ESSENTIAL TASKS

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The path before us will not be a bed of roses. We know that a transformation of global dimensions has already started, and we know that its unfolding is not predictable. We can be certain that it will be challenging: we will live in the midst of profound change, our very survival will be constantly at stake. Will we achieve the understanding, the wisdom, to survive this challenge? Here are a few thoughts and considerations that help us reach the condition where we can give a positive answer.

Looking Back to See Forward

This will not be the first time in history that a period of global-level transformation has dawned on humankind. Philosopher of science Holmes Rolston pointed out that our "big history" includes three such transformations—veritable "big bangs."¹ The first was the physical big bang that is believed to have occurred about 13.8 billion years ago. It gave birth to the manifest universe with its quantum particles, multiple kinds of energies, and billions of galaxies. It led to the formation of solar systems, with suns and planets, and energy flows that permit the evolution of life on socalled "Goldilocks" (fortunately situated) planets circling active suns.

Another basic transformation—a "second big bang"—was the emergence of living organisms among the complex systems that evolved on Earth, and presumably on other planets as well. This transformation is thought to have taken place about 3.8 billion years ago. It began with the emergence of single-celled prokaryotes in the primordial soup that covered the surface of the planet.

The "third big bang" is dated to have occurred about 120,000 years ago. It fundamentally changed—"evolved"—the consciousness of our species. *Homo* is said to have become *sapiens*. The evolutionary advantages of evolved consciousness included a more flexible and rapid form of communication. Communication was no longer limited to semiautomatic responses triggered by recurring conditions and events; instead of limited to *signs*, human communication became based on consensually developed *symbols*.

¹ Holmes Rolston III, *Three Big Bangs: Matter-Energy, Life, Mind* (New York: Columbia University Press, 2010).

The evolution of symbolic language was a major leap. On the one hand, it gave birth to social structures based on collectively acquired meaning, and on the other, it produced enhanced manipulative skills. Societies could evolve on the basis of shared cultures wielding powerful technologies. *Homo sapiens* began to dominate other species and became a key factor in the evolution of life in the biosphere.

The third big bang produced an explosion of the human population, but it did not produce the wisdom that would ensure that the expanded population could maintain the balances essential for the flourishing of life on this planet. These balances became ever more impaired. The shortsighted use of technology and the disregard of natural checks and balances brought humanity to where it is today: to a "chaos point," where the choice is stark: it is between breakdown and breakthrough.²

Another global transformation has become inevitable, and is in fact under way: a fourth big bang. It is time to learn the lessons of history. Setting forth our reign on the planet will depend on mastering the challenge of this transformation.

The Lessons of History

The first and basic lesson is simple and evident. We have divorced ourselves from the natural world, and we need to come back—not to become savages and "primitives," but beings who are attuned to the world around them; who live in sync with the rhythms and balances of nature and create compatible and sustainable rhythms and balances of their own.

We are no longer aligned with the rhythms and balances of nature. Although through our biological evolution we are "built into" these rhythms and balances, we created our own artificial rhythms and perilous balances, and these ignore and often conflict with those of nature. Rising with the sun and retiring with the sun is to align with the twenty-four-hour circadian rhythm created by the movement of the earth around the sun, and so-called primitive people still live in harmony with it, and so do most of the remaining indigineous and traditional cultures. But modern people disregard nature's rhythms and balances and believe that they can replace them by turning lights and other artificial conveniences on and off with the flip of a switch. Yet the human body does not align with the artificial rhythms, and we suffer the consequences. The

² Ervin Laszlo, *The Chaos Point: The World at the Crossroads*. Charlottesville, VA: Hampton Roads, 2006.

effectiveness of the immune system is impaired, and despite a flood of biochemical medications, diseases proliferate.

Modern populations are urban dwellers, and have limited contact with nature. They live in an artificial world, and think that it is the real world. They hold themselves superior to other forms of life and believe that they can master nature as they wish. Even just fifty years ago, animal intelligence researcher Jane Goodall had to fight the then still dominant belief that chimpanzees are biochemical stimulus-response mechanisms, not living and feeling beings. Today, we realize that not just higher mammals, all living organisms, and even trees and plants, are sensitive living beings, and in that respect are not fundamentally different from us.

It is in the best interest of our physical and mental well-being that we rectify these misconceptions and errant behaviors. When we do so, we regain our natural health and vitality. The healing effect of naural substances and lifestyles was known to healers and sages in classical times. Since Hippocrates, considered the father of modern medicine, medical scientists have been seeking the substances and methods that would reestablish balance and connection between human beings and nature. Today this aspiration is overshadowed by an often commercially motivated reliance on synthetic substances and nature-ignoring practices.

The scene is not all negative: as we shall see, there are positive developments in all fields of human endeavor, including healing and medicine. Connection with nature is a major objectives in the alternative forms of healing known as information and energy medicine. This form of healing is experiencing a renaissance in various parts of the world, first of all in the Orient. *Shinrin yoku*, the Japanese art of forest bathing, is a prime example. Practicing it calls for going into a forest and feeling ourself attuned to its rhythms and energies—hearing the wind rustle through the leaves, sensing the play of light on the surface of a pond, floating with the clouds as they move through the sky. Psychotherapists find that even the sounds of nature, the chirping of birds, the bubbling of brooks are healing. Just to be in a forest or to stand by a tree soothes and heals the nervous system.

Another essential task is to recognize and connect with positive developments in society. Below the surface of animosity, violence, and chaos, there is an enire range of positive development surfacing in fields as varied as community-building, lifestyles, education, even in business. Kingsley Dennis conducted research on these developments and suggested the core concepts of this overview.

Positive Developments in the Structuring of Communities

Communities from local neighborhoods to entire states are moving beyond conventional hierarchical structures and relations toward decentralized networks that connect people. Development in any community is increasingly reaching others and has an impact on the others.

As people connect with one another on multiple levels, from the local to the global, empathy is growing among people, whether they are next to each other or on opposite sides of the world. Communication creates ties between people, and between people and nature.

New media platforms are shifting social structures and organizations away from topdown forms toward decentralization and distributed power relations. Controlling hierarchies are weakening as information technologies allow greater transparency, exposing corruption and illegal or criminal intent. As a result, fears over surveillance and violations of privacy appear exaggerated and are diminishing.

Positive Developments in Technological Innovation

Discoveries in science give rise to revolutionary "disruptive" technologies, such as artificial intelligence (IT), robotics, the Internet of Things (IoT), biotechnology, energy storage, and quantum computing. These technologies transform established structures and practices and open the door to innovation and creativity.

Technologies that enhance connection and use connection to create transparency are replacing technologies of supervision and control. Open "cloud" technologies are becoming the standard in data collection, storage, and sharing.

The new technologies encourage research and development in hitherto unexplored areas of potential relevance to life and well-being, such as the study of consciousness and transpersonal communication.

A new "media ecology"—social media, video production, gaming platforms, augmented reality, and citizen journalism, among others—empowers people to produce and share their dreams and aspirations, and hopes and frustrations.

Positive Developments in the Area of Health

Health and well-being are coming to be seen as dependent in a large measure on the integrity of nature. Environmental protection is moving from a well-meaning charity to a basic requirement of healthy life.

Living nature is recognized as a major source and essential resource of health and wellbeing. A plethora of new health disciplines are arising, such as information and energy medicine, and "return to nature" therapies. The health sector is shifting from preconceived therapies and synthetic drugs to natural remedies and practices, demanded and promoted by health-conscious individuals.

Positive Developments in Education

Thanks to advances in interactive media technologies, the range and sources of learning are expanding from the local to the global. The new learning environments are international, intercultural, and interactive. They bring together learners with teachers from around the world.

The learning environment is no longer limited to one-way communication between teacher and student. The classical classroom is disappearing.

The objective of education is shifting from handing to students preconceived schemes that fit them into existing niches in business and society, to producing skills and techniques that help students become co-creators of their curriculum. The new generation of learners are content-developers and not merely content-consumers.

Positive Developments in the Field of Lifestyles

Social status is no longer measured only by how much money one makes and how much luxury and ostentation one accumulates, but also, and increasingly, by how one spends one's money and how sanely one leads one's life.

Changes in values and ideals shape and shift the living environment; in many parts of the world, city, town, and national administrations are responding to demands for socially and ecologically sound environments. Megacities and dense urban hubs are decentralizing, giving way to suburban communities and rural living spaces that allow contact with peers and with nature.

Positive Developments in the Economy

Alternative forms of economic organization are arising in the footsteps of new technologies of networked communication and distributive computation. In the emerging economies, nature is not a burdensome externality but an organic part of the system of life.

Economic activity is increasingly decentralized, with its center of activity moving to the grass-roots level. In its advanced forms it is focusing on the exploration and exploitation of the human and natural resources of the local environment.

Economic growth is less and less a goal and value in itself; it is increasingly assessed in reference to its human and natural benefits and its social capital. The aspiration is to find and maintain the socially and ecologically beneficial scale of economic activity.

Offshore activities and tax havens are more and more monitored. There are increasing shifts to make obscure financial transactions transparent, and replaced by transactions between communal institutions, ethical banks, and other social-benefit-oriented financial organizations and instruments.

More and more financial institutions will trade in and accept digital currencies. This will give rise to various nongovernmental currencies that will prove popular among a younger generation. New forms of digital currencies will help to finance localized projects and creative start-ups.

Inspired by the example of Bhutan's Gross National Happiness scheme, in many quarters human well-being is considered the criterion of economic success. Slowly but significantly, economics is becoming, in Schumacher's words, "as if people mattered."

Positive Developments in Business

The belief that business companies exist exclusively to make money for their owners and shareholders is giving way to the recognition that the primary objective of companies is to serve the well-being of the people whose lives they touch: the stakeholders.

Achievement in business is not measured solely or even mainly by increase in market share and profitability, but by the contribution of the company to the life and well-being of its employees, collaborators, customers, and home communities.

As individual initiatives are allowed greater value, and as a wider range of voices are taken into account in the company's management, internal collisions and conflict are not suppressed, but explored in view of finding agreed and collaboratively pursued solutions. As a result, levels of trust are rising in the forward-looking quarters of the business world.

Developments in these areas can be seen as positive because they exhibit individually and humanly promising features. Rather than separating, they integrate; they seek balance and coherence. They heal fissions and ruptures, countering voluntary or involuntary animosity and aggression. Advanced-thinking communities curate contact and communication between their members, and between their members and other communities. They are guided by feelings of solidarity, empathy, and compassion. In a few remarkable if as yet rare instances, they testify to unconditional esteem and love arising among their members.

The lesson to learn from history is not to stand on the sidelines but promote, support, and if possible join, such developments.

Seeing Forward

There are positive developments in society, and there are healthy, life-giving and maintaining processes in nature. We could re-immerse ourselves in nature, and join positive developments in society. Yet we fail to do so. We tread a path that leads to breakdown, rather than to breakthrough. We need to re-think how we are going, and above all, where we are going.

We are one of more than one hundred million species in the biosphere, where each species encompasses millions and in some cases billions of individuals. Among all these species and individuals, we are in a privileged position: we have a highly developed brain and consciousness. This enables us to ask who we are, what the world is, and how we can and should live in the world.

An advanced consciousness is a unique resource, and we are not making good use of it. We are not asking the right questions and seeking the right answers, just moving forward trusting to fortune. We have increased our numbers, but did not increase the benefits our conscious mind could confer on those whom we bring into the world. We have developed sophisticated technologies and applied them to serve our needs and wants, but have damaged or driven to extinction the majority of advanced species. Fifty percent of all wildlife on the planet has disappeared, and forty-four thousand populations of living species are vanishing every day. We have become a danger to life in the biosphere.

History teaches us that big bangs, global transformations, do not necessarily bring about an equitable and flourishing world; they may lead to breakdown. We have reached the threshold of a fourth big bang, and we are not doing what we can to avert a breakdown. The bulk of today's populations is frustrated and depressive, and is turning violent. People suffer from a changed climate, pollution, and myriad forms of ecological degradation. Millions roam the planet in search of a place merely to survive.

The lessons of history are before us, and we ignore them. Yet we could learn the lessons and rectify our ways. We are perfectly capable of living on this planet without destroying the balances and resources needed for a healthy life for ourselves and other species. No species would have to be decimated, subjugated, or driven to extinction to keep us alive. We could live sustainably, coexisting with other species and respecting the limits of life on the planet. We could ensure the availability of vital resources for all people and populations. Yet we drive myriad species to extinction and damage the shared environment.

The very fact that we managed to survive as a biological species for five million years, and as a conscious species for fifty thousand, is evidence that our basic nature is not the problem. It is not the bulk of the human population that is responsible for becoming a scourge of life on the planet, only a segment. The question is, why did this segment create unsustainable, and now critical, conditions for the higher forms of life on earth? And can it change and transform in time to avoid a major catastrophe?

Theological and mystic assumptions have sometimes been cited as the reason for our becoming what we are, but ascribing our behavior to divine or other transcendent causes is not the answer. We are neither angels nor devils. We are intrinsically good, but have become practically bad.

We became the scourge we have become unintentionally. At the dawn of the Neolithic, a segment of humanity began to use the resources of the planet without regard for anything and anybody, only concentrating on enhancing its own comfort and power. In a finite and interdependent planet, this produced unbalanced and unsustainable conditions.

The self-centered use of resources damaged the web of life. The human species became a threat to all life on the planet, and also to its own: the health of the web of life is a precondition of the health of the species that inhabit it. This is a relatively recent realization. For millennia, people pursued the tasks of their existence without being conscious that the unreflective pursuit of their own interests turns into a bane for life around them.

We have turned into a bane for life on this planet; we have made the world into a toy-shop where we build the powerful toys that serve our perceived interests. We play with our toys regardless of whether they truly serve our needs, and without taking into account the needs of others. We liberate the energy of the atom, and use it to power systems that satisfy our wants. We channel flows of electrons into integrated circuits and use the circuits to command the technologies that serve our requirements for communication and information. We play in the global toy-shop without regard for the consequences on others, and on the entire shop.

This is a shortsighted and dangerous way to behave. We access energy in ways that do not serve our real needs, only our short-term self-centered wants. We manipulate information in a similarly shortsighted way. The nuclear bomb and the nuclear power station on the one hand, and the computer with its network of global chatter on the other, are examples. Nuclear power, even for peaceful uses, and artificial intelligence, even when well-intentined, are dangerous toys. They may become technological overshoots that end up damaging our life, and the whole web of life in the biosphere.

We are intrinsically good, but self-centered and short-sighted. But this cannot be left unchallenged. The time when we could naively play with powerful toys is over. Their unforeseen "side-effects" have become a threat to all life on the planet, including our own.

Going Forward

We have arrived at the threshold of the fourth big bang. Where do we go from here?

If we are to flourish, and even just survive, our consciousness must change. If it fails to do so, the next big bang will be our last. A global transformation is a risky process: if it is to culminate in a breakthrough rather than lead to a breakdown, it has to be guided.

We can begin the conscious guidance of our evolution following Gandhi's advice: don't tell others what to do; become yourself what you want them and the world to become. Our essential task is to *become* the transformation of the world. We must be an expression of mature and healthy life in the biosphere. If a critical mass becomes that, the "fourth big bang" will not mark the end of life on the planet. It will be a disruptive global transformation, but not a destructive one. It will trigger a new phase in the tenure of humankind on the planet, and not the end of that tenure.

It is time to learn the lessons of history—to look back to see forward. The survival of an advanced species and the future of the web of life on this planet is in our hands. Never before have so many depended on the wisdom of so few.

We need to awaken—to grow up. To make use of the power of consciousness that is in our hands. The time is not to ask whether we will make it through the fourth big bang, the global transformation that is already under way. The time is to set out to make it.