Chapter 1

Emergent Cosmic Holism

There was a time when meadow, grove and stream,
The earth, and every common sight,
To me did seem
Appareled in celestial light,
The glory and the freshness of a dream.
It is not now as it hath been of yore—
Turn whereso'er I may,
By night or day,
Things which I have seen I now can see no more.

—William Wordsworth

1.1 The Universe Story and the Rediscovery of Harmony

THE principles of holism and harmony have deep roots in human civilization going back at least to the Axial Period in human history during the first millennium before the Common Era. For many thinkers and religious teachers throughout this history, holism was the dominant thought, and the harmony that it im-

plies has most often been understood to encompass cosmic, civilizational, and personal dimensions. Jesus, Mohammed, Buddha, Lord Krishna, Lao Tzu, and Confucius all give us visions of transformative harmony, a transformative harmony that derives from a deep relation to the holism of the cosmos. Human beings are microcosms of that holism and must seek ways to allow it to emerge within their lives and cultures.

Today, holism appears to us not only as a constant, abiding feature of our universe, but also as an emergent and evolutionary aspect of the cosmos and all life. In the face of the pervasive *disharmony* of much of human existence that we experience today worldwide, the principles of holism and harmony function, in the words of Ernst Bloch (1986a), as a gigantic "principle of hope." We recognize that disharmony threatens the very existence of life on Earth, that we face the possible end of the human project and higher forms of life on this planet.

However, even as the danger grows, as the poet Hölderin sang, the saving insight emerges within our hearts and minds and within human civilization. The creative and revolutionary holism of the emerging planetary paradigm becomes a vision of the very real possibilities for a harmonious and transformed human reality. Today, the holistic vision of the ancient spiritual teachers is reborn on a higher level—consistent with the deepest discoveries of modern science.

Holism is the most fundamental discovery of 20th century science. It is a discovery of every science from astrophysics to quantum physics to environmental science to psychology to anthropology. It is the discovery that the entire universe is an integral whole, and that the basic organizational principle of the universe is the field principle: the universe consists of fields within fields, levels of wholeness and integration that mirror in fundamental ways, and integrate with, the ultimate, cosmic whole.

This discovery has overthrown the early-modern Newtonian paradigm in the sciences, which was predicated on atomism, causal determinism, mechanism, and a materialism that was dis-

cerned, it was thought, by a narrow empiricism. The holism of the ancient and medieval thinkers was superseded by this early-modern Newtonian paradigm in the 16th and 17th centuries. This development generated a host of assumptions about the world and human beings that became determinate for the basic world view that most people and institutions continue to hold today.

Today the holism of the ancients has been rediscovered on a higher level. We understand, very much more clearly than these ancient thinkers, that human beings are deeply *historical* beings, moving from a past, through a dynamic present, toward a future that we are deeply involved in creating. We create our future through a vision and comprehension of its possibilities. Revolutionary holism is just that: a holism that can transform everything from disharmony to harmony, from war to peace, from hate to love. Ethics, law, education, and government are all historically grounded aspects of human life. This means they are subject to holistic transformation, to "a new heaven and a new Earth," that, indeed, has much in common with what the ancient teachers said about holism and harmony.

Holism is not simply an intellectual perception of harmony, for in holism we are included in the wholes, wholes that we discern at the deepest levels with our entire being. We discern and embody the holism of humanity, of the Earth, of the cosmos, and of the divine. Holism means not only reason but love, indeed, it is the synthesis of reason, intuition, and love, as we shall see. Theologian Matthew Fox affirms that "humanity as rational animal will no longer mean a dualistic rationalism but a harmonious animal, *ratio* originally meant harmony, one at its harmonious best *as* animal in search of harmony worldwide, self-wide and cosmos-wide" (1990: 266). In this sense, the paradigm-shift to holism can be akin to a religious conversion. Suddenly we see in a new way; we see everything in a new light; we discern reasons for hope, joy, and celebration everywhere. In their book *The Study of Religion in the Age of Global dialogue* (about the transformation of consciousness that is going on around us) Swidler and Mojzes write:

> The religious conversion means coming to know and love, and therefore truly to become one with, all Reality, not quantitatively, but qualitatively. This means becoming one somehow with its very structure, its Principle. (2000: 118)

The paradigm-shift to creative and revolutionary holism illuminates not only fundamental aspects of our world but something about ourselves as well: our participation, as D.H. Lawrence puts it, in this "magnificent here and now of life in the flesh that is ours, and ours only for a time," as part of the "living, incarnate cosmos" (1976: 125-26), that we manifest "its very structure, its Principle." It is the realization that we ourselves are manifestations of the "living, incarnate cosmos." Holism, we shall see, is not only the fundamental scientific discovery of the 20th century, but the realization of a new being and a new consciousness for persons worldwide.

Fox tells us that "the primary issue in spirituality is not redemption of the soul, but redemption of the world. We are both in the world and the world in us. To heal one is to heal the other. To redeem the one is to redeem the other" (1990: 268). Human beings are emerging into a new maturity, into new dimensions of love, meaning, and fulfillment. Spiritual thinker Barbara Marx Hubbard emphasizes a universal love that is emerging worldwide, connected with a love for "the whole of life" which is moving people to connect with others around the globe and create together a harmonious world equal to our highest human capacities. She writes:

> We are the crossover generation moving from one phase of evolution to the next! Although barely perceptible, as were the earliest humans in the pre-human world, a young Homo Universalis is emerging everywhere, in every culture, faith, and background. The signs of our emergence as universal humans include an unconditional love for the whole of life; a powerful, irresistible passion to unite with the spirit within; and a deep heartfelt impulse to connect with others and co-create a world equal to our love and our capacities. (In Henion, 2012: 18)

In this book I will first discuss fundamental aspects of the new, historically grounded, principles of transformative holism and harmony in order to elucidate these principles and show some of their significance in human affairs. We will examine the emerging holistic paradigm, especially in relation to the concepts of government, law, ethics, economics, and education. We will see that these principles do not deny the dynamism of conflictive interaction that takes place everywhere in nature and in human life, but that the *larger patterns* of this dynamic process reveal a deeply holistic process. We will also see that human beings may well be a key principle within this creative upsurge of the universe. We are microcosms of that creative upsurge, responsible for establishing a world and a future characterized by ever-greater holism and harmony.

By contrast, we also examine the early-modern scientific paradigm, and the institutions that emerged from that paradigm, to show some fundamental roots of the lack of harmony and civilization of conflict that dominates in today's economic, political, and legal institutions. A tremendous hope is emerging in those who live from the emerging paradigm of wholeness and harmony, a hope and a love that is worldwide and planetary. The dynamism of conflictive interaction that characterizes life on this planet, understood in terms of the emerging holistic principles that I describe in this book, need not lead to the destruction of the human project or of the nature that sustains us. A new future is opening up for human beings that had not previously been apparent.

We need to take up that future, let it inspire our lives, and transform the failed institutions by which we have organized our lives on this planet into living embodiments of holism and harmony. Like Wordsworth we have lost the "glory and freshness" of the "celestial light." However, unlike Wordsworth, "the years that bring the philosophic mind" can, indeed, recover the experience of the glory of existence and the special promise of the human project. What is emerging worldwide is truly a planetary *renaissance: one world reborn*.

The intent of this book is to help reveal both what is lacking in today's world and outline the process for establishing a harmonious planetary civilization: through drawing on the wisdom of the holistic thinkers of the past, through recognizing the immense paradigm-shift going on in the present, and through an analysis of the continuing causes of disharmony and fragmentation worldwide. Harmony and disharmony are correlative concepts. They apply not only to persons, but to the institutions and societies that structure persons' lives. Establishing harmony requires not only a positive vision of our higher human possibilities but also understanding the historical causes and conditions of disharmony.

In their 1992 book, *Universe Story – From the Primordial Flaring Forth to the Ecozoic Era, A Celebration of the Unfolding of the Cosmos,* Brian Swimme and Thomas Berry illuminate the emerging holistic understanding of human life and the universe through bringing the two together into a single, sweeping historical narrative: "*the universe story*." Beginning with the "primal flaring forth" of the big bang, through some 14 billion years of development, human beings emerge as an integral part of this process. Swimme and Berry trace the emergence of human consciousness from Neolithic and primitive beginnings through the mythological era and subsequent developmental eras down to the present in which the "ecozoic" era is emerging to replace the "technozoic" mode of human thinking.

Their story of the universe is one way of revealing the reintegration of human thought and feeling into the integrated holism of the cosmos. Human beings are not a cosmic accident within the universe, and our thoughts and feelings are not "merely" subjective epiphenomena somehow attached to an objective, mechanistic world of facts and deterministic natural laws. Rather, we are an emergent aspect of the cosmos intimately connected with the primal flaring forth and directly related to the deepest mysteries of existence and the evolutionary process. We need to examine what happened, the reasons why human beings continue to wallow in disharmony, violence, and chaos, and we need to under-

stand evermore clearly the tremendous significance of emergent holism and our vital role within the new universe story.

1.2 Holism, Harmony, and Global Crises

THE principle of harmony that arises from transformative holism is associated in human thought with a number of complementary concepts that help articulate its meaning and implications. We associate harmony with peace, as opposed to conflict and war, with nonviolence, as opposed to violence and the mutual attempt of people to kill or harm one another, with cooperation, rather than forms of competition resulting in absolute winners and losers, with justice and fairness, as opposed to situations of injustice, exploitation, or domination, and with freedom—the freedom of people to live meaningful, flourishing lives in relationships with others and with society as a whole.

In past centuries, just as today, disharmony had terrible human consequences—as armies invaded the territory of others, legal systems persecuted innocent persons, class divisions in societies caused suffering to enslaved, oppressed, or marginalized peoples, and whole populations starved and perished in the midst of social settings abundant with food and other life-necessities. However, it was not until the mid-20th century that thoughtful people began to realize that disharmony was endangering the very existence of human civilization and the ecological ability of our planet to sustain higher forms of life.

Jonathan Glover's book *Humanity: A Moral History of the 20th Century*, details the terrible failure of human civilization to achieve any degree of peace or harmony. Instead, the 20th century provides a disgraceful record of evermore technologically sophisticated means of human beings mass exterminating other human beings. Glover writes:

> The twentieth-century history of large-scale cruelty and killing is only too familiar: the mutual slaughter of the First World War, the terror-famine of the Ukraine, the Gulag,

> Auschwitz, Dresden, the Burma Railway, Hiroshima, Vietnam, the Chinese Cultural Revolution, Cambodia, Rwanda, the collapse of Yugoslavia. These names will conjure up others. Because of this history, it is (or should be) hard for thinking about ethics to carry on as before. (2000: 2)

The same technological sophistication that has made mass murder evermore efficient with push-button ease of execution has also made the human impact on the environment of the planet devastating for all the natural systems that make up its delicately woven biosphere. Entire forests can be cut down in the time that only 100 years ago appeared inconceivable to men working with hand axes and two-person cross-cut saws. Today, entire mountaintops can be removed and chewed up by giant machines to extract the random veins of coal contained in them (as is happening in West Virginia in the US).

Human beings begin to comprehend that we may be the cause of our own extinction. In fundamental ways, it is clear that we have been living in deep disharmony with one another and with the natural world that sustains us."These tools," scientist Arthur M. Young confirms, "provide not just the means for conquering nature but. . .the means for man's own destruction, and, hence, the challenge to achieve *self*-control, to attain the responsibility of stewardship" (1976: 162).

A global consciousness has begun to emerge that was very rare in human beings prior to the mid-20th century. It is a consciousness that we now face global crises and global issues that threaten our existence on Earth. It began to dawn on thoughtful people everywhere that we are faced with impending climate collapse—the transformation of our planetary climate into forms that no longer sustain higher forms of life and that could, in the process of collapse, engender out of control patterns of devastation such as mass extinctions or pandemics that wipe out the human species and destroy civilization (Speth, 2005). "What we are experiencing today," philosopher Hans Jonas writes, "is the paradox

of excessive success that threatens to turn into a catastrophe by destroying its own foundation in the natural world" (1996: 53).

A second crisis of global proportions involves the problem of depletion of the most fundamental resources necessary to life such as agricultural lands, potable water, clean air, and planetary forests. As the human population vastly expands every year, the resources on Earth available to support its population continue to dramatically shrink. I documented these environmental crises in some detail in my 2013 book, *The Anatomy of a Sustainable World: Our Choice between Climate Change or System Change.* "System Change," we shall see, means that our survival and our future depend not only on a spiritual and cultural paradigm-shift, but on achieving a genuine global social contract, which is an integral part of the holistic solution.

A third crisis threatening human existence of which thoughtful people have been aware since 1945 is the development of weapons of mass destruction such as nuclear weapons, as well as the development of technologically advanced conventional weapons to the extent that entire countries can be devastated in a number of hours. Today, the entire human population could be devastated in the event of a major nuclear war and its environmental consequences. As German theologian and philosopher Jürgen Moltmann puts this: "When the atomic bomb was invented and dropped on Hiroshima and Nagasaki in August of 1945, it was not just the Second World War that was ended. The whole human race had entered its end-time as well" (2012: 46).

As global thinker Hans Küng expresses this: "Just as the human race came into being, so it can pass away again—and our generation is the first in the long history of the Earth which proves to be technically able to destroy itself, by nuclear weapons or by eroding the ecological basis of its survival" (in Schmidt-Leukel, 1989: 183). Theologian Gordon D. Kaufman declares that "With our enormous technological power we may be bringing human history to a close. Before it is too late, we must learn to develop a politics of peacemaking and of interdependence rather than one

of self-protection and national sovereignty" (in Rouner, 1985: 134). In *Conscious Evolution,* Barbara Marx Hubbard writes:

> An irreversible shift toward conscious evolution began in 1945 when the United States dropped atomic bombs on Hiroshima and Nagasaki. With this dreadful release of power we penetrated one of the invisible technologies of nature—the atom—and gained the power that we once attributed to the gods. This capability, combined with other rapidly developing technologies such as biotechnology, nanotechnology (the ability to build atom by atom), and artificial intelligence, if used in our current state of self-centered consciousness could lead to the destruction of the human race. (1998: 9)

While poverty, misery, and disorder continue to grow everywhere on the Earth, the nations of the world spend well over one trillion US dollars each year on militarism and war preparation. While the resources of Earth continue to rapidly deplete, while climate change increasingly devastates entire portions of the Earth with droughts, hurricanes, floods, and rising sea levels, the militaristic competition of warring nation-states prevents any meaningful cooperation or collective action to prevent total disaster for Earth and its citizens.

These global crises demand analysis with regard to their causes and the background paradigm from which they emerged. We will see that this analysis reveals a consistent pattern—that I call the early-modern paradigm—in which modern man appears alienated, materialistic, secularized, and relativistic. But the convergence of scientific breakthroughs and philosophical insights today are reversing this entire picture that was fostered, for example, well into the 20th century by some Existentialist writers like the early Jean-Paul Sartre: the idea that human life appears as a useless passion vainly striving in a meaningless universe. "The pursuit of ends inspired by the Newtonian paradigm," philosopher Errol E. Harris writes, "has plunged humankind into a global crisis from which it can extricate itself only by thinking globally"

(2000b: 108). We are emerging from that nihilism into a new Renaissance, a new dawn of day, a new and exciting breakthrough of consciousness, insight, meaning, and a new love of life.

The question of harmony and its implications is clearly no longer merely a theoretical question for philosophers and cultural thinkers. Today, it is an absolutely vital question of survival, of restoring the possibility of a decent future for subsequent generations. We will see that dealing with the global crises that threaten human existence is directly related with the imperative to establish a world based upon human dignity and human flourishing, a world that will include both a spiritual renaissance and a practical, planetary social contract.

The emerging new paradigm understands that our situation at this point in history is unique. We must surely comprehend the ways in which the outdated early-modern paradigm remains an impediment to a viable and sustainable world order. Yet we must also realize the uniqueness of the present—there are few past precedents for how we are to move into the future because global awareness of our single fragile planet and the technology for destroying it did not previously exist in history. Today, we must envision a new, holistic future. We must start from this vision and allow it to guide our actions in the present, drawing us creatively forward toward a truly transformed future.

The revolutions in the sciences that have confirmed a universe that is holistic through and through, including the holism of our planetary ecology, have also confirmed the holism of our humanity in which our integrated capacities for reason, intuition, and love give rise to our ability to imagine a transformed future. In Paul Ricoeur's words:

> No doubt the understanding of the primordial first, then of the fallen in and through the primordial, requires a kind of imagination, the imagination of innocence or a "kingdom" wherein the quests for having, power and worth would not be what they in fact are. But this imagination is not a fanciful dream; it is an "imaginative variation," to use a Husserlian term, which manifests the essence by breaking the pres-

> tige of the fact. In imagining another state of affairs or another kingdom, I perceive the possible, and in the possible, the essential. (1967: 170).

An immense world-transformative hope arises in those who have grasped the new holism, a new vision of a decent human future of peace and justice, and a human future in harmony and fulfillment in relation to our planetary biosphere. We will see that, like Ricoeur, many thinkers today are recognizing the power of imagination to identify something "essential" about human and cosmic holism, the actualization of which lies in the future as a very real human possibility. We will explore below the basic causes of our present planetary condition of fragmentation, disharmony, and ever increasing planetary disaster and outline some principles of harmony that are necessary for creating a decent human future, focusing especially on the questions of ethics, government, law, and the rule of law in human affairs.

1.3 The Age of Static Holism (Ancient and Medieval World Views)

In their book, *The Universe Story,* Swimme and Berry attempt to bring together human knowledge from many scientific and cultural sources to provide a coherent picture of human life as an integral part of the emergent-evolutionary process from the originating explosion of the Big Bang to the present. This kind of endeavor may ultimately be what is necessary if we are to discover a path to harmony with one another and with nature. The sad history of the 20th century has made clear that we are in fundamental disharmony with both dimensions—with one another and with nature. The issue has to do with the historical emergence of human beings out of nature and into modes of self-consciousness that appear to make living in harmony impossible.

As Swimme and Berry express this: "the drama of self-consciousness takes place in five phases: the primordial emer-

gence of the human; the Neolithic settlements; the classical civilizations; the rise of nations; and the Ecozoic Era" (143-44). Their book places the development of self-consciousness within the larger universe story and shows in what ways our present disharmony reflects the fact that we have not yet understood that story. The story is that of the contemporary scientific discovery of the holism of the universe and the articulation of that holism in the diverse development of human beings and human civilization.

Our disharmony with the planetary biosphere, and with other people, cultures, and nations, is the consequence of our limited view that fails to see the deeper *unity-in-diversity* of the entire process. Human self-awareness has emerged out of this evolutionary process, but this self-awareness remains trapped at the level of polar-opposites—my religion versus your religion, my nation versus your nation, my race versus your race—within a contemporary set of assumptions that Swimme and Berry call "Technozoic." Study of this historical development can bring us to an awakening to the *unity-in-diversity* of the whole. *The universe story*, in a very real sense, is also our story.

A number of thinkers who chronicle the rise of human self-awareness focus on the Axial Age as the historical era that was central to the emergence of our present level of self-awareness. Karl Jaspers (1953), for example, underlines the importance of the worldwide changes that took place approximately between 800 and 200 BCE, also emphasized by Swimme and Berry and by John Hick in his 2004 book, *An Interpretation of Religion*. During this period human beings became capable of clearly distinguishing their personal subjective beliefs, attitudes, and responses from the objective world around them that operated independently of this subjective dimension.

The objective world could be understood as governed by laws of its own, potentially discoverable by human reason, and the subjective world could be understood as providing a freedom of action in which humans could alter and manipulate their environment according to their subjectivity, according to their values,

perceptions, and beliefs (Hick, 2004). The stage was set for the human drama that would be played out worldwide for the next twenty-five hundred years: the objective laws of nature in relation to human freedom of action. With the Axial Period, therefore, a new dimension develops within our universe—openness to the future. A creature has emerged much less determined by its past but open to new possibilities in the future.

My 2008 book *Ascent to Freedom: Philosophical and Practical Foundations of Democratic World Law* traces this drama as it moved from the Axial Age through three broad civilizational paradigms from the ancient world to the present. It names the first civilizational paradigm the "Age of Static Holism." Through the Ancient and Medieval eras the dominant paradigm looked at the world and human life in terms of a static, integral unity. In the West, prior to the rise of Christianity, Plato and Aristotle articulated versions of this unity in which the order and harmony of the cosmos were discoverable by, and reflected in, human reason.

There was, therefore, an integral continuity between the harmonious constitution of the cosmos and human life. For both Plato and Aristotle, each in their own way, leading a "philosophical" life meant using reason dialectically and dialogueically to move up a ladder of ever-greater maturity and understanding toward true intellectual and spiritual harmony with the laws of the holistic cosmos. For Aristotle, all living things were ensouled, and understanding the human soul (as the form of the body), was part of understanding the holistic and organic order of the cosmos itself. The primary impediment to harmonious and just society for these thinkers was *ignorance*, and the key to promoting harmony on the Earth was both education and the construction of good human institutions that mirrored the harmony of the cosmos.

The ancient masters, prophets, and religious teachers predominantly understood the universe as a cosmic whole and both intuited and reasoned the many human connections with this whole. Human beings were most often understood by them as a microcosm of the macrocosm. They developed various forms of intellec-

tual and meditational discipline to bring students into harmony with the higher order of things. Within ancient Greek cultures centering on the 6th century BCE, Parmenides declared that "thinking and the object of thought are the same," Democritus concluded that "man is a small 'ordered world' [*kosmos*]," Anaxagoras stated that "mind set in order all that was to be, all that ever was but no longer is, and all that is now or ever will be." (Wheelwright 1966: 98, 184, 163). For these thinkers, the human mind *participated* in the larger mind of the universe.

In this same ancient Greek culture, Heraclitus concluded that "man is not rational; there is intelligence only in what encompasses him" (ibid. 74). Human intelligence, for Heraclitus, is activated when we attend to the divine *Logos*, hidden within the flux of phenomena. For Pythagoras, the relation of the human mind and the cosmos was confirmed through study of the sacred, mathematical cosmic order, for Plato it was through the practice of dialectic leading from the flux of phenomena to the intelligible forms (*eidos*), for Aristotle illumination came through contemplation of the increasingly perfect harmony of the intelligible world ascending to the Unmoved Mover, for Plotinus, the holistic principle at the heart of all things was directly experienced through contemplative and philosophic meditations leading to union with the *One*.

The paradigm articulated by these thinkers became fundamental to ancient Western civilization moving into to the Christian era that followed. For the latter, the static harmony of the cosmos was the creative product of an all-wise and all-good God concerned with human redemption, harmony, and flourishing. It is true that this vision of harmony was somewhat undercut by the Augustinian doctrine of original sin according to which the original natural harmony created by God was disrupted by human sin, making it impossible for human beings to live in harmony naturally, and requiring an external divine interference and a cosmic redemption. As we shall see, however, the concepts of grace and redemption need not be understood in terms of a *deus ex machina*

judging, condemning, and/or redeeming the world from outside.

Indeed, not only did Judaism and Christianity develop a messianic vision of a future holistic redemption, a concept of natural law also developed within that tradition that continued even during the era of original sin. Just as the cosmos was structured in a holistic and lawful fashion by God, so human beings could discern and live by ethical principles that likewise came from the supreme source. St. Paul writes in Romans 2:14 that "when Gentiles who do not have the law do by nature as the law requires, they show that the law is written on their hearts." Harmonious social and personal life was theoretically possible on Earth since its natural laws were available to every person as moral laws written on the human heart. Today, the work of Paul Ricoeur, for example, studies the natural dynamic of the "fallenness" quality of human experiences and illuminates the possibility of experience deriving from a primal openness to being that does not confuse "this spontaneous and tendential attachment to living with a real, actual and prior downfall" (1967: 143).

The ancient paradigm of static holism is also found at the heart of all the other great world religions: Judaism, Islam, Buddhism, Hinduism, Shintoism, Confucianism, and Taoism. In the most ancient of scriptures known as the Vedas, for example (which form the spiritual roots of the multiplicity of religions known as Hindu) the emphasis is on both spiritual and material harmony with nature. In Buddhism, the holistic concept of the "interdependent coorigination" of all things is fundamental, as is the famous concept of Tao (cosmic interdependence and harmony) in Taoism. The Shintoism that the present writer experienced in Japan is replete with a sense of harmony in nature and between humans and nature. For Confucius, the concept of *jen* or 'compassionate humanness' was essential for harmony and was embraced by the reality of *li* indicating a sacred order of social and cosmic harmony (cf. Fingerette, 1972).

The core ideas of holism are found in the ancient scriptures of all these religions. This holism is being reborn today as a cre-

ative, dynamic, evolutionary holism that sees universal holism as emerging ever more profoundly through the world process itself. We no longer look to unchanging structures of divine, cosmic, and human law. Instead, we look forward to an emergent future transformed by ever-deeper relationships of harmony, peace, and ecstatic bliss.

Today, the vision of one world, and a future fulfillment within that one world, implicit in the ancient texts, must become an actuality if we are to survive on this planet. We have reached tipping points, limit points, beyond which there is no viable future without holistic transformation: institutional, cultural, psychological, and spiritual. Our task, our "imperative of responsibility" in the words of Hans Jonas (1984), is to make the ancient holism actual and concrete for all of us on this tiny planet Earth. Our task is "practical utopia," with emphasis on the practical: the unity of the human project actualized in one world of institutionalized and actualized unity-in-diversity.

1.4 The Age of Fragmentation (Early-Modern World Views)

THE Age of Static Holism began to disintegrate in late medieval times, not in the least because of the Black Death that wiped out well over 30 percent of the population of Europe during the 14th century. During the subsequent two centuries, however, developments took place that had worldwide implications. Thinkers such as Tycho Brahe, Johannes Kepler, and Galileo Galilei discovered the systematic applicability of mathematics to nature. "The book of nature is written in the language of mathematics," proclaimed Galileo, and creative thinkers from Spinoza to Descartes to Hobbes, to Newton attempted to work out the epistemology and cosmology that made this truth possible.

A new paradigm was in the process of being born. In the 17th century, the holism of Spinoza's thought ultimately lost out to a struggle between the mind-body dualism of Descartes (whose

Meditations on First Philosophy was first published in 1641) and the materialist monism of Hobbes (whose *Leviathan* appeared in 1651). These two options seemed to be the primary alternatives. For Descartes, the physical world of extended substance (which included the body) was singularly subject to mathematical determinism, but the mind was of a different non-material substance altogether. For Hobbes, on the other hand, the mind was simply part of the deterministic world of matter.

These epistemological and cosmological developments culminated in the 18th century triumph of the Newtonian world view that seemed to provide an explanatory framework for all bodies in motion anywhere on Earth or in the universe. They also triumphed through the adoption of a dogmatic empiricism first systematically formulated by John Locke, George Berkeley, and David Hume. Even Immanuel Kant, who reacted against the apparent skepticism implied in Hume's radical empiricism by positing *a priori* structures of the human mind that restored the universality and credibility of knowledge, still retained the assumption that all knowledge of the physical world was a product of the empirical senses, resulting in a Newtonian world view.

The Newtonian or early-modern paradigm was in the process of emerging that (because it appeared so evidently successful in predicting, controlling, and understanding the world) rapidly spread worldwide. The world was conceived as a gigantic mechanism, built up from indivisible simple parts called atoms, and governed deterministically by the mathematically precise laws of universal gravitation within a framework of absolute space and time. In contrast to that objective "external" world was the human mind. And its values, desires, and thoughts were often considered "merely subjective." Matthew Fox writes:

> For Descartes, since body is machine, people are souls that are bodiless. The soul was *res cogitans* as distinct from *res extensa.* Like Plato, Descartes posited soul as a distinct substance weighed down by body, saying, "our soul is in its nature entirely independent of the body." From his time

> on, "Western thought fell victim to a dualism of body and soul hitherto unknown" and soul was now considered exclusively as subjectivity. (1990: 261)

In *Apocalypse and Paradigm,* Harris studies the early-modern paradigm at length. He concludes that there were eight cosmological assumptions behind this paradigm: (1) an absolute frame of space and time, (2) materialism and mechanism, (3) atomism, (4) reductionism, (5) the assumption that all relations are external, (6) the demand for unbiased observation and value free science, (7) rejection of teleological explanation, and (8) complete matter-mind dichotomy (2000b: 21-22). We will see in due course why every one of these features has been superseded by contemporary science, even though many of these features continue to cling to us in the forms of our dominant institutions and mental habits.

As Harris points out, this early-modern cosmology included an epistemology demanding detached, value free observation and "objective," scientific investigation. It assumed the materialism of the physical cosmos and the idea that physical bodies and atoms existed independently of one another in purely external relationships. Reason was to observe this mechanism "objectively," ignoring its own values, feelings, intuitions, and desires. This approach appeared immensely successful in terms of this set of assumptions, as creative individuals discovered how to apply observation and mathematics in ways that transformed our physical environment through inventions of all sorts.

It also engendered the rise of capitalist economic relations, beginning with the goldsmiths and entrepreneurs of the 15th and 16th centuries (a system that appeared to promote unlimited economic growth). And it gave rise to the birth of the modern system of sovereign nation-states, usually dated from the Treaty of Westphalia in 1648. It led to the industrial revolution during the late 18th and early 19th centuries (which appeared to promise ultimately making the cheap manufactured goods and scientifically grown foods necessary for life available to everyone on Earth).

Even though the Newtonian cosmology did not appear able to explain mind, that is, human moral choices, human freedom, or rational capacity (except either as an unconvincing reductionism that equated all these things with deterministic brain processes, or a metaphysical dualism that saw mind and matter as entirely different things), its success in controlling the material world allowed it to spread very rapidly throughout the globe. As physicist Henry Stapp asserts:

> In a coherent understanding of nature, all parts must stand together in a way such that none can stand alone. Yet classical physics is so internally coherent as to preclude any rationally ordained coupling between the physical reality it describes and anything else. Classical physics not only fails to demand the mental, it fails even to provide a rational place for the mental. And if the mental is introduced *ad hoc,* then it must remain totally ineffectual, in absolute contradiction to our deepest experience. (In Kitchener, 1988: 38)

Classical physics of the early-modern period was "internally coherent" but incomplete. It had no place for mind or values within its conception of nature and the scientific method. Today, evolutionary thinkers and scientists overwhelmingly see "mind" and "consciousness" as aspects of the space-time-matter-energy processes of the universe itself. As complexity develops so do emergent levels of mind-consciousness, already implicit in the simpler processes that predate life. Jay McDaniel sums this up:

> Even ostensibly inorganic matter, at least at the quantum level, has mind-like properties, meaning that consciousness is an expression of, not an exception to, the kind of energy from which the universe as a whole emerges. There is an ontological continuity between physical energy and consciousness, a continuity of matter and mind. (2005: 51)

In classical physics, even God was relegated to the role of cosmic watch-maker by Deism and Enlightenment thought. Since

the world was totally determined by the laws governing bodies in motion, there was no role for God except as a demiurge-creator who set the entire process in motion at the beginning and subsequently played no role in its functioning. As the French mathematician and astronomer Pierre-Simon Laplace famously remarked when asked about a role for God: "I have no need for that hypothesis," manifesting, in the words of Ken Wilber, "the empiricist (and behaviorist) psychology that would seize and freeze the Western soul for almost three centuries" (1998: 79).

God was relegated to an apparently contingent role in relation to the mechanistic universe, and mind remained an apparently insoluble mystery. Nevertheless, the scientific revolution of those centuries had placed great technological and instrumental power into human hands. Physicist Fritjof Capra, on the other hand, describes the reintegration of mind into our contemporary scientific concept of nature, extending beyond self-conscious reasoning to nature and the entire cosmos:

> The fact that the living world is organized in multileveled structures means that there are also levels of mind. In the organism, for example, there are various levels of "metabolic" mentation involving cells, tissues, and organs, and then there is the "neural" mentation of the brain, which itself consists of multiple levels corresponding to different stages of human evolution. The totality of these mentations constitutes what we would call the human mind. Such a notion of mind as a multileveled phenomenon, of which we are only partly aware in ordinary states of consciousness. . ..
>
> In the stratified order of nature, individual human minds are embedded in the larger minds of social and ecological systems, and these are integrated into the planetary mental system—the mind of Gaia— which in turn must participate in some kind of universal or cosmic mind. The conceptual framework of the new systems approach is in no way restricted by associating this cosmic mind with the traditional idea of God. . . In this view the deity is. . .nothing less than the self-organizing dynamics of the entire cosmos. (1982: 291-92)

The inability of the mechanistic Newtonian world conception to include mind into its picture of nature gave rise to a split between the "objective" world characterized by causal laws and mechanical interactions, and the human "subjective" world of "mind" dominated by desires, purposes, moral reactions, cultural ideas, etc. This inner world of the human mind was "merely" subjective, not part of the physical world studied by science, even when science turned toward the human being it was in terms of the brain and the physical make-up of the human being. Reason was *devalued* from the high place it had held with the ancients to a merely instrumental and strategic figuring out how to satisfy human desires and purposes, the desires and purposes themselves being a-rational. Similarly, human values often appeared merely subjective or merely cultural to the early-modern thinkers like David Hume or Thomas Hobbes.

Our contemporary scientific world view (as we will see in more detail in Chapter Nine) understands that mind is a pervasive *natural* phenomenon of the entire universe, a phenomenon that includes, but is not limited to, the human mind. Ancient thinkers like Plato, Aristotle, and Plotinus viewed the holism of the cosmos as including mind—the human mind was microcosm of the cosmic mind. Hence, thinking and reasoning could discern real value in the universe and could determine the ethical ends or goals intrinsic to human life and its holistic cosmic framework. The early-modern paradigm, however, saw no cosmically embodied ends or goals, no *telos* or lure toward values, only blind mechanism. Ends or goals were now reduced to a-rational human desires, and reason was now merely an *instrument*, a *technique* for pursuing non-rational goals.

Sociologist Max Weber (1954) studied the development of the early-modern world system under the explanatory concept of "rationalization," which he understood as a predominantly *instrumentalization* of human reason. Since overcoming the "enchanted" medieval era of faith, society was oriented to "rationalizing" human life, to its progressive "disenchantment." The process of ra-

tionalization, according to Weber, supplied the explanation of the success of capitalism in which quantification, predictability, and regularity were essential to the expansion of a systematic and reliable profit-making regime. This regime was aided by the elaboration and bureaucratization of nation-state administrative systems.

The same calculability and capacity for mastery that early-modern science made possible for nature was now applied to human beings through the rationalization process. The domination of this "formal-procedural" rationality did not necessarily cohere with the possibility of a "substantive-value" rationality that had been prominent during ancient and medieval times and had provided a deep meaning and value for both thinkers and religious believers. A substantive-value use of reason to perceive the intrinsic values and goals of human life would have to await the 20th century rediscovery of holism.

The rationalization of capitalism and the bureaucratization of the nation-state undercut the medieval belief that both faith and reason could discover substantive value in the cosmos. Reasoning became merely instrumental. Reason, it was thought, did not provide objective ends of human action (or anything valuable in itself). It provided only the means for satisfying human desires. The ends became "subjective"—human desires, instincts, wants and needs were thought to determine the ends of action. After several centuries of this development, according to Weber, the over-all effect of this process of rationalization on human beings was the "loss of freedom" and "loss of meaning" inside the "iron cage" of late capitalism. Technique and instrumentality had dominated over freedom and any possible discernment of intrinsic values in human life.

Capitalism, as a pervasive economic system and pattern of life, developed as a global institution as part of this same early-modern paradigm: a process of rationalization in which reason was understood instrumentally, in terms of regularity, predictability, the development of administrative and bureaucratic systems, and the evermore effective mastery of both nature and human be-

ings. "Reason" was considered a methodological practice applicable to the calculations of profit and loss, production and consumption, and human beings were also viewed as "rational" in this way: as atoms or units (whether individual or corporate) who calculated costs and benefits to themselves from their economic (and other) interactions and made choices on the basis of such self-interested calculations. Nothing else was allowed to interfere with this dogma. As Ernst Bloch expressed this:

> The economy works like a detached and artificial being that runs and stops all by itself. This economy—which is the economy of abstract mechanization—does not work concretely and as a whole abstractly according to scientific laws. This is why the economic law of the circulation of goods is, as Engels said along with Hegel, a pure law of chance. . .. Capitalism was obviously equally interested in what could be well formulated and guaranteed as its juridical determination (significantly, it is the law of exchange that is the strictest); calculability demands that it not be interrupted by any rights of privilege whether they be of the feudal or other type. (1986b: 134-136)

The ends or goals to which human beings direct themselves were considered non-rational or irrational. Reason was instrumental and involved a calculation of means to such ends. The non-rational ends, typically understood, were wealth, worldly success, power, and pleasure—a perfect fit for capitalism and often considered to be fundamental drives of our "human nature." This required "calculability" and embracing the illusion that the laws of capitalism were scientific and impersonal. Morality had no place interfering with these "scientific" laws.

Karl Marx in *The Holy Family* refers to the ruling class under capitalism as equally alienated from their true human possibilities as the working class. However, the property-owning class, he declares, is "satisfied" with its illusion that the ends of life are success, power, and wealth. The process of rationalization had created a materialistic civilization governed by deterministic instrumental, technical, and strategic forms of rationality that was

incapable of seeing its own dehumanization. Following Marx, Herbert Marcuse remarks that:

> The intoxication with power has caused people to overlook the fact that, in spite of the progressive technicization and rationalization of contemporary society, man's *human* power over nature and "things" has diminished rather than increased!.... This is only one aspect of the fact that in capitalist society all human values are lost or placed in the service of technical and rational "objectivity." (In Wolin, 2001: 146)

A second institution studied by Weber that emerged as part of the same development of the early-modern paradigm was that of the system of territorially-based sovereign nation-states. As he points out, the elaboration of administrative and bureaucratic systems in these states, the keeping of accurate records, and the passage of private property and contract laws, vastly enhanced the advance of capitalism. And, as Karl Marx had also forcefully pointed out, the governments of these nation-states served as agents promoting the advance of their respective capitalist ruling classes. Capitalism and the nation-state system became two sides of the same coin. As contemporary social scientists Terry Boswell and Christopher Chase-Dunn conclude: "A system of sovereign states (i.e. with an overarching definition of sovereignty) is fundamental to the origins and reproduction of the capitalist world economy" (2000: 23).

Scholars commonly recognize that this system of territorially bound sovereign states was first implicitly formalized in the 1648 Treaty of Westphalia at the heart of the development of the early-modern paradigm. This system involved the same set of assumptions that characterized the rest of the emerging global civilization based on this paradigm: the nation-states were conceived of as atoms, as inviolable territorial units that stood in external relations to one another. Each state was autonomous over its internal affairs, just as the early-modern paradigm looks at individual human beings as autonomous over their bodies and subjective

thoughts and at corporations as autonomous over their employees (who obey the commands of management in the service of profits for investors).

Each state was independent in its foreign policy, and governed, it was assumed, by calculations of rational self-interest. Hence, like individuals and capitalist corporations, states were assumed to be governed by the same instrumental rationality that calculates self-interest in terms of non-rational values such as power, prestige, and economic advantage. The self-interest of smaller and weaker states is to ally themselves strategically with bigger, more powerful states, and the self-interest of bigger states is to prevail in the global competition for markets, resources, and cheap labor.

With the development of this early-modern paradigm, the Age of Static Holism had now been replaced by what I called in *Ascent to Freedom* the Age of Fragmentation. The system of capitalism is considered an amoral system governed by impartial economic laws (while it was thought that individual capitalists, on the other hand, may or may not be moral persons). Atomistic corporations and self-interested individuals struggle in competition with one another in external relationships, following these economic laws. As Wilber describes this Age of Fragmentation: "And so it came about, in this fractured fairy tale, that the interior dimensions of the Kosmos were simply gutted and laid out to dry in the blazing sun of the monological gaze." (1998: 79)

There is no cosmic, social, or moral unity embracing it all that generates a harmony of the whole, only absolute winners and losers. The same is true of the system of sovereign nation-states. They are in economic and political competition with one another, governed by strategic self-interest, and there is no effective system binding them all together that would prevent absolute winners and losers. War can destroy an entire country and turn its remaining citizens into slaves of a foreign power. That is just the way things are in the amoral world of nation-state power relationships.

The conflict, in both cases, can become truly absolute, resulting in the death of millions: economic warfare can result in mass starvation for entire populations, and militarized warfare in the violent wiping out of entire populations. After perhaps 60 million dead in the Second World War, the Korean War is estimated to have killed between 1 and 2 million people, the Vietnam War killed 3-4 million people, with no end in sight for the war system. According the one website, there are at least 70 wars going on in the world at the present time (www.warsintheworld.com). There is no sense of a redeeming *unity-in-diversity*, and no depths to human existence, that might mitigate the carnage.

Finally, as often pointed out in the critical academic literature, the economic competition and wars are far from independent of one another but are most often directly correlated (Petras and Veltmeyer, 2005). Wars have always been about markets, resources, slaves, cheap labor, or oil. The drive to domination or hegemony has always served such practical purposes. Capitalism and the system of sovereign nation-states form parts of a single world system based on early-modern premises that result in these kinds of patterns of fragmentation, mechanism, and conflict.

1.5 Some critiques of the Early-Modern System

I want to introduce these critiques of the Early Modern System in order to illustrate some commonalities revealed by the critical literature (of which we will see more in subsequent chapters) and to show the depth of influence of this paradigm through the present. These following critiques arise from somewhat different background perspectives, but nevertheless resonate with one another. In this volume, I am not attempting to offer a specific, detailed critical theory of all our modern difficulties, but rather a general overview of the civilizational characteristics in the present influenced by the Newtonian set of assumptions inherited from past centuries.

Russian Orthodox Christian philosopher Nicolas Berdyaev in his 1936 book *The Meaning of History* argues that the immense promise of the European Renaissance as an affirmation of life, beauty, and creativity was derailed by a process of progressive "mechanization" of human life. By the 19th century the spirit of the Renaissance had been overcome by the spirit of the machine. The domination of machines over nature also resulted in the domination and destruction of the creative human spirit:

> The conquest and subjection of external nature brings about a change in human nature itself; and, by its creation of a new environment, modifies not only nature but man himself. The invention of machinery and the resultant mechanization of life while in some ways enriching him yet impose a new form of dependence on him, a dependence, perhaps, even more tyrannical than that exercised by nature. A new and mysterious force, alien to both man and nature, now makes its appearance in human life; and this third, unnatural and nonhuman element acquires a terrible power over both man and nature. It disintegrates the natural human forms. (1936: 151 & 153)

For Berdyaev both modern capitalism and its response in an oppressive, uncreative socialism are the results of this mechanization of humanity in the modern era. Neither recognizes the spiritual depths and mystery of life and both disintegrate the human spirit within systems of domination (ibid. 218-220).

P.A. Sorokin, in his well-known 1941 book, *The Crisis of Our Age*, contrasts the "Ideational" system of truth that predominated in Medieval thought, and its subsequent development as an "Idealistic" system of truth, with the "Sensate" (empiricist) system that dominated the thought of the modern world. In the Sensate system, all knowledge, truth, and value are reducible only to what is confirmed by sensation, through empirical methods (1941:30-36). The crisis of the modern age is due to the fragmentation engendered by the Sensate system that attempts to reduce all truth and value to materialist and empiricist assumptions. He writes

(in italics) that "from *the integralist standpoint, the present antagonism between science, religion, philosophy, ethics, and art is unnecessary, not to mention disastrous*" (318). We need to restore wholeness to human understanding and sensibility by restoring an idealistic or "integral" mode of perception: "Human reason likewise combines into one organic whole the truth of the senses, the truth of faith, and the truth of reason. These are essentials of the idealistic system of truth and knowledge" (82).

In 1941 Sorokin was writing with a clear awareness of the rise of the Nazis to power in Germany and of the horrific atrocities of the Stalinist Soviet Union. He was trying to penetrate to the core of the civilizational problem that can make such inhuman social systems possible. He sees these systems, as products of a fundamental early-modern paradigm that denies reality and value to anything beyond the sensate. For Sorokin, the "integral" orientation functions as a fulfillment both for civilization and for individual life. The modern world, as he found it in the mid-20th century, was a world of fragmentation and loss of meaning, a world in which both the holism of harmony, the integration of perception, reason, and faith, and awareness of the depths of existence were missing.

Similarly, in his 1931 book *Man in the Modern Age,* philosopher Karl Jaspers reflects on the facts of the degradation and diminishment of individual human beings by mass culture:

> In the rationalization and universalization of the life-order there has grown contemporaneously with its fantastic success an awareness of imminent ruin tantamount to a dread of the approaching end of all that makes life worth living. . .. Man seems to be undergoing absorption into that which is nothing more than a means to an end, into that which is devoid of purpose or significance. But therein he can find no satisfaction. It does not provide him with the things which give him value and dignity. (62 & 83).

Again, for Jaspers, the inherently valuable ends and depths of human life are buried by the modern process of rationalization.

Within a civilization which is effectively organized to deny the value and dignity of the individual, persons seeking the restoration of meaning and freedom in life will need to be in rebellion:

> If man is to be himself, he needs a positively fulfilled world. When his world has fallen into decay, when his ideas seem to be dying, man remains hidden from himself as long as he is not able to discover on his own initiative the ideas that come to meet him in the world. . .. The mental situation today compels man, compels every individual, to fight wittingly on behalf of his true essence. . .. The first sign of awakening circumspection in the individual is that he will show a new way of holding himself towards the world. Selfhood or self-existence arises out of his being against the world in the world. (194-195)

For Jaspers, the quest to discover one's "selfhood or self-existence" includes becoming open to the depths of being that define and empower that selfhood. There is a cosmic framework, Being itself, that defines and illuminates personal selfhood and provides a holistic framework of harmony with oneself and the cosmos. This same "Encompassing" (awareness of the depths of Being) could also provide a framework for harmony and peace within human civilization. However, modern mass culture, with its domination of technique and instrumental reasoning irrespective of any substantive meaning and value for human life, threatens the integrity of the human self. It must be opposed.

A fourth philosopher concerned with what I have called the "Age of Fragmentation" is French thinker Jacques Ellul in his 1965 book, *The Technological Society.* The discovery of the mathematical structure of bodies in motion, and its applications to industrial and military uses, placed evermore power in the hands of the big capitalist corporations and the governments of militarized nation-states. As the analysis by Max Weber had shown, the purpose of the process of rationalization of society was power and the mastery of nature.

As Martin Heidegger put this in his 1950 lecture, "The Question Concerning Technology" (English publication 1977), the subject-object split in the modern world had developed into a division conceived of as "the autonomous will and its desires," on the one side, and the world as "standing reserve" on the other. This split, reductionistic at both poles, is what passes for reality, according to Heidegger, in our age of "the oblivion of being." An arbitrary "will to power" now faces a world that is simply a reserve for its manipulation and exploitation. No morality, no depths to being, no intrinsic values of any sort, no harmony.

Ellul examines our technological civilization from a similar perspective. Weber had already shown the predominance of instrumental rationality within the early modern paradigm. Ellul shows that technique, the extreme consequence of Weber's process of rationalization, has become an end in itself. What was *the means* to the realization of human interests (following Bacon's maxim that "knowledge is power") has taken on its own imperative—the technological imperative—and now dominates civilization regardless of human wishes. It operates not only throughout the mega-corporations of capitalism but through those technological power-systems called sovereign nation-states. Ellul writes:

> The interplay of the technical censorship with the pretended "anarchic" spiritual initiatives of the individual automatically produces the situation desired by Dr. Goebbels in his formulation of the great law of the technical society: "You are at liberty to seek your salvation as you understand it, provided you do nothing to change the social order." All technicians without exception are agreed on this dictum. It is understood, of course, that the social order is everywhere essentially identical: the variation from democracy to Communism to Fascism represents a merely superficial phenomenon. . ..
>
> For a long time it was believed that technique would yield a harmonious society, a society in equilibrium, happy and without special problems. This society would resign itself

> to an easy life of production and consumption based on an untroubled commercial ideology. This model of bourgeois tranquility seemed to correspond exactly to the preoccupations of technology. The *summum bonum* was comfort, and the ideal type was capitalist Switzerland or socialist Sweden. The sudden plunge of the technically most advanced societies into war and mutual destruction was a rude awakening for the bourgeois. An aberration? Scarcely. It had been forgotten that technique means not comfort but power. The bourgeois countries had developed their technical systems at a comfortable pace, until these systems had fully exploited their possibilities of orderly growth. Then technology, with its accelerated tempo, took over. The smaller nations were unable to keep up. And the great technical countries had willy-nilly to abandon their languid pace so they can accommodate themselves to the real tempo of the technical society. The result was that disproportion between the leisurely bourgeois mentality and the explosive tempo of technique to which we give the name war. A by-product of this ecstasy was a certain mystique. The American myth was born, presenting exactly the same religious traits as the Nazi or Communist myth. But it is different, as we have often noted, in that it is still in a spontaneous phase; it is not yet organized, utilized, and developed technically. (1965: 420-22)

Writing in 1965 of the myth of American exceptionalism, superiority, and manifest destiny, Ellul remarks that the American myth was not yet organized under the technological imperative (as happened to Germany under the Nazis and the Soviet Union under Stalinism), a totalitarian imperative that is the consequence of the supremacy of technique, for all technique is fundamentally about power. During the Cold War, the US claimed it felt "forced" to build evermore weapons of mass destruction (even though most thoughtful people were aware that substantial use of these weapons would wipe out civilization and possibly humanity itself) (cf. Harris, 1966).

Ellul points out that the imperative to manufacture these doomsday weapons goes substantially deeper than Cold War

fears of an implacable enemy. The technological imperative is a power imperative, inherently totalitarian. Today, Ellul's insight is substantially more compelling as we witness the wiping out of the *bourgeois* culture of personal freedom in the US, the militarization of its police forces, massive government secrecy, the war on journalism and freedom of the press, the implementation of totalistic system of surveillance (Roberts, 2014), and the pursuit of foreign wars and military actions throughout the globe (Parenti, 2011).

If it was possible to use newly invented nuclear weapons to wipe out entire cities with a single bomb (even though Japan had been clearly defeated with the entire city of Tokyo having been destroyed by firebombing six months earlier), the likelihood was that they would be used. If it was technologically possible to wipe out the Iraqi army (or that of some other small country) in just days, to invade and destroy an entire country using the "shock and awe" of impressive weaponry, the chances are that this would be done, regardless of the human consequences. If it is technically possible to spy on all worldwide communications through massive NSA computer systems, it is likely that this would happen.

The technological imperative, originating within the dominance of instrumental reasoning described by Weber—an instrumental-power imperative itself rooted in the early-modern paradigm of mechanism and materialism—has come home to roost in a growing worldwide system of human enslavement: the loss of freedom and the loss of meaning. The dominators are clearly enslaved to the technological imperative of power, just as much as their victims are enslaved to the dominators. Systematic use of torture and humiliation follow naturally from such a paradigm. The early-modern paradigm provides no grounds for harmony. Its ultimate implication is disharmony—war, injustice, terrorism, destruction of the environment, and totalitarianism.

1.6 The Age of Evolutionary Holism and the New Universe Story (Today's Emerging World View)

THE natural and social sciences of the 20th century experienced a paradigm-shift—across the board—from atomism and mechanism toward evolutionary and emergent holism. Today scientists know that everything evolves: from the universe itself to galaxy clusters, galaxies, solar systems, planets, biospheres, species, individual living things, societies, institutions, and psyches. Yet at the same time, this evolving multiplex universe exhibits a seamless wholeness, manifested in all its evolving parts, the parts themselves participate in "fields" or overlapping levels of wholeness.

Today, science has deeply understood that the entire cosmos is an evolving whole, and that our planet and the living creatures on it are intimate parts of this whole, the heavy elements that make organic life possible having come from earlier generations of exploding supernova stars. The physical planet on which we live is itself an evolving whole, and its evolution is intrinsically linked to the networks of living things that form intricate patterns of interdependence and holistic overlapping ecological fields everywhere, from the bottoms of oceans to the upper atmosphere. Cosmologist and holistic thinker Ervin Laszlo declares:

> For the past three hundred and fifty years, Western science has been dominated by the materialistic Newtonian paradigm. Cosmologies based on this paradigm envisaged the universe as a vast mechanism, running on the energy—the negative entropy—with which it was endowed at its birth.... However, the staggering energy sea discovered at the quantum level of the universe challenged the Newtonian concept of a closed clockwork universe. Another concept has been emerging, grounded in the insight that a deep, quasi-infinite medium or matrix subtends the world. (2014: 32-33)

In the language of paleontologist Pierre Teilhard de Chardin (1959) (which has become commonplace in contemporary discussions of evolution), the *geosphere* as an evolving whole cannot be separated from the *biosphere* as an encompassing, evolving whole that emerges out of the former as an increasingly more complex phenomenon, yet which cannot be separated from the physical dimensions that it incorporates within this emergent process. Subsequently, from the awakening of an evolving consciousness within the biosphere, developing from primitive sensation to higher forms of sensibility and awareness, there slowly emerged the phenomenon of human beings: the sphere of mind, the *noosphere*, evolutionarily ascending from both the Earth and the cosmos.

From this process of evolving unification of the geosphere to the biosphere there emerged this other dimension of encompassing unity in diversity, inseparable from the process but also irreducible to its physical dimensions. Mind now becomes part of the same process of emergent evolutionary holism: a dimension inconceivable apart from the geosphere and biosphere from which it emerges. The human mind now begins to understand that the cosmos itself, and all emergent evolutionary developments within it, is guided by a single, intrinsic cosmic (or divine) principle of unity in complexity.

The paradigm-shift to holism in the sciences began as far back as 1905 with the publication of Einstein's Theory of Special Relativity in which he showed that none of the fundamental aspects of the cosmos, including space, time, matter, motion, and energy, can be understood separately, independently from the rest. From that time forward, one discovery after another has confirmed the holism in human society, in the human species, in all of nature, and in the cosmos itself. This work is summed up in such books as Fritjof Capra's *The Tao of Physics* in which he writes:

> Quantum theory has abolished the notion of fundamentally separated objects, has introduced the concept of the participator to replace that of the observer, and may even

> find it necessary to include the human consciousness in its description of the world. It has come to see the universe as an interconnected web of physical and mental relations whose parts are only defined through their connections to the whole. (1975: 142)

Here we find the negation of all the fundamental elements of the early-modern paradigm and the rationalized world described by Max Weber and Errol Harris. Instead of objective, independent observers, scientists are now "participators." Instead of atomism, there is no notion of fundamentally separated objects. Instead of materialism and the elimination of mind from the sensate world, human consciousness is now an inseparable part of the unity. Instead of external relationships that characterize autonomous objects in relation to other such objects, we find "a web of physical and mental relations whose parts are only defined through their connections to the whole."

In other words, we find that the world and all its parts are characterized by "internal" relations, not external ones. When there is a change in one part, there are responsive changes in other parts and in the whole, for reality is a seamless web of relationships. Harris states that "the formulation of all physical laws depends essentially on our own perception and conception" (1988: 46). The technological imperative of instrumental power for power's sake (as if the observer or participator were not part of the equation) is fundamentally flawed and in complete contradiction to the deeper scientific reality that emerged during the 20th century.

Chapter Three of my book *Ascent to Freedom* quoted many contemporary sources concerning this holism, now conceived as an "Age of Evolutionary Holism," and I will not repeat this material here. However, *the universe story*, as told by contemporary cosmologists, is one in which the higher and more complex forms of life, including human beings and human consciousness, emerged as part of the process of "complexification"—from the evolutionary development of the whole as a moving and developing, but

nevertheless seamless, web. We have regained the holism of the ancient world at a higher and much more sophisticated level. As beings capable of openness to the future, we are capable of embracing this new paradigm and moving to a transformed, emergent relation to existence.

We have moved conceptually, in the words of Swimme and Berry, "from an abiding cosmos to an ever-transforming cosmogenesis" (223), a cosmogenesis in which the emergence of human beings was not an accident in a randomly developing evolutionary process. Rather, "this story incorporates the human into the irreversible historical sequence of universe transformations" (238). In other words, human beings as a single, emergent-evolutionary species are constituted not only as body-mind wholes but are integral to the evolutionary structure of the cosmos itself. Fragmentation is overcome, and celebration of the marvelous wonder and depths of existence can begin. In their book *The Conscious Universe: Whole and Part in Modern Physical Theory,* Menas Kafatos and Robert Nadeau assert:

> To put it differently, it was presumed that reductionism was valid, and, therefore, that one could analyze the whole into parts and deduce the nature of the whole from the parts. With the discovery of non-locality that picture is reversed—it is the whole which discloses ultimately the identity of the parts. Non-locality. . .forces the assumption that the universe is at the most fundamental level an undissectable whole. . .. (1990: 121)

Human beings emerged as a necessary feature of this "undissectable" wholeness. But perhaps celebration at this point would be premature, since this new paradigm of wholeness has not penetrated into the practices and institutions of civilization. The power of capitalism, the system of sovereign nation-states, and instrumental-technological rationality remain fundamentally entrenched. Even though we understand that we are committing what is often referred to as "planetary suicide," the mass me-

dia and the mass mentality refuse to give up either capitalism or sovereign states. As Harris puts this in *Apocalypse and Paradigm:*

> If the implications of this scientific revolution and the new paradigm it produces are taken seriously, holism should be the dominating concept in all our thinking. In considering the diverse problems and crises that have arisen out of practices inspired by the Newtonian paradigm, it is now essential to think globally. Atomism, individualism, separatism and reductionism have become obsolete, are no longer tolerable, and must be given up. This does not mean that analysis is useless, or that the examination of detail is unnecessary, but it does mean that reduction to least parts and examination of these will not by itself afford explanation of the structure of the whole they constitute. (90)

In *The Universe Story,* Swimme and Berry tell the story of a universal creative holism "from the primordial flaring forth to the Ecozoic Era, a celebration of the unfolding of the cosmos." The whole story, as it has been discovered in the 20th century, is indeed the holistic story. The early-modern paradigm, a mere four centuries in duration, was an aberration, a discordant note, within the symphony of the whole story. They refer to it, we have seen, as the "Technozoic" era: "The greater part of contemporary industrial society, it seems, is oriented to the Technozoic rather than to the Ecozoic. Certainly the corporate establishment, with its enormous economic control over the whole of modern existence, is dedicated to the Technozoic" (249-250).

Like Sorokin, Jaspers, and Ellul, they recognize the Technozoic as "a deep cultural pathology" (251) and emphasize a transformed mode of consciousness: communion, relationship, sharing, participatory, and openness to the depths of the cosmos in a way "that seems to be a new comprehensive context for all religions" (255). The universe evolves in an emergent evolutionary fashion, and its miraculous unfolding can inspire our peaceful and celebratory transformation to people in harmony with one another and with the natural world. Disharmony (in the form of war, exploitation,

violence, domination relationships, destruction of nature, and the objectification of others inuring us to their suffering) is overcome within the new, holistic paradigm embracing individuals, human civilization, the natural world, and the cosmos. Harmony prevails and internal relationships emerge into mindful awareness. Human beings can now come to recognize one another as brothers and sisters possessing a single human dignity and join together in a global social contract of unity in diversity. We are one with one another and with nature within an immense web of unity-in-diversity.

In his book *Global Responsibility: In Search of a New World Ethics*, Hans Küng agrees that the early-modern paradigm must be replaced by a "holistic way of thinking," by a "new covenant." He calls into question "the modern paradigm" which consists of "a science free of ethics; an omnipotent macrotechnology; an industry which destroys the environment; a democracy which is purely a legal form." "Modern scientific and technological thought," he says, "has from the beginning proved incapable of providing the foundation for universal values, human rights, and ethical criteria" (1991: 41-42). In the modern conception, he says, "reason, which is not involved in any cosmos and to which nothing is sacred, destroys itself." Harmony does not exist. On the other hand, in the new holism reason is again grounded cosmically and therefore can serve as a foundation for a new ethics of global responsibility:

> Even in the natural sciences, which for a long time regarded the world as a well-oiled machine, since Einstein's theory of general relativity, Heisenberg's quantum mechanics and the discovery of elementary particles, a holistic way of thinking has become established and with it a paradigm change from the classical mechanistic physics of the modern world. Instead of the domination of nature, what Ilya Prigogine calls a 'new covenant' between human beings and nature is becoming urgently necessary. (1991: 13)

The world, now understood as a holistic web of relationships, is a world in which all things exist in *interdependence.* Interdependence must not only be understood by a detached reason but must become the focus of values, passions, and loyalty. However, as Barbara Ward and Rene Dubos argue in *Only One Earth: The Care and Maintenance of a Small Planet*, the planet itself has yet to become the object of "rational loyalty" for most persons (1972: 220). Holism means "rational loyalty" to Earth, its citizens, and its living biosphere. As Swidler and Mojzes express this: "Never before did humanity possess the real possibility of destroying all human life—whether through nuclear or ecological catastrophe." Yet today, "there are solid empirical grounds for reasonable hope that the inherent, infinitely-directed life force of humankind will nevertheless prevail over the parallel death force" (2000: 83).

In her book *A Systems View of Education,* Bela H. Banathy defines "interdependence" as follows: "Interdependence of components within a system means mutual reliance and signifies that change in one component brings about change in others" (188). In his 1996 book, *The Web of Life: A New Scientific Understanding of Living Systems,* Fritjof Capra characterizes the ecological model in relation to the concept of interdependence:

> Interdependence—the mutual dependence of all life processes on one another—is the nature of all ecological relationships. The behavior of every living member of the ecosystem depends on the behavior of many others. The success of the whole community depends on the success of its individual members, while the success of each member depends on the success of the community as a whole (298).

In *The Liberation of Life* (1990), Charles Birch and John B. Cobb, Jr. write:

> The ecological model proposes that on closer examination the constituent elements of the structure at each level operate in patterns of interconnectedness which are not mechanical. Each element behaves as it does because of the

> relations it has to other elements in the whole, and these relations are not well understood in terms of the laws of mechanics. The true character of these relations is discussed in the following section as 'internal' relations.... Internal relations characterize events. For example, field theory in physics shows that the events which make up the field have their existence only as parts of the field. These events cannot exist apart from the field. They are internally related to one another. (1990: 83 & 88)

The new universe story, now understood by scientists worldwide (the implications of which have not yet transformed our dominant institutions or patterns of thought), is the story of creative evolutionary and emergent holism. The dynamic evolutionary movement from the primal flaring forth to the present exhibits two interrelated dimensions of holism: First, the world exhibits an abiding deep unity constant throughout its 14 billion year history, what holistic thinker Ervin Laszlo (2007) calls the "Akashic Field" (with reference to the abiding cosmic plenum described in classical Hinduism):

> We are all connected, intrinsically and permanently connected. That is the new paradigm, the Akasha paradigm, emerging at the cutting edge of the sciences. We only disregard this new insight at our own risk. If we can open up our mind and our heart to our oneness with the world we will come up with a solution. The precondition for this is to allow the wisdom that is in us to become operative. This wisdom has guided people through the age.... The only way we can do this is by acting together at a deep level. By sensing our oneness, by cooperating, by becoming coherent. We are no longer coherent either with each other or with the world around us. (2014: 77-78)

Werner Heisenberg writes that "the world thus appears as a complicated tissue of events, in which the connections of different kinds alternate or overlap or combine and thereby determine the texture of the whole" (in Harris, 2000b: 86). Second, the world

appears as an *emergent process* of complexification in which holism emerges on evermore advanced levels, the most complex of which known to us is the human level. Paleontologist Pierre Teilhard de Chardin writes:

> I doubt whether there is a more decisive moment for a thinking being then when the scales fall from his eyes and he discovers that he is not an isolated unit lost in cosmic solitudes, and realizes that a universal will to live converges and is hominised in him. In such a vision man is seen not as a static center of the world – as he long believed himself to be – but as the axis and leading shoot of evolution, which is something much finer. (1955: 36)

Philosophical cosmologist Milton K. Munitz writes: "The universe and human life are coupled. If we are to understand either, we need to move in both directions: from the universe to man and from man to the universe, since they are mutually involved in a very special way" (1986: 237). And theologian Jürgen Moltmann writes:

> The new emergence theories break down this frontier in the concept of evolution. They tell us that something new does come into being which cannot be explained from the already given components. . .. The whole is a new organizational principle, which makes parts out of particles and links the parts to the whole and to one another. . .. And in each qualitative leap we cannot explain the new whole from the given parts. (2012: 125)

Human life is clearly an evolutionary whole. But human institutions and consciousness have not evolved to manifest this wholeness. Rational loyalty and compassionate solidarity with the wholes of which we are a part is still missing. Rather, our institutions and ways of life are fragmented, broken, and endangering our future on the Earth. If human institutions reflected the wholeness of humanity, the transformation of consciousness

would soon follow in a pattern that has been repeatedly shown throughout human history.

Holism is now the presupposition for the possibility and meaning of the parts on every level, from the cosmos to the planetary biosphere to human life. We must make a paradigm-shift from starting with the parts and trying to build wholes (peace, justice, sustainability, etc.) to an orientation that *starts from the whole* on every level. We must think of our individuality, our culture, our economics, and our nation as deriving from the holism of humanity, not the reverse. The transformation of the primary perspective, of our starting point, is one of the keys to human liberation.

Our consciousness and our institutions are reciprocally related to one another. And, according to the principle of holism on which the universe is constructed (articulated here by numerous thinkers) the uniting of humanity under democratic world law would engender a qualitative leap: the whole is more than merely the sum of its parts and new qualities would emerge with the wholeness of human institutions and consciousness that would be very powerful, liberating, and would give us our best prospect for a world based on peace, justice, and sustainability.