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In 1962, after fifteen years of intensive study of the history of science, Thomas Kuhn, one of the most influential philosophers of the twentieth century, published his important and ground-breaking book, *The Structure of Scientific Revolutions* (Kuhn 1962). He demonstrated that the history of science is not a process of gradual accumulation of data and formulation of increasingly accurate theories. It breaks into distinct periods, each of which is governed by what Kuhn called *paradigm*—a constellation of basic metaphysical assumptions, beliefs, values and techniques shared by the members of the academic community. Scientific activity during such periods ("normal science") is essentially problem-solving within the conceptual constraints of a paradigm, comparable to a chess game.

This situation continues until observations reveal new facts that seriously question the basic assumptions of the leading paradigm. After mainstream scientists concede that the challenge to the existing belief system cannot be handled by questioning the expertise, integrity, or sanity of those who present it, original thinkers formulate daring alternatives to the established way of thinking in an attempt to resolve the conceptual crisis. This period of "abnormal science" ends when one of these alternatives is accepted as the Holos paradigm that governs the theory and practice during the next historical period.

It has become increasingly clear that we are currently experiencing a major paradigm shift comparable in its scope and importance to the Copernican revolution. In the course of the twentieth century, various disciplines of modern science have amassed an extraordinary array of observations, which cannot be accounted for or adequately explained in terms of the materialistic worldview. These "anomalous phenomena" came from a wide range of fields from astrophysics, quantum-relativistic physics, and chemistry to biology, anthropology, thanatology, parapsychology, and transpersonal psychology. A very good definition for "anomalous phenomena" is "what is left after we apply a bad theory." The fact that so many scientific disciplines constituting the current materialistic worldview are plagued by these baffling observations and paradoxical findings indicates urgent need for a radical paradigm change. Pioneering researchers formulated revolutionary new theories attempting to solve the disconcerting enigmas in their respective fields. Over a period of several decades, a radically different map of reality and of human nature started to come into view; it became known as the emerging paradigm. Among these new perspectives were David Bohm's theory of holomovement, Karl Pribram's holographic model of the brain, Rupert Sheldrake's theory of morphogenetic fields, Ilya Prigogine's theory of dissipative structures, transpersonal psychology, and others (Bohm 1980, Pribram 1971, Sheldrake 1981, Prigogine 1980). However, these attempts constituted a mosaic of attempts to address specific problems that have emerged in the context of individual disciplines. They lacked mutual cohesion and remained disconnected enclaves in the tapestry of the materialistic worldview.

Ervin Laszlo's systemic inter- and trans-disciplinary research, extended over a period of over half a century and culminating in this book accomplished something that none of the earlier revolutionary approaches were able to do. His connectivity hypothesis and his concept of the Akashic domain provided plausible explanation for the anomalous phenomena, paradoxical observations, and paradigmatic challenges plaguing a wide range of disciplines and made it possible to integrate them into a comprehensive theory of the universal information field, a "theory of everything" (Laszlo 2007). In his unique systemic and interdisciplinary approach to problem-solving, Laszlo now succeeded in producing a map that dissolves the boundaries between natural science and the study of mind and spirituality. In this Foreword I will focus on this last aspect of Ervin Laszlo's work.

I had the pleasure and privilege to be at the cradle of transpersonal psychology, a discipline attempting to integrate the best of modern science with authentic spirituality, and have been involved for over half a century in consciousness research. My special area of interest has been the exploration of a large and important subcategory of non-ordinary states of consciousness that have unique healing, transformative, heuristic, and even evolutionary potential. I have coined for these states the term "holotropic" (literally "moving toward wholeness" from the Greek *holos* = whole and *trepo/trepein* = moving in the direction of something). (Grof 1985, 2000, 2012)

Novice shamans experience holotropic states during their initiatory crises and later in life induce them in their clients for therapeutic purposes. Ancient and native cultures have used these states for millennia in rites of passage and in their healing ceremonies. They were described by mystics of all ages and initiates in the ancient mysteries of death and rebirth. Procedures for inducing them ("technologies of the sacred") were also developed and used in the context of major world religions—Hinduism, Buddhism, Jainism, Taoism, Islam, Judaism, Zoroastrianism, and Christianity. Additional important categories of holotropic states are experiences induced by psychedelic substances, near-death experiences (NDEs), and UFO-related events and phenomena.

My own introduction to holotropic states of consciousness happened in November 1956 when—as a beginning psychiatrist—I volunteered for an experiment with LSD-25, a new investigational substance that was sent to the Psychiatric Department of Charles University in Prague by Sandoz Pharmaceutical Company in Basel. In my session, I had a magnificent experience of cosmic consciousness, which had an enormous impact on my professional and personal life. Following it, the study of holotropic states of consciousness became my profession, vocation, and passion (Grof 2006ab).

I started using psychedelics as adjuncts to psychotherapy after three years of laboratory research of these substances in the context of a large multidimensional interdisciplinary project. The extraordinary inter- and intra-individual variability in the reactions of our experimental subjects was unprecedented in the world of pharmacology. It made clear that these substances were not ordinary pharmacological agents with reasonably predictable effects. They were potent catalysts of the unconscious processes allowing the material from the depth of the psyche to emerge into consciousness. I realized we were not doing psychopharmacological research, but exploring the human psyche with the help of extraordinary new tools. It was not an exaggeration to compare the potential significance of psychedelics for psychiatry to the crucial role the microscope plays in biology and medicine or the telescope in astronomy.

From the very beginning, the use of serial sessions with psychedelics for selfexploration and psychotherapy brought about experiences and observations that challenged the existing paradigm. In the early sessions of the series my patients were experiencing colorful geometrical (fractal-like) visions and reliving memories from childhood and infancy. However, when the sessions continued or the doses were increased, a new phenomenon emerged: the same clients now discovered in their psyche a trans-biographical domain that is not recognized by mainstream academicians and clinicians. They started reliving episodes from their biological birth and releasing the emotions and physical feelings that they had held back since the time they came into this world. Although this challenged the belief of traditional psychiatrists that it is not possible to have a memory of birth, because the brain of the newborn is not completely myelinized, it did not represent a major conceptual challenge. ("myelinized" refers to the development of the myelin sheath of proteins and phospholipids that surrounds healthy nerve cells.)

The myelinization argument is very unconvincing and even absurd considering that prenatal research has demonstrated sensitivity of the fetus already *in utero*. In addition, memory exists in primitive organisms that do not have a brain at all and there is general agreement in professional circles that the quality of nursing and even *bonding* (exchange of looks between the mother and the newborn) has profound effect on postnatal life (Klaus, Kennel, and Klaus 1985, Kennell and Klaus 1988). The illogical denial of the importance of birth is very likely due to repression of the frightening memory of a very painful and potentially life-threatening situation. However, as psychedelic research continued, more formidable conceptual challenges emerged. In the sessions appeared memories of various stages of prenatal life, fast experiential replays of the entire embryogenesis, and even cellular memories of spermatozoids and ova during the process of fertilization (Grof 2006b).

Further probing of the depth of the unconscious revealed another vast transbiographical experiential domain for which I chose the term *transpersonal*. It comprises a rich array of experiences in which consciousness transcends the boundaries of the body/ego and the usual limitations of linear time and three-dimensional space. It took me three years to map this territory before I felt that the new cartography included the most important categories and types of transpersonal experiences and phenomena. By that time I realized that this understanding of the psyche was not new at all. Certain parts of it had been described by psychoanalytic renegades Otto Rank, C. G. Jung, and Sandor Ferenczi (Rank 1929, Jung 1956 and 1959, Ferenczi 1938), others bore resemblance to the great spiritual systems of the East that Aldous Huxley included in his *Perennial Philosophy* (Huxley 1950). My map integrated all these previously disconnected insights into the human psyche and complemented them with new observations from modern consciousness research (Grof 1985, 2000, 2012).

Varieties of Transpersonal Experiences:

Experiential Extension of Space and Time

Transcendence of Spatial Boundaries

Experience of dual unity Experiential identification with other persons Experience of group consciousness Experience of the field of consciousness of humanity Experience of identification with animals Identification with plants and botanical processes Identification with life and all creation

Transcendence of Temporal Boundaries

Perinatal experiences Fetal and embryonal experiences Experience of conception on a cellular level Ancestral experiences Racial and collective experiences Past life experiences Phylogenetic experiences Experiences of the evolution of life Cosmogenetic experiences Psychic phenomena involving transcendence of time (psychometry, vertical clairvoyance, past life reading)

Experiential Exploration of the Microworld

Organ and tissue consciousness Cellular consciousness Experience of DNA Experiences of the molecular, atomic, and subatomic world

Experiential Extension Beyond Space, Time and Consensus Reality

Spiritistic and mediumistic experiences Energetic phenomena of the subtle body (auras, nadis, chakras, meridians) Experiences of animal spirits (power animals) Encounters with spirit guides and suprahuman beings Experiences of universal archetypes Sequences involving specific blissful and wrathful deities Intuitive understanding of universal symbols Creative inspiration and the Promethean impulse Experience of the Demiurge and insights into cosmic creation Experience of Absolute Consciousness The Supracosmic and Metacosmic Void

Transpersonal Experiences of Psychoid Nature

Spontaneous Psychoid Events

Supernormal physical feats Spiritistic phenomena and physical mediumship Recurrent spontaneous psychokinesis (Poltergeist) UFOs and alien abduction experiences

Intentional Psychokinesis

Ceremonial magic Healing and hexing Yogic siddhis Laboratory psychokinesis Transpersonal phenomena have an extraordinary property that undermines the basic metaphysical assumptions of Western science. They can provide access to accurate information about various aspects of the universe that reaches far beyond the intellectual knowledge of the subjects involved. In many cases, it was possible to confirm that these individuals had not received this information through the ordinary channels, other times it was information of a kind that no media can offer (e.g. the body image of animals, olfactory, gustatory and tactile sensations, or species-specific experience of sexual arousal). Interested readers will find many specific examples in my previous publications (Grof 1985, 2000, 2006b).

For example, experiential identification with another person can provide deep insights into that person's personality, emotional life, thoughts, and sometimes even personal memories. Becoming an eagle, bat, or dolphin can convey information about these animals body image and the unique way they experience the world. People experiencing encounters with archetypal beings and visits to archetypal domains can obtain information about mythologies of which they had previously no intellectual knowledge (Jung 1956, 1959). Past life experiences can accurately portray costumes, weapons, architecture and other aspects of the cultures and historical periods involved and in rare instances even specific historical events (Grof 2006b).

The transcendence of consciousness within spacetime begins with the experience of dual unity when the boundaries of the body/ego dissolve and the individual seems to become one with another person while also retaining his or her own identity. Experiences of this kind are common between a pregnant mother and her fetus or nursing mother and her baby. Conversely, adults experiencing in holotropic states regression to the breast or to the womb can have a sense of fusing with their mothers. The practice of *maithuna*, sexual union in Vamamarga Tantra, is designed to induce experiential fusion of the partners reaching the spiritual level (Mookerjee and Khanna 1977).

In mediumistic experiences the identification with the other person is so strong and pervasive that the individual loses his or her own identity. The dissolution of consciousness can extend further and result in experiential identification with entire groups of people (e.g. all mothers of the world or all suffering or dying individuals), and even in the experience of the field of consciousness of the entire human species. Experiences in this category can also portray the interior of the subject's body down to the microscopic level – its organs, tissues, and even cells.

The transcendence of spatial boundaries can cross the species barrier and lead to authentic identification with animals and plants from any level of the evolutionary tree. Less frequent is experiential identification with inorganic materials and processes, such as granite, amber, diamond, or an exploding volcano (Grof 2006b).

Incredible and absurd as it might seem to a Westerner committed to a monistic materialistic worldview, these experiences suggest that everything we can experience in the everyday state of consciousness as an object has in the holotropic states of consciousness a corresponding subjective representation. These observations support the basic tenet of Hindu spiritual philosophy that the material world is a manifestation of Absolute Consciousness (Brahman, Satchitananda).

Re-living of episodes from infancy, birth, and prenatal life can be understood as examples of the transcendence of linear time rather than the reliving of memories in the conventional sense. The reason for this is that they represent an integral part of an uninterrupted line of historical replays that includes sequences for which it is difficult or even impossible to find a material substrate. Here belongs identification with spermatozoids and ova during the process of conception experienced on the cellular level of consciousness, sequences of ancestral, racial, collective, and karmic experiences, and those portraying events in the evolution of the animal and botanical kingdoms. Temporal transcendence can also involve inorganic objects and processes, such as evolution of the universe or early history of our planet.

Some transpersonal experiences are related to a dimension that is radically different from consensual reality. It is immaterial and lies beyond spacetime; within it there are no boundaries and everything seems to coexist in the eternal Now. It is a realm that harbors archetypes, cosmic principles that form and inform the material world; these can manifest either in their universal form or in the form of specific culture-bound entities. It is the realm Laszlo in this book calls the Akashic Holofield, the beyond-spacetime domain of the cosmos.

The experiential spectrum of holotropic states includes encounter and communication with deceased persons and discarnate entities, such as spirits, shamanic power animals, and spirit guides. In its farthest reaches, individual consciousness can identify with the Universal Mind or Cosmic Consciousness, the creative principle of the universe. The most profound experience available in holotropic state is immersion in the Supracosmic and Metacosmic Void, primordial emptiness and nothingness which is the source of existence. The Void has a paradoxical nature; it is a vacuum, in the sense that it is devoid of any concrete forms, but it is also a plenum, since it seems to have the potential— all the information and energy—necessary to manifest the material universe.

Another category of transpersonal experiences comprises phenomena that seem to occur in a twilight zone between consciousness and the material world. C. G. Jung used for it the name *psychoid*, borrowing the term from the founder of neovitalism Hans Drietsch. The most common of them are synchronicities, meaningful connections between intrapsychic experiences and events in spacetime (Jung 1960). Additional examples are supernormal physical feats of athletes, the yogic siddhis, physical mediumship in spiritistic seances, UFO experiences, Poltergeist, and intentional psychokinesis (Murphy and White 1972, Murphy 1992, Mack 1994 and 1999, Ostrander and Schroeder 1970, Hastings 1978).

The existence and nature of transpersonal experiences violate some of the most basic assumptions of materialistic science. They imply such seemingly absurd notions as the relativity and arbitrary nature of all physical boundaries, nonlocal connections in the universe, communication through unknown means and channels, memory without a material substrate, the nonlinearity of time, or consciousness associated with all living organisms, and even inorganic matter. Many transpersonal experiences involve events from both the microcosm and the macrocosm, realms that cannot normally be reached by unaided human senses, or from historical periods that precede the origin of the solar system, formation of planet earth, appearance of living organisms, development of the nervous system, and emergence of *Homo sapiens*.

The totality of the experiences and observations described above represents a formidable challenge to materialistic science, something that cannot be handled by minor conceptual patchwork (*ad hoc* hypotheses), but asks for major paradigmatic overhaul. After more than half century of research into holotropic states of consciousness, I am convinced of the ontological reality of the transpersonal domain and its pivotal gnoseological importance. Mainstream scientists tend to deal with this challenge by denying or misinterpreting the existing evidence. This stalwart resistance based on radical incompatibility of the new data with the dominant paradigm in science is further fomented by a tendency of scientists to "confuse the map with the territory" alluded to by Thomas Kuhn and discussed at length by Alfred Korzybski and Gregory Bateson (Kuhn 1962, Korzybski 1933, Bateson 1972 and

1979). The inclination to mistake the existing paradigms for an accurate and definitive description of reality has been pervasive in the world of science.

Ervin Laszlo's map of reality addresses the baffling problems and paradoxes in various disciplines of modern science and suggests their solution. His *tour de force*, extended over half a century and culminating in the present book, is a truly phenomenal and groundbreaking achievement (Laszlo 1993, 1999, 2003, 2007). I briefly outline here the radically new perspective that his map offers on the problems encountered in the research on holotropic states of consciousness, particularly those connected with a wide range of transpersonal experiences.

The most important general conclusion that one can draw from various avenues of modern consciousness research is that consciousness is not a product of the neurophysiological processes in the brain, but an essential and integral part of existence. This realization is also the basic tenet of Laszlo's map of reality. According to this map, consciousness does not originate in the brain, but beyond spacetime in the Akashic domain. This domain forms and informs all entities and phenomena in spacetime.

The Akashic *Urgrund* harbors the *logos* of the cosmos; it contains the information, rules, and regularities that govern events in the manifest world and the behavior of their constituents. It also conserves a complete holographic record of the history of the universe and of our planet, including the patterns of consciousness that it created. Since this domain has no boundaries and partitions, all the in-formation contained in it is present in all its points. Consciousness of three-dimensional entities in spacetime is localized but intrinsically nonlocal, because it is a projection from the Akashic beyond-spacetime domain. Communication between them can be instantaneous over any distance and any interval of time.

Many problems related to transpersonal experiences can be resolved if we accept Laszlo's postulate of the Akashic Holofield with all the characteristics that he describes, and consider the possibility that localized consciousness maintains its connection with this domain and can access the information stored in it. One of the most astonishing observations in holotropic states of consciousness is the possibility of what appears to be time travel to other historical periods and countries. I have in my records many reports of individuals who were convinced that they experienced events which took place in ancient Assyria or Babylonia, Japan at the time of the samurais, in the French Revolution, colonial Africa, and many other times and places. I have personally experienced what appeared to be convincing past life experiences in ancient Egypt and Czarist Russia and similar sequences from ancient and more recent historical periods and various geographical locations (Grof 2006b). The possibility that information about events in spacetime remains holographically recorded in the beyond-spacetime Akashic domain is a basic assumption of Ervin Laszlo's integral map in regard to the exploration of consciousness. The existence of these experiences can be seen as the empirical validation of this map.

Experiential identification with other people, animals, plants, and inorganic materials, for which it is impossible to find horizontal communication channels, become understandable if we accept the possibility that the connection is mediated by in-formation beyond spacetime. This in-formation would also account for Jung's "a-causal connecting principle" underlying synchronicities and for such ESP phenomena as telepathy, clairvoyance, psychometry, and astral projection. Psychoid events could be seen as situations in which localized consciousness reaches beyond spacetime and appropriates the capacity of orchestrating the behavior of various constituents of spacetime as it does in the creation of the phenomenal world itself. The shift of localized consciousness in spacetime to the Akashic Holofield could account for many experiences and events occurring in near-death situations, during the dying process, or following biological death. Examples would be out-of-body experiences (OBEs), veridical OBEs in congenitally blind people ("mindsight") (Tart 1968, Ring 1982, Ring and Valarino 1998, Ring and Cooper 1999), *bardo body* and bardo realms described in the Tibetan Book of the Dead, apparitions of recently dead relatives and friends, the "welcoming committee" of deceased people appearing to those who are close to death, auspiciously timed physical events in the life of survivors, communication with deceased people (Sidgewick et al. 1894), haunted houses and castles, as well as visions of astral planes and spirits

Ervin Laszlo's map of reality based on theories and findings in cutting edge of science offers an elegant solution for the dilemmas and paradoxes in a number of scientific disciplines that have remained and persisted even after earlier revolutionary attempts had provided partial corrections. I am referring here to David Bohm's theory of holomovement, Karl Pribram's holographic theory of the brain, Rupert Sheldrake's concept of morphic resonance and morphogenetic fields, Ilya Prigogine's discovery of dissipative structures, Alfred North Whitehead's process philosophy, Gregory Bateson's generalist world view, and others (Bohm 1980, Pribram 1971, Sheldrake 1981, Prigogine 1980, Whitehead 1929, Bateson 1972 and 1979).

Laszlo's new map also achieves something that previous generations of modern scientists would have considered impossible. It explains and illuminates a number of seemingly obscure and absurd assertions and tenets found in mystical and esoteric literature. For example, the Jain religion describes all beings in the universe as self-deluded separate units of consciousness (*jivas*) that misperceive themselves as autonomous units. The jivas have an important characteristic that seems fantastic and incredible: each of them has the information about all the others. Vedic mythology describes a pearl necklace in Indra's heaven in which the pearls are arranged in such a way that each of them reflects all the others; this necklace symbolizes the universe. In the remarkable philosophy of mutual interpenetration found in Avatamsaka (Huayan) Buddhism, the essence of the universe is succinctly captured in four statements: One in One, One in Many, Many in Many, and Many in One.

The ancient Emerald Tablet (*tabula smaragdina*) attributed to Hermes Trismegistus states: "That which is below is like that which is above and that which is above is like that which is below to do the miracles of one only thing." The idea that the macrocosm is contained in every microcosm can be found in many esoteric systems: Tantra, Kabbalah, the Gnostic tradition, and others. The concept that each of us is identical with the entire universe is graphically represented in the images of Purushakara Yantra, Adam Kadmon, and the Gnostic Cosmic Man. Research into holotropic states has brought empirical validation for this idea, if it is properly understood. Each of us is identical with the entire universe, but not in terms of what can be weighed and measured, but because we have the potential to experientially identify with any of its parts.

Laszlo's new map of reality subsumes ideas from various philosophical systems. Thus in the monadology of the great German mathematician and philosopher Gottfried Wilhelm Leibniz, the universe consists of monads, essential forms of being that are eternal and indestructible. Each of them contains the information about all the others and reflects the entire universe in a preestablished harmony. According to Alfred North Whitehead the universe is made up of elementary events of experience rather than enduring material substances. Each of these moments ("actual occasions") contains the entire history of the universe and is internally related to all the others (Whitehead 1933). Ervin Laszlo's transdisciplinary understanding of cosmos and consciousness summarized in his opus magnum, *A New Map of Reality: The Worldview of 21st Century Science* bridges and integrates science, philosophy, metaphysics, and spirituality. However, its potential significance reaches even farther; the concept of the Akashic domain has important implications for and application in ecology, economy, sociology, politics, and religion. Laszlo's articulation of a new map of reality could become a priceless instrument in solving the problems brought into the world by the industrial system, and could show us the way toward a sustainable global civilization.