

**The Great Work**  
**Chapter 3 - The Earth Story**

Reflections by Brian Brown

Our historical role in its deeper significance, has to do with a new understanding of the planet Earth: this radiant blue - white planet hanging in the sky, twirling upon its axis in the light of the sun each day, swinging in its solar orbit each year. Seven continents rise out of the great world ocean. The polar regions appear as vast stretches of snow. The Sierra Nevada along the western edge of the Americas, the Alps in Europe, the Himalayas in Nepal, the T'ien Shan in China, Kilimanjaro in Africa— these give to the continents a foreboding majesty.

The rivers flow down from the mountains across the continents into the sea. Rain forests girdle the planet in its equatorial regions. Such vistas create an overwhelming impression whether we look down from the heavens or across the landscape and up at the sky with its sun and clouds in the day and its moon and stars in the night. We seldom think about the Earth itself in its distinctive aspects; we are enclosed so intimately within its fields and woodlands or lost amid the commercial frenzy of our cities. We do speak about nature the world, creation, the environment, the universe, even when the planet Earth is foremost in our thoughts. Yet only in recent times have we experienced the Earth in its full spherical contours. The more we learn about the Earth the more clearly we see it as a privileged planet, a creation and the homeland of a multitude of living beings.

Recently we have come to know the Earth within the context of a more comprehensive knowledge of the universe itself. Through our observational sciences we begin to understand just how the Earth was born out of the larger processes of the universe, how life appeared on the land, and more recently how we ourselves emerged into being. But if we have such scientific knowledge, we are often lacking in any deep feeling for the mystique of the Earth or any depth of understanding. We think of the Earth more as the background for economic purposes or as the object of scientific research rather than as a world of wonder, magnificence, and mystery for the unending delight of the human mind and imagination.

Earlier, Earth was a more intimate reality than it is at present. Animals and humans were relatives. This relationship found visible expression in the totemic carvings discovered throughout the world.

The powers of the universe were grandfathers and grandmothers.

A pervasive rapport with the spirit powers of the natural world was developed. Ritual enabled humans to enter into the grand liturgy of the universe itself. Seasonal renewal ceremonies brought humans into the rhythms of the solar and lunar cycle. Architectural structures were set on coordinates identified with the position of the heavenly bodies, something we seldom think about anymore. This was a period of wonder and creativity that was to shape the human project until our times.

Without confusing this earlier historical period with a mythical paradise, there did exist at

moments a remarkable continuity throughout the various realms of existence. Human activities were integral with the larger community and its functioning. Every being possessed its own life principle, its own mode of self-expression, its own voice. Humans, animals, and plants and all natural phenomena were integral components of the larger Earth community. As Henri Frankfort mentions in Beyond Philosophy, “Natural phenomena were regularly conceived in terms of human experience and human experience was conceived in terms of cosmic events.”

The human and the cosmic responded to each other most extensively in the Chinese world. Human activities throughout the year were coordinated with the cycle of the seasons. So we find in the Li Chi, the Book of Ritual, prescriptions indicating that the robes of the emperor, the palace rooms in which he lived, the music and the ceremonies were all carefully coordinated with the seasons. If springtime music was played in the autumn then the cosmic order was considered to be disrupted. As indicated by Wang Yang-ming in his Questions on the Great Learning, the supreme achievement of the human personality in this context was to experience one's self as “one body” with “heaven and Earth and the myriad things” (quoted in deBary and Bloom, p. 845 – 46.) In the vast creative processes of the universe the human was “a third along with heaven and Earth” as a primordial force shaping the entire order of things.

Continuity of the human with the natural world in a single sacred community can be appreciated in the experience of Black Elk, a Lakota Sioux Indian, as narrated in his life story, Black Elk Speaks. When he was nine years old he experienced an elaborate vision culminating in a vast cosmic dance evoked by the song of the black stallion seen in the heavens (Neihardt, chap. 2.) A sense of the sacred dimension of the universe is evident here, a type of awareness of the natural world that seems to be less available from our modern Western religions.

Earlier such intimacy did exist in the mystical tradition of persons such as Hildegard of Bingen, Richard of St. Victor, Meister Eckhart, and John of the Cross. From an early period Christians adopted a liturgy that carefully observed the correspondences of human praise with the numinous moments of the dawn and sunset and with the transitions of the various seasons of the year. This liturgy was carried out most faithfully in the Benedictine and Cistercian monasteries of Europe up through the medieval period. The social order was itself governed by this basic rhythm of life. Holy days were the original holidays, as the words themselves indicate. We lose our intimacy with the natural world once we take on a secular life attitude.

The natural world becomes vulnerable to assault by humans. Although the Christian world did have this commitment to the cosmological order, it had an even deeper commitment to the historical order. This historical orientation is ultimately what made our Western world so powerful in its political and economic dominance throughout the world and yet so vulnerable to the loss of its intimate concern for the natural world. It also led to the concept of the natural world as being there primarily for “use” rather than as manifestation of some numinous presence. Now, after these centuries of experiencing the planet as being a collection of objects for scientific analysis and commercial use, we must ask: where can we find the resources for a reevaluation of our activities? How can we obtain the psychic energies needed to disengage from our plundering industrial economy?

We might begin with our basic sense of reality as this exists at present. Our sense of reality cannot be simply the mythic worlds of the past, nor can it be limited to traditions that exist in a spatial mode of consciousness. Whatever be the case with other societies and other times we function through our observational sciences, in the context of a developmental universe that has, within the phenomenal world, its own self - organizing powers. For our sense of reality three commitments are basic: to observational science, to a developmental universe, to an inner self - organizing capacity.

We cannot do without our earlier experiences of the numinous presence manifested in the great Cosmic Liturgy. We cannot do without our humanistic traditions, our art and poetry and literature. But these traditions cannot themselves, simply with their own powers, do what needs to be done. These earlier experiences and accomplishments were dealing with other issues, providing guidance for different worlds than the world of the early twenty - first century. To meet the current environmental challenge they too need to be transformed within the context of an emergent universe.

Nor can the former accusations against the materialism of our scientific endeavor be accepted. Our observational sciences presently have moved beyond the mechanistic understanding of a so - called objective world as it was known in the past few centuries of Newtonian physics. We know now that there is a subjectivity in all our knowledge, that we ourselves, precisely as intelligent beings, activate one of the deepest dimensions of the universe.

If formerly we knew by downward reduction processes that considered the particle as the reality and the wholes as derivative, we now recognize that it is even more important that we integrate upward, because we cannot know particles and their power until we see the wholes that they bring into being. If we know the elements simply in their isolated individual reality we have only minimal knowledge of what they really are. To understand atoms we must see these elements in their central role in molecules, mega-molecules, in cellular life, organic life, even in intellectual perception, since atomic structures in a transformed context live and function in the wide display of all the gorgeous plants and animals of the Earth as well as in the most profound intellectual, emotional, and spiritual experiences of the human.

There is a spiritual capacity in carbon as there is a carbon component functioning in our highest spiritual experience. If some scientists consider that all this is merely a material process, then what they call matter, I call mind, soul, spirit, or consciousness. Possibly it is a question of terminology, since scientists too on occasion use terms that express awe and mystery. Most often, perhaps, they use the expression that some of the natural forms they encounter seem to be “telling them something.” It seems best to consider that mind and matter are two dimensions of the single reality that comes into being in an immense diversity of expression throughout the universe by some self - organizing process. We begin to appreciate this reality in the wonders of its achievements, although it will remain forever beyond expression in any scientific formulation or humanly constructed equation.

The second aspect of our present knowledge is that the universe is revealed to us as irreversible emergent process. We no longer live simply in a spatial mode of consciousness where time is experienced as a seasonal renewing sequence of realities that keep their basic identity in accord

with the Platonic archetypal world. We now live not so much in a cosmos as in a cosmogenesis; that is, a universe ever coming into being through an irreversible sequence of transformations moving, in the larger arc of its development, from a lesser to a great order of complexity and from a lesser to great consciousness.

The third foundation for appreciating our own times is to recognize that there exists at every level a basic tendency toward self-organization. This we find at the physical level, at the biological level, and at the level of reflexive-consciousness. While the ancients had much more highly developed sensitivities regarding the natural world in its numinous aspects and in its inner spontaneities, we are not without our own resources that, properly appreciated, can lead to our own mode of intimacy with the natural world and even to a renewal of the Earth in the new ecological community.

If for a while we lost the poetry of the universe, this loss was significantly changed when the astronauts came home stunned with the immensity and beauty of what they had experienced. Especially overwhelming was their view of the planet Earth from the regions of the moon, almost 200,000 miles distant. A new poetic splendor suddenly appeared in their writings. The astronaut Edgar Mitchell tells us that he had an amazing experience when he looked out at Earth from outer space and saw “this blue - and - white planet floating there,” then saw the sun set “in the background of the very deep black and velvety cosmos.” He was overcome with immersion in an awareness that there was a purposefulness of flow, of energy, of time, of space in the cosmos ” beyond any previous experience that he ever had ( Kelley, p. 138).

This sensitive experience of the universe and of the Earth leads us further back to appreciation of the ten billion years required for the universe to bring the Earth into existence and another 4.6 billion years for the Earth to shape itself in such splendor. For our present Earth is not the Earth as it always was and always will be. It is the Earth at a highly developed phase in its continuing emergence. We need to see the Earth in its sequence of transformations as so many movements in a musical composition. The sequence of events that emerge in time needs to be understood simultaneously, as in music: the earlier notes are gone when the later notes are played, but the musical phrase, indeed the entire symphony, needs to be heard simultaneously. We do not fully understand the opening notes until the later notes are heard. Each new theme alters the meaning of the earlier themes and the entire composition. The opening theme resonates throughout all the later parts of the piece. So too the origin moment of the universe presents us with an amazing process that we begin to appreciate as a mystery unfolding through the ages.

The flaring forth of the primordial energy carried within itself all that would ever happen in the long series of transformations that would bring the universe into its present mode of being. The origin moment of the universe was the implicate form of the present as the present is the explicate form of the origin moment. The primordial emergence was the beginning of the Earth story, as well as the beginning of the personal story of each of us, since the story of the universe is the story of each individual being in the universe.

Indeed, the reality inherent in the original flaring forth could not be known until the shaping forces held in this process had brought forth the galaxies, the Earth, the multitude of living species, and the reflection of the universe on itself in human intelligence. After the origin

moment a sequence of other transformation moments took place, the shaping of the first generations of stars within their various galaxies, then the collapse of one of these stars into a vast dispersion of fragments throughout the realms of space. The energy of this supernova moment brought into being the entire array of elements. These elements in turn made possible the future developments on the planet Earth, for indeed the appearance of life needed the broad spectrum of elements for its full expression. Our own solar system with its nine planets became possible at this moment. A gravitational center of attraction gathered the scattered fragments of the former star into this new star, our sun, and surrounding this star with its ninefold arrangement of planets. Within this context, the planet Earth began its distinctive self-expression, a groping toward its unknowable future, yet carrying within itself a tendency toward an ever greater differentiation, a deepening spontaneity, an ever more intimate self-bonding of its component parts.

Such a wonderment comes over us as we reflect on Earth finding its proper distance from the sun so that it would be neither too hot nor too cold, shaping its radius so that it would be neither too large (and thus make Earth more gaseous like Jupiter) nor too small (and thus make Earth more rock-bound like Mars.) Then the moon must be situated with such precision, that it would neither be so close that the tides would overwhelm the continents, nor so distant that the seas would be stagnant. The radioactive elements within Earth provided the heat for the volcanic explosions leading to the atmosphere and the seas and raising the continents above the waters. Profound mysteries were taking place all this while, but nothing so mysterious as setting into place the conditions required for the emergence of life and the human form of consciousness.

The 3.4 billion-year story of life is so integral with the story of Earth in its basic structure that we cannot properly think of the Earth as first taking shape in its full physical form and then life emerging somehow within this context. Earth as we know it came into being through its four great components: land, water, air, and life, all interacting in the light and energy of the sun. Although there was a sequence in the formation of the land sphere, the atmosphere, the water sphere, and the life sphere, these have so interacted with one another in the shaping of the Earth that we must somehow think of these as all present to one another and interacting from the beginning. Although there was a primordial atmosphere and sea and land, these were so transformed by life development that we might think of the Earth as primarily a life process. We do need to tell in sequence the story of the physical shaping of the Earth and the primary form of the atmosphere and the seas with their chemical components and then consider the procaryotic cell and invention of photosynthesis, the eucaryotic cell, and respiration, then the more elaborate expression of all these modes of Earth development.

We must constantly realize that each stage of development was the consequence of a single process at work, a process that came to a new phase of its development in the human mode of consciousness. This unity of the universe was more easily appreciated in classical times when Plato in his *Timaeus* proposes the idea of a world-soul that gives a living unity to the entire universe. This idea of a world-soul, an *anima mundi*, continued in the European world until the seventeenth century with the Cambridge Platonists: Henry More, Richard Cumberland, and Ralph Cudworth.

Of more immediate significance to ourselves in this telling the story of the Earth is the

sequence of life developments that has emerged in these past 600 million years, the time generally presented in terms of the Paleozoic (from 570 million years before present to 240 myp), the Mesozoic (240 myp until 65 myp) and the Cenozoic (65 myp). While it would be useful to discuss the earlier biological eras, it is the Cenozoic that is of most interest to us. This is the era when our world took shape.

While many of the distinctive life-forms of the Cenozoic were already present in the earlier Mesozoic Era, they attained their full development in the Cenozoic. This is the era when the flowers came forth in all their gorgeous colors and fantastic shapes. It is the period of the great deciduous trees in the temperate zones and of the tropical rain forests in the equatorial region. The Cenozoic is the special time of the birds in all the variety of their forms and colors and songs and mating rituals. Above all it is the era of the mammals. The varied multitude of living species, possibly twenty million, came into their greatest splendor in this era. We will never know these species fully since many have come and gone in the natural process of evolutionary change.

Now we ourselves are extinguishing species in a volume and with a rapidity far beyond any former natural processes of extinction since the beginning of the Cenozoic Era. The late Cenozoic was a wildly creative period of inspired fantasy and extravagant play. It was a supremely lyrical moment when humans emerged on the scene, quietly, somewhere on the edge of the savanna in northeast Africa. From here they later spread throughout Asia and Europe. From early transitional types come our own more recent ancestors, some sixty thousand years ago, with developed speech, symbolic language, skills in tool-making, extended family communities along with the capacity for song and dance, and for elaborate ritual along with visual arts of amazing grandeur. All of these are expressions of the late Paleolithic Period.

Then some ten thousand years ago, the human community emerged into the Neolithic Period with its new social structures, weaving and pottery, domestication of wheat and rice, also of sheep, pigs, cattle, horses, chickens, and reindeer. Above all, this was the period of village beginnings. Out of this village context came the early cities of the world along the Tigris - Euphrates, the Nile, the Indus, the Yellow River, the Mekong. Later came the Maya on the Yucatán peninsula, the Toltec in Mesoamerica, and the Inca on the high plateaus of Peru. From its beginnings in Sumer some five thousand years ago, the Western civilization story unfolds over the centuries, a story that leads eventually to European civilization.

The various civilizations have given expression to the human in a variety of geographical settings with amazing inventiveness in linguistic creativity, in religious rituals, intellectual insight, social organizations, and artistic sensitivity. The Earth, during these five thousand years, has resounded with music and dance, religious spectacles, and the dramatic presentations of peoples everywhere. All this emerged as expression not simply of the human but of the Earth itself in its vast range of creativity. Yet amid the splendor there is also the human transformation of the planet. Much of this, particularly in recent industrial centuries, has been disrupting to the functional integrity of the planet. Yet if the Earth has been exploited by cutting the forests, plowing the fields, damming the rivers, killing the animals, it has also been adorned by the pyramids of Egypt the great temple complex of Borobudur in

Indonesia, Angkor Wat in Cambodia, the Great Wall of China, the cathedrals of Europe, the Maya, Aztec, and Inca structures in the Americas. These achievements have given expression to the manner in which the peoples of the world have experienced the great mystery of things and have entered into communion with these vast cosmic forces.

Mostly these traditions have been founded in the peoples' story traditions, their mythic accounts of how things came to be in the beginning, how they came to be as they are, and how we enter with our own music, song, and dance into this unending celebration of the universe and of the planet Earth. So now in our modern scientific age, in a manner never known before, we have created our own sacred story, the epic of evolution, telling us, from empirical observation and critical analysis, how the universe came to be, the sequence of its transformations down through some billions of years, how our solar system came into being, then how the Earth took shape and brought us into existence. With all the inadequacies of any narrative, the epic of evolution does present the story of the universe as this story is now available to us out of our present experience. This is our sacred story. It is our way of dealing with the ultimate mystery whence all things come into being. It is much more than an account of matter and its random emergence into the visible world about us. For the emergent process, as noted by the geneticist Theodore Dobzhansky, is neither random nor determined but creative. Just as in the human order, creativity is neither a rational deductive process nor the irrational wandering of the undisciplined mind but the emergence of beauty as mysterious as the blossoming of a field of daisies out of the dark Earth.

To appreciate the numinous aspect of the universe as this is communicated in this story we need to understand that we ourselves activate one of the deepest dimensions of the universe. We can recognize in ourselves our special intellectual, emotional, and imaginative capacities. That these capacities have existed as dimensions of the universe from its beginning is clear since the universe is ever integral with itself in all its manifestations throughout its vast extension in space and throughout the sequence of its transformations in time. The human is neither an addendum nor an intrusion into the universe. We are quintessentially integral with the universe. In ourselves the universe is revealed to itself as we are revealed in the universe. Such a statement could be made about any aspect of the universe because every being in the universe articulates some special quality of the universe in its entirety. Indeed nothing in the universe could be itself apart from every other being in the universe, nor could any moment of the universe story exist apart from all the other moments in the story. Yet it is within our own being that we have our own unique experience of the universe and of the Earth in its full reality.