A Systems View of Justice

Justice Conference

Remaking the World: Towards a Future Civilization of Justice

Arthur Lyon Dahl
International Environment Forum

29 March 2024

Justice

"*No light can compare with the light of justice. The establishment of order in the world and the tranquillity of the nations depend upon it.*" (Baha'u'llah)

(Universal House of Justice, To the Bahá'ís of the World, 1 March 2017. Bahá'í World Centre, Haifa.)

Justice

- What is right and wrong
- Application of laws: governmental or spiritual
- Injustice: an act that brings harm to others
- Institutions that apply justice: courts, Houses of Justice
- Can justice be defined scientifically?

Complex Systems Science

- complex systems science can help us to understand justice in a way that harmonises science and religion
- many components with many types of interaction between them and with their environment
- non-linear relationships, emergent properties
- feedback loops and adaptations
- often represented as nodes and links
- collective or system-wide behaviours
- critical transitions or tipping points
- punctuated equilibria, stability followed by sudden transition
- nested at multiple levels

Complex Systems Science

In an efficient (just) system:
- all the component elements in a dynamic state of balance
- each component receives it optimal share of benefits
- performing its service or role efficiently
- no leadership or hierarchy
- increasing complexity
- potential for emergent properties
- higher levels of relationships

The coral reef ecosystem

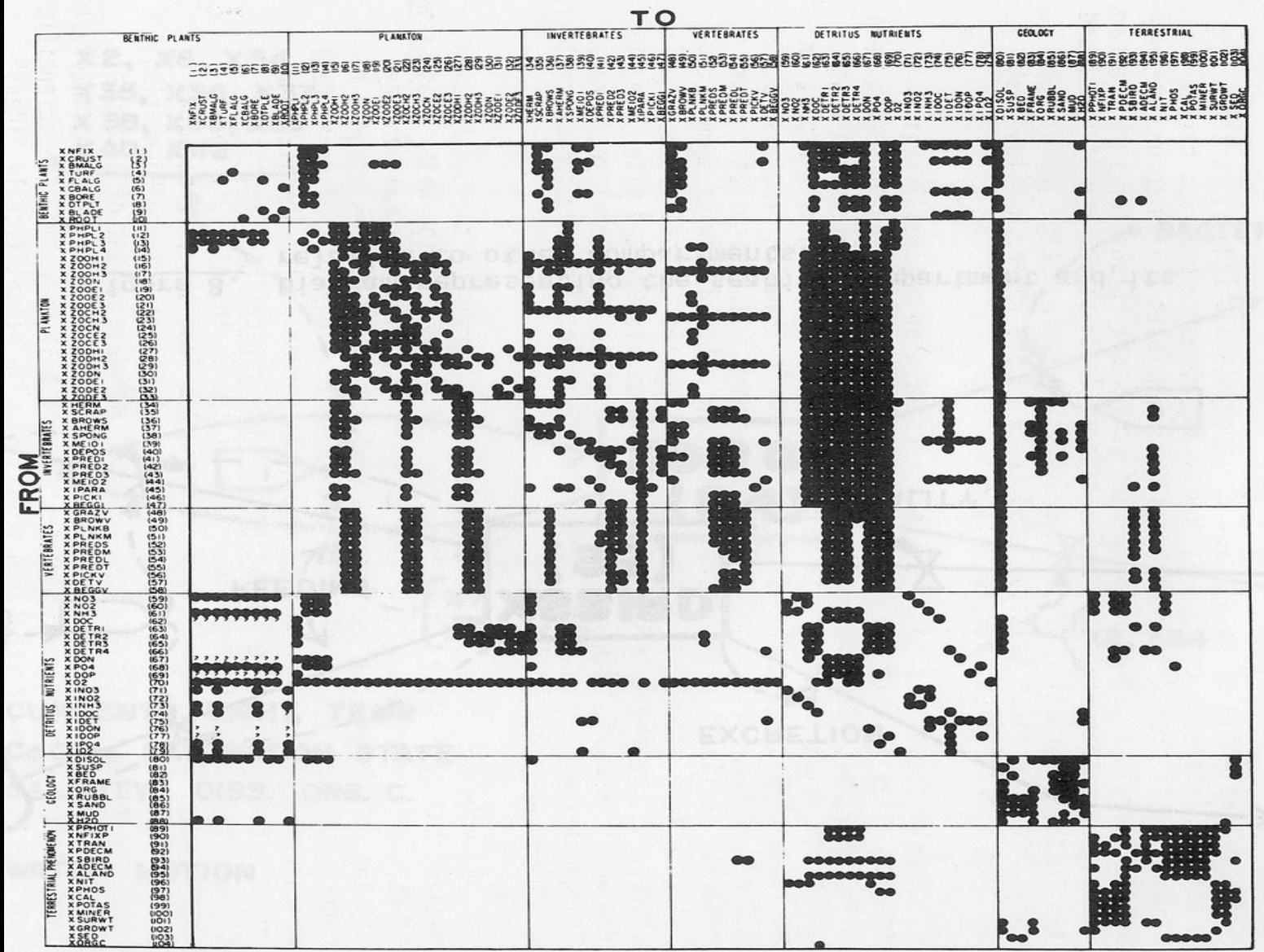
- Efficient capture of solar energy
- Efficient transfers within the system, symbioses
- Cooperation and reciprocity
- Few losses, efficient recycling
- High complexity and integration
- Maximizes total productivity

Coral reef systems model

carbon flow between compartments

104 compartments

(Dahl et al. 1974)



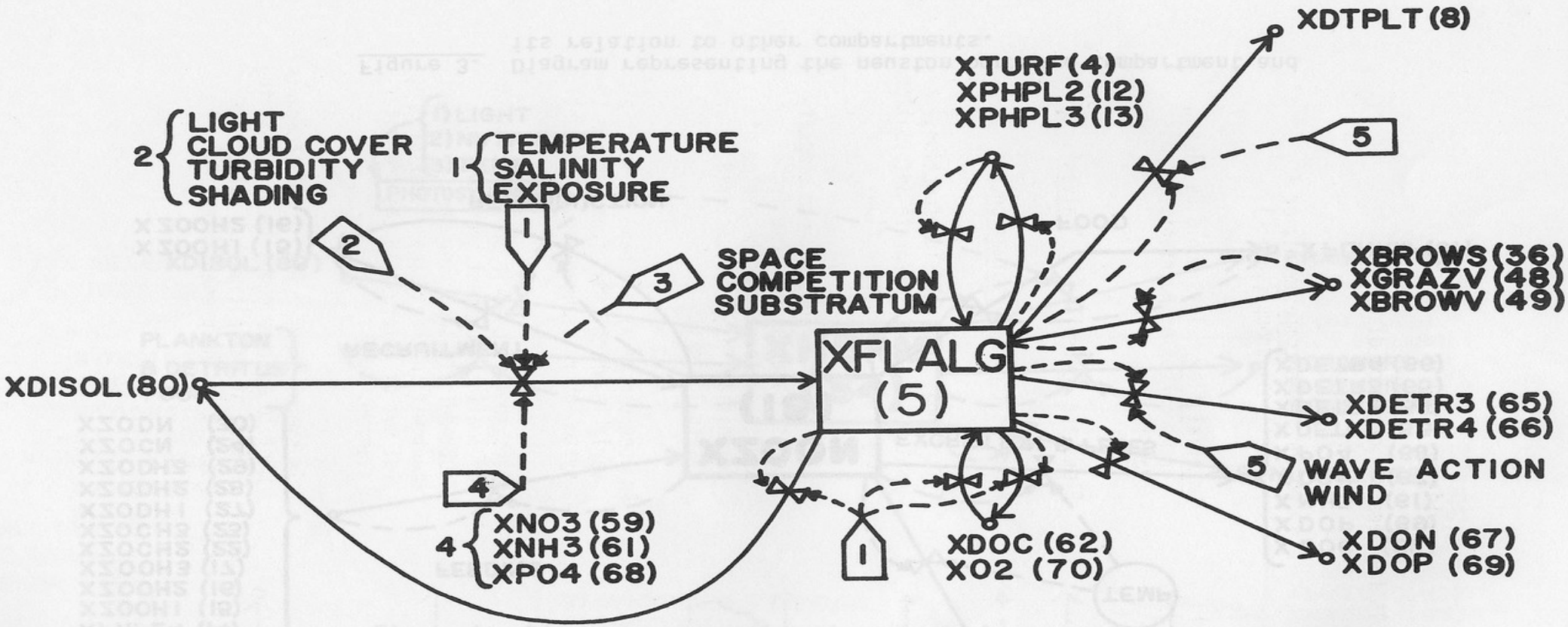


Figure 2. Diagram representing the fleshy macro-algal compartment and its relation to other compartments.

Coral reef systems model (Dahl et al. 1974)

Evolution in the natural world

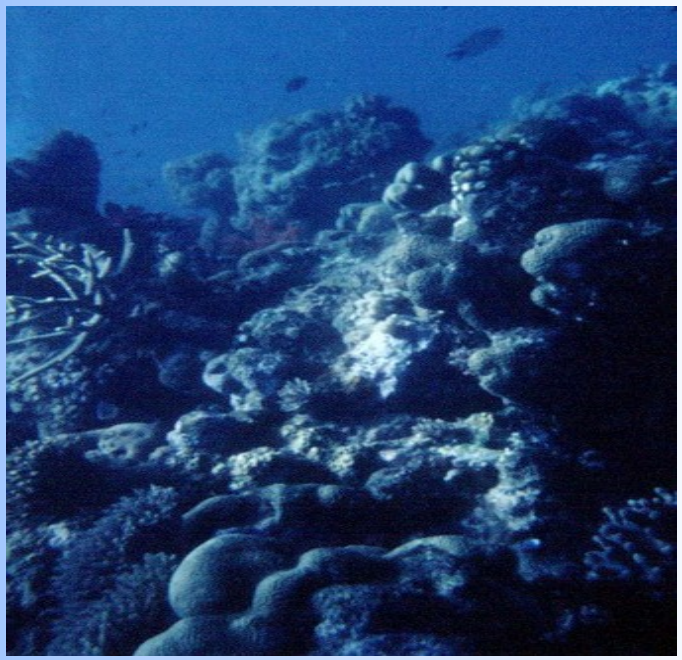
Diversity is the dynamic driver for greater systems complexity, integration, efficiency and resilience

Through long processes of evolution, and both individual and group selection, interactions are selected for that enhance the interrelationships beneficial for all concerned

The greater the number of potential interactions among diverse entities, the greater the capacity of the system to evolve higher levels of complexity

Elements of the systems approach

- A way of thinking
- Dynamic
- Processes
- Cause and effect
- Interactions
- Integration
- Emerging properties



Systems Code Information

- Chemical system: the atoms
- Biological system: DNA
- Mechanical system: engineering concept
- Institutional system: statutes, laws, regulations, practices and customs
- Human system: values, beliefs, cultures

Systems Transmit Information

- Communication systems
- Control systems
- Feed-back
- Nested sub-systems
- Subsidiarity
- Indicators

The systems approach: Example of a human being

- Physical, chemical, biological
- Life cycle, reproduction
- Behaviour, athletic performance
- Health, medical treatment
- Protection, dress, technological capacity
- Education, training, adaptation
- Psychology, consciousness, intelligence
- Spirituality, ethics, values, motivation
- Social organisation, culture

Systems perspective
Institute for the Study of Global Prosperity

Much like the human body, the interdependent body of humanity is composed of diverse elements whose well-being can only be achieved through integration and coordination. No cell or organ lives apart from the human body, and the well-being of each derives from the well-being of the whole. At the same time, it is the unity and interdependence of the body's diverse cells and organs that permits the full realization of the distinctive capacities inherent in each.

ISGP 2012

Systems perspective

The organic unity suggested by this analogy does not imply uniformity. On the contrary, the diversity of the component parts of an organic body permits the full realization of its collective capacity. Within human societies, diversity is a source of inspiration, creativity, productivity, resilience, innovation, and adaptation. Only when diverse segments of society are able to contribute appropriately to the governance of human affairs, within a framework characterized by unity and integration, will real prosperity and well-being be achieved.

ISGP 2012

Systems perspective

Such unity can only be achieved, however, as justice becomes the guiding principle of governance at all levels. An essential expression of justice is the desire to ensure that every individual and group has the opportunity to develop their full potential in order to contribute to the betterment of society.

ISGP 2012

Systems perspective

A concern for justice is thus an indispensable compass in collective decision making. In the design and implementation of plans, programs, and policies, justice is the sole means by which unity of thought and action can be achieved and sustained among diverse peoples.

ISGP 2012

Systems Thinking

Cycles

- From linear to circular thinking, closing loops, feed-back, response times, balance

Stakeholders

- Identify all relevant actors, listen to them, understand their worldview and their needs, establish confidence

Long-term

- Know where you want to go, keep your direction in spite of distractions; remember your principles and goals, but be flexible in finding local solutions

Sustainability is complex, and the complex is sustainable

Systems Thinking

- **Emergent properties**, more than the sum of the parts
- **Interdependence**, multiple causes and relationships
- **Resilience** in essential functions and structures after a shock
- **Paradigm**, our invisible worldview
- **Paradoxes** - both a statement and its contrary are true
- **Homeostasis** maintaining system integrity
- **Context**: actions may be intelligent adaptations to a perceived situation

Tools for Working with Systems

- **Creative resistance** - remain true to one's values; avoid denial, combat, accepting business as usual
- **Iterative experimentation**, prototype and small steps, cultivate desire rather than force, don't waste energy fighting a powerful system
- **Shared vision** - necessary for collective action
- **Listening to the stakeholders** and their reality
- Find a common language and **co-construct a vision** of the desirable future

Tools for Working with Systems

- Look for fundamental solutions, find the source or strategic point to leverage a big effect
- Diagnose the present in the light of the future vision
- Create solutions that resolve the tension between the present and future
- Decide which actions to start today

Questions from Systems Science

What is important in a complex system is not just the number of different entities and their distinct qualities, but how they interact.

Will they simply fight until one comes out the winner?

Or do they have a common purpose, with complementary functions, each contributing to the well-being and productivity of the whole?

How do they communicate and share information?

Is the system more than the sum of the parts?

Has it evolved higher levels of complexity and efficiency?

Intervening in a System

4. the power to evolve or self-organize
3. the goals of the system
2. the paradigm of values out of which the system arises
1. the power to transcend paradigms for a millennium, such as by founding a new religion

(Donella Meadows, *Leverage Points: Places to Intervene in a System,* 1999)

We need a values shift and paradigm change for our survival

Systems Failure

- a few components dominate and exploit other components
- environmental conditions or external resources change
- system upset beyond normal variation
- too rigid and inflexible
- fails to respect resource limits
- unable to innovate in changing conditions
- lead to overshoot and collapse
- collapse of civilisation widely discussed

(Meadows et al. 1972, 1992, 2004; Homer-Dixon 2006; MacKenzie 2008, 2012; Turchin 2008, 2010, 2016; Ehrlich and Ehrlich 2013; Diamond 2005, 2019; Dixson-Declève et al. 2022)

Bahá’í warnings

... the unfailing divine protection that encompasses the House of Justice will ensure that, as the Bahá’í world navigates the turmoil of a most perilous period in humanity’s social evolution, it will follow undeviatingly the course set by Providence.

(Reflections on the First Century of the Formative Age, Universal House of Justice, To the Bahá’ís of the World, 28 November 2023)

Bahá'í warnings

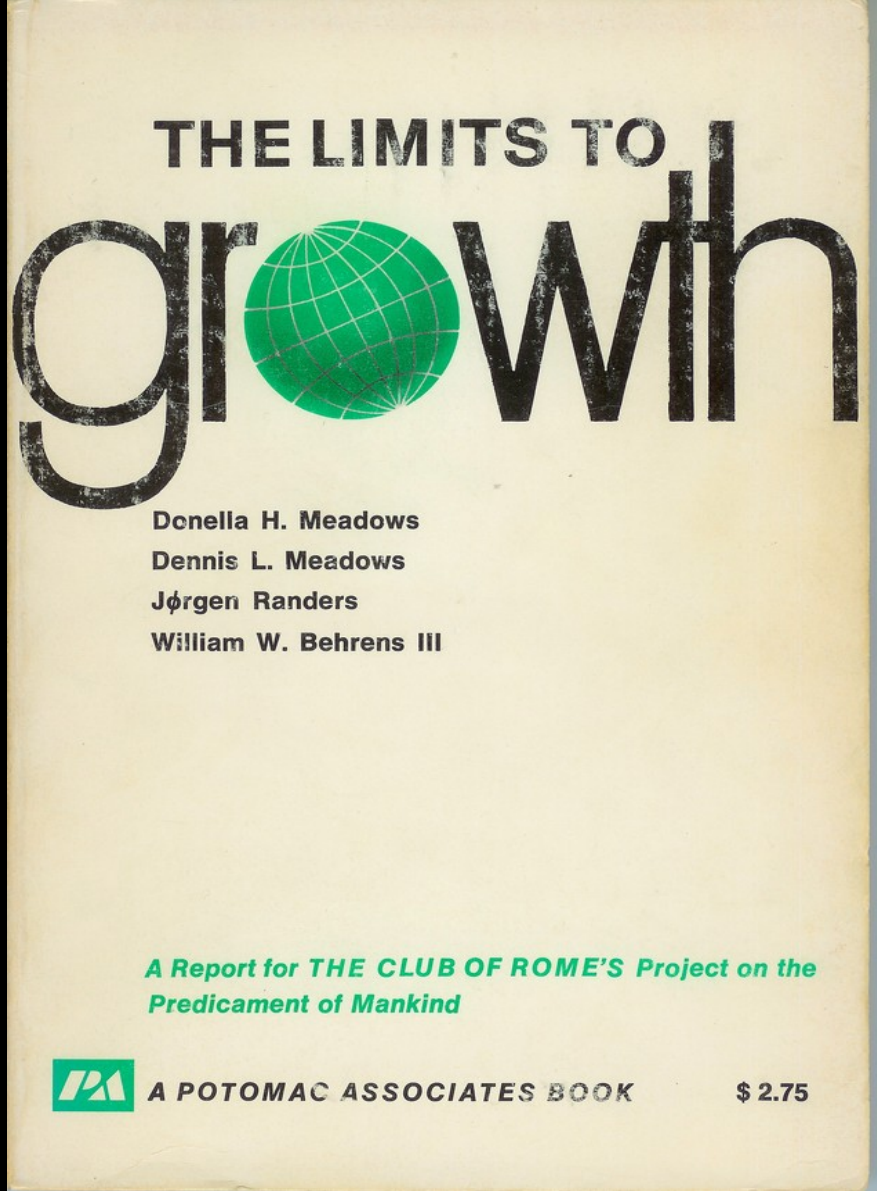
None can anticipate precisely what course the forces of disintegration are destined to take, what violent convulsions will yet assail humanity in this travailing age, or what obstacles and opportunities may arise, until the process reaches its culmination in the appearance of that Great Peace that will signalize the arrival of the stage when, recognizing the unity and wholeness of humankind, the nations will "put away the weapons of war, and turn to the instruments of universal reconstruction".

(Reflections on the First Century of the Formative Age, Universal House of Justice, To the Bahá'ís of the World, 28 November 2023)

1972

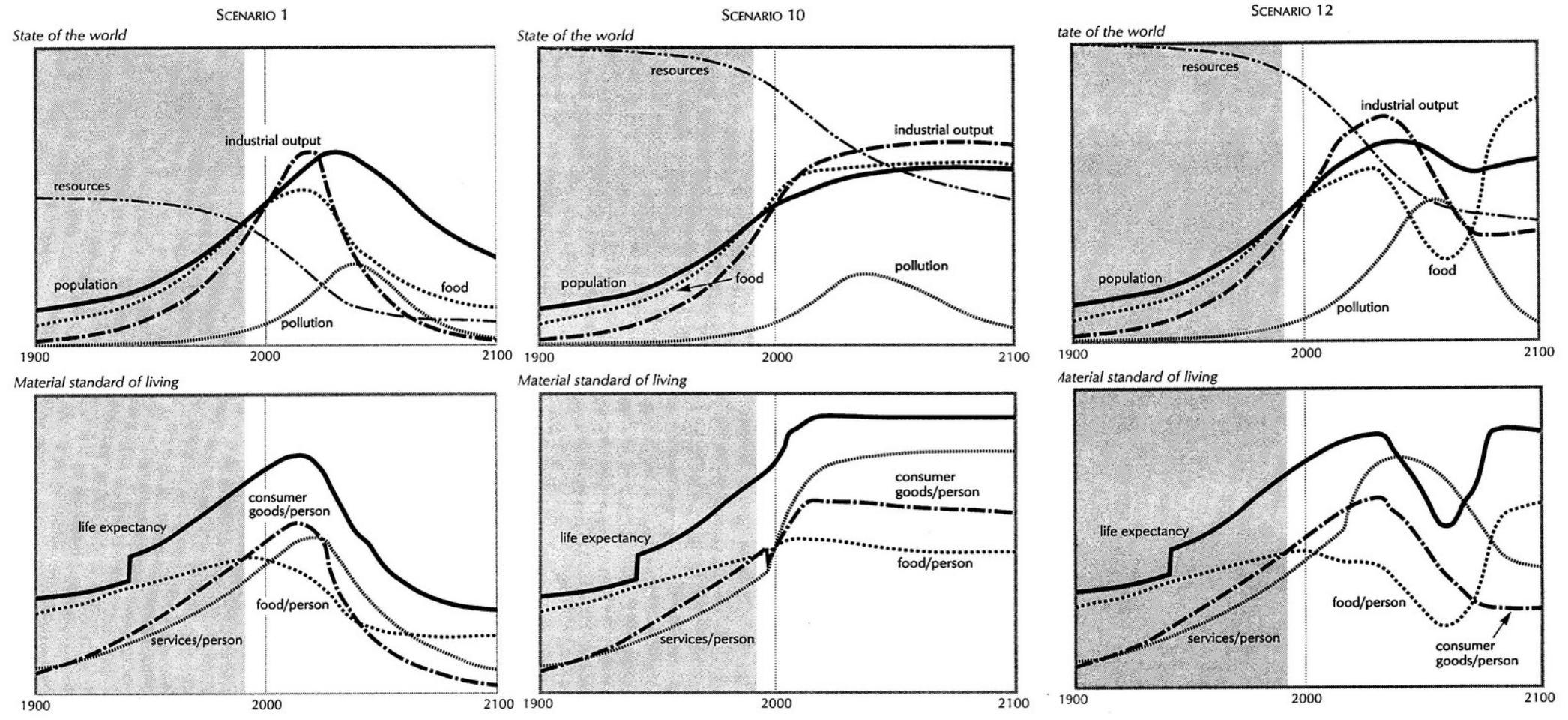
Club of Rome

questioning the
consumer society



Excessive consumption leads to catastrophe

Scenarios from *Limits to Growth* – 1972 (Meadows et al. (1992) *Beyond the Limits*)



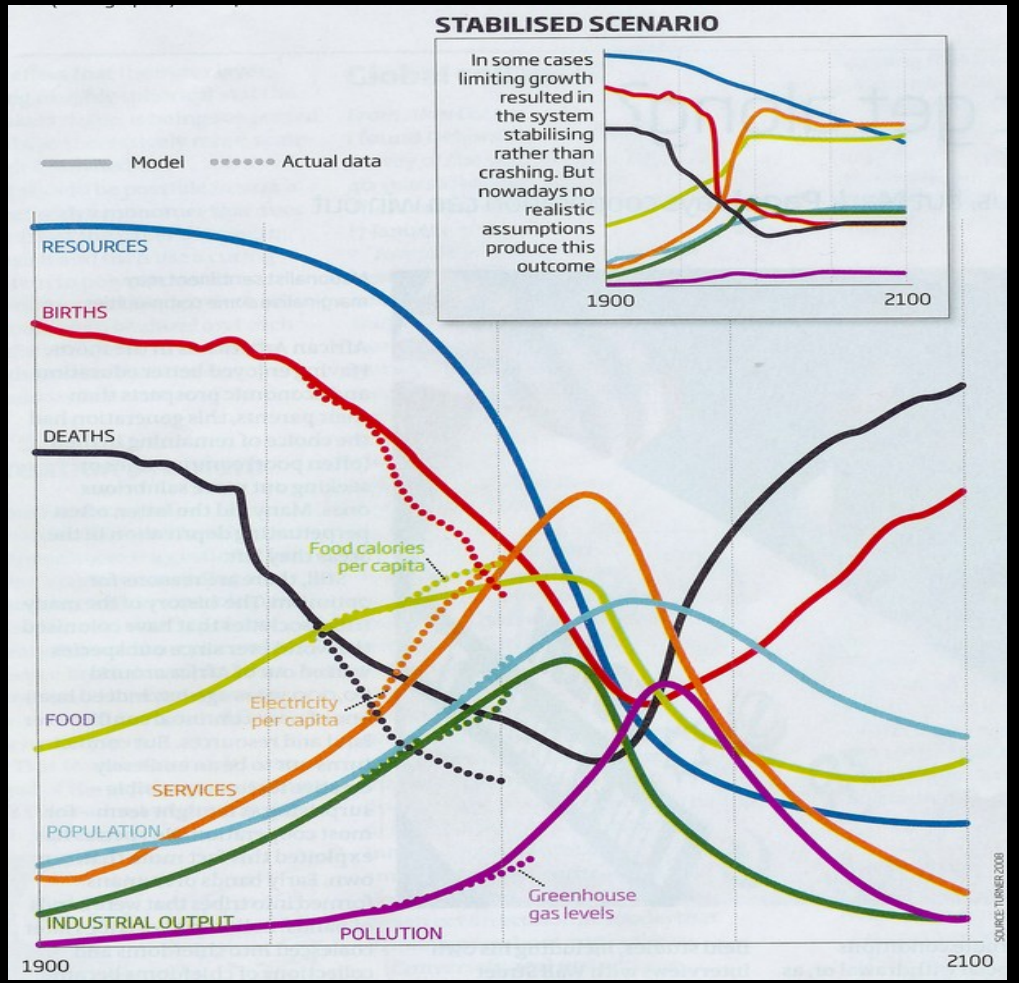
Business as usual

Transition 1995

Transition 2015

Limits to Growth

Where are we now? Right on track to collapse



MacKenzie, Debora. 2012 Doomsday Book. *New Scientist*, 7 January 2012, pp. 38-41.

Environmental Crises

- now at risk from combined environmental crises exceeding planetary boundaries, and tipping points with no recovery possible

- the latest science defines the risks and calls urgently for better planetary governance

Environmental Crises

- accelerated environmental changes
- extreme heat, drought, flooding, crop failure, water shortages, desertification, disease, food insecurity, famine, forced migration
- disproportionately affecting regions and countries that are the least responsible
- also suffer from conflict, fragility, violence, and other instabilities
- the poorest and least-able to respond bear the brunt of these changes

Planetary Boundaries

- human impacts far beyond planetary limits
- poisoning us
- eroding the natural capital on which all life depends

(Richardson et al. 2023)

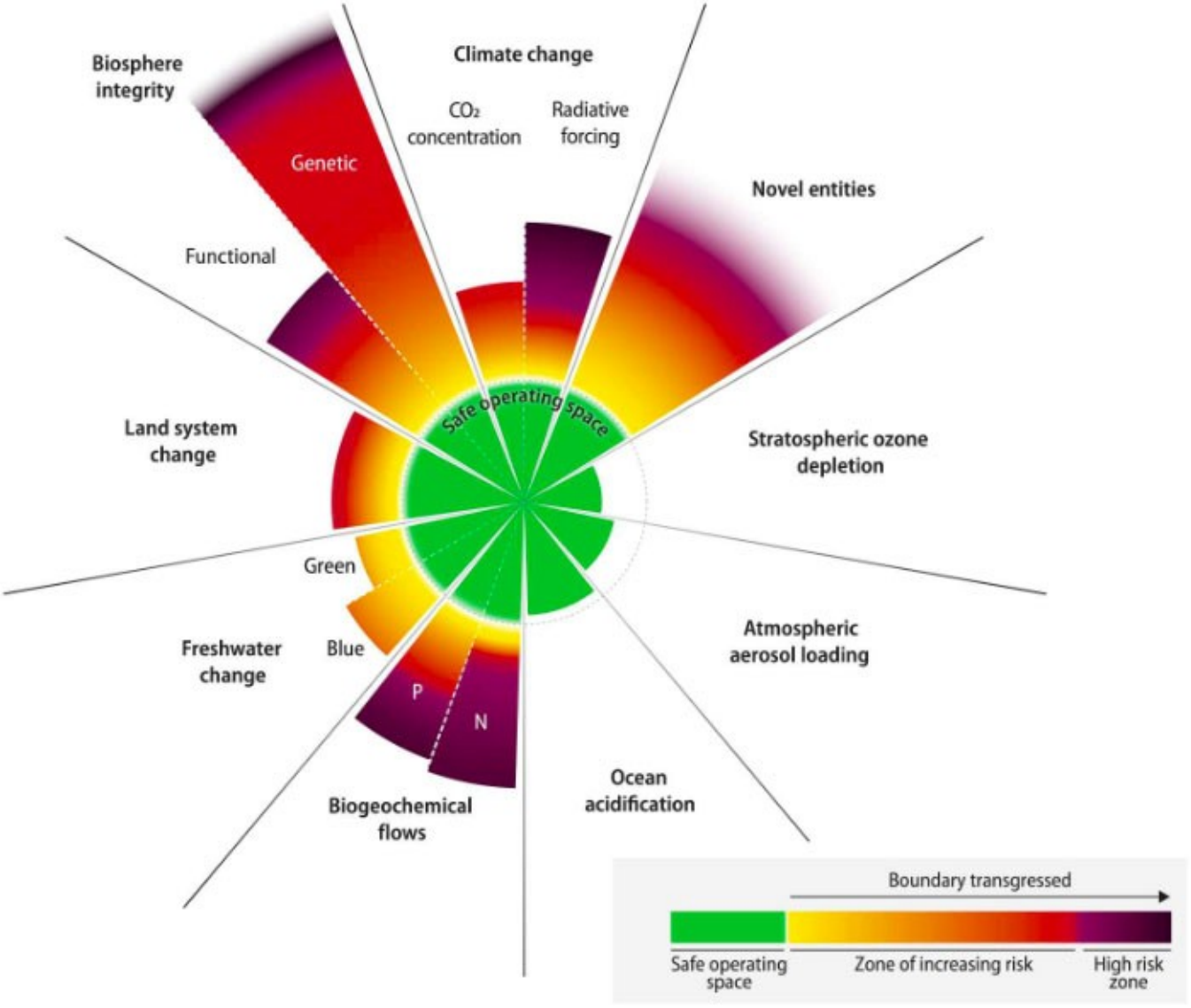
Science has defined just planetary boundaries

(Rockström J, Gupta J, Qin D, et al. 2023. Safe and just Earth system boundaries. *Nature)*

Environmental justice should include maintaining a liveable planet providing for all our physical needs for at least the 500,000 years of the Bahá'í cycle

PLANETARY BOUNDARIES

Current status of the control variables for seven of the planetary boundaries.The green zone is the safe operating space, and the red is a high-risk zone.



Injustice and Planetary Boundaries

(1) some regions and populations are far more vulnerable to climate and environmental impacts
(2) the same people have contributed least to the problems
(3) in the process, their fair share of natural resources and services has been appropriated by others, limiting their available pathways to development
(4) this reduces their access to the benefits of progress, leaving them poor
(5) they are often vulnerable locally well before global limits have been reached

(David Obura. 2024. “Equity in action: global to local”. pp. 11-14 in *Global Catastrophic Risks 2024*)

Injustice and Planetary Boundaries

- the fears of many developing countries and disadvantaged groups about what should be done and by whom, in returning within planetary limits

- a ‘just’ limit has already been crossed in the last decade

- millions of people already impacted by climate-related hazards

- some countries facing inevitable drowning by sea level rise from historic emissions

(David Obura. 2024. “Equity in action: global to local”. pp. 11-14 in *Global Catastrophic Risks 2024*)

Risks of Systemic Collapse

Multiple eco-crises could trigger 'systemic collapse'

Five top risks in likelihood and impact: Climate change, extreme weather events from hurricanes to heatwaves, the decline of life-sustaining ecosystems, food security and dwindling stores of fresh water

Potential to impact and amplify one another in ways that might cascade to create global systemic collapse

Marlowe Hood, **6 February 2020**, Phys.org: https://phys.org/news/2020-02-multiple-eco-crises-trigger-collapse-scientists.htm

Climate Injustice

- For climate justice, urgent action is needed to address loss and damage -- climate impacts so severe they cannot be adapted to, especially in poorest countries.
- Victims contributed the least to climate change
- Global GHG emissions must peak before 2025 to stay below 1.5°C.
- Climate change — as well as our collective efforts to adapt to and mitigate it — will exacerbate inequity should we fail to ensure a just transition.

Source: World Resources Institute: https://www.wri.org/insights/2023-ipcc-ar6-synthesis-report-climate-change-findings

Other environmental crises

- a **water** crisis, misusing, polluting water, and changing global hydrological cycle
- losing complex **biological systems** will trigger other failures
- must protect what nature still exists and restore **ecosystem services**
- rethink **agriculture** and fisheries
- **pollution** and waste crises

Sea Level crisis

Rising seas pose “unthinkable” risks to billions, with profound implications for security, international law, human rights

- mass exodus of entire populations
- competition for fresh water
- low-lying communities – and entire countries – could disappear
- danger for 900 million people living in coastal zones

(UN Security Council 14 February 2023)

Confluence of Crises

UN Secretary-General Antonio Guterres to General Assembly on priorities **2023**, warns about "*a confluence of challenges unlike any other in our lifetimes. Wars grind on. The climate crisis burns on. Extreme wealth and extreme poverty rage on. The gulf between the haves and have nots is cleaving societies, countries and our wider world. Epic geopolitical divisions are undermining global solidarity and trust. This path is a dead end.*" He called this deeply irresponsible and immoral.

Confluence of Crises

Seven governance human rights failures

1. the right to peace, preventing conflict
2. rights to social and economic development
3. right to a clean, healthy, sustainable environment
4. respect for diversity and the universality of cultural rights
5. right to full gender equality
6. civil and political rights
7. rights of future generations

Need for Justice Globally

- our world has globalised
- the present materialistic civilisation
- fulfils only our physical needs and desires
- egotistical and self-centred
- injustice is everywhere

Our Present Unjust Civilisation

- we have institutions that are inherently unjust
- ignore their impacts on the global system
- pursue a narrowly defined material purpose (wealth, power)
- the end justifies any means
- example: the modern multinational corporation
- pursuing short-term profit through any means
- arms and weapons
- addictive drugs/chemicals (caffeine, nicotine, narcotics, alcohol, etc.)
- addictive technologies
- violence and sex entertainment, gambling, etc.

Failures of Governance

- framework of national sovereignty from another era
- each country looks first at its own well-being
- competing with others
- without regard to the well-being of the whole
- present global institutions of governance voluntary
- unable to address global problems effectively
- requiring a new approach to global governance

(Lopez-Claros, Dahl and Groff, 2020, *Global Governance and the Emergence of Global Institutions for the 21st Century*)

Global systems failure

- Institutional inertia, multinational corporations, vested interests are blocking change
- Like the dinosaurs
- The global environment is evolving rapidly
- The old system must collapse to make way for a new one to take its place
- We need governance at the scale of the problem

Renewal of Civilizations

- Civilizations have always experienced rise and fall
- The decline of an old bankrupt system creates the opportunity to build a new and better one
- Higher levels of ethnically-diverse civilization are catalyzed by ethical values from religion
- Building trust among otherwise competing groups, increasing the level of altruism among leaders, and providing the foundation and energy for new levels of organization and efficiency

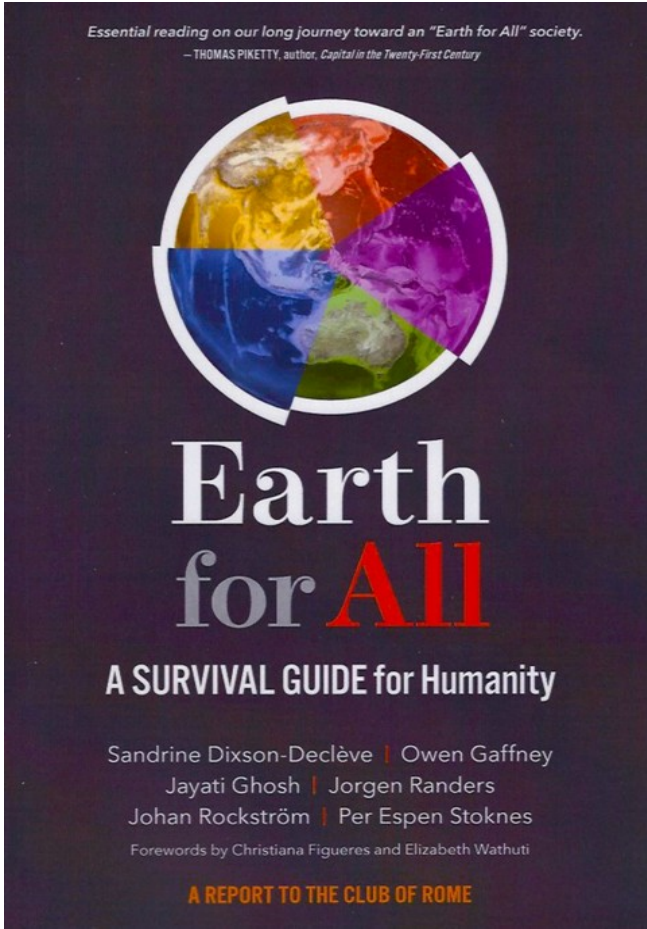
(Turchin, Peter. 2016. *Ultrasociety: How 10,000 Years of War Made Humans the Greatest Cooperators on Earth*. Chaplin, Connecticut: Beresta Books.)

Earth for All

Earth for All https://www.earth4all.life/

https://iefworld.org/index.php/node/1343

Earth for All: A survival guide for humanity, by Sandrine Dixson-Declève, Owen Gaffney, Jayati Ghosh, Jørgen Randers, Johan Rockström, and Per Espen Stocknes, a Report to the Club of Rome, September 2022



Five system-shifting steps

The five extraordinary turnarounds in transformational economics are necessary to avoid economic and social collapse: eliminate poverty, reduce inequality, empower women, transform food systems, and turn around the energy system.

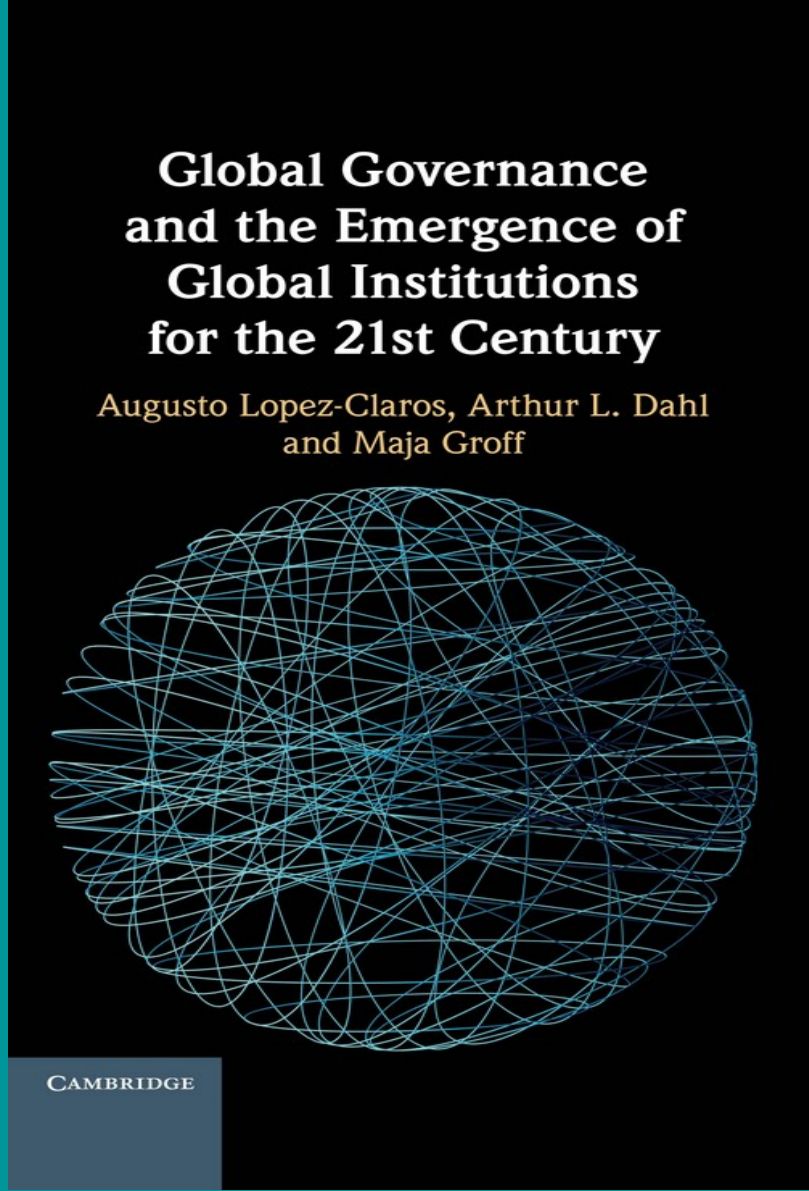
Global Governance and the Emergence of Global Institutions for the 21st Century

Augusto Lopez-Claros
Arthur L. Dahl
Maja Groff

Cambridge University Press, January 2020
https://www.cambridge.org/core/books/global-governance-and-the-emergence-of-global-institutions-for-the-21st-century/AF7D40B152C4CBEDB310EC5F40866A59

Global Governance Forum

https://globalgovernanceforum.org/



Systems and Justice

An efficient system with all contributing, and meeting the needs of all peoples with equity might, in human terms, be a definition of justice. Complex systems science can help to reveal how well a community or society approaches the ideal and where there are inefficiencies or errors to be corrected.

Environmental Justice

The planet is giving us a new definition of justice:

- maintain the environmental conditions that make life possible

- minimise human suffering from physical causes

- achieve material and environmental well-being for the greatest number

Injustice at Local Level

Some planetary boundaries are expressed partly at local levels, not global

- land-use change

- biodiversity loss

- pollution

Need a global ‘safety net’ that integrates knowledge and addresses risk across all countries, and down to local levels

(David Obura. 2024. “Equity in action: global to local”. pp. 11-14 in *Global Catastrophic Risks 2024*)

Injustices at Local Level

- pollutants harming health
- inadequate quality and quantity of essential resources
- water shortages
- lack of shelter
- unclean air
- temperatures not within a safe or adaptable range
- threats to security from natural hazards and extreme events

Justice at Local Level

A critical challenge is to make these global initiatives relevant to the lives of the most vulnerable people. These injustices disadvantage poorer communities and poorer countries. Using science to define the local dimension of critical planetary boundaries leads to nature-based solutions within the capacity of local people and for locally-determined benefits, addressing multiple dimensions of justice. Equity must drive decision-making, identifying the fair direction of resource flows, and turning nature- negative activities to nature- and people- positive ones. Where there are places and contexts with a justice deficit, resources should be redirected to redress these, with a focus on natural assets as the foundation for resilience and welfare.

(David Obura. 2024. “Equity in action: global to local”. pp. 11-14 in *Global Catastrophic Risks 2024*)

Justice at Local Level

We also need food security, and depend on a constant supply of adequate and nutritious food for our survival. Some may be produced locally, or even through our own efforts, but much probably comes from elsewhere through complex supply chains from producers who may or may not be sustainable in their agricultural or harvesting practices, raising justice issues.

Similarly, science can define how our individual behaviour has impacts that hurt others in our own community and elsewhere

Individual application of Justice

Collective prosperity can be advanced through justice and generosity, collaboration and mutual assistance

Every choice one makes—as employee or employer, producer or consumer, borrower or lender, benefactor or beneficiary—leaves a trace, and the moral duty to lead a coherent life demands that one's economic decisions be in accordance with lofty ideals, that the purity of one's aims be matched by the purity of one's actions to fulfil those aims.

(Universal House of Justice, To the Bahá'ís of the World, 1 March 2017. Bahá'í World Centre, Haifa.)

Individual and community action

Everyone can make their own individual and collective contributions to economic justice and social progress wherever they reside

Each community has the responsibility to find ways of addressing the root causes of the poverty in its surrounding

(Universal House of Justice, To the Bahá'ís of the World, 1 March 2017. Bahá'í World Centre, Haifa.)

Bahá’í Perspective

Putting the world on more ecologically sustainable foundations requires a recasting of the global economic order. People and the planet need to be valued as explicitly today as profit and economic gain have been in the past…. Basic notions of progress, development, and prosperity will need to be recast in far more holistic terms.

(Bahá'í International Community. *One Planet, One Habitation: A Bahá’í Perspective on Recasting Humanity's Relationship with the Natural World*, 1 June 2022, Rethinking Economic Arrangements)

A Just Civilisation

- requires coherent societies
- depends on moral and ethical values
- achieving our true purpose and spiritual potential
- maximising love and selfless service
- opening a whole new dimension of social systems
- enabling an ever-advancing civilisation
- requiring justice with the natural world
- integrating human communities into the ecosystems and resources appropriate to each locality
- on this diverse and complex planet

Bahá'í Systems Science

Bahá'u'lláh's teachings provide
- a set of system rules and instructions for learning
- building a new level of complexity and well-being
- in a global human society
- transforming each individual human component
- from a self-centred individualist wanting immediate physical gratification
- to a humble, selfless servant building unity out of love
- enabling emergent properties of integration and cooperation
- just as in highly evolved ecosystems

(Dahl, *The Eco Principle: Ecology and Economics in Symbiosis*, 1996)

Justice

"*No light can compare with the light of justice. The establishment of order in the world and the tranquillity of the nations depend upon it.*" (Baha'u'llah)

(Universal House of Justice, To the Bahá'ís of the World, 1 March 2017. Bahá'í World Centre, Haifa.)

If you are interested to know more

International Environment Forum

https://iefworld.org

Global Governance Forum

https://globalgovernanceforum.org/

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