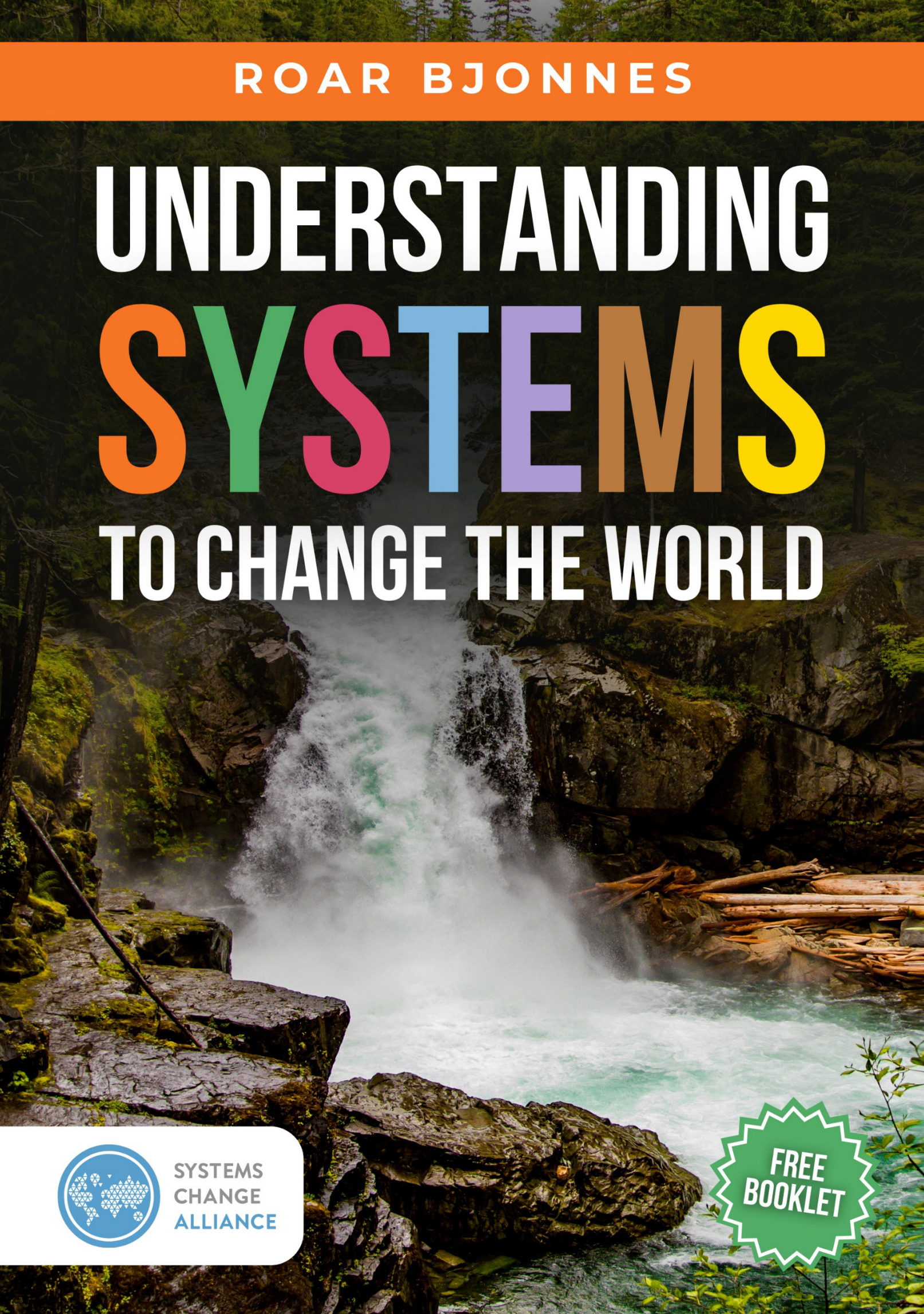
ROAR BJONNES

UNDERSTANDING SYSTEMS TO CHANGE THE WORLD



SYSTEMS CHANGE ALLIANCE

FREE BOOKLET

ROAR BJONNES

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SYSTEMS
CHANGE
ALLIANCE



UNDERSTANDING SYSTEMS TO CHANGE THE WORLD

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PART 1

WHAT IS SYSTEMS THINKING?

WHAT IS SYSTEMS THINKING?

The famous story of the blind men and the elephant is an apt metaphor for systems thinking. In the story, various individuals are ushered into a dark room to touch parts of an elephant to figure out what it is. The person touching one of the legs says that it feels like a "column on a temple." The person touching the tusk says it resembles a "rounded sword made of porcelain." The person touching the curved back says it feels like a "leathery throne." The large, majestic elephant becomes in the view of these blind men simply a set of parts.

A systems approach is to bring light into the dark rooms of life so that we can see and interact with the "elephants of reality" as whole beings. If we take this analogy of an elephant a step further, a wild elephant would be part of a larger eco-system; it would be part of a larger whole, the jungle and savannahs where it can live and thrive.

According to systems thinking, there are thus parts and wholes, as well as whole/ parts. Each connection is part of a hierarchy, or rather a holarchy, of parts and wholes and whole/parts. Simply put, a cell is part of an organ, which is part of an organism, which is part of an ecosystem, a culture, and an economy.

A systems approach engages stakeholders in a broader dynamic and a supportive environment that creates effective strategies, policies, and transformational change. No stakeholders are less than other stakeholders, and those at the fringes of society are just as important as those at the center.

Too often, individual actors in a system are unable to see or experience the whole of which they are a part, and this limited worldview will then affect their vision and decision-making.

In a collaborative organization, a systems approach requires skills in empathy, translating across sectors, genders, cultures, and perspectives, building relationships, and devising and facilitating organizational projects that support the change

process. All systems are dynamic and sometimes stagnate or go out of balance. The systems approach brings economies and societies, gardens and ecosystems, back into dynamic balance.

In the last three decades, systems thinking has evolved as a new, unified concept at the forefront of science. In the words of one of the pioneers in the field, Fritjof Capra, this new outlook is "a unified view that integrates life's biological, cognitive, social and ecological dimensions. At the core of this new understanding of life, we find a profound change of metaphors: from seeing the world as a machine to understanding it as a network."

At the heart of systems thinking is the idea that humanity needs to change course by learning to adopt nature's laws in economics and the cultural values at the heart of traditional wisdom.

If we analyze our global social and economic system from this perspective, we discover a mismatch. In the words of Donella Meadows, another pioneering systems thinker: "The world is a complex, interconnected, finite, ecological-social-psychological-economic system. We treat it as if it were not, as it were divisible, separable, simple, and infinite. Our persistent, intractable, global problems arise directly from this mismatch."

Systems theory advises us to unlearn and undo that mismatch and instead discover the web of interactions between nature and economy, between science and culture, between personal habits and political policies. Systems theory also advises us to find "a new web of meaning," as the great systems philosopher Jeremy Lent puts it. Because without a web of meaning replacing nature as machine and human beings as "homo economicus"—that irrational and outdated idea that an economy is mainly profit and growth-oriented—we will continue to seek false ideals, create fractured societies and destroy civilization.

As regenerative thinker and activist Daniel Christian Wahl says, "Whole-systems thinking is living systems thinking." Therefore, we need "a systemic understanding of processes by which life continuously regenerates conditions conducive to life and offers a pathway to creating regenerative businesses and organizations within a regenerative economy as enabling factors of a regenerative culture."

WHAT ARE SYSTEMS?

Systems are complex and of many different types. There are ecosystems—the interaction of various organisms with their physical environment. There are political systems—the interaction between politicians, government institutions, lawyers, economists, bureaucrats, and voters. There are also social, cultural, educational, and technological systems.

There are also different types of systems thinkers. Hard systems thinkers look for concrete problems and solutions for definable systems. On the other hand, soft systems thinkers focus more on people and their perspectives of a given system, and how these could be reconciled to make improvements. Therefore, it is difficult to find a singular definition of a system. Moreover, we must also account for scientific definitions, public, political, and government opinions, and policies about the same systems. Systems are complex, and they often require complex, integrated solutions.

"A system is a configuration of interaction, interdependent parts that are connected through a web of relationships, forming a whole that is greater than the sum of its parts."

Depending on the discipline and context, different schools of thought exist on how people define systems. Here is a definition from John H. Holland, often called "the father of genetic algorithms" and the dean of "complexity studies": "A system is a configuration of interaction, interdependent parts that are connected through a web of relationships, forming a whole that is greater than the sum of its parts." Another well-known systems theorist, Donella Meadows, defines a system as "a set of things—people, cells, molecules, or whatever—interconnected in such a way that they produce their own patterns of behavior over time."

Much literature about systems change is academic and theoretical. When activists talk about systems change, they are often more concerned with diagnosing what is wrong than with offering concrete solutions. Other systems thinkers and activists

focus more on solutions and may overlook the practical, on-the-ground challenges that must be overcome. These matters can make people feel it is difficult to understand what systems thinking is and make them poorly prepared to make constructive calls for action. These are some of the main reasons we have taken the time to prepare this document.

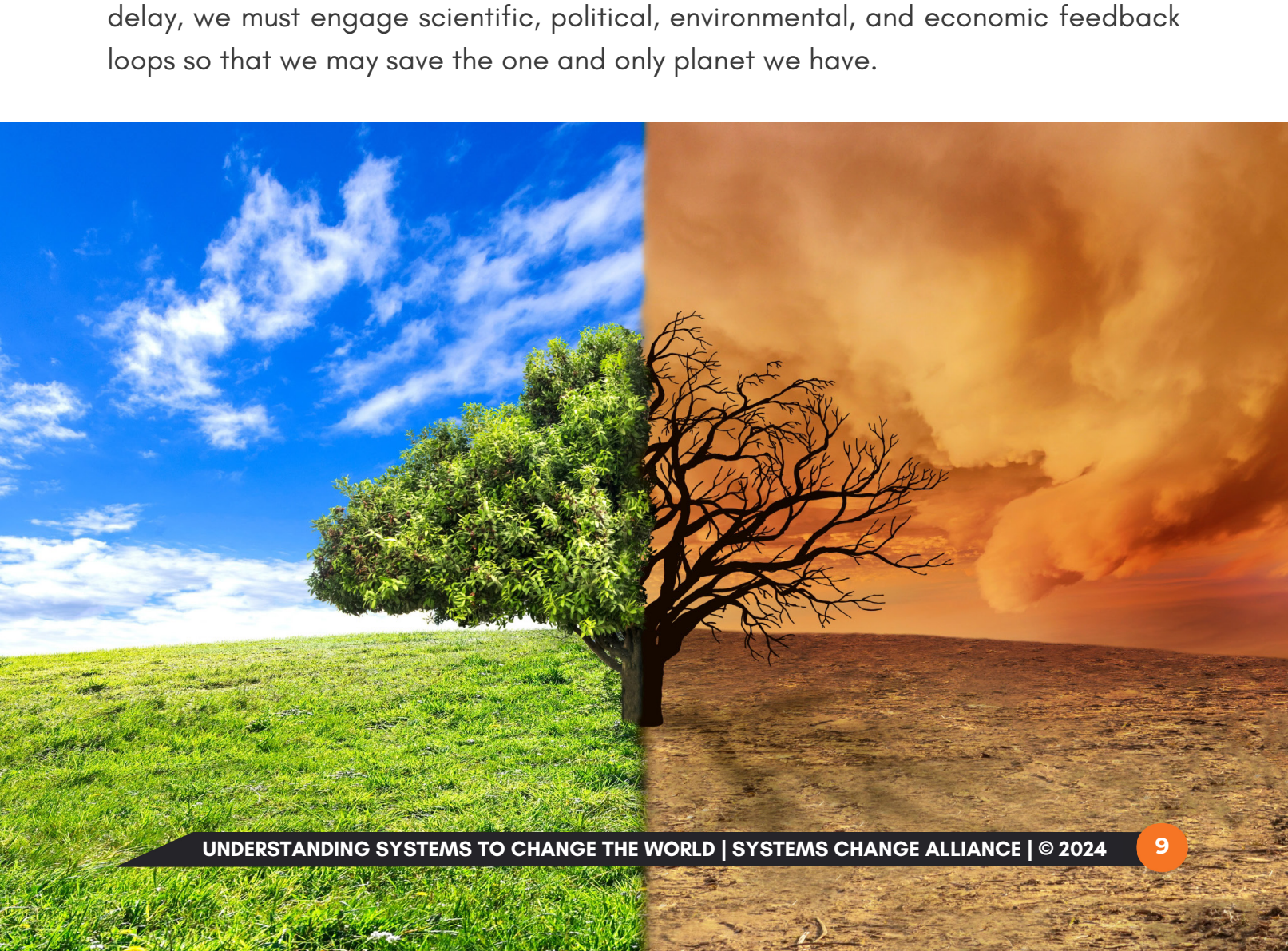
Social systems are composed of individuals, groups, and their psychologies, as well as relationships, values, and cultural perceptions. All systems exist in a certain environment; they have boundaries and exhibit unique behaviors, while many are connected to other systems at the same time. They are made up of interdependent and connected parts, and they have causes and effects.



SYSTEMS ARE IN FLUX

An important insight of systems theory is that ecosystems, societies, economies, and cultures are always changing and in dynamic flux. Therefore, a theory of change needs to be a living conversation, a dynamic adaptation. We need to test our assumptions about how change happens. This requires an adaptive learning approach as we gain feedback from the work. We must try to avoid failure, but when we do fail, we engage feedback loops in the different stages, and we allocate time to revisit and improve through course-correction.

Today, we are in an unmistakable, planetary flux. This global instability—in the form of climate change, species extinction, economic inequality, food shortages, political autocracy, and the fear of nuclear war—poses a real and present danger to human civilization. In short, we are failing to create a sustainable planet. Without further delay, we must engage scientific, political, environmental, and economic feedback loops so that we may save the one and only planet we have.



WHAT IS SYSTEMS CHANGE?

Systems change is the emergence of a new pattern of organization or systems structure. It is both a process and an outcome. Today, we are facing unprecedented economic, social, and environmental crises, and most reforms have offered ineffective and shallow solutions. It is time for systems change.

This is the moment for a new culture and economy to emerge from the principles of systems thinking.

We need to "connect the dots" between economics and nature, between science and culture, between politics and wellbeing. We need to address the root causes of all current crises facing people and the planet from a systems perspective.

Economies are not just machines and assembly lines created to pump out products for profit. New economies are emerging from the ecosystems of people, nature, and cultures. New economies are emerging that recognize both that humans have basic needs that must be met and that these needs are remarkably similar. Whether you live on a farm in Africa or a city in Europe, we all need food, medical care, housing, employment, clothing, and education.

At Systems Change Alliance, we connect the dots between individuals, groups and organizations working in different fields to collaborate, educate, advocate, and implement positive systemic change.

MICROSYSTEMS, MESOSYSTEMS, AND MACROSYSTEMS

The garden where we grow vegetables, herbs, and flowers is a microsystem. This small garden interacts with the forest surrounding it, and the insects, animals, and birds within the forest. The garden has a relationship with the sky, the clouds, the sun, and the rain. All that is a mesosystem. The garden, the forest, and the sky are then part of a macrosystem of interactions in the area where we live, the culture, the economy, the people, and so on.

The county I live in has many such interacting systems. The state I live in has many more, the country has multiple dimensions of such interaction systems—systems nested within systems, all the way to the entire planetary system. All are nested within the cosmological system—the largest macrosystem of all.

And all these systems, from garden to county, to the nation, to the planet, to the cosmos contain billions of interacting systems that begin, continue, end, and begin again.

REGENERATIVE AND WHOLE SYSTEMS

We may define a 'system' as a set of interconnected elements forming a coherent pattern we may term a 'whole'. This holistic system exhibits properties emerging out of the interactions and relationships of the individual elements within it. This definition can refer to a molecule, a cell, a human being, a community, or the planet itself.

In many ways a system is less a 'thing' than a pattern of relationships and interactions—an organized web of constituent elements. The Greek root of the word system is 'synhistanai' and literally means 'to place together'.

Whole systems thinking is a theory and a map, but it is not the same as the territory. In the words of Daniel Christian Wahl: "We can reduce the world to a whole just as easily as we can reduce it to a collection of parts. Neither the whole nor parts are primary; they come into being through the dynamic processes that define their identity through relationships and networks of interactions.

Ecological, economic, political, and cultural constraints often become irreconcilable challenges in a society based on reductionist rather than holistic thinking. We must remember that the part and the whole are dualistic. When we say that the whole is greater than the sum of its parts, we are actually referring to a third dimension of the system (its evolution) which is not accounted for in this dualism.

This is the progressive nature of evolution in system change. In a society based on dynamic systems thinking, these spheres of life become regenerative support systems, breathing new life into dynamic cycles of collaboration and change."

SYSTEMS OF COMPETITION AND COOPERATION

Both competition and cooperation have played an essential role in bringing forth thriving and diverse ecosystems. The spectacularly colorful coral reefs we see today exist thanks to an early mutualism between a coral and a photosynthetic alga. Likewise, in an economy, there is both competition and cooperation.

Our current economic system, however, has been primarily based on the idea that evolution is all about the survival of the fittest. Thus the current market economy places too much emphasis on competition over cooperation, to the detriment of both people and the environment.

A systemic understanding of nature's processes in which life continuously regenerates conditions conducive to dynamic balance and biodiversity can teach us a pathway for creating a more regenerative and cooperative economy. In this new eco-economy, competition and cooperation may become a mirror of the mutualism evolved in the liquid world of coral reefs.



SYSTEMS CHANGE PERSPECTIVES

A police officer, social service provider, or a politician will have a different perspective on systems change than a systems theorist, someone researching "hard" or "soft" systems theory for a scientific project. Likewise, a politician, or a CEO of a company, may consult with a systems change think tank or a consultant for new views and insights on drafting policy or organizational changes. In addition, some works on systems change are more rooted in practice, while others are more focused on theory, while a third may both contain insights in practice as well as theory.

The focus of this text is primarily on systems perspectives in the following areas:

- **Systems Theory** (worldview, ecology, culture, ethics, politics, economy, science, etc): Strong focus on academic rigor and methodology.
- **Systems Advocacy** (consulting, think tanks, workshops, etc). Strong in both theory and action, mobilization, and multidisciplinary perspectives.
- **Systems Change-Activism** (environment, policy, business, labor, etc) Strong in bringing attention to needed change and finding practical solutions to problems.
- **Living Systems** (environment, agriculture, oceans, climate, etc) Strong on the ontological aspects of social and environmental systems and on bringing a multidisciplinary focus to projects.

SYSTEMS CHANGE AS EVOLUTION AND REVOLUTION

Changes in nature take place in slow, evolutionary as well as sudden revolutionary ways. In the long cycle of the planet's evolution from unicellular structures to complex ecosystems with plants, animals, and humans, evolution has been rather slow, evolving changes over billions of years. And yet, scientists have also discovered that evolutionary change can be rapid.

"Researchers who once assumed evolution required millennia," writes Jane Braxton Little in Discover magazine,"are documenting species adapting in mere decades, or even shorter time frames. Mosquitoes that colonized the London Underground in 1863 are now so different they can no longer mate with their above-ground relatives. Chinook salmon from Alaska to California needed just a human generation to become smaller and shorter-lived after an increase in commercial fishing in the 1920s. Adaptation is happening right under our noses, in our lifetimes."



Likewise, in human society, changes may take place over thousands of years, such as the change from hunter-gatherer societies to more complex agrarian cultures. The so-called Neolithic Revolution after the last Ice Age took place over several thousand years.

There have also been revolutionary changes in human society, such as the Industrial Revolution, which rapidly transformed the use of hand tools to machines in just a few decades, from about 1760–1820, in Europe and the United States. Then there have been violent, political revolutions, such as the Communist Revolution in Russia in 1917 and the more peaceful Revolution of 1989 during the sudden fall of the Soviet Empire. Likewise, there have been recent technological revolutions, such as the inventions of the personal computer, the internet, the smartphone, and the rapid advances in AI.

These kinds of evolutionary and revolutionary cycles must also be considered in systems thinking and when planning for systems change. Some evolutions and revolutions are inevitable, and others, due to their destructive nature, must be prevented. We must integrate healthy skepticism into social, political, economic, and scientific systems. As environmentalist David Brower once said, "All technology should be assumed guilty until proven innocent."

These are important, existential, and ethical contemplations that our fast-paced society generally neglects, often at our own peril. But these fundamental concerns must be part of systems thinking and planning.

Environmental activist Greta Thunberg and sustainability scientist Johan Rockstrom—known for his nine planetary boundaries framework—have, in various ways, warned us of the need for a systemic revolution in how we use resources and interact with the natural environment. The environmental group Extinction Rebellion urges us to compel governmental action to avoid tipping points in the climate system, biodiversity loss, and the risk of social and ecological collapse.

Today, as human society stands at a planetary crossroads, considering the possibility of crossing irreversible environmental boundaries, even the mass extinction of species, it's clear that we need another revolution in science, politics, and economics.

SYSTEMS INTEGRATION

Which fundamental changes must we make to gradually, or rapidly, safeguard the timely and comprehensive integration of all parts of the global systems? For example, some scientists claim that to safeguard the collapse of ocean ecosystems, we need to set aside at least 1/3 of the global oceans as a no-fishing zone for at least ten years. To accomplish this, we need to coordinate both global and local policy changes. And these policy changes will need to be implemented and enforced by a global polity.

The global task of saving the oceans from overfishing would require both revolutionary and time-sensitive systems changes in policy and long-term systems planning and safeguards. This will require multiple systems changes in politics, economics, and culture.

Today we face many big issues and questions for systems thinkers to ponder. More importantly, we are at a critical civilizational juncture. We are in grave need of a systems revolution to prevent environmental and societal collapse. And yet, if we try to force some changes too fast, we may create other forms of chaotic side effects that will slow down the much-needed transformation of systems. It is, as the Indian philosopher P. R. Sarkar said, all about creating *prama*, or dynamic balance, throughout all the interactive systems.

As a civilization, it is time to move toward *homeostasis*. We must become a planetary ecosystem—integrating our worldview, culture, and economy with our natural environment—so that human society becomes resilient in dealing with disruptions and can thrive for ages to come.

THE URGENCY OF PLANETARY SYSTEMS CHANGE

In February, 2022, the UN Intergovernmental Panel on Climate Change (IPPC) issued "a stark warning about the impact of climate change on people and the planet, saying that ecosystem collapse, species extinction, deadly heatwaves and floods are among 'the dangerous and widespread disruptions' the world will face over the next two decades due to global warming." "This report is a dire warning about the consequences of inaction," said Hoesung Lee, chair of the IPCC. "It shows that climate change is a grave and mounting threat to our wellbeing and a healthy planet. Our actions today will shape how people adapt and nature responds to increasing climate risks," he said, adding: "Half measures are no longer an option."

The UN News wrote that the IPCC adaptation report is "a damning indictment of failed global leadership on climate." In an op-ed article penned for the Washington Post, Antonio Guterres, the UN Secretary-General, described the latest IPCC report as "a litany of broken climate promises," which revealed a "yawning gap between climate pledges and reality."

Today, most of our ecosystems are threatened. It is time we understand that our ecosystems are the source of most of our real wealth creation. Without nature, there will be no culture and no economy. Systemic changes from the local to the global are necessary—in how we produce, consume, and live. It is now or never. It is time for systems change.

He wrote that governments and corporations were not just turning a blind eye, "they are adding fuel to the flames by continuing to invest in climate-choking industries. Scientists warn that we are already perilously close to tipping points that could lead to cascading and irreversible climate effects."

These irreversible climate effects are caused by a failed worldview and defective political and economic systems. We have treated nonrenewable natural resources as if they were infinitely available.

We have treated nature as a dumping ground for all our toxic waste products. The result? We are running out of resources, and we are polluting the atmosphere, the land, and the waters. Our outworn worldview and shortsighted economic practices have come back to haunt us.



PART 2

THE SYSTEMS WORLDVIEW AND THE FOUR CIRCLES OF CHANGE

THE SYSTEMS WORLDVIEW AND THE FOUR CIRCLES OF CHANGE

What are the main areas of reality we need to connect and the circles of change we need to observe, join, adapt, and change? What are the main parts we need to connect into larger systems of interconnectedness? For us, these are the five important issues: The Systems Worldview, the overarching vision, and the macrosystem that informs the four main parts of planetary society: Environment, Society, Economy, and Wellbeing. Within these four macrosystems are multiple micro- and mesosystems, but here, we will focus on these overarching systems and their relevance on today's planet.



THE SYSTEMS WORLDVIEW

In his book, the *Patterning Instinct*, Jeremy Lent observed that "a culture's worldview shapes its values—and those values shape history." Ultimately, the way history will shape our future on this planet will depend on our dominant worldview. With all our systemic, planetary challenges—from climate change to economic inequality, from poverty to wars, from racism to the refugee crisis—we need a new worldview, one rooted in systems thinking. According to many observers, this new worldview is emerging and articulating a more integrated vision of who we are and where we are going.

In the early 1970s, the godfather of sustainable economics, E. F. Schumacher, author of the classic *Small is Beautiful,* pointed out that every system, every economy, has an underlying philosophy. The philosophy of modern society is largely based on liberty, freedom, scientific reductionism, and materialism. This worldview inspired democracy, capitalism, and scientific innovation. While freedom of thought and democracy are undeniably fundamental for a good society, capitalism's mechanistic and profit-oriented worldview has not been kind to the planet, nor has it always used science wisely, nor created economic democracy for large numbers of people. The common consensus seems to be that scientific reductionism is too flawed to act as a valid philosophical viewpoint. However, reductionism has been used to justify damaging policies across the political spectrum. And yet, reductionism, within a holistic worldview, also has its place.

We think that this emerging worldview, where the wisdom of nature and the human spirit is the overarching vision, is our best hope for creating a more regenerative, equitable, cooperative, and peaceful planet.

Thankfully, a new worldview is already emerging, and much of it is informed by systems thinking. This new worldview has emerged by linking together new findings in science, biology, neuroscience, and complexity theory. The new worldview is also informed by linking ecology and economy, uniting market competition with the

business of cooperation, merging indigenous wisdom with science, connecting holistic modalities with reductionist science, and relating political policies to local needs and cultural values.

We think that this emerging worldview, where the wisdom of nature and the human spirit is the overarching vision, is our best hope for creating a more regenerative, equitable, cooperative, and peaceful planet**.** In the words of Indian philosopher and universalist P. R. Sarkar: "Let humanity of the new day of the new sunrise wake up in a new world."

We can also think of this emerging worldview as four nested circles, starting from the inside with the econosphere (economy, trade), then the sociosphere (society, culture, customs, laws), then the ecosphere (environment, ecology, the commons), and ending with the noosphere (human wellbeing and happiness), each circle larger and more vital than the other; each circle interdependent of the other.

THE WHOLE SYSTEMS CHANGE WORLDVIEW

But what is a Systems Change Worldview? Our worldview shapes our values, and today's self-centered, corporate, and materialistic value system has created an imbalanced and troubled planet—environmentally, economically, and culturally.

The planet's future is being determined by the dominant culture's worldview. The global society we have evolved into has a worldview with four basic assumptions—that unlimited private ownership benefits all, that unlimited private wealth is healthy for society, that selfishness is the main driver of economics and innovation, and that nature is a free resource to exploit.

This old vision discounts the worldview of nature as common to us all, including plants and animals. The new vision declares that caring and cooperation, not selfishness, are needed to foster a more balanced society and economy and that economic wealth must be shared more equitably.

It is time for a more integrated, whole-systems worldview. One in which competition and cooperation, private and collective ownership, ecology and economy, ethics and science (both reductionist and holistic), the local and the global, modern culture and traditional wisdom can evolve into a genuinely regenerative and integral civilization for all living beings on this planet.

ENVIRONMENT

How we see and interact with the environment depends on our worldview, on how much that view is rooted in a mechanistic vision or a deeper systems view that recognizes the interconnectedness and interdependence of the whole of nature.

Here are some emerging ideas about how to better interact with our environment:

- **Value of nature:** The mechanistic and profit-driven system of economics has been largely operating as if nature primarily exists to be exploited. This has driven us to the brink of global, ecological collapse. Therefore, we now need to safeguard the earth's existence for future generations by recognizing nature's intrinsic value: that ani, plantslants, rivers, and mountains have a right to exist for their own sake. Once the existential right of the biosphere is supported by legal means, we will have the capacity to protect nature from exploitation and destruction.

- **Regeneration of renewable resources:** Some of the natural resources we depend on to survive renew naturally (i.e., biomass, plants, animals, carbon, nitrogen, fertile soil, freshwater), and some are considered inexhaustible (i.e., solar, wind, hydro, and wave power). To maintain the health of the planet and our survival, we need to stop species extinction by halting the dramatic reduction of biodiversity.

- **Protection of non-renewable resources:** If we don't recycle and reduce our consumption of non-renewable resources (i.e., oil, coal, natural gas, and minerals), they will one day disappear. By developing local alternatives to oil and coal (wind, solar, wave, or geothermal energy), implementing laws and



regulations to curb overutilization, and developing cradle-to-cradle models where non-renewable resource effluents are introduced back into the industrial cycle, we can minimize or eliminate waste.

- **Bio-economics:** Corporate greed and neglect impact people and the planet through low salaries, poor working conditions, pollution, and depletion of natural resources. Long-term systems change means a restructured bioeconomy where privatizing profits and socializing the environmental costs is no longer possible.

- **Habitat Restoration:** Overconsumption of resources has led to the destruction of the earth's habitats and caused massive losses in plant and animal species. If we are to survive and thrive, we must preserve and restore these habitats for future generations. There is no alternative.

SOCIETY

- **Ethical leadership:** Ethical leaders use their power and authority to serve the greater good, rather than focusing on themselves or political/corporate money-making—a win-win for employees, organizations, communities, and the environment. Ethical leadership creates transparency, hope and well being in communities and will usher society towards a place of lasting prosperity.

CONSCIOUS ACTIVISM:
Systems change is the conscious embrace of both personal and social transformation. We need to turn activism into not just an external struggle for change, but also an internal one. This conscious practice will help reduce our perpetuation of the problems we aim to solve.

- **Participatory decision-making:** The centralization of wealth and power has been a historically major cause of social and economic injustice, environmental destruction, and militarization. But the community and the workplace are where people spend most of their time and energy, so this is where most decisions affecting people's lives should be made. To restructure economic decision-making away from the powerful few and towards the collective is to create a people-centered culture of civic engagement.

- **One human society:** Human beings have made progress in many areas, but we have yet to create a world where all people—regardless of gender, race, nationality, religion, or cultural background—are treated as equals, as one humanity. It is time for all people to have the opportunity to express themselves and to develop their potential within the spirit of being a global village.

- **Act Locally, Think Globally:** A small minority (the 1%) reap the main economic and political benefits from everyone else's hard work, and wealth is often siphoned out of the communities where it is produced. We need systems to change so power and wealth stay in those communities, and a global vision of interlinked and cooperating communities, cultures, and nations.



- **Embracing diversity:** To recognize, and respect ways of being that are not necessarily our own is to build bridges of trust, respect, and understanding as we interact with other cultures and identities. Learning about and understanding different perspectives within our global family helps dispel negative stereotypes and personal biases about people with different languages, skin colors, sexual orientations, and religions.

- **Indigenous Cultures**: Sovereignty of land and cultures need to be granted to indigenous cultures. Indigenous peoples are custodians of many vital ecosystems and regenerative resources and protective laws must help them maintain that role.

ECONOMY

- **Economic democracy:** An economic democracy is a decentralized economy where all basic needs are met for all, and local resources and employment are controlled by the local people, not by outside economic entities as is so common today.

- **New economic models:** The growing New Economy Movement (NEM) rejects neo-liberalism and its neoclassical foundations. Neoclassical economics is the orthodox economics taught in virtually all universities since the 1950s. It informs most social and economic policies around the world. The NEM, by contrast, reconstructs the very foundations of economic theory, drawing on ecological, feminist, and humanist principles, and incorporating proposals such as the guaranteed minimum requirements of life, alternative production models, such as cooperatives, complementary currencies, and a radical overhaul of global trade and finance.

In reality, the economy is an extension of nature and society. It is dependent on nature's resources and biodiversity to survive and thrive. And it is up to society, not just the market, to determine the economic rules.

- **New deep green deal:** In the new economy, economics is a subsystem of ecology. The current sustainable development paradigm has not been able to significantly halt our planet's environmental destruction because we still view the economy as more important than nature and society. In reality, the economy is an extension of nature and society. It is dependent on nature's resources and biodiversity to survive and thrive. And it is up to society, not just the market, to determine the economic rules.

- **Buying Local and Beyond:** To create a truly vibrant local economy producing and marketing its own goods, a few farmers markets are not enough; we need broader policy changes, too. We need to envision a fundamental shift in the locus of power: from transnational corporations and nation states back to local

and regional levels. We need a decentralized economy—a complex network of thriving local economies, communities and cultures, from the village to the regional level, from the national to the global level.

- **Beyond Commodification:** Economic liberation and true sustainability will arise when people and nature are no longer viewed as mere commodities for sale in the marketplace, when the intrinsic value of human and natural life is recognized and reflected in our economic structure.

- **Beyond Profit:** When profit is the main goal of business, many negative side effects are created: inequality, overconsumption, and environmental destruction, to name a few. While profit is an integral part of an operating economy, it cannot supersede consumer needs, sustainability, environmental health, worker safety, and personal fulfillment.

- **Societal Happiness:** The goal of a systems society is not, as it is today, to increase production, profit, and the GNP. The first goal must be to ensure everyone's basic needs are sustainably met. Second, it must ensure people can pursue their inner happiness needs: art, culture, education, leisure, community, and spirituality. Finally, it must ensure progressive improvement in well-being over time. Sustainable economics will thus lead to sustainable wellbeing.



WELLBEING

Wellbeing and happiness are increasingly central themes in social discourse. However, what are the appropriate metrics for managing these subjective experiences? Historically, objective measures like GDP, income, and crime rates dominated these discussions, yet their ability to fully capture psychosocial wellbeing is now being questioned. Governments are urged to recognize wellbeing as a public good rather than a private matter, prompting a shift towards measuring subjective aspects of wellbeing. We therefore advocate for the inclusion of subjective measures in wellbeing assessments and propose tools to develop comprehensive metrics for monitoring wellbeing. In this way, government bodies, corporations, organizations, educational institutions, and healthcare providers can prioritize collecting wellbeing data. By embracing a holistic approach to measuring wellbeing, we can better understand and address the factors that contribute to individual and social thriving.

Gross National Happiness (GNH): The goal of a systems society is not, as it is today, to mainly increase production, profit, and GNP. The first goal must be to ensure everyone's basic needs are sustainably met. Second, it must ensure people can pursue their inner happiness needs: art, culture, education, leisure, community, and spirituality. Finally, it must ensure progressive improvement in well-being over time. Sustainable economics will thus lead to sustainable wellbeing.

Individual Happiness: This can be measured by self-reported tests on a scale of 0-10 and provide insights into the spiritual and psychological dimensions of individuals' wellbeing, helping to inform policies and interventions aimed at promoting holistic health, wellbeing, meaning, and fulfillment within workplaces, communities, and countries.

Sample Topics to be Included in Self-reported Individual Happiness Test

- **Spiritual Growth Index:** Surveys or assessments measuring an individual's sense of purpose, meaning, and connection to something greater than themselves.

- **Mindfulness and Meditation Participation:** Percentage of the group or population engaging in mindfulness practices or meditation, indicating a focus on mental clarity and stress reduction.
- **Resilience Index:** Measurement of individuals ability to bounce back from adversity and cope with life challenges.
- **Sense of Belongingness:** Surveys or assessments gauging an individual's feelings of connectedness to their communities, social groups, or spiritual communities.
- **Positive Emotion Index:** Measures of positive affect, happiness, joy, and contentment within the group or population.
- **Perceived Stress Levels:** Surveys assessing an individual's self-reported stress levels and perceptions of stressors in their lives.
- **Self-Reported Life Satisfaction:** Surveys or indices measuring an individual's overall satisfaction with their lives, encompassing various domains including spiritual fulfillment.



- **Psychological Flourishing Index:** Metrics assessing an individual's psychological functioning, including feelings of autonomy, competence, and relatedness.
- **Quality of Relationships:** Assessments of the quality and satisfaction with interpersonal relationships, including friendships, family relationships, and romantic partnerships.

Gross National Happiness (GNH): The goal of a systems society is not, as it is today, to mainly increase production, profit, and GNP. The first goal must be to ensure everyone's basic needs are sustainably met. Second, it must ensure people can pursue their inner happiness needs: art, culture, education, leisure, community, and spirituality.

- **Gratitude Index:** Measurement of an individual's propensity to experience and express gratitude, which is associated with greater psychological wellbeing.
- **Existential Wellbeing Index:** Assessment of an individual's sense of coherence, existential meaning, and acceptance of life's uncertainties.
- **Social Support Networks:** Metrics evaluating the availability and quality of social support networks, including emotional, instrumental, and informational support.
- **Religious or Spiritual Affiliation:** Percentage of the population affiliated with religious or spiritual organizations, indicating participation in faith-based communities.
- **Hope Index:** Surveys assessing an individual's sense of hopefulness and optimism about the future.
- **Mind-Body Connection:** Metrics evaluating practices that promote harmony between mind and body, such as yoga, tai chi, or other somatic practices.
- **Meaningful Work Engagement:** Assessment of an individual's perception of their work as meaningful and aligned with their values and aspirations.
- **Self-Compassion Index:** Measurement of an individual's ability to treat themselves with kindness, understanding, and acceptance during times of difficulty or failure.

CONCLUSION

As mentioned above, it is impossible to separate worldview, environment, society, economy, and individual wellbeing as they are intrinsically connected. An individual's state of wellbeing is intimately connected to a society's level of environmental sustainability, social cohesion and harmony, economic democracy and equality. All policy and systems change work needs to take all of these factors into account. One major issue with the prevailing worldview is that it creates and encourages a separation between individual choices and their impacts, between the individual and the surrounding community, and between the local economy and the global society.

As consumers, we don't have a clear and visible understanding of how products are produced, marketed, and advertised. From raw materials to assembly, we do not know in any great detail the impact that products have on the local communities and ecosystems participating in their manufacturing, in part due to little or no worker and consumer participation in the design, production, or marketing of goods. This is often referred to as a lack of economic democracy.

Since reducing our consumption of unnecessary goods is an essential part of any systemic solution, becoming more aware of all our environmental and cultural impacts is crucial, and a systems perspective is an important way to achieve that.

Moreover, since the goal of the production of goods should be mainly to satisfy basic human needs rather than to stimulate new and artificial needs for the satisfaction of the ever-growing profit goals of corporations, there is an urgent need for individuals, organizations, and governments to see themselves as part of a global family and a common planetary ecosystem. Becoming carbon neutral and more sustainable in a localized system or place is not enough. We must also develop and manifest a regenerative vision and set of practices on a global level.

Lastly, we have to manifest a society whose long term goal is to sustain and inspire the human spirit and increase human wellbeing, a goal that is high on the human well-being and happiness curve but very low on the extraction and consumption curve.

PART 3

SYSTEMS CHANGEMAKERS

SYSTEMS CHANGEMAKERS

Below is a short list of systems changemakers, people from various cultures and professional backgrounds–including science, philosophy, economy, politics, ecology, and activism–who embody the wisdom, values, and actions of systems change. One common characteristic of the candidates below is that their work has contributed to not just one area of systems thinking, but multiple areas of systems change, hence demonstrating the importance of connecting the dots.



WORLDVIEW



Donella Meadows

Donella Meadows was an environmental scientist, a pioneer in systems thinking, the lead coauthor of the influential study *Limits to Growth* and author of *Systems Thinking: A Primer*. Limits to Growth, written in 1972, made headlines around the world and began a debate about the planet's limited capacity to support human economic expansion. She is also the founder of the Systems Change Academy, and was instrumental in developing an eco-village and an organic farm. *Leverage Points: Places to Intervene in a System*, is one of her best-known and influential essays.



Jeremy Lent

Jeremy Lent has been called "one of the greatest thinkers of our time" by UK environmentalist, author, and columnist George Monbiot. He is the author of two influential books, *The Patterning Instinct* and *The Web of Meaning*. The latter is a book integrating empirical knowledge and traditional wisdom creating a new human narrative to guide us into a more balanced future.



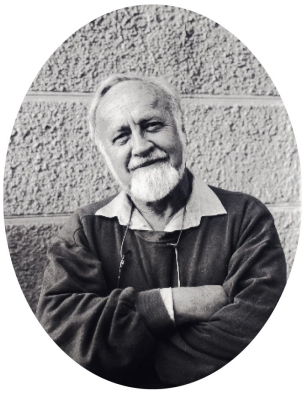
Fritjof Capra

Fritjof Capra is a scientist, educator, activist, and author of many international bestsellers, including *Tao of Physics*. He is one of the pioneers in systems thinking and his work has helped us connect new conceptual insights in science with deeper human and ecological values into an integrated worldview for society. His work bridging the science of physics with eastern wisdom has changed our worldview from a mechanistic to a more ecological one.



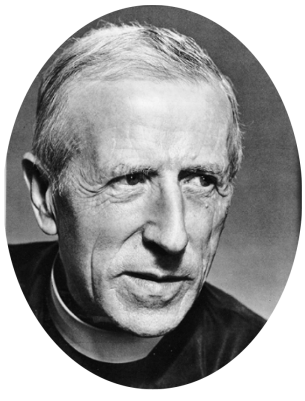
Nora Bateson

Nora Bateson is an award-winning filmmaker, writer, educator, and President of the International Bateson Institute, based in Sweden. An international lecturer, researcher, and writer, she wrote, directed, and produced the award-winning documentary, An Ecology of Mind, a portrait of her father, Gregory Bateson. Her book, Small Arcs of Larger Circles, released by Triarchy Press, UK, 2016, is a revolutionary personal approach to the study of systems and complexity.



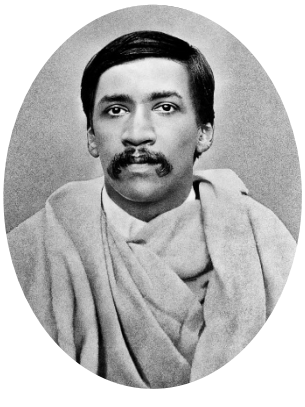
Bill Mollison

Bill Mollison was an Australian researcher, author, scientist, teacher and biologist. In 1981, he was awarded the Right Livelihood Award for developing and promoting the theory and practice of permaculture, an integrated system of ecological and environmental design. In 1974, Mollison collaborated with David Holmgren. In 1978, they published their book *Permaculture One*, which has since taught hundreds of thousands worldwide how to grow food and be sustainable using permaculture design principles.



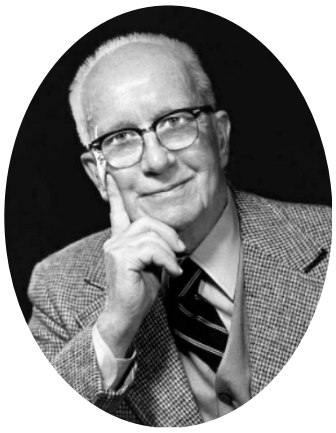
Teilhard De Chardin

Teilhard De Chardin was a French Jesuit priest, scientist, paleontologist, philosopher and teacher. He was the author of several influential theological and philosophical books. He conceived the vitalist idea of the Omega Point, and with Vladimir Vernadsky, he developed the concept of the noosphere, the human intellectual and spiritual realm “beyond” the biosphere.



Shri Aurobindo

Shri Aurobindo was an author, yogi, and philosopher. He believed that Darwinism merely describes a phenomenon of the evolution of matter into life, but does not explain the reason behind it, while he finds life to be already present in matter, because all of existence is a manifestation of Brahman, of Cosmic Consciousness, the core idea in all Eastern spirituality. He argues that nature has evolved life out of matter and the mind out of life.



Buckminster Fuller

Buckminster Fuller was an American architect, systems theorist, author, designer, inventor and philosopher, and futurist. He published more than 30 books and coined and popularized the term “Spaceship Earth.” He was an early environmental activist, aware of the Earth's finite resources, and promoted a principle he termed “ephemeralization,” which, according to Stewart Brand can be defined as "doing more with less.”

ENVIRONMENT



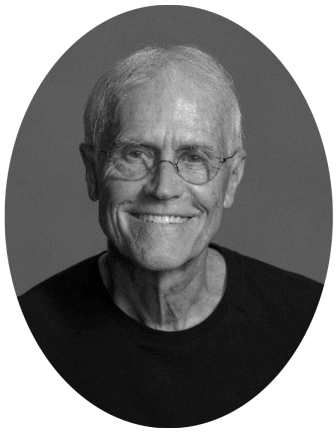
H. T. Odum

H. T. Odum was a pioneer in ecology and gave a new definition of ecology in 1950 as the study of large entities, or ecosystems, at the "natural level of integration." He contributed to the field of systems thinking in many novel areas, including ecological economics, ecological engineering, and ecological modeling. His famous-and given the climate crisis, quite prophetic-dictum, was that "In Nature, all debts are paid, and no one is too big to fail".



Rachel Carson

Rachel Carson, a marine biologist, was a pioneer of the modern ecology and environmental movement. Her 1962 book *Silent Spring* helped usher in the environmental movement by alerting the public to toxic pesticides, such as DDT, bioaccumulating in the environment. Since then, ecologists have worked to bridge their understanding of the degradation of the planet's ecosystems with environmental politics, law, restoration, and natural resources management.



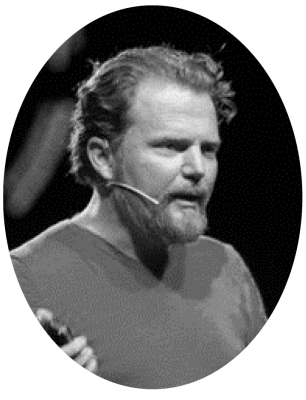
Paul Hawken

Paul Hawken is an author, environmental activist, economist, and one of the popularizers of ecological thinking and research, especially in the relationship between the environment and economics. Hawken's work includes founding ecological businesses, writing about the impacts of commerce on living systems, and consulting with corporations and governments on industrial ecology, and environmental policy.Hawken was the co-founder and executive director of *Project* Drawdown, a non-profit that describes how global warming can be reversed.



Winona Laduke

Winona LaDuke, a Native American environmental and sustainable economy activist, author, and Vice Presidential candidate for the US Green Party, she is the executive director and a co-founder of Honor the Earth, a Native environmental advocacy organization. In 1994, LaDuke was nominated by Time Magazine as one of America's fifty most promising leaders under forty years of age.



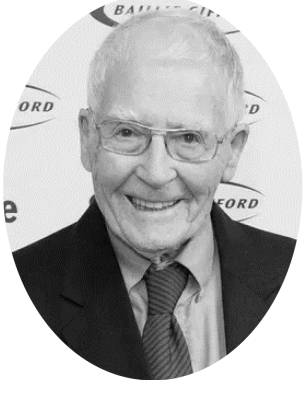
Daniel Christian Wahl

Daniel Christian Wahl is an environmental activist, author, and speaker known for catalysing transformative innovation, cultural co-creation, whole systems design, and bioregional regeneration. He is the author of *Designing Regenerative Cultures* and on the faculty at Schumacher College.



Lynn Margulis

Lynn Margulis transformed and fundamentally framed the current understanding of the evolution of nuclei-an event Ernst Mayr called "perhaps the most important and dramatic event in the history of life"--by proposing it to have been the result of symbiotic mergers of bacteria. She also developed the Gaia hypothesis with James Lovelock.



James Lovelock

James Lovelock is a British scientist, environmentalist and futurist. He is best known for proposing the Gaia hypothesis, which postulates that the Earth functions as a self-regulating system

SOCIETY



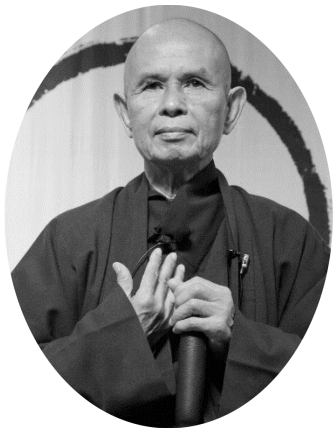
Margaret Mead

Margaret Mead was an anthropologist and received the President's Medal of Freedom posthumously, and in the citation it said that she was "both a student of civilization and an exemplar of it. To a public of millions, she brought the central insight of cultural anthropology: that varying cultural patterns express an underlying human unity."



Max Weber

Max Weber was a German sociologist, historian, jurist, and political economist regarded as among the most important theorists of the development of modern society. His ideas has profoundly influenced social theory and research.



Thich Nath Hanh

Thich Nath Hanh was a Vietnamese Buddhist monk, peace activist, prolific author, poet, teacher, and founder of the Plum Village Tradition, historically recognized as the main inspiration for engaged Buddhism, he was a great inspiration to the civil rights activist Martin Luther King.



Wade Davis

Wade Davis is a Canadian anthropologist and ethnobotanist whose work with indigenous people has been an important international voice for preserving the rainforest as well as indigenous cultures and languages.



Riane Eisler

Riane Eisler is an Austrian-born American systems scientist and author who writes about the effect of gender politics historically on society. She is most known for her 1987 book *The Chalice and the Blade* in which she coined the terms "partnership" and "dominator. Partnership societies are characterized by gender equality, peace, sustainability, caring, while dominator societies are characterized by sexism, chronic war, ecological destruction, and unsustainability.



Pitirim Sorokin

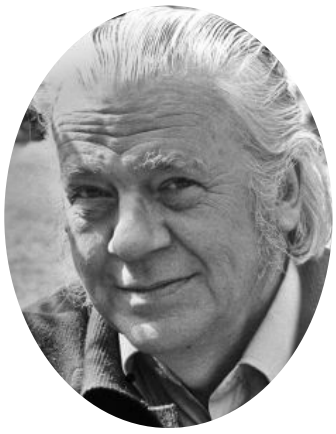
Pitirim Sorokin was a social theorist and author of *Social and Cultural Dynamics.* He classified societies according to their 'cultural mentality', which can be ideational (reality as spiritual), sensate (reality is material), or idealistic (a synthesis of the two). He has interpreted the contemporary Western civilization as a sensate civilization dedicated to technological progress and prophesied its fall into decadence and the emergence of a new ideational or idealistic era.

ECONOMY



Karl Polanyi

Karl Polanyi, economist, philosopher, historian, anthropologist and author of *The Great Transformation*, which argued against self-regulating markets and commodification of nature. He is remembered as the originator of substantivism, a cultural version of economics, which emphasizes the way economies are embedded in society and culture.



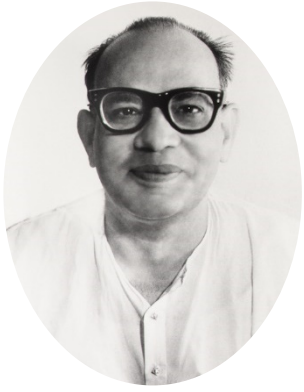
E. F. Schumacher

E. F. Schumacher was an economist, environmental activist, and author of the classic *Small Is Beautiful* and an economist best known for his proposals for human-scale, decentralized and appropriate technologies. Often considered the father of environmental economics, he also critiqued material scientism in his book *A Guide for the Perplexed.*



Kate Raworth

Kate Raworth is an economist known for "doughnut economics," an economic model that balances essential human needs with planetary boundaries. She is Senior Associate at Oxford University's Environmental Change Institute and a Professor of Practice at Amsterdam University's Apllied Sciences.



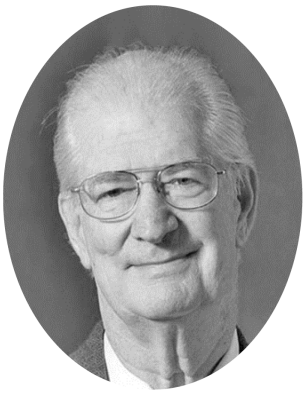
P. R. Sarkar

P. R. Sarkar was a Indian philosopher, spiritual teacher, activist, and economist, he was founder of the Progressive Utilization Theory (PROUT) which proposes a post-capitalist economy rooted in Eastern wisdom and ecology. Sarkar's vision was to restructure the economy into a three-tiered, integrated system based on publicly, cooperatively, and privately owned enterprises. He also promoted the post-growth idea that true progress is inherently spiritual, not material.



Helena Norberg Hodge

Helena Norberg Hodge is founder and director of Local Futures, a non-profit organization "dedicated to the revitalization of cultural and biological diversity, and the strengthening of local communities and economies worldwide." She is the author of the international best-selling book *Ancient Future*, about tradition and change in the Himalayan region of Ladakh. She is also the author of *Local is Our Future*, in which she advocates for localized alternatives to the global economy.



Herman E. Daly

Herman E. Daly is one of the main voices for steady-state economics. In 1996, he was awarded the Right Livelihood Award for defining a path of ecological economics that integrates the key elements of ethics, quality of life, environment, and community.

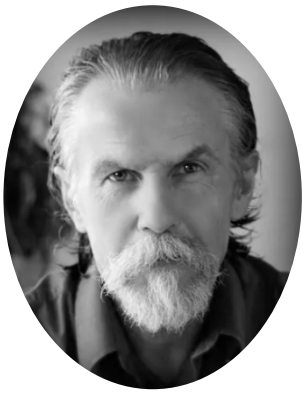


Tim Jackson

Tim Jackson is a British ecological economist and professor of sustainable development. He is the director of the Center for the Understanding of Sustainable Prosperity (CUSP), a multi-disciplinary, international research consortium which aims to understand the economic, social, and political dimensions of sustainable prosperity. He is the author of *Prosperity Without Growth* and *Post Growth: Life After Capitalism*

CONCLUSION

One of the characteristics of the systems thinkers above is that none of them have worked or lived in an isolated silo of their own making. They have all been integrated thinkers operating in different fields of knowledge and worked as activists in various capacities on the ground. E. F Schumacher was both an economist and a Buddhist philosopher as well as the grandfather of the sustainability movement. P. R. Sarkar was a yogi, philosopher, social activist, and economist who spoke out against casteism in India, promoted a new economic theory beyond corporate capitalism and communism and was grounded in Eastern wisdom. Likewise, Riane Eisler's work is characterized by blending gender equality, peace, sustainability, and caring into a vision of a new partnership society. Systems thinking and action are about integration, regeneration, and collaboration across fields of knowledge, cultures, and economies.



Roar Bjonnes

Roar Bjonnes is the cofounder of Systems Change Alliance and the author of Growing a New Economy, a book which environmentalist Bill McKibben called a "hopeful account of the possibilities contained in our current crisis."

This document has received critical input from systems consultant Tiago Freitas, political economist James Quilligan, regenerative thinker Daniel Christian Wahl, futurist Sohail Inayatullah, and systems thinker and consultant Benjamin P. Taylor.

GET INVOLVED WITH US

www.systemschangealliance.org

We bring people and organizations together to address the root causes of our social, economic, and environmental problems in order to create integrated and long-term systems change.

APPENDIX

APPENDIX

In the piece, "Understanding Systems to Change the World," we have outlined what we think is a useful map of a much needed and evolving paradigm. We have done this because of the massive failures of the opposite worldview, that of materialism, mechanism, and reductionism. These failures have led to an urgent need for new social, political, and economic systems that can act in more dynamic balance with the biosphere, with nature—the source of all human systems.

But, as the saying goes, the map, no matter how accurate and how beautiful, is not the territory. Therefore, we realize the massive challenges that lies before us. So, we invited Benjamin Taylor, a respected systems thinker and organizational leader, to take a critical look at our map and how to proceed as we move along in the real world of creating systems change.

What are the main psychological, intellectual, scientific, political, social, and activist challenges we may face on our journey? In the piece below, Taylor has outlined eight challenges, or errors, we are likely to face and must solve. Not only that, but he also ends with eight solutions, broadly related to the eight errors.

What can systems thinking and change learn to become?

By Benjamin Taylor

Systems Change Alliance's piece titled "Understanding Systems to Change the World?" is intended to help correct an important gap and a problem in the dominant worldview – that of disconnectedness, inability, or refusal, to see that things are part of a whole – and introduce a new holistic approach. I will call that gap, that problematic and dominant worldview, the "type I error: denying that we are part of a whole." I want to endorse drawing attention to this error, but also illustrate some additional risks and errors we could easily fall into as we embrace a richer, holistic, worldview.

Benjamin Taylor is founder and managing partner at RedQudrant, a UK consultancy agency, and the chief executive of the Public Service Transformation Academy. He studied philosophy, politics and economics at Oxford University.

Risks regarding our holistic insight

There is a familiar excitement in the flash of insight when we realize that "it's all connected." It is an insight which is necessary and powerful. However, there are a series of risks inherent in encouraging a holistic view, and I think it's important to highlight them, especially as we need to operate on the particulars of achieving the goals of sustainability, regeneration, and constructive alternatives to the destructive, extractive worldview we see around us.

Below, I will attempt to elucidate each of these, not to undermine the important arguments of the original paper, but to build on them and support the effectiveness of systems change.

Type I error: Denying that we are part of a whole

In their book, *The Hidden Power of Systems Thinking, Governance in a Climate Emergency* (Routledge, 2020)[1], Ray Ison and Ed Straw coin the phrase "God is the biosphere." There is deep wisdom in seeking to understand and follow nature's laws, not least because, in a very real sense, they govern us.

There are, I think, reasonable reflections of the kind of thinking we are recommending. In environmental terms, as early as the 1820s it was theorised that the earth's temperature might be regulated by the atmosphere. This was proven forty years later, and a famous 1912 article raised the issue of climate change. So, interconnectedness, "seeing the elephant," is important. Not for nothing is the environmental movement fond of the phrase "you can't throw things away, because there is no away."

Type II error: Believing we have seen the whole when we have not

We often use the metaphor of the elephant which is at the heart of the paper "What is Systems Thinking?" It is not surprising that this ancient story has been handed down and treasured over centuries.

However, the story is based on an extreme example to highlight a point and, like the whole of the paper, is a rhetorical device to urge a correction of an erroneous worldview and belief system.

In the real world, rarely are the "whole systems" elephants so easily revealed, so concrete and undeniable. The risk is that, trained to see elephants, we easily leap to conclusions.

1 https://newbooksnetwork.com/the-hidden-power-of-systems-thinking

The type II error, then, is leaping from a belief in connectedness, and identifying some connections (or importing an idea of a particular type of connectedness), and then naming a "whole" which is not justified by the facts. This is then compounded by a likely assumption that anyone who denies the realness of the elephant is denying holism and advocating for a destructive or limited "Type I" worldview.

Type III error: Assuming the whole that we see is real and concrete

The Type III error is very closely connected to Type II, but it is important to distinguish it. A holistic worldview can easily come to deny the truth that "systems" are our projection onto the world. They may be more or less accurate about how they map to our understanding of real behaviours and facts, but they are not "the world" itself.

I began this piece by acknowledging that our world tends to commit the error of not "seeing the system." However, we commit the opposite error when we believe we see "the system" when we in fact are only seeing our model.

Furthermore, many attempts at "systems mapping" are relatively facile and ineffective – they name but do not quantify some undeniable connections, and they make the "elephant" too neat and tidy. We get the actual thinking and modelling wrong, even working, as we inevitably do, from our version of the current worldview. Perhaps because we tend to consider "analysis" as part of the old, discredited perspective of separation and a mechanistic world order. And then we project our understanding of "the elephant" or "the whole" onto the world and proceed as if it was the reality.

Not only does this lead us wrong, but it can also lead us to attempt the inverse of understanding. It can lead to impose our model on the world, to make it legible and manageable by changing its nature, often destructively.[2] It can also make us welcome and fall victim to the urge to control and impose our models on the world to generate predictability.

Type IV error: Denying the realities of the parts

The other problem with the story of the blind men and the elephant is that "seeing the elephant" is, in a sense, the end of the story. In one version, the "blind" men are sighted, but using small candles in a pitch-dark barn to explore the elephant. When they unite their candles, they can suddenly see the whole thing.

2 See *Seeing Like a State, Scott* https://stream.syscoi.com/2020/04/23/a-seminal-resource-so-just/

Most "systems" in the world are not like this. Even if we can be sure of the "elephant," the experience of different "parts of the elephant"—such as relative oppression, insecurity, scarcity, threat, different languages, experiences, relationships – are relevant in their own reality.

Thus, the experience of the parts of the elephant are valid and important, as we also understand there is a whole. "Viewpoint epistemology" – making sense of things differently depending on your "part of the elephant" – is real and important.

The "What is Systems Thinking?" piece says that "[e]ach connection is part of hierarchy, or rather a holarchy, of parts and wholes and whole/parts."

This is true since the hierarchical nature of things can be a problematic and complicating factor. Moreover, each connection is also part of a heterarchy – a system of multiple centres.

Type V error: Assuming that seeing we are part of the whole creates a paradigm shift

Above, I said that "seeing the elephant is, in a sense, the end of the story"– and a holistic viewpoint can often take this even further – an end of a "happily ever after" story. It's often said that the famous "Earthrise photo"[3] changed the world, in the sense that we could suddenly understand our planet in a visceral way, as a contained and vulnerable part of a large and inhospitable universe.

Yet the whole world did not click into a new way of working as a result. Seeing the system, embracing holism as intellectual understanding, even at a visceral level, is not enough in a world conditioned to create different behaviours.

Type VI error: believing that we are speaking from a different paradigm

This is perhaps the riskiest of all. Those of us who have grasped and internalised "earthrise" and holarchy – we have seen a different perspective and are, in a sense, enlightened. Or are we?

If we build a new model, even if we do have a "new paradigm," it comes out of and is born into the current way of thinking, the current worldview. As creatures living in a world

3 See https://en.wikipedia.org/wiki/Earthrise

of separation and cutting off connections, our "systems maps" echo this state. The more we deny them, the more we bring our assumptions with us. So, some norms about "how to work in complexity" might end up actually being "current-paradigm" control-based norms, and some might end up being great in a world where everyone recognises interdependence, but open you up to failure and abuse in the existing world.[4]

The noble urge to show deference to the unique perspectives and understanding of "the most excluded and oppressed" can end up being a mechanism for not changing excluding and oppressive structures.

In the famous *Tyranny of Structurelessness* by Jo Freeman,[5] the espoused belief in "abandoning hierarchy" may lead to toxic, hidden hierarchies. We see the manipulative model of "personal carbon footprints" and "behaviour change," and the well-intentioned use of technologies to propose pricing of the value of animals and even soil to the ecosystem.

On the journey to a better organised society and civilisation, we must account and deal with baked-in assumptions, such as competition, hierarchy, greed – and we must deal with them, first and foremost, in ourselves.

Type VII error: Denying the challenges inherent in the whole

It's also worth saying that "holism" is easy to paint as a panacea when you instead are making castles in the air. As soon as things get real, the challenge is that you must account for that reality.

From many perspectives, the biosphere is a ruthless place. From others, it is a hugely wasteful place. From yet other perspectives, there is in nature a perfect balanced cycle of energy and of life. As we love to talk about "ecological resilience," we need to also accept that in the biosphere the untimely death of individuals, indeed of entire ecosystems, is a norm and an expected part of natural cycles.

Controlling everything is not a meaningful or a constructive approach, but absence of control – especially of emergent properties – is also problematic. What we need – and good systems thinkers, complexity theorists, and cyberneticians do of course appreciate this – is sensitive steering.

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4 See, for example, my notes on https://stream.syscoi.com/2018/06/04/lankelly-chases-approach-to-working-with-complexity-with-comments/ – I'd offer 'People share a vision' and 'People appreciate each other's perspectives and seek common purpose and understanding' as an example of the latter.

5 https://stream.syscoi.com/2020/06/03/the-tyranny-of-stuctureless-2/

Type VIII error: Ineffectual and counterproductive approaches because of errors II-VII

The numbering of "errors" in this list is of course somewhat arbitrary; it could be otherwise, and still make a slightly different kind of sense. Building on the subsidiary errors above, we can easily fall into the error of differentiating ourselves from everyone else who doesn't think the same way as us or see reality the same way, and thus consider ourselves morally superior. In the past week alone, I've seen yet another table where the left-hand column lists the "old, bad" or "mechanistic thinking" and the right-hand lists the "new, good" – which, of course, is "systems thinking." AND yet another grid, with fancy spirals, where the bottom left is "limited, destructive" and the top right is "creative, regenerative."

But whether we consider ourselves "better" because of our perspective, all of the above tends to lead us into differentiation, a split, a "taking of sides." Graham Leicester of the International Future Forum – with a background in diplomacy – has the brilliant phrase, "don't make people be wrong." If you want to change things, starting by pointing out how very wrong people are is not a powerful starting point.

Many other elements of these errors will undermine our effectiveness to create change, too – from cleaving to a model which doesn't represent the world as it is, or as others see it, to insisting on connection, which is not experienced by others, to slipping into loving and accepting our outsider status.

Rising beyond the parts of the elephant requires a meta perspective, not a higher-level perspective

Yet our supporting ecosystems and our community of human beings on the planet do face an existential threat. And it is deeply connected to the act of comparing two things, naming one as "better," and proceeding to accept and implement the full implications of colonialist extraction, imposition, exploitation, and marginalisation – until, eventually and inevitably, that comes back to destroy the persecutor as well as the persecuted. Acting as if the parts are separate from the whole will give terrible results. There are, of course, parallels to socialism, feminism, social justice, decolonialism, and all other movements for human freedom.

So, what can we do? What useful insights can we generate? Well, the "What is Systems Thinking?" messages of connection and holism remain powerful. The "answer" does not lie in the old reductive way of thinking, but there isn't a panacea in a "new holistic" model either. We need ways of working which draw on both, emphasizing rigour, human

connection, testing in the real world, shared learning, purposeful work, framing, and identity (and arrogance and ignorance – especially your own).

Roar Bjonnes writes that "systems thinking is both a goal and a process," so let's take that concept seriously. There's a risk that this piece has been too theoretical – another way of avoiding doing the hard and valuable work. So, let's end with eight tips, broadly connected to each of the eight errors:

1. Denying interconnectedness is the beginning of a destructive process.
2. "Systems" are our ways to make sense of the underlying complexity.
3. Don't become too attached to your own perspective.
4. The whole is made up of meaningful parts, which all have a meaningful way of understanding the whole.
5. It's not enough to simply show connectedness – you have to understand what really motivates change, based on individual perspectives.
6. Assume that you carry the values with you that you reject and use that for radical self-inquiry to understand and accept those values in order to change them.
7. Understand that there are always balances and trade-offs, greyness and compromise, and that believing in a promised land is another trap.
8. Don't fall back into emphasising superiority – work with the current reality to identify where change wants to happen.

All of this implies grounded work in the real world, with real people, as equals.



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SYSTEMS
CHANGE
ALLIANCE