a temporary change, I was left with an important memory of the person I had actually been for a while and therefore could be again.

The experience was so profoundly attractive and healing, such a source of hope and meaning, that I wanted it to happen again. For many years I simply put to one side the conflicts with my inadequate knowledge of science because the life-giving quality of the experience and the urgency of the quest to know that realm again simply superseded those old questions. I set out to learn, I hoped, how to come to know and be part of that all important Reality again and again.

To my dismay I lost interest in biology, but I struggled against that change because I felt it was wrong to leave a field I had studied for so many years. Eventually I accepted the change in interest and was able to study for a Masters of Divinity at Union Theological Seminary. It was more than ten years after the experience, while studying the Western contemplative tradition as a graduate student at Fordham University, that my unexamined images of God came into question.

One of the people I studied was Meister Eckhart, who described a spiritual journey involving first a preparation, followed by a letting go, and then a letting be, such that the divine presence is known continually. Teresa of Avila described a pathway using the image of an interior castle. We change and move interiorly, she taught, with a mixture of struggle, resistance, and joy, through a succession of seven dwellings, each with many rooms, until we may come into the innermost seventh dwelling, a way of being where the unitive (being "oned" with God) life is known. John of the Cross, Richard of St. Victor, and Bonaven-ture also described a unitive life in which the Light ,or Love, or knowledge of God is experienced continually in a manner that can be sustained by the personality. This was a revelation to me. God could be an ongoing presence rather than a Being from another realm who occasionally visited, as my old images suggested. I came to realize that the Quaker tradition of "living in the Light" refers to this unitive life. Thomas Kelly wrote that the "bright shoots of everlastingness can become a steady light within."

Having put questions from science to one side, I still had largely the same assumptions about the physical world that had confused me back in college. Therefore I could not contain my surprise and excitement when, in the early 1990s, I watched Brian Swimme's video series Canticle to the Cosmos and heard him say: "The same dynamics that formed the mountains and formed the continents are the dynamics that eventuated into humans. We don't live on the planet, but in and as this bio-spiritual planet." Somehow through those words and others preceding them concerning the evolutionary universe and new discoveries about matter, I realized that the unitive life is no longer contradicted by science! Swimme's words brought a knowing that connected deeply to my being, bringing a surge of energy and joy and understanding.

I almost could not believe it. Known and unknown forces and creative powers within my body were sustaining and forming my person—all far beneath conscious awareness. It was a kind of illumination. Amazingly it was through recent discoveries of science that I came to understand that a complete belonging to the universe and to the earth need not mean a denial of my spiritual hopes and longings as the science I originally learned had implied but instead this belonging carried the promise of a potential fulfillment of them. I knew it was a full and deep belonging that no longer involved waiting to be visited by an exclusively transcendent God that only visits occasionally, experienced or not. The period of living with two incompatible worldviews was over. There remained many questions about the nature of God, still a great mystery; and the challenge of trying to grasp to some degree the radical discoveries about matter and the evolutionary universe made in the last two centuries,

SOME of my spiritual struggles over the years were, and continue to be, personal issues, but they were also issues derived from a culture that largely lacks an integrated way of understanding and living in the world. This is why the pages that follow describe some of the breakthroughs in scientific understanding and some implications that are congruent with the western contemplative, spiritual tradition, which includes Quakerism; together they can lead to a profoundly transformed "way of seeing." It turns out that we can indeed "live in the Light," as all the earth is permeated with the indwelling, creative reality, a reality experienced in a variety of ways as sacred. •

3. The New Story as a Spiritual Journey

In these perilous times, many people recognize hollow failure in several dimensions of our mechanized, orphaned culture yet find they are without a guiding vision or story powerful enough and truthful enough to sustain hope, prayer, and action in the face of seemingly overwhelming

threats to a viable human/Earth future. Most remarkably, at this time an astounding new story is emerging in human understanding. The New Story is based on scientific discoveries made largely in the last two centuries: the stunning 13- to14-billion-year story of the evolutionary universe, a comprehensive new origin story; discoveries about the nature of matter; and systems and chaos theory. Some members of

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Friends Meeting at Cambridge have been meeting regularly during 2006-07, gathered out of a recognition that the New Story offers remarkable insights into the nature of things and that it lends itself to integration with much of spiritual tradition, individual religious experience, and poetic/archetypal imagery. It is this integration that offers a new "way of seeing" that can be healing for the individual and the culture. Within the worldview now available in the West, a profound understanding of the human person emerges, one in which our most personal spiritual hopes and longings can find support and fulfillment.

In a 1964 Pendle Hill pamphlet, respected thinker and Quaker economist Kenneth Boulding described his confidence in the "evolutionary potential of Quakerism," particularly in those meetings in academic communities. In accord with Boulding's hopes and Quakerism's confidence in continuing revelation, the members of the Friends Meeting at Cambridge study group invite Cambridge Friends and others to join us in carefully considering and understanding the insights and

> discoveries in science that open doors to a more integrated worldview. It is not necessary to learn a lot of science, but we are challenged to undertake what is for many some changes in our perception of reality. It is one in which we can begin to organize ourselves for the first time at the species level. These pages are offered to give some indication of the profound changes in view and the hope and possibilities they offer. Though the work is

inevitably partial and incomplete, the New Story seems to have the mythic power to re-animate deep emotions and to touch the archetypal depths of the human mind. There is perhaps no deeper source of meaning for human beings than to experience our own lives as reflecting the nature and origin of the universe.

Some readers of this pamphlet may be concerned that the reflections in it are largely in one direction, from reflection on how some quite recent discoveries in science are congruent with, support, and may strengthen and empower Quaker tradition. It does not address, but takes for granted, that other stories from around the world, the values and discoveries of Quakerism itself, and other religious traditions can and will all make contributions to the vast unfolding of the Earth story. For example, we

need some of the images of the Asian perspective, such as their haikus, to fully appreciate the nature of things. It is assumed this flow in the other direction is an important subject, but it has not been the dominant focus of the study group. That group has instead been concerned that science has a great deal of authority in the West and has often inappropriately denied many religious insights and hopes. It is the changes in science itself—such that this denial can no longer be sustained—that we have been pondering and celebrating. The New Story now gives much of Quaker tradition a vast, largely receptive home and offers a context for further explorations of its tradition.

A. Some Historical Perspective and a Working Assumption

As early as the 17th century, as the discoveries of modern science began to affect the Western world, many deeply spiritual thinkers felt it was correct and necessary to separate theology and the world of the Spirit from the material realms of physics, medicine, government, economics, and social theory. Descartes' entire philosophy is based on this separation. He and his European followers deeply affected modern Western assumptions. Religion came to concern itself primarily with Spirit, value, and human meaning, while science concerned itself, primarily, with facts of the physical world. This separated the world of value and meaning from the physical world for the first time in history. Since then, this dichotomy has generally prevailed in the West. Although a period of separation was apparently necessary for science to gain independence, now, creative and powerful thinkers from many fields have begun to suspect it is false, unnecessary, and even harmful to separate the discoveries of science and their implications from ethics, questions of meaning, and human self-understanding.

For instance, Pierre Teilhard de Chardin, the great French paleontologist and theologian whose writings offer an integrated vision drawing on evolution and Christian thought, noted that he had been warned throughout his adult life by the Catholic Church not to mix philosophy and theology with science. Fifty years of experience, however, taught him that this attitude is "psychologically unfeasible" and "opposed to the greater glory of God." More recently Carol MacCormack, paleontologist and

author of Beyond Dualism, realized that "we can't leave scientific theory to the mathematicians or religious experience to the theologians." (p.80) The great physicist Wolgang Pauli wrote: "...contrary to the strict division of activity of the human spirit into separate departments—a division prevailing since the nineteenth century (the century when it had gained dominance)—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 and unspoken, of our present day and age." The working assumption of this paper and the reflections of our study group were that a radical (from radix, root) shift in human self-understanding offered by an integrated worldview is indeed needed as it will help us address the ecological crisis and innumerable personal and global issues.

B. The Mystery of Matter

First we need to reconsider our assumptions about matter as they may preclude our embrace of the remarkable self-understanding now offered to human beings within the context of the story of the evolutionary universe. In the 1920s, when matter was examined from the perspective of the very small, physicists were shocked and profoundly disturbed by their discoveries. They tell us that matter is actually immaterial, in the sense that there is no particulate piece of matter understood as being a solid—something that can no longer be divided. Matter is highly structured into atoms and into complex forms that are often long-lasting, but these forms, including the atoms, are comprised of 99.99% "empty space," a space that is "empty" in the sense that it is not comprised of any measurable thing. The bottom had dropped out of a long-held worldview.

To make this insight more clear, try to realize that if an atom were enlarged to the size of Yankee Stadium, it would consist almost entirely of empty space. The mathematical cosmologist, Brian Swimme explains that the center of the atom, the nucleus, would be smaller than a baseball sitting out in centerfield. The outer parts of the atom, the electrons, would be tiny gnats buzzing above at an altitude higher than any pop fly Babe Ruth ever hit. And between the baseball and the gnats? Nothingness. All empty. Indeed, if all the space were

taken out of a person, he or she would be a million times smaller than the smallest grain of sand. This image of an atom the size of a baseball stadium is most important since it allows us to see that the physical world, contrary to appearances, has a "within" or an "inside."

Although the "empty" space lacks any particulate matter, and it was initially called a vacuum, it is actually an immense "sea" of background "energy." Because this "empty space" is full rather than empty, it is sometimes called a "plenum," Latin for fullness. It was measured in the 1940s. Some call it "virtual energy" (virtual in this sense is not opposed to "real" but to "observable") because the fundamental level of reality is more informational than material. "Empty" space is utter potentiality that both surrounds and permeates atoms and everything made of them.

Another name for the plenum that Brian Swimme offers is "seamlessness," a name chosen because the plenum is a widely dispersed unitary event connected beyond space and time.² Quantum physicist David Bohm, associate of Einstein and Krishnamurti, sought to describe the "implicate order," still another name for the plenum; Bohm attempted to discern the overall order or patterns inherent throughout the cosmos (see Section 5 in this paper). His ideas of the implicate order include the assumptions that "the ground of all being is somehow permeated with a supreme intelligence that is creative." He finds evidence for this in "the tremendous order in the universe and in ourselves and the brain." The extent of the implicate order is not known because our knowledge simply fades out at a certain point. (Bohm, 1983) Great mystery remains.

The entire dance of energy and matter of our world arises continuously from the fertile emptiness or plenum that surrounds and permeates everything.³ Thus the plenum is the ongoing, creative source of the manifest physical world, the relatively stable forms we all know.⁴ David Bohm described the relationship of the wave/particles⁵ to the immense background energy as a comparatively small pattern of excitation "on top" of a background "emptiness," rather like a ripple on a vast sea. Particles can't be separated from the empty space around them. It is these energy events or particles, which are little knots of energy that, over the great periods of time of the evolution of the universe, become

the relatively stable, distinct forms of the world that we know. We are amazed to realize that these discoveries mean that matter that is often so hard and solid is at the same time a patterning of energy emerging from the fertile emptiness, the plenum. Brian Swimme explains: "The root foundation of anything or any being is not the matter out of which it is composed so much as the matter together with the power that gives rise to matter."

In the perspective of quantum physics the originating power that gave birth to the universe 13 to 14 billion years ago is not simply located there at that point in time, but is rather a condition of every moment of the universe, past, present, and to come.⁶ (Swimme and Berry) In other words, there has been an interior dimension since the beginning.

i) Theological Reflection

UNTIL THE LAST CENTURY contemporary Western science largely objectified the natural world and thus reinforced a dualist tendency in Western theology that separates matter and spirit, body and soul, placing God outside the natural world and outside the person. It has meant an abandonment of biblical holistic thinking and a desacralization of the natural world, resulting in an almost complete disappearance of restraints on its exploitation. It can be proposed that with the recognition of an indwelling "sea of background energy " physicists are now reaching into the same powerful, mysterious creative source of the manifest world that has been named God. Quite remarkably, although many questions are raised about conceptions of God, physics now adds support to independently existing theological inquiry and profoundly challenges the dualism that placed God outside the person and the natural world.

The separation of God (an often misused word) from matter can no longer be sustained. The dominant dualism is no longer tenable, and a conception of God (plenum) that is immanent (indwelling, inherent) in the entire manifest world finds support. Although definitively immanent, there are also qualities of that immanent reality that are transcendent, not in a spatial sense but in the sense that it is transcendent to daily consciousness; transcendent in the sense of being the source of the manifest world; and in the sense that its expression in the manifest world does not exhaust its great fecundity. There is no longer a need to appeal to a

spatially transcendent Other that intermittently intervenes in Earthly affairs. The immanent yet transcendent plenum is always present in the person and throughout the natural world and is known in human experience. This is an empowering realization that invites us to explore with confidence the fullness of our personhood, since as an immanent reality it is the depth of our being. People through the ages in many cultures and religious traditions have discovered diverse ways to bring this realm into consciousness and to act in accord with the resulting transformed understanding.

Throughout history, countless people exploring the nature of things by means of meditative explorations of the depth of human consciousness and mystical experiences involving the person and/ or the natural world, have come to know (non-rational knowing) and love—a realm they have called by many names, including the Ground of Being, the Ground of Becoming, and God. Names in other traditions, each carrying some distinctive insights, include the Hindu Akashic Field, the Buddhist Void, and the Great Mother of Taoism. It is not assumed in this inquiry that the investigations of Western science match or supersede the experience and knowledge of these ancient traditions. It is simply that Western science, based on its own discoveries, can no longer discount these ancient insights and traditions.

Some members of our meeting have told of moments of being aware of "light" pervading everything. We propose that these experiences and the "ocean of Light" that George Fox and many of his followers experienced is the sea of background energy, or perhaps a dimension of it. Friends have greatly valued St. John the Evangelist and his promise of "the light that enlightens" everyone coming into the world. In meeting for worship we know the "precious stillness that has no form" that allows us to know who we are and who God is. (Tolle) Also, it can be proposed with confidence that the realm of a generative "nothingness" a no-thing-ness (nothing in the sense of the absence of measurable things) identified by the 13th century Dominican theologian Meister Eckhart and other religious mystics, is the same plenum. Dante wrote in Paradiso, "His glory, in whose being all things move, pervades Creation and ... shines in every part thereof." Indigenous traditions have also known a

spiritual intimacy with local bioregions; their spirituality can now be honored by western Europeans who once dismissed these traditions as primitive. Christianity has spoken of the life of Jesus of Nazareth as the incarnation (caro, flesh), God becoming flesh. Now we are led to recognize that God (the Plenum) is always incarnate, incarnate primarily (that is has always been present throughout evolutionary history), not secondarily "becoming flesh" at a certain moment in history with the revelations of one particular life. The life of Jesus of Nazareth is therefore understood as a revelation of what is, that is, God is always incarnate and always has been throughout the world. The mode of divine presence in Christ does not differ metaphysically from the divine presence in others. (Griffin, quoted in Clayton, ed.) It is the intrinsic possibilities of human life that are revealed.

These indications of an emerging integration of traditional spiritual insights and contemporary understanding from physics are openings in these critical times to important changes in the fragmented Western worldview. We leave behind false dualistic separations. In the past those who knew this intuitively or by spiritual experience, Quakers, the mystics, the poets, some philosophers and theologians, were relegated to a minor stream of culture. Now they are repositioned at the center of our fuller understanding. It is encouraging to know that previously there have been integrated worldviews, as the Franciscan synthesis in the 13th century. It was one of great importance in medieval Europe and one that continues to speak to many people. Such an integrated vision of things is becoming available again in a stunning new understanding.

Main insight: God (the plenum) is always present and intimately interrelated with the entire manifest world.

Quaker question: Why was early Quaker experience of the "Light within" so powerful and transformative?

C. Revelation from the Evolutionary Story

Another remarkable invitation to question and rethink some largely taken-for-granted Western assumptions comes from the story of the evolutionary universe. These assumptions are ideas and images that can block our full embrace of the sacred depths of the person and the earth. In the nine-

teenth century, evidence appeared in the realms of geology and paleontology indicating that there was a time sequence in the very formation of the earth. It was recognized that the earth was not the eternal, fixed, abiding reality that it had been thought to be. Discovery that life forms had developed from earlier forms, with an explanation of how it came about, found expression in Darwin's Origin of Species in 1859. However controversial this has been, it was only the beginning. Now the evolutionary story has been vastly extended to include the evolution of the universe from the Great Flaring Forth, sometimes called the Big Bang, estimated to have occurred 13.7 billion years ago, up to the present diversified and complex world of today. Teilhard de Chardin wrote that knowledge of the evolutionary story involves the greatest change in human consciousness in two million years. The amazing discovery is that the universe is a developing reality going through irreversible cosmic transformations.

i) The Evolutionary Story: A Brief Summary THE EVOLUTIONARY STORY, also called the Epic of Evolution, is the sprawling, interdisciplinary narrative of evolutionary events from the primordial flaring forth to the present astounding diversity, beauty, and organization. In a matter of seconds after the primordial flaring forth of light and elementary particles, nuclei of hydrogen and helium took form, nuclei that would become atoms when the universe had cooled sufficiently for electrons to be held by the nuclei in a stable state. Although precise dates cannot be ascertained, it is estimated that when the universe was a billion years old, galaxies came into being, and it is within the galaxies that stars of many sizes began to shine as the primordial hydrogen underwent nuclear fusion within the stars. It was within stars and within exploding supernova that all the other elements (besides hydrogen and helium) that comprise the earth and our bodies were created. Our sun and the earth formed 4.6 billion years ago in the Milky Way Galaxy, at which time the earth began its long creative journey. Over hundreds of millennia the molten matter of the early Earth differentiated and complexified. Life emerged very early in the earth's history as ancient bacteria and then single celled protists evolved; there followed a long succession of forms including trilobites, dinosaurs, mammoths, whales and people.

The person is a living form of something incomparably old and thus is, in a sense, also most ancient. We are both ancient and new. Every particle in our bodies has a multibillion year past and every cell is indebted to a multi-million-year history. We are indebted to this long evolutionary story for our very being, a story in which the immanent plenum has always been present.

Although there are cycles of destructiveness in the story, such as the major extinctions that closed several geologic periods on Earth, the overall thrust of the story is clearly one of great creativity. The very destructiveness prepares the way for bursts of creativity. Norman Pittenger, an Anglican process theologian, writes: "The evolution of the universe is not a mere unfolding of what has already been the case. There is continuity of process with the emergence of genuine novelty."

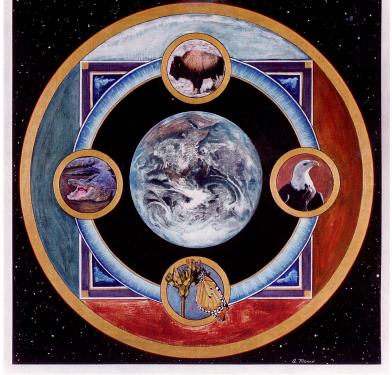
ii) A Copernican-like Revolution in Our Thinking THE REALIZATION THAT people and all the beings of the earth are differentiated forms of the substance of the Big Bang offers a Copernican-like revolution in our thinking. Parker Palmer, distinguished Quaker author, educator, and activist, has written: "Western culture has a million ways of reinforcing the illusion that the world consists of inert stuff out there and that we are the active agents of change whose role is to get that stuff in shape." Many of us were taught that matter, as the proverbial billiard ball, is inert and must be moved and vitalized by that which is external to it. However, the story of the evolution of the earth shows constant ongoing change over 4.6 billion years, so we need no longer be bound by an assumption that matter is inert stuff moved by that which is external to it. Rather it is something which transforms out of its inner, creative nature, a nature which includes the plenum. There are domains of the physical world which are fixed and predictable, since we can fly rockets to the moon. But our knowledge of a constantly transforming Earth is a remarkable challenge to our nearly unconscious assumptions about the nature of the stuff of which we are made.

This new conception of the earth and of the whole universe as dynamically evolving by its inner creative nature, is further supported when we remember that instead of basic building block objects, particles that make up matter are instead interwoven networks of particle/waves sustained

within the fertile plenum, in patterns that are not completely predictable or measurable. The creative source is within and around the "wave/particles."

We are the first humans to look into the night sky and recognize the birth of stars, the birth of galaxies, and evidence of the birth of the cosmos as a whole. Our future as a species will be forged within this new story of the world. Yet, since the story emerged out of science, many people are suspicious; it is feared that the New Story will deny

religious experience, as some forms of scientism have in the past.7 Can it significantly inform our identity and be a source of spiritual insight? In section 2, above, it was described how the human person and all of the natural world is permeated with, indeed consists of, the generative fullness, thus challenging the dualism that desacralized the earth and left the individual without confidence in his/ her grounding in the creative Source.



Also, in the light of modern insights into the generative plenum and the story of the evolution of the universe, we can leave the world of "inert stuff" behind and embrace our particular part in a dynamic, creative reality. It is most heartening that Brian Swimme teaches that "expressed within the context of the dynamics of the developing universe, the essential truths of religion would find a far vaster and more profound form. The recasting would not be a compromise nor a diminution nor a belittlement; it would be a surprising and creative fulfillment, one whose significance goes beyond today's most optimistic evaluations of the value of religion." (1996, p. 12) What good news, to learn that to know one's place in the cosmos is to know something of immense spiritual value!

iv) Panentheism

WE HAVE SEEN there is an inextricable intertwining between the ongoing creative plenum and the manifest world. This and other insights from the evolutionary story and from discoveries about the nature of matter that have spoken so powerfully to our study group have, of course, been carefully reflected upon by many people, along with many other issues, and have supported one of the major shifts that is occurring in the theological world.

Through religious, moral, scientific, and philosophical experience, roughly over the past two centuries, a theological tradition identified panentheism has developed. Panentheism, coined as word in 1828 by a German philosopher, is the belief that the Being of God includes and penetrates whole universe, so that every part of it exists in that Reality, but (as against pantheism) the being of God is more

than, and not exhausted by, the universe. (Oxford Dictionary of the Christian Church).8 Although this tradition was particularly developed quite recently by people like Paul Tillich, Alfred North Whitehead, Thomas Merton, Nicolay Berdyayev, Pierre Teilhard de Chardin, Sallie McFague, Albert Schweitzer, Rudolf Bultmann, and Martin Buber, to name a very few, its characteristic insights can be found in the medieval theologians Nicholas de Cusa, Johannes of Eriugena, and Meister Eckhart and mystics Mechtild of Magdeburgh and Julian of Norwich. Although the medieval people and some of the more recent writers could not work within the context of the evolutionary universe, they came to panentheistic insight that now finds added support in the new context. The New Testament speaks of

God in whom "we live and move and have our being." (Acts 17:28) Rabbi Lawrence Kushner, drawing on the Hebrew Bible and the rabbinical tradition, writes in *The River of Light:* "There is a 'place' from which all places can be seen. And 'time' from which all time might be beheld. This place is in us and was once shown to us even as it is still within us to this day...This place precedes life in this world and yet exists simultaneously with it. Its knowledge remains sealed in us." This is a panentheistic statement congruent with the conception of an indwelling creative plenum (God).

Given the Quaker experience of the Light within all people, now being extended to recognition of the Light within all of the created world, panentheism is a development in Western theological thought to be celebrated. Thomas Kelly, Elizabeth Watson, Douglas Steere, Howard Thurman, Rufus Jones, and John Woolman are Quakers who could be placed in the panentheistic tradition.

Early Christian tradition recognized that there are three "books" that can give us knowledge of God: the Bible, creation, and the soul. But the religious world, focusing on inter-human and divine/ human relations, has largely failed to read with care the book of creation. Given our new understanding of the earth and matter and the severe environmental degradation that the peoples of the earth have wrought, we clearly need to learn to read the third book. The New Story and panentheism offer a foundation for Western culture in which this capacity can be encouraged to redevelop, in part because they break the suspicion of classical theism of all things physical. And given its universal relevance, it offers a basis upon which the peoples of the earth may dream together, envision human transformation and work for the creation of a viable Earth future. Hope, observes George Ellis, the South African Quaker, was part of the force that helped transform the South African apartheid situation.

Main insight: The creativity of the universe, demonstrated by the evolutionary story, is built into it as its own essence.

Quaker question: Can Quakers think of the whole cosmos as sacramental? Have Quakers been imprisoned by the same mechanistic, objectified worldview as much of the western world.

D. Evidence of Direction and Intrinsic Meaning in Evolution

Over decades, in the context of a traditional scientific interpretation of the processes of evolution, many students have been taught that evolution occurs only as a result of random changes and natural selection. Matter, many of us were taught, consists only of atoms interacting through the forces they exert locally on each other. And we humans have been called "glorious accidents." Many of us have wondered how a person can be confident of the possibility of a significant life if the universe is characterized by such randomness with change having only material, predictable, mechanistic causes. In this context, historian Richard Tarnas, author of The Passion of the Western Mind, is correct when he points out that if the cosmos itself is intrinsically meaningless, it is left up to Homo faber to fill it with the meaning it natively lacks. And Rufus Jones observed: "Evolution is not evolution unless the life series is significantly unfolding and really going somewhere."

But now there is evidence from science that the current complexity of the earth cannot have come about simply by the traditional laws of physics and chemistry, random events, and chance mutations. For instance, to date, more than 30 examples of "fine tuning" have been identified, such that if there were even the smallest changes, human beings and the current complex ecosystems would not have evolved. Among these fine-tuned features are the velocity of expansion of the universe and the degree of gravitational attraction opposing that expansion. Too slow an expansion—and too slow is only one trillionth percent more slowly—and the universe would have collapsed before much differentiation could emerge; too rapid, and all matter would have remained in a diffuse state, without coalescing under the influence of gravity into stars and planets. Another "fine tuning" is the strength of the strong nuclear force within the nucleus of the atom that must be very precise for the world as we know it to have developed. Today we are seeing that apparent random events may not be so random as mechanistic science has taught, since they occur within or are part of a very fine tuned context. Norman Pittenger, a process theologian, points out that although there is chance in the world, it is not just chance, as if "any old thing could happen." Thomas Berry further teaches that evolution can now be understood as neither determined nor random, but creative.

i) Powers of the Universe

IN THIS DANGEROUS PERIOD of history when there is such need for wisdom, we can be helped by having the vantage point of knowledge of the history of the very ancient Earth and universe, from which we can try to discern what the universe is "up to." What has it been "doing" in the many billion years of its history as evidenced by all the changes it has undergone up to arriving at its complex, highly differentiated present condition? Working from this perspective, Brian Swimme has identified ten powers of the cosmos. The powers are the processes that gave birth over evolutionary time to the universe as we know it now. All the powers emerge incessantly out of seamlessness or plenum. His attempt to identify the powers of the universe and the ways to recognize them in the universe, the earth and the person, is a most important effort since identifying the powers may help us, as conscious, selfaware beings, to cooperate with them (and hence with the earth), find guidance from them and recognize their emergence in conscious self-awareness so that we may live with more wisdom. People have a particular mode of being but also a universe mode of being; identifying the powers of the cosmos can clarify the nature of our universe mode of being. Thomas Berry reminded us we cannot discover ourselves without first discovering the universe, the earth, and the imperative of our own being.

One of the powers identified by Swimme is *centration*. Centration is the power of the cosmos by which the universe centers upon itself, to give birth to new beings as stars within a galaxy or cells within the early seas. In Swimme's understanding, everything happens through centers. The personal spiritual/psychological journey into the true self involves participating in this centration power. Centration can be recognized in personal courage, in the joy of being a cause, and as freedom from social forces of conformity.

It is heartening and refreshing that Swimme also identifies *interrelatedness* as a power of the universe. He traces this power, expressed as caring as it emerges in attention to the young in some fish, in birds, and in mammals. He asks how human beings can develop a more comprehensive care and compassion beyond that given to the local, human

group. Emergence, another power, refers to the discovery that the universe is an ongoing creative event. For example of emergence is that cells possess properties not ascribable to the molecules that compose them and, in addition, cells exercise causal powers that one cannot ascribe to their parts. (Clayton) Another epochal moment of emergence would be the appearance of life itself out of the molten material of the young Earth as it orbited the sun. "A number of animals, especially the higher primates, manifest qualities of inner experience that emerge from, but are not reducible to, the complexity of their central nervous systems."(Clayton) Swimme identifies emergence in people in the form of restlessness, as restless people are perhaps being drawn into emergence.

A member of our study group was grasped by his recognition of a creative dimension in the world, which he identifies as negative entropy. Arthur Klipfel writes:

I first saw reference to the concept of negative entropy 45 years ago in an essay written by John Cage, the modernist musician and artist. He proposed the theory that the most fundamental of physical laws, the second law of thermodynamics describing entropy, a process leading to disintegration and disorder, was balanced in the universe by what can be called negative entropy, a process leading to order and higher levels of complexity and consciousness. He thought the Arts were a good example.

Since then, I've read many books on complexity theory and general systems theory that explore how various systems operate in this balancing process to create order out of chaos. In this sense, a system might be as highly evolved as the interaction of a group of humans organized for community to something as simple as the interaction of chemical substances held in suspension reacting to a change in temperature. In both cases the process of creating higher levels of organization through a self organizing process can be observed and measured; thus, a rational process.

We have names for some of the systems that bind us together as human beings, such as the Economic System and the Political System, and areas of study that describe human systems such as Sociology, Psychology, Anthropology, History, etc. These names de-

scribe rationalized processes that attempt to be scientific in their approach. Personally, I like to think that in understanding these systems we began to understand the negative entropy process, which may be fundamental to the underlying consciousness of the universe, a footprint of God in our lives and on this planet. It may be that out of this emerging understanding of process, the interconnectedness of all things will become

firmly established and will lead to the development of values that reflect our significant role as self-aware beings, able to play a positive role in the unfolding of human and planetary evolution.

As Primack and Abrams write in *The View from the Center of the Universe*, the universe is more coherent and potentially meaningful for our lives than anyone imagined. (p. 7) A place to belong need no longer be

entirely self-created by the individual and the culture.

Main insight: We cannot live wisely without knowledge of the powers and ways of the universe. **Quaker question:** Have Quakers, as a group, been participating in emergence in the past? Are we now part of emergence?

E. Participant Individuality: the Individual and the Whole

Although a person may accept and appreciate the discoveries just described about matter, the plenum, and the ongoing creative evolution of the earth and universe, it is not easy for Western people to internalize this information so that the changes are personally significant. We have assumptions about how

the person relates to the earth that make it difficult for us to conceive that we are actually a part within a whole,¹¹ which is the unfolding Earth and universe. Western culture is so permeated with fragmentation and loneliness it is difficult to comprehend how the person, with his or her unique individuality and consciousness is at the same time fully part of, or within, the unfolding story. There is a great deal to explore and discover concerning the individual within the unfolding story.

How might we conceive of the relationship between the individual with a unique sense of self, walking over the earth and the earth and universe? We easily fall back into the assumption that the person is disconnected from the earth except as related through the senses, our attempts to control the natural world, and through food and air and water. It was once hard to conceive that the plenum and the powers of the cosmos

are actually active in us. This alienation arises in part from the conception of atoms as building blocks, which suggests the blocks a child uses to build a tower. This gives a picture of the person, made of such building blocks, as not intrinsically related to the earth. Now in the context of the evolutionary universe, which forms dynamic centers of being, we recognize that this is a totally inadequate, isolating image. To grasp the radical changes in human self-understanding offered us, it is important to understand the manner in which distinct forms, as the atom, the cell, and the human person, are formed in the process referred to as self-organizing. An example of form generation is the whirlpool in the ocean; the whirlpool is a distinct form yet it is also a form of the ocean itself and remains intimately related to the ocean. Particular forms that



have evolved over evolutionary history emerge in such a manner that the form, although it may have gained great complexity and semi-independence, still remains integral to the whole; each is a form of the whole, always grounded in the plenum and the ordering, creative powers arising in it.

The work of physicist David Bohm helps us conceive how complex beings can be internally integrated into the internal dynamics of the evolutionary cosmos, an understanding central to the placing leadings within the New Story and significant spiritual integration of the person into the story. Bohm sought to describe the overall law, the order or pattern, inherent throughout the cosmic web. It is a notion of order that is not to be understood solely in terms of the mechanical laws that describe the interaction of objects in time and space—the laws by which our cars usually run smoothly. Those are a subset of the larger order. The full law governing the unfolding universe is only vaguely discernible at present and, Bohm suggests, is probably unknowable in its totality. Bohm takes the view that neither matter nor mind is fundamental: rather there is something unknown, the deeper ground that is folded into the visible world; he calls it the implicate order¹², another word for the plenum. To help us gain some insights into what Bohm means by the terms implicate (folded into) and explicate (unfolded) order, which is the world of space, time, matter, energy, life, and consciousness, Bohm himself offers a comparison with radio waves, which "carry" the visual image that can appear on the television screen. The information enfolded (implicated) in electromagnetic radio waves is unfolded (explicated) by the circuitry of the television set that becomes the visible pictures that we see. It can be proposed that in the language of theology, Bohm's inquiry into the implicate order would be an attempt to discern the mind of God.

It helps to remember all that has just been said about matter and that what we call matter has been described as a ripple on the sea of energy no-thingness. So we can imagine forms sustained and given form within the sea (the implicate order) like a fish in the sea—with the fish itself both permeated by the sea and swimming within the sea. In this picture of things, we can begin to imagine how we are integral to the unfolding whole in a primary way, rather than simply separate beings connected to each other and the earth through the senses and

bodily needs. We can realize that a person is a profoundly complex emergent system, a self-organizing form of the evolving whole intimately immersed in the underlying enfolded order, which is the implicate order or plenum. Given the great creativity and interrelatedness of the earth, our individuality, so fully embedded in the unfolding whole, is not denied but empowered and grounded. The New Story maintains the achievement of individuality within a context of wholeness. "The goal is a redemptive reunification of the individual self with the universal matrix." (Tarnas)

Main insight: Full, alive, true individuality does not separate us from the whole but immerses us more deeply into it and contributes to its unfolding.

Quaker question: Does the decision-making process of Friends reflect the need to hold together the

individual and the whole?

F. The Evolution of Human Consciousness and Leadings: The Actualization of Our Integral Belonging to the Unfolding Story

One occasion in which there is manifestation of the ongoing creativity of the universe here on Earth is in the evolution of human consciousness. With such great need at this time for wisdom in many areas of our corporate and personal lives, it is of crucial importance to recognize how leadings can be understood as integral to the ongoing evolutionary story and can have a central and fundamental place in this evolution of consciousness. Through the person the universe is becoming aware of itself, and one way this awareness can be carefully maintained and can evolve is through leadings.

Quakers have long had confidence in "inner leadings." This is the belief expressed clearly by the early Quaker Isaac Pennington: "There is that near you which will guide you; Oh wait for it, and be sure ye keep to it." Leadings may be about the direction of one's personal life or about the needs of others, larger social concerns, and the spiritual needs of our times. Leadings that affect significantly the direction of an individual life or that involve a community must be carefully tested and discerned by an appropriate group. The preparations of the spiritual journey are integral to our availability to leadings. Rufus Jones recognized the central place

of preparation when he wrote: "Love comes through—not everywhere like beauty, but only where rare organization had prepared an organ for it." (quoted in Fosdick)

i) The Spiritual Journey

IN AN EVOLUTIONARY UNIVERSE our understanding of the spiritual journey becomes an entry into the unfolding story of the earth, discovering there the immanent sense of the divine, not a transcendent leap into the divine. Our personal spiritual journey, more than we have realized, has evolutionary significance precisely because it is preparation for being sensitive to and entering further into any leadings offered to us as a part within the unfolding whole. While the New Story is a large, comprehensive story, it is also deeply personal. The revelations concerning the indwelling plenum, the person as a form of the earth, the nature of matter and the ongoing evolution of the earth are a source of confidence in the central place of the person in the unfolding story. It is the whole person, comprising the invisible and the plenum, form and nothingness, who is an integral part of the evolutionary story. The words of Jesus that are translated "Be ye perfect" are a mistranslation, Eckhart Tolle tells us, and should instead be "Be ye whole, even as your Father in Heaven is whole." (Matthew 5:48) Brian Swimme reminds us we have the power to forge the cosmic fire that is in us and from which we and all things originate. Each of us personally needs to find a way to contact the primordial energy within us. Thomas Kelly's words tell of searching for this ongoing contact: "Let us explore together the secret of a deeper devotion, a more subterranean sanctuary of the soul, where the Light Within never fades, but burns, a perpetual Flame, where the wells of living water of divine revelation rise up continuously, day by day and hour by hour, steady and transfiguring."

There are many pathways from vast human experimentation, exploration, and experience to help us contact the primordial energy. We may enter into union with, or become resonant with, the powerful dynamic, creative, unifying ground that is the foundation of our being. Friends have spoken of the desired way of being as "Living in the Light." The pathway may at times involve a symbolic death and rebirth, including the death of some of our unconscious, tightly held assumptions. The little self is slowly dismantled so that we can transcend those

impulses that keep us isolated, failing to love each other. Although largely lost in recent centuries to much of Western consciousness, the deepest forces of the universe, both personal and impersonal, provide a way of reunification, as well as a way of entering into the deeper natural and divine harmonies that constitute the full meaning of our existence. (Berry) We know from many spiritual leaders and many "ordinary folks" that the inner wisdom can be given remarkable expression in each individual person.. We must help each other leave our scattered lives and stay awake to the radical possibilities of our lives.

ii) A Central Place for Leadings:

IN A MECHANISTIC WORLD dominated by assumptions of fragmentation and the outdated assumptions about matter, inner leadings may be reduced to seemingly superficial associations of an active, rational mind or the expression of drives based on unresolved, unconscious needs. However, in the evolutionary universe, with the power of emergence we have found a context in which leadings can regain a central place, given our integral belonging to the unfolding story. As described in the previous section, David Bohm placed the origins of consciousness in the implicate order (plenum/God). Realizing that the plenum is the ground of consciousness, we can understand that the images that form in our minds are manifestations of the implicate order (plenum). This, of course, occurs within a vast emergent biological and cultural context that influences the content and the particular images of leadings.

Our leadings are not given only from rational associations or isolated individual needs but from our deepest identity as Earth beings grounded in the implicate order. Brian Swimme writes: "The dynamics that fashioned the fireball and the galaxies also fashion your ideas and visions. I don't mean this in a crude sense; the whole system of life and being presents itself in each particular event as well. In your specific personal dreams and desires, the whole process is present in your personal self. The macrocosm is not disconnected from the microcosm." (1984, p. 135) This is a critical insight integrating our leadings and our vocations into the New Story, so that a person can be led to actions that do indeed reflect the ongoing direction of things.

Likewise, the Quaker idea that refusal of a con-

cern has cosmic consequences (Steere) finds support in the context of the web of interconnections that is the unfolding whole. Beatrice Bruteau, author of numerous books in the tradition of Teilhard de Chardin, reminds us that every little thing counts: everything makes a difference, nothing escapes, and nobody is outside the sacred story.

iii) A Basis for Trusting Leadings, Discovering Deep Ethics

IS THERE EVIDENCE that leadings do really tap into the direction of things that transcend the popular ideas of a particular time, thus suggesting a fundamental importance to leadings? Can leadings be part of the emergent creativity of the person and the earth? Rufus Jones wrote that a prophet (who could be described as a person with a leading) does not create an ideal but discovers it. The prophet that informs the larger community, feels the onward tendency of the age (Jones). Here is a sense that the individual is tapping into something beyond personal ideas and concerns. George Ellis, a South African cosmologist and Quaker, describes a process of such discovery, in ethics, that is larger than the individual. Ellis takes the position of moral realism, which argues that we do not invent ethics but discover them in the same way we discover mathematics, which also has a universal character. One example of "deep ethics" is self-emptying (kenosis), a giving up or self-sacrifice to the call or leading. Actually it is also a finding of the self in the deepest sense. The ethic of self-sacrifice is deeply embedded in all the religious traditions of the world. It is the core of Christianity, the suffering on the cross is a kenotic self-sacrificial embrace of call or leading, perhaps to a destiny on behalf of humanity. Ellis writes: "Changing the hardened heart is not achieved by military force or by buying people, it is not achieved by intellectually persuading people; it is achieved by touching them as humans through treating them as valuable. It is achieved particularly by sacrifice on behalf of others, as exemplified in the life and work of Martin Luther King, Mahatma Gandhi, Desmond Tutu." (Ellis, p. 25)

Our study group affirms the understanding of the group member who wrote that the universe story cannot be told convincingly without the passion story of Jesus of Nazareth. The passion for this person involves bringing things to a higher level, much in the manner described by George Ellis's recognition of self-sacrifice in the life of Martin Luther King and others. In Jesus's death the power of the deep ethic of self-offering is made manifest in a particular person. The study group member wrote: "What is hard to understand is the Passion. Many of us see it in the life of Jesus. There, in the life of this majestic and humble figure... we wonder how it all took place. Pain and suffering seem separate from joy and exaltation. But the joining of suffering and joy must have been the experience of Jesus in those last days."

Main insight: The New Story can enable a tremendous leap in human consciousness.

Quaker question: Do Quakers believe that experience of the "Light within" can change consciousness?

G. There Is Only the Now

The story of the evolutionary Earth teaches us, as Edwin Schrödinger recognized, "for eternally and always there is only now, one and the same now; the present is the only thing that has no end." The particular present state of affairs of the earth and the universe as a whole is all there is. The past situations of things no longer exist, although most forms and their relationships and the consequences of events in an earlier situation continue into the present now. We must learn not to let linear time, which focuses on the succession of events in human centered culture, keep us locked into a life that is always anticipating what we fear or hope will happen, while failing to live in the present, the only occasion in which the fullness of our being is available to be known and lived and out of which a unique future situation may emerge.

A lovely example of living in the now is recounted by Gary Zukav in *The Dancing Wu Li Masters*, where the T'ai Chi teacher Al Chung-liang Huang describes his classes. As Zukav recounts the conversation, it is clear that Al Chung-liang actually does seem to live, at least while teaching, knowing something of the true nature of time:

"Every lesson is the first lesson," Al Chung-liang Huang told me. "Every time we dance, we do it for the first time."

"But surely you cannot be starting new each lesson," I said. "Lesson number two must be built on what you taught in lesson number one, and lesson three likewise must be built on lessons one and two, and so on."

"When I say that every lesson is the first lesson," he replied, "it does not mean that we forget what we already know. It means that what we are doing is always new, because we are always doing it for the first time."

This is another characteristic of a Master. Whatever he does, he does with the enthusiasm of doing it for the first time. This is the source of his unlimited energy. Every lesson that he teaches (or learns) is a first lesson. Every dance that he dances, he dances for the first time. It is always new, personal, and alive." (Zukav, p. 9) We are realizing in our study group that within the context of the New Story how true this is; and fresh, creative energy is indeed potentially available, it doesn't leave us

It is astonishing and memorable that near the end of his life, St. Francis, then a revered person with many followers, said to his brothers, "Let us begin brothers to serve the Lord our God, for up to now we have hardly progressed." (Bonaventure, *The Life of St. Francis*, Chapter 14, volume 1) In these words, there seems to be recognition of the fresh possibilities of each new occasion rather than reliance on established patterns or earlier achievements. If we are attentive to the leadings of the Light, we may indeed live with love and creativity in the now.

i) Simplicity

THE SEARCH FOR SIMPLICITY has long been central to Quaker life. These reflections on leadings and on the "now" help clarify the roots of simplicity beyond the appropriate admonitions to avoid too many possessions and a schedule that is overcrowded. If a person has found the way, even occasionally, to living in the now with the fullness potential to it, that is indeed simplicity. And if a person has learned to be attentive to leadings, the centering on being faithful to the leading also involves a fulfilling simplicity. Furthermore, the knowledge of our intrinsic belonging to this most remarkable planet and its unfolding story, means we do not have to grasp for an identity by our achievements and busyness, as a remarkable identity is our given birthright.

A member of the New Story group has written concerning the now:

"Eckhart Tolle has focused in his recent writing on the increasing pressure for humans to become awake to their purpose in life, to be fully present to the eternal now. Tolle cites cases in the evolution of life when new forms emerged in response to crises, for example, when forms of fish transformed into land animals or when forms of reptiles transformed into birds. In the case of humans, Tolle observes that our evolutionary challenge lies in the realm of consciousness, since most people—especially in the West-strongly identify with our own thoughts, ego, and forms generally, which leads us to separate ourselves from other humans and from all other forms of life. Because of the ever increasing urgency of global crises and extinction of species (including humans), Tolle sees the need for humans to be fully present or conscious of our inner lives, creating a "new heaven," the original meaning in Jesus's teachings. By being conscious of ourselves as intrinsically connected to everything else and fully present, we could then create a "new Earth" or outer life that matches our evolutionary potential. Because of his focus on individual egobased barriers to being fully present, Tolle's writing offers an excellent source for understanding how to encourage transformation in both the inner and outer realms of human lives. Unlike in the times of Buddha or Jesus, we humans, seem ready beyond a few "enlightened" individuals to understand our purpose in this life, to be awake and fully present." 13

Thoughts from *A New Earth* by Eckhart Tole were prepared by David Damm-Luhr [Revelation 21:1 and Isaiah 65:17 (New Revised Standard Version)—as cited in Tolle]

Main insight: What we are doing is always new because we are doing if for the first time.

Quaker question: Do you experience meeting for worship as an occasion to be present in the Now?

4. Concluding Reflections

THE New Story Group gathered out of a sense of urgency and calling; our hope has been to explore, to understand and finally to share with other Quakers a story faithful to our present knowledge of the world and one potentially empowering to Quakerism given the remarkable congruence with its insights. The "way of seeing" based on the New Story provides a lens in which global issues of unending warfare, nuclear proliferation, fragmentation of communities with millions living in poverty and dangerous fundamentalisms can be addressed with a renewed vision of possibility. The integration can help break through the forms of consciousness that don't see we are destroying everything in the natural world.

Humanity is deeply at home here on Earth and there is a central place for the fundamental human longing for love, belonging, connectedness and meaning. As persons who are Earth-beings, forms of the earth, we can gradually break down our exploitive relationship with the earth and our widespread, deep alienation from the earth and other human groups.

The Friends Meeting at Cambridge study group finds hope in having recognized that there is an amazing "fit" between Quakerism and the New Story. To us, it seems that the usual five testimonies of Friends—simplicity, peace, equality, integrity and community—can now be even more deeply understood in the context of an ecological worldview and an unfolding, new universe story. An Earth restored, peace-making, respect for personal integrity, scientific inquiry, non-violence and humanitarian work are also aspects of the New Story long valued by Quakers. A process of ethical decision-making, using spirit and reason, can be developed in the new, integrated context now available to us.

The study group is hoping Friends will sing, dramatize, write poems and dance the New Story; we believe it can touch people's hearts and passions in many modes. We know that the life of the mind cannot rise above the life of the heart if the story is to give us hope and lead to action. Early Friends were certainly engaged at the level of the heart; we honor their passion and power and believe the New Story can touch the heart and open the door to a reawakening and re-enchantment of Quakerism. Quakers, together with many others, are called to be a part of the urgently needed evolution of consciousness which is now offered to us in this most unique, critical time in the earth's story.

According to Richard Tarnas, the characteristics of our present situation—the pluralism, the complexity and ambiguity, the extreme fluidity—are precisely the characteristics necessary for the potential emergence of a fundamentally new form of intellectual vision, one that might both preserve and transcend the current state of extraordinary differentiation. Joanna Macy believes we are in the midst of a Great Turning, the name she gives to the deep shift in spirituality, culture, politics and economics which has already begun against the grain of the unraveling which we also see on many levels. The New Story provides a place for maintaining and valuing diversity and seemingly paradoxical opposites while working within an integrated vision that preserves and fosters the viability of the unfolding whole. Just as an individual life can speak to the nature of the whole, so, too can a religious tradition in its particularity as it wrestles with our current context contribute its specific insights, witness and actions as part of the unfolding Earth story. Quaker testimony and witness can particularly aid in grasping the social significance and avenues for living fully within the New Story. Here is the potential importance of Quakerism envisioned by Kenneth Boulding.

Main insight: A Great Turning is still possible. Quaker questions: Do you believe that Kenneth Boulding is correct that Quakers can play an important role in this? ❖

5. Bibliography and Some Recommendations

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6. Biographical Statements

Severyn Bruyn is an emeritus professor at Boston College. He has published several books on various topics, including the social economy, community development, political science, the international economy, nonviolence, and university studies. He has been studying the subject of evolution for over thirty years and is now composing a musical about it.

Philip Clayton is Ingraham Professor at Claremont School of Theology and professor of philosophy and religion at Claremont Graduate University; he is currently visiting professor of science and religion at Harvard Divinity School. Prof. Clayton is author of some 100 articles and author or editor of numerous books, including The Problem of God in Modern Thought and In Whom We Live and Move and Have Our Being. He is a member of the Redwood Forest Friends Meeting in northern California. Philip's 30year study of relations between science and spirituality has gradually become central to his own spiritual practice; it is probably true that he is a Quaker today because of considering the implications of the New Story for rethinking the nature of religious belief.

Mary Conrow Coelho has taught biology and worked in a research laboratory, all the while trying to put the ideas from that world together with her spiritual search and theological questions. She wrote the book *Awakening Universe*, *Emerging Personhood* in 2001 to describe the resolution of many of her questions through study of the evolutionary universe and from her earlier theological studies. She has been painting in watercolor for many years.

David Damm Luhr, an organizational consultant, gardener, and lover of the outdoors, has a long-

standing curiosity about systems and how they evolve. His recent work with Quakers in Friends Meeting at Cambridge on the implications of the "New Story" is a natural and energizing outgrowth of his belief that matter and spirit are expressions of the same underlying and unfolding reality. He looks forward to engaging with others to become more conscious of Quakers' particular place in the New Story.

Arthur Klipfel is an architect and businessman by vocation, and an attender at Friends Meeting at Cambridge for over 25 years. He has maintained an interest spanning more than 40 years in the possibility that our human community's expanding and deepening understanding how the universe works might improve our insights into who we are and what we should be doing.

Nan Lee, recently retired and living in Maine, taught Philosophy at Milton Academy for more than 20 years. She attended Friends Meeting at Cambridge occasionally for nearly that long; with her husband, Joe Stone, she was a weekly attender for the last three years and a participant in the cosmology discussion group for two years. She has experienced a powerful spiritual connection to the natural world her whole life.

Gwen Noyes was raised on an organic farm, where everyday experience included the "web of life" and an awesome skyscape. A deep appreciation for natural processes found its way into her architectural studies and her work to build sustainable and community-enhancing housing. She has found that clerking Cambridge Quaker Earthcare Witness for a number of years has helped integrate her life's work and spiritual journey.

7. Endnotes

- ¹ The Zero Point Field, another name for the vacuum or plenum, exceeds all energy in matter by a factor of 10 (superscript 40), or 1 followed by 40 zeros. The Zero Point Field was called "zero" because fluctuations in the field are still detectable at temperatures of absolute zero, the lowest possible energy state, where all matter has been removed and nothing is supposedly left to make any motion. (McTaggart, pp. 19, 20, 23)
- ² There is experimental proof that when energetically coupled particles are separated by great distance and the spin (up or down) of one particle is measured, the other particle "knows" instantaneously the spin of the other and takes the opposite spin. The connection is faster than the speed of light. The fact that one particle "knows" instantaneously the spin of the other, although nothing has traveled between the particles, indicates they are part of the same reality. It is stunning to learn that this "seamlessness/plenum" of which we are largely comprised means we are part of a unitary reality. See also endnote no. 11.
- Matter is a strange reality. The so-called "vacuum" (that is, a plenum) spins out energy fluctuations or energy events and sustains fields of patterns and fields of matter. Quantum particles and the systems constituted of them are force-like, light-like and (if endowed with rest mass) matter-like, but in their basic nature they are vibratory nodal points (distillations or crystallizations or relatively autonomous forms) of the energies of the virtual domain. (Laszlo)
- ⁴ Electrons lose and gain energy constantly from the Zero Point Field in a dynamic equilibrium. The Zero Point Field accounts for the stability of the hydrogen atom and by inference the stability of all matter. (McTaggart, p. 25) See endnote no. 1 concerning Zero Point Field.
- ⁵ Depending on how we look at them, the subatomic units of matter appear sometimes as particles, sometimes as waves. The picture of a wave that is always spread out in space is

- fundamentally different from the picture of a particle which implies a sharp location. Although an electron can sometimes behave as if it were a compact little particle, physicists have found that it literally possesses no dimension. (Peat, 1990)
- ⁶ Recent measurements by the Wilkinson Microwave Anisotropy Probe of the cosmic background radiation seem to be consistent with the idea that the universe itself may have been created out of a vacuum.
- ⁷ Thomas Berry observes: "The secular school as presently constituted cannot provide the mystique that should be associated with this story. Nor can the religious-oriented school that has only superficially adopted this new story of the universe evoke this experience, (the grandeur and meaning of the universe) in the child. (p. 131)
- ⁸ Characteristics generally held by panentheists are (i) the cosmos as God's body; (ii) language "in and though"; (iii) the cosmos as sacrament; (iv) language of inextricable intertwining; (v) God's dependence of the cosmos; (vi) the intrinsic, positive value of the cosmos; (vii) passibility (God suffers); (viii) degree Christology. (*In Whom We Live and Move and Have Our Being*, Clayton and Peacocke, eds., p. x)
- ⁹ Brian Swimme names the powers: centration, allurement, emergence, transformation, cataclysm, synergy, transmutation, radiance, homeostasis, and interrelatedness. They are all based in seamlessness, which is a realm of pure generativity. The powers are described in the video series *The Powers of the Universe*, <www.brianswimme.org>.
- ¹⁰ In the person, centration involves psychic interiorization and the intensification of reflexive consciousness.
- There are several sources of evidence of the undivided wholeness of our world. Both relativity theory (dealing with the very large) and quantum theory (dealing with the very small), despite their differences, imply a worldview of undivided

wholeness. (Bohm xv and MacCormack, pp. 9–10) The story of the evolution of the universe also shows the wholeness of things, describing as it does the differentiation and complexification of the initial "material" of the "great radiance" (the Big Bang). Also scientists have with repeatable experiments established that it is not viable to think of particles or an event as being completely determined by its particular locale. Events taking

- place elsewhere in the universe are directly and instantaneously related to the physical parameters of the situation. (Swimme and Berry, p. 28)
- ¹² Bohm uses the word implicate because the fundamental ordering is folded into the manifest, explicate world. The implicate order is the basal generative power (plenum) out of which forms emerge.