PROMOTING LEADERSHIP IN THOUGHT
THAT LEADS TO ACTION

THE WEALTH OF NATIONS REVISITED

CADMUS

NEW PERSPECTIVES ON MAJOR GLOBAL ISSUES

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Inside This Issue

ARTICLES

OUR VISION

The world is in need of guiding ideas, a vision, to more effectively direct our intellectual, moral and scientific capabilities for world peace, global security, human dignity and social justice. It needs evolutionary ideas that can spur our collective progress without the wake of destructive violence that threatens to undermine the huge but fragile political, social, financial and ecological infrastructures on which we depend and strive to build a better world. History has recorded the acts of creative individual thinkers and dynamic leaders who altered the path of human progress and left a lasting mark on society. Recently the role of pioneering individuals is giving place to that of progressive organizations inspired by high values and committed to achievement of practical, but far-reaching goals. This was the intention of the founders of the World Academy of Art & Science when it was established in 1960 as a transnational, transdisciplinary association to explore the major concerns of humanity. No single organization can by itself harness the motive force needed to change the world, but a group of like-minded organizations founded with such powerful intentions can become a magnet and focal point to project creative ideas that possess the inherent dynamism for self-fulfillment.

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New Perspectives on Major Global Issues
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5th International Conference on
FUTURE EDUCATION
December 6-8, 2021 - Online
in association with SNSPA

World Academy of Art and Science

Global Leadership Challenge in Higher Education for Effective Multilateralism & Sustainable Human Security

December 6-8, 2021– ONLINE

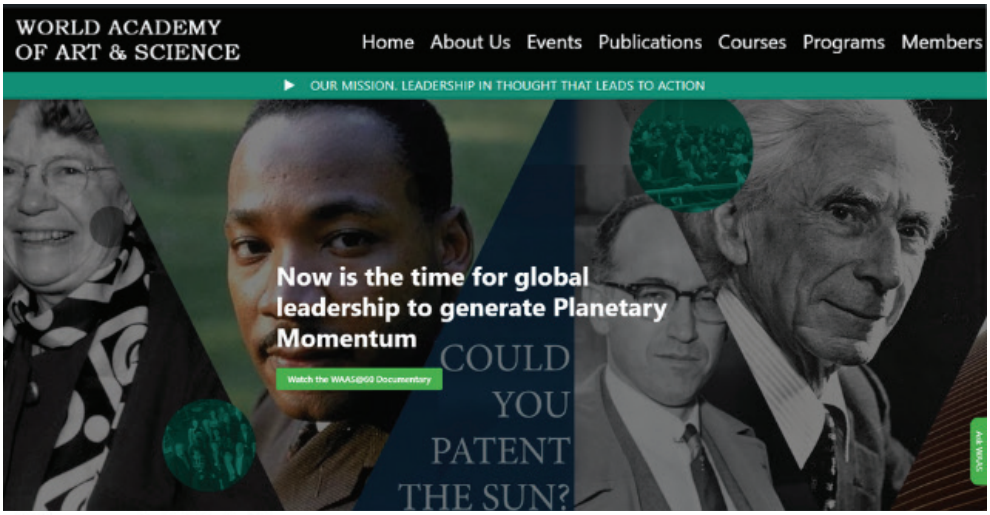
It's time to think globally about the Future of Education

Building on insights from the UN-WAAS project on Global Leadership in the 21st century, this conference examines advances in global higher education urgently needed to strengthen Multilateralism, accelerate Implementation of the 17 SDGs, and promote Sustainable Human Security For All.

Click here to register and for more information.

Launch of the New WAAS Website

We are pleased to invite you to visit the new website of the World Academy of Art & Science.



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Future Education

Inside this Issue

The current issue of *Cadmus* focuses on core themes or pillars of the WAAS-UN Project on Global Leadership in the 21st century. The COVID-19 pandemic has brought out the grave need to translate catalytic strategies and ideas into action.

Universal online education, which was once deemed nearly impossible, is now a reality, more out of necessity than conscious choice. **Education**, in that regard, has had a major transformational shift. Unresolved issues do abound, but a tiny yet irrevocable step has been taken in the right direction and the human mind, known for its resourcefulness and its consummate ability to handle complexity, will find a solution for this in the next few years. Education is a conscious tool fashioned by humanity to transfer knowledge from one generation to another. This mental process hastens the process of Societal Transformation by helping people to become more conscious of themselves and the world around them.

The set of essays on **Societal Transformation** by the WAAS Working Group reflects on the dire need for shifting from unconscious social evolution to conscious social transformation. The role of the Individual in this process and the relationship between the Individual and the collective are crucial to understanding the process of societal transformation.

Such a step towards conscious social transformation will help us achieve the **UN Sustainable Development Goals** faster and sooner, ahead of 2030. For the first time in mankind's history, we have created this comprehensive, integrated framework that addresses and includes all socio-economic dimensions. Achieving the SDGs necessitates a deeper understanding that ecology and economy are but two sides of the same coin, which is society. The WAAS New Economic Theory Working Group calls for a new paradigm in economic theory that focuses on both individual and societal well-being.

This is precisely what the Academy's project on **Human Security** focuses on. It provides an all-encompassing framework. It is a human-centered paradigm, a paradigm that goes beyond the conventional notion that peace is the absence of war. A positive conception of peace is yet to enter the world's languages and dictionaries.

The upcoming fifth international conference on "*Future Education: Global Leadership Challenge in Higher Education for Effective Multilateralism & Sustainable Human Security*," to be held on December 6-8, 2021, will address and strive to find solutions to some of the issues discussed in this issue, the themes of multilateralism and human security in particular. Please click here to register for the conference.

With the release of this issue, we are pleased to also announce the launching of a new website for the World Academy of Art & Science at the same address. The new WAAS homepage seeks to provide a more holistic, integrated representation of the Academy's mission, history, objectives and current work.

We hope you enjoy this issue.

Editors

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A New Paradigm in Global Higher Education for Sustainable Development and Human Security

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Abstract

Every institution of higher education and every government is trying to overcome the problems it faces and improve the reach, relevance, financial viability and effectivity of education. But no one is thinking globally for solutions that will be optimal from the perspective of humanity as a whole. The enormous challenges we face in education today can best be solved only by including system-wide action at the global level. A new paradigm needs to be clearly formulated, designed and implemented. This paper briefly outlines the nature and magnitude of the challenges in higher education today, and identifies promising signs of a new paradigm waiting to emerge. That will require a new kind of leadership that thinks and acts globally. Such a paradigm can make an immense contribution to addressing global problems, implementing the UN Sustainable Development Goals and promoting greater human security for all.

Education is an essential instrument and catalyst for social transformation. At the same time, the global education system itself is in need of radical transformation to upgrade capacity, quality, reach, and relevance. The current model of education was designed at a time when knowledge was scarce, sources of knowledge were limited, classrooms were essential for knowledge dissemination, and higher education was limited to a privileged few. Today the world needs a comprehensive global strategy that makes far better use of the existing resources, utilizes the potential of Information and Communications Technology, applies innovative, learner-centred pedagogy to provide affordable, interactive, personalized, relevant, quality education for all. Such a new paradigm in global education will make it a powerful catalyst for social transformation and fulfilment of the United Nations' Sustainable Development Goals.

1. Quantitative Gap between Educational Aspirations and Capacity

The current education system and existing infrastructure combined with the growing college-age population and rising demand for tertiary education result in an ever-increasing quantitative gap between educational aspirations in society and the capacity of the current system to meet the demand. Of the nearly 60,000 students who applied to Harvard University this year, the University accepted less than 2,000 to the Class of 2025. Such acceptance rates of less than 5% are common among the Ivy League universities in the US. The gap between supply and demand is even greater in colleges and universities in many other parts of the world, such as Brazil, Mexico, Nigeria and India, where the acceptance rate can be as low as 2%.

Global tertiary enrolment is projected to rise from 216 million in 2016 to 380 million by 2030 and nearly 600 million by 2040*, and this will still leave hundreds of millions of youth without access to higher education. If this demand for higher education is to be met through the currently prevailing approach, it will require the founding of four new universities each with 40,000 students every week for the next 15 years. Where will global society find the facilities and financial resources to achieve such phenomenal growth? How will we reduce, rather than further widen, the gap in quality of instruction, while keeping pace with the ever-accelerating pace of new knowledge acquisition? How will we find all the qualified instructors who will be needed?

2. Shortage of Teachers

The Indian government aims to increase the national Gross Enrolment Ratio from the current 27% to 50% by 2035. To achieve this target, the government has decided to add 35 million new seats in Higher Education Institutions and hire 3.3 million more teachers, a 235% increase from the current availability of 1.4 million. Even if the country were to find the finance, infrastructure, and other resources to build these new institutions and equip its classrooms, laboratories and libraries, where will it find the 3.3 million teachers? The current faculty shortage in the country's premier institutions is 38%, with vacancies in leading management institutes as high as 74%.

* https://monitor.icef.com/2018/10/study-projects-dramatic-growth-global-higher-education-2040/

Every part of the world faces such shortage to varying extents. Up to 50% of the staff at public universities in Kenya teach at more than one university. They do part-time jobs in an attempt to meet the teacher shortage. The average lecturer-to-student ratio is 1:500, and in some cases 1:900. This shows how acute the shortage is. UNESCO recommends a ratio of 1:45, which is itself inadequate to provide quality education. The Inter-University Council for East Africa that regulates higher education in the region reports a stark level of unpreparedness among graduates for the job market. Over 60% of graduates in Uganda and Tanzania, and over 50% in Kenya, Burundi, and Rwanda have been perceived to be unfit for jobs. Similar rates prevail in India and other nations around the world.

> *"Advanced studies in science and technology are accompanied by little or no exposure to the social consequences and policy implications of the application of science and technology in a real-world context."*

3. Challenges of Quality

Global higher education also faces an enormous and ever-widening qualitative gap between the small, elite, exclusive group of world-class institutions and the tens of thousands of institutions with high vacancy rates among faculty, severe shortages of qualified instructors and inadequate ongoing training for those in service, underfunded and inadequate facilities, and very high student-instructor ratios.

A quantitative gap in the demand and supply of education is widespread in developing regions of the world, but the quality deficit is universal. This is reflected by the results of a global survey in which 43% of organizations acknowledge a skills gap in their workforce today, and the rest expect it in the next few years*.

Until the onset of the COVID-19 pandemic, our classrooms largely resembled the classrooms of earlier centuries. Other than a select few progressive institutions, most of our schools and colleges worldwide are still based on the lecture model emphasizing the passive transmission of knowledge from instructor to student. Students are taught to learn individually and compete with one another, while at the workplace they can become successful only as good team workers with communication, collaboration, networking and leadership skills. So the way they are taught in the classroom is almost the exact opposite of how they must learn to function in the workplace.

4. Cost of Learning

Affordability represents another critical challenge in education today. This impacts accessibility to learning and therefore equality of opportunity. In the US, over 60% of all

* https://www.mckinsey.com/featured-insights/coronavirus-leading-through-the-crisis/charting-the-path-to-the-next-normal/mind-the-skills-gap

college students take on debt to pay for their education, with the average loan debt per student being over $37,000. From 2008 to 2018, the average tuition at four-year public colleges increased by 37%, and net costs by 24%. The total US student loan debt outstanding in 2020 was $1.6 trillion. Elsewhere, more than 60% of Chinese parents and 70% of Indian parents spend over a third of their income on their children's education. The future of many existing educational institutions is already under siege, due to declining numbers of students, rising costs and reduced public support. Significant innovations to support social, cultural and systemic change will require structural investments and long-term thinking about education, training and research, which will impact costs further unless an alternative or complementary delivery system can be developed based on a different approach.

5. Other Key Challenges in the Future of Education

5.1. Fragmentation of Knowledge

Higher education began centuries ago with a focus on a mere handful of subjects. Today more than 1000 disciplines and subdisciplines are being offered at universities. Fuelled by the rapid accumulation of information, this multiplication of disciplines results in a progressive narrowing of field and scope of knowledge in each specialized discipline—so higher levels of specialized expertise are accompanied by decreasing width and breadth of knowledge even in closely related fields. Thus, specialization simultaneously enhances and limits the knowledge and competency of specialists. Economics was taught for more than a century without reference to the environment. Advanced studies in science and technology are accompanied by little or no exposure to the social consequences and policy implications of the application of science and technology in a real-world context.

Treating each academic discipline as a separate compartment of self-contained knowledge and pursuing it in isolation results in fragmenting knowledge. In our attempt to arrive at rational and scientific facts, we divide and subdivide reality into an increasing number of silos with too little interaction, relationship and integration with one another. As a result, silo-based academic knowledge has become increasingly mechanistic, reductionistic, divorced from wider social context, human needs and values. It is inadequate to prepare current and future generations for life in an increasingly complex, interconnected world in which knowledge of the relationships between fields and disciplines is as important or more important than knowledge within a narrowly specialized field. The current system supported the destruction of human and natural capital in the name of progress. It has not fully succeeded in building the social and cultural conditions for inclusive innovation and for a global society that is more equitable, open and supportive. It has been unable to root out prejudice, racism, discrimination and other social ills. It continues to prepare or ill-prepare youth for a world that no longer exists and no longer functions as it did in the past.

We are witnessing a society that, on a local and global level, is marked by increasing inequalities and asymmetries; a society in which the 'new' inequalities of a cognitive and cultural nature are defined and made concrete. We need to change the logic and organizational cultures of our institutions, which are still built upon the logic of separation and confinement

of disciplinary sectors, which translate into separations between people, their experiences and lives. Emotion, creativity and imagination must be brought back into educational and training processes. It is necessary to go beyond false dichotomies, in particular those that mistakenly contrast the specialization of knowledge, and skills with their complexity and interdisciplinarity. We need a transdisciplinary education that possesses the depth and insight needed to plumb the rich complexity of life and the world. An education that provides students with inter-sectorial, integrated perspectives is essential to equip them to meet the challenges of the future.

> *"It is possible, for the first time ever, to provide every human being with the means to acquire an education that is personalized, self-paced, person-centred, relevant, integrated, affordable and of high quality."*

5.2. Changing Role of Teachers

Instructors were delivering lectures to pupils centuries before the printing press was invented. Hand written books were rare and so precious that they had to be chained to library shelves. Knowledge could be acquired solely from scholars, and a lecture was the only method for delivering it. Youngsters had to travel to centres of learning, sometimes to another country to continue higher education. Today when all the information in the world is available as text, audio and visual material to anyone, anywhere in the world with a digital device and an internet connection, oral instruction in the classroom is no longer the sole or best source from which students can acquire information. When information can be obtained anywhere at anytime, classroom-time spent with teachers and peers can be used more creatively and effectively.

More than teachers, we need facilitators of learning who promote values-based learning explicitly. They need to foster interdisciplinary and intersectorial knowledge and thought, and the capacity to calculate the cost-benefit ratio on every planned action from the sustainability point of view. Learning how to develop sustainable relationships with ourselves, others and the world is imperative. So we need to retrain teachers and empower them to become effective facilitators of learning and role models of ethics and sustainability.

5.3. Future Disruptions

In April 2020, colleges and universities around the world closed down due to the pandemic, disrupting the studies of 220 million college students in 170 countries.* Even as epidemiologists warn us of other pandemics that may follow, environmentalists are clear that the disruption caused by COVID-19 may have been sudden and dramatic, but its magnitude

* https://www.worldbank.org/en/news/immersive-story/2021/01/22/urgent-effective-action-required-to-quell-the-impact-of-covid-19-on-education-worldwide

and long-term impact will be insignificant compared to what could be expected from climate change. We may never be able to go back to relying completely on face-to-face classroom learning. And even if a return to the past were to be possible, it would be suboptimal. We need a future-proof method that will not be held hostage to disruptions as yet unknown. It is time to start educating and training teachers and researchers in unpredictability and building a more resilient culture better adapted to tolerate and flexibly adapt to error and uncertainty.

6. A Radically New Approach to Global Education

The existing model of delivery system inherited from the past is clearly inadequate and incapable of fully meeting current and future global needs in terms of capacity, quality, accessibility and affordability. Piecemeal strategies, local initiatives and uncoordinated efforts by governments and educational institutions may marginally address issues of immediate concern to some degree, but they cannot provide optimal solutions of sufficient magnitude to meet the needs of humanity.

Educational institutions are preoccupied with addressing their specific problems at the local level. State and national governments are preoccupied with fashioning remedies for their own populations. But the educational challenge we describe is global in scope and, it can best be addressed by thinking and evolving globally rather than merely focusing on local and national solutions.

There is an urgent need for thinking beyond existing models to conceive, develop, and experiment with new models that supplement, complement and enhance the reach, quality and cost-effectiveness of the existing system. It will require systemic change at the global level in every aspect of education—knowledge delivery systems, evaluation, accreditation, content, pedagogy, and teacher training.

6.1. Online Education

The remarkable advances in technology during the past few decades have opened up promising alternatives at a much lower cost than the existing model. The resistance to change that retarded widespread adoption of online learning has been shattered by the pandemic. COVID-19 has radically altered the situation. The suspension of physical classroom education spurred a sudden transition to online learning at all levels of education around the world. The results have been mixed due to the lack of trained and experienced instructors working in the new medium, and a broad array of other difficulties. But recent experience confirms that online learning has an important role to play in the future. Its problems can be addressed in a fraction of the time and at a fraction of the cost of expanding conventional delivery systems to accommodate the growing number of students.

Online education can also be the answer to the problem of teacher shortage. The model allows for institutions to tap into some of the best expertise available anywhere in the world on every subject. Lessons, lectures or other online resources that are identified as good quality content can be shared and used by students and universities worldwide. Every institution, regardless of its geographic location, funds and infrastructure, can access them.

Automatic voice translation makes it possible to render the content into any language. That way, students everywhere can have access to the best quality lessons offered by the world's best instructors on each subject. Research confirms that student-centred education is much more effective than traditional education. It also confirms the effectivity of student-centred methods even when used online.

Technology also makes it possible for us to tap a huge reservoir of existing unused and underutilized educational resources. Retired lecturers, seasoned professionals in every field, and non-academic subject experts can be engaged to share their knowledge and experience. These processes and strategies must be pursued with the awareness that our hyper-technological and hyper-connected civilization requires more than technical knowledge, technical skills and hyperspecialized figures, and the human factor cannot be marginalized in the name of technological solutionism. It is also essential to ensure that, in these processes, the focus is on people, the quality of social relations and wider social impact, not merely on the effectiveness of connection technologies and/or new hyper-connected communication environments.

6.2. Personalized Pedagogy and Curricula

The digital space opens up new possibilities that have not been available in traditional classrooms so far. Open Educational Resources (OER) give students access to a wide selection of no-cost sources. Digital content can be revised and updated constantly at a speed that printed books cannot keep pace with. The up-to-date curricula can be personalized to meet individual aspirations. The types, methods and levels of pedagogy can be customized based on individual learning capacities and preferences. The speed of progression and modes of information transition—verbal, written and visual—can be adapted to the needs of each individual learner. Those who need to drop out of college because of personal, social or financial constraints need no longer compromise on their education because of competing priorities. *It is possible, for the first time ever, to provide every human being with the means to acquire an education that is personalized, self-paced, person-centred, relevant, integrated, affordable and of high quality.*

6.3. Separating Education Delivery from Certification

The traditional system of certifying education by those who deliver it created a near monopoly on knowledge delivery and deep resistance to change among institutional knowledge providers. Universities are no longer the sole repository of knowledge and teachers no longer the primary medium for the transfer of knowledge. Universal access to OER and knowledge from non-traditional sources are deinstitutionalizing learning. New credentialing systems need to be introduced based on the premise that learning involves much more than merely the acquisition of specific course content. Systems are also needed to support the acquisition of a much wider range of competencies than the standardized courseware. Our evaluation cultures must also be changed. Not everything that is 'qualitative' can be translated into 'quantitative'. The issues, however, are profound and complex. We need to be cautious in resorting to facile shortcuts, reductionism and determinism.

The pandemic has spurred several innovations in assessment and certification, such as microcredentials, career certificates, and nanodegree programs. It has broken the monopolistic high-cost system for knowledge certification. *The separation of knowledge delivery from credentialing will make it possible for many different types of institutions—public, private and CSO—to expand their educational offerings, since standardized, credible credentialing will then be available from independent sources, through government, universities, businesses in different fields of competence and independent expert agencies. Such new models can decouple the educational and certification processes, and in the process make both more effective.*

6.4. Competency-Based Education

Competency-based education (CBE) is one model that separates certification and delivery of education. CBE programs enable students to advance through a program based on demonstrated mastery of competency rather than on credit hours.* CBE lets students apply their work and life experience to their education. Students—either through workplace training, outside reading, or life experience—who acquire the competence and knowledge required for a particular subject can apply for evaluation and earn credits without having to attend classes. In the US, 600 colleges and universities now offer some form of CBE. A survey of some 500 American institutions of higher education administered over three consecutive years (2018-2020) shows that 13% have full CBE programs, 47% are in the process of adopting CBE, and another 26% are interested in adopting CBE in the future. CBE saves time and money, creates multiple pathways to graduation, makes better use of technology, and takes advantage of informal and non-formal learning opportunities. Life-long learning is increasingly becoming necessary to remain relevant at the workplace, and CBE meets this need. CBE should constitute a vital part of future education.†

6.5. Microcredentials

Online EdTech companies, MOOC providers and Online Program Managers offer microdegrees—online, examined, graded, credit-eligible graduate-level courses focused on a specific discipline or skill set. Microdegrees permit students to utilize accelerated, low-cost programs to earn credentials of relevance to their interests and career. These courses are "stackable". They can be combined to either earn a complete degree online, or reduce the residency period at traditional universities. These programs expand degree access and affordability to students. Some have industry sponsors, who offer internship and placement opportunities.

Some progressive colleges and universities are taking the long-term view, and adopting the digital model even if it is at the cost of their traditional system. Clearly, online and hybrid learning models are going to constitute a growing and integral part of the future. But thus far initiatives have been slow, sporadic and largely focused at the institutional and local level. Much more can and should be done to extend and accelerate the development of a more effective global delivery system.

* https://www.insidehighered.com/news/2019/01/28/slow-growth-competency-based-education-survey-finds-interest-and-optimism-about-it

† https://www.ed.gov/oii-news/competency-based-learning-or-personalized-learning

Delivery systems and pedagogy go hand in hand. The relational spaces within the educational and training processes must be reconstituted. This change must be systemic and take into full account a socio-emotional perspective. A paradigm shift is also needed from passive to active learning, from information transfer to developing the capacity for independent thinking, from subject-centered to person-centered education, from abstract theory to contextual knowledge, from narrow disciplinary specialization to broader multi- and transdisciplinary and intersectoral perspectives.

Efforts to address the global dimensions of the educational challenge require new thinking and fresh strategies to answer the following questions:

1. What will be the most effective approach to address the very rapid growth in global quantitative demand for higher education?
2. What lessons can be drawn from the COVID-19 pandemic regarding the feasibility of a hybrid global delivery system that combines online information transfer with physical classroom interaction?
3. What would be the most effective means for reducing the high cost of higher education globally?
4. What would be the pros and cons of modifying the present system of certification in higher education so that knowledge delivery and certification of competencies can be independently acquired?
5. What strategies can be adopted to address the vast shortage of highly qualified instructors for higher education around the world?
6. Are technological systems and hyper-connected environments capable of recreating the complexity and dynamism of educational relationships?
7. How can online or hybrid systems compensate for the barriers to personal, physical interaction in online learning systems?
8. What methods and epistemologies are needed to implement such programmes?

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Notes

1. Jacob Sweet, "Harvard College Announces Class of 2025 Admissions Decisions" *Harvard Magazine* 6 April 2021 https://www.harvardmagazine.com/2021/04/harvard-college-announces-class-of-2025-admissions-decisions

2. Suresh Mony, "NEP 2020: Increasing GER in higher education, how to make vision a reality" *Hindustan Times* 29 October, 2020 https://www.hindustantimes.com/education/nep-2020-increasing-ger-in-higher-education-how-to-make-vision-a-reality/story-H6eteT9gzhZQQHzUABs7MM.html
3. Daniel Wesangula, "Kenya's shuttling lecturers: university shortages are taking a toll" *The Guardian* 29 July 2015 https://www.theguardian.com/global-development-professionals-network/2015/jul/29/kenyas-shuttling-lecturers-university-shortages-are-taking-toll
4. Abigail Johnson Hess, "How student debt became a $1.6 trillion crisis" *CNBC* 12 July 2020 https://www.cnbc.com/2020/06/12/how-student-debt-became-a-1point6-trillion-crisis.html
5. Abigail Johnson Hess, "Tuition at public colleges has increased in all 50 states over the past 10 years—here's how your state compares *CNBC* 24 October 2019 https://www.cnbc.com/2019/10/24/college-costs-have-increased-in-all-50-states-over-the-past-10-years.html
6. Piero Dominici, The weak link of democracy and the challenges of educating towards global citizenship, in Torres C.A., Gaudelli W. and Bosio E. Eds., Values, Knowledge and Curriculum in Global Citizenship Education, *Springer,* UNESCO [forthcoming], 2021.
7. Alberto Zucconi, "The Need for Person-Centered Education." *Cadmus* 3, no.1 (2016): 1-26 http://cadmusjournal.org/article/volume-3/issue-1/need-person-centered-education
8. Zucconi, Person-Centered Education.
9. Piero Dominici, "For an Inclusive Innovation. Healing the fracture between the human and the technological in the hypercomplex society," *European Journal of Future Research, Springer, 2018* DOI: 10.1007/s40309-017-0126-4 https://link.springer.com/article/10.1007/s40309-017-0126-4
10. Piero Dominici, "The complexity of communication. The communication of complexity,", *MATRIZes*, V.14 – n.2 May-Aug. 2020, pp.15-19. https://www.revistas.usp.br/matrizes/article/download/179724/169284/472200

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Knowledge Generation and Interdisciplinarity

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No man is an island entire of itself; every man is a piece of the continent, a part of the main; if a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as any manner of thy friends or of thine own were; any man's death diminishes me, because I am involved in mankind.

And therefore never send to know for whom the bell tolls; it tolls for thee.

– John Donne (1572-1631)

Abstract

In this paper, it is argued how the present crises in the world are influenced by the breaking up of networks created by the communities worldwide. In addition to human-made networks, many networks in Nature also influence life in many aspects. In this context, the understandings of the behaviour of complex systems, especially in social spheres, can help us find better solutions in the future. The interdisciplinary studies uniting knowledge from science, humanities, and social sciences can proactively describe knowledge generation for understanding the complexity of processes in a coordinated and coherent way and applying it for problem-solving.

1. Introduction

Nature can be defined as a network of many phenomena that are binding the structure of our Globe, its flora and fauna into a whole. In addition, mankind has created many networks of its activities that certainly influence Nature and vice versa. The behaviour of ice masses in Antarctica and the health of rain forests in the Amazon basin influence the world's climate, acid rains, floods, and the melting of glaciers have more local influence if only few examples are to be listed. Man-made networks of spreading information, distribution of energy and goods are nowadays a part of our civilisation. We witness the acceleration of globalization despite the warnings to think before acting. Inequalities in welfare, and the threats from natural disasters, poverty, needs for food and water are growing and have been leading to migration flows. And threats from cyberattacks and terrorism have created additional problems influencing the relations between the countries and communities. We are proud of the scientific results, whether they concern the structure of matter, processes in the Universe, the functioning of life from the genetic viewpoint, or technological applications that make

everyday life easier. Nevertheless, many activities were paralysed in 2020 due to the COVID-19 crisis. Mankind was simply not prepared for such an interruption of networks that were built up in good faith based on reciprocal contacts and agreements. The health threats were simply stronger than smooth ideas on globalization.

Even this brief analysis makes us ask why we face such a situation now where the networks are broken, the systems built after careful negotiations do not work, and even more importantly, what the impacts of this crisis are on social self-regulation, self-organisation and resilience. In other words, what is the impact of the crisis, and what must be done to prevent such a situation in future? We are far away from presenting a recipe for further actions, but this essay serves as an analysis of some possible ideas for further actions. Actually, it is obvious that mankind should use all existing knowledge and knowledge generation for analysing the situation and use consolidated management and communication for facing the world's challenges.

In Section 2 some ideas of networking are presented and in Section 3 some concepts that characterize the crises are analysed. Section 4 is devoted to the brief analysis of social systems, including risk analysis. Section 5 brings in interdisciplinarity in order to unite the knowledge from various scientific disciplines together with the philosophical viewpoint. The authors stress that only with joint efforts of all the fields of science, humanities, and social sciences it is possible to solve the current problems. Final remarks are briefly presented in Section 6.

2. Networking

Using the concepts of networking, society can be described by networks that are formed by nodes (individual agents, groups, communities, states, alliances) differing in space and time (Barabasi, 2016). Moreover, agents are also joined by certain links (families, communities, workplaces, faiths, etc.) and their behaviour influences strongly all the other networks. And the man-made networks of trade, transport, energy, capital, etc. present an important part of the contemporary globalized world. The behaviour of physical networks is pretty well studied and understood, but social networks due to their complex structures generate more questions than answers and explanations. The main problem is that the behaviour of complex systems depends strongly on interactions between their elements. In physical systems, the laws of physics are well studied, and the interactions are measurable. In social systems, the interactions depend on certain rules, traditions, governance systems economic conditions, environment, etc. and besides—values that are subjective. This makes the understanding of the behaviour of social systems difficult. Two important issues must be underlined. First, the interactions determine the behaviour of the system as a whole. As a result, new qualities may emerge in complex systems which cannot be deduced directly from the properties of constituents. Second, the predictability of a complex system is not possible anyway due to nonlinear links, and in social systems, it is shadowed also by insufficient knowledge about the links.

Some examples demonstrate the present understanding. *First*, globalization is understood mostly in terms of international transactions (trade and financial flows). The International

Monetary Fund, for example, indicates four important aspects of globalization: multilateral trading system, capital investments, migration, and distribution (diffusion) of knowledge (IMF, 2008). The OECD (2015) stresses the importance of the environment for fostering long-term investment, financial stability, and business integrity. But all these aspects have created inequalities that support nationalism protecting individualities and identities. What is absent in these concepts is the social side of these processes. *Second,* the threats to the general ecological situation have forced the UN to accept the Sustainable Development Goals (SDGs) that are clearly a step forward to joint understanding (UN 2015). It has been shown by Nakicenovic (2019) that IIASA analysis demonstrates clearly that these 17 goals form a network, and one should deal with them not one by one but jointly. *Third*, one should pay attention to values in societies. Based on the World Values Survey, Inglehart and Welzel (2004) have designed the Cultural Map of the World where the countries are characterized by two dimensions: (i) traditional vs secular-rational and (ii) survival vs self-expression values. Their two-dimensional map shows clearly how the countries are grouped: protestant Europe, Catholic Europe, English-speaking, Confucian, orthodox, ex-Communist, South Asia, Latin America, Africa. The next step for understanding the differences between the countries (and language groups) is to include aspects of economic wealth (GNP), happiness and subjective well-being indices, etc. Changes in the Cultural Map over the years (1981-2007) have been especially informative reflecting the changes in societies (Inglehart et al., 2008). *Fourth,* Engelbrecht (2016) has conjectured that in physical systems the constraints are based on thermodynamics, in social systems the constraints are based on values.

It seems that in this context, the functioning of society and the role of values must be better understood than common knowledge. One should start from understanding and trust to avoid the conflict of cultures. Umberto Eco (1998) has indicated possible scenarios when two cultures meet. He distinguishes the following possibilities: conquest (European civilization subjugated Amerindian cultures); cultural pillage (Greeks transformed Egypt into a Hellenistic kingdom but admired Egyptian wisdom); exchange (reciprocal influence like contacts between Europe and China). All of them certainly have a variety of modifications. Whether such meetings produce stress, especially in the short run, is another question. Putnam (2007) has analysed the diversity in the community and based on the experience in the USA, shown that ethnic diversity tends in the short run to reduce social solidarity and social capital. The conflict of cultures may be a real threat to the connectivity of a tolerant society. Collier (2013) stresses that due to national barriers there might be an optimal degree of diversity in contemporary society.

Even this brief analysis demonstrates that the complexity of natural and man-made systems must be studied in detail to understand the influence of possible links and interactions for the sustainable development of the world. It means that basic knowledge about complex systems should be generalized from examples to general rules in order to change the mindset that is usually based on simple rules, additivity and predictability. In reality, one should understand the possible unpredictability of processes, non-additivity, influence of interactions and many more characteristics of complex systems (see Castellani, 2018).

3. Crises in the world

The well-known definition is that a crisis is an event that may lead to an unstable and dangerous situation. A crisis is unexpected, creates uncertainty and is seen as a threat to the goals of a person, a group or society in general (Seeger et al., 1998). Besides natural disasters (volcanic eruptions, floods, etc.), it is possible to distinguish man-made crises that occur in policy, economy or in the environment in general. Although the knowledge about the risks and mechanisms of crises is collected in the scientific community, the recent crisis related to the spread of COVID-19 in 2020 has demonstrated to the world how vulnerable man-made systems are and how the structures and relations built carefully over a long period collapsed rapidly.

Knowledge about the phenomenon of the instability of systems exists in physics and mathematics. In social systems, the situation is more complicated because it is related to consciousness, free will, traditions, and also to faith. Several concepts should be pointed out in this context: singularities, catastrophes, cascades.

The concept of singularity was introduced by J. von Neumann already in 1950. His definition of singularity was that, singularity is the moment beyond which "technological progress will become incomprehensively rapid and complicated." Kurzweil (2006) defined Technological Singularity as "…a future period during which the pace of technological change will be so rapid, its impact so deep, that human life will be irreversibly transformed."

In mathematics, singularity means discontinuous change. Such problems are dealt with by the so-called catastrophe theory derived by the French mathematician René Thom (1968) and British mathematician Eric Christopher Zeeman (1976). A 'catastrophe' means that in a nonlinear system the equilibria can appear or disappear due to small changes in some leading parameter. Geometrically such catastrophes are classified according to Thom as a fold, a cusp, a swallowtail, a butterfly, etc. depending on the shape of the potential function called control surface which describes the process. In physics, catastrophe theory can be used for describing the phase transitions and gravitational lensing (detecting black holes). In physiology, the human behavioural patterns including nervous disorders can be described by using the concept of a control surface. The catastrophe theory has been used for describing the behaviour of stock markets: jumping from the bull market (index rising) to the bear market (index falling) which causes a crash. The geometry of control surfaces, however, shows that besides jumps there exist also smooth paths from one equilibrium to another. Such processes need careful changes in control parameters or in other words, a deep understanding of the processes. For example, it has been shown that large-scale social processes like war-peace, can also be described using the catastrophe theory. In this case, when public opinion is divided between 'hawks' and 'doves', the negotiation may move the process of the war threat to peaceful solutions. A similar description could be used in the analysis of riots. It seems that the catastrophe theory can be used as a metaphor explaining how jumps (discontinuities) can be avoided by changing the control parameters differently.

Next, one should understand the consecutive effects in man-made or natural systems. The domino effect is a chain reaction—one event sets off a chain of similar effects like the toppling

of dominos. This metaphor has been used widely, even for describing the political events like how Dwight D. Eisenhower in 1954 described the spread of the influence of communism. Another important effect is related to propagating failures. Pescaroli and Alexander (2015) have defined "cascading effects... in disasters, in which the impact of a physical event or the development of an initial technological or human failure generates a sequence of events in human subsystems that result in physical, social or economic disruption. Thus, an initial impact can trigger other phenomena that lead to consequences with significant magnitudes. Cascading effects are complex and multidimensional and evolve constantly over time."

To avoid the failures of systems, one should understand the reasons why such effects will take place. Helbing (2013) has argued that disasters should not be seen as 'bad luck' but "Systemic failures" and that extreme events are consequences of the highly interconnected systems and networked risks humans have created. According to his analysis, the drivers of systemic instabilities are: "increasing system sizes; reduced redundancies due to attempts to save resources; denser networks (increasing interdependencies between critical parts of the network); a high pace of innovation (producing uncertainties)". It means that actually globalization and increasing network densities may push systems towards systemic instabilities or in other words, "hyper-connected world leads to hyper-risks" (Helbing, 2013).

One should also note the Seneca effect (Bardi, 2018): increases are of sluggish growth but the way to ruin is very rapid.

Is it possible to foresee the risks? One of the most prominent analyses of global risks is presented by the World Economic Forum (WEF). The 15th annual WEF Global Risk Report was made public in 2020 (WEF Global Risk Report 2020). The reports present the top 10 risks ranked by their likelihood and impact over the next 10 years. It is quite natural that attention is paid to biodiversity, cyberattacks, natural disasters, food crisis, state-on-state conflicts, etc. Was the report able to forecast correctly? Not really. During the five years of 2016-2020, the likelihood of the extreme weather problem was forecasted four times and the weapons of mass destruction problem was forecasted three times as top risks by likelihood and impact respectively. These risks have luckily not been realised. However, infectious diseases were listed four times among the last of the list, i.e., they have not been estimated as a real threat, although the WEF 2020 Report indicates that the health systems are weak and cannot meet the challenges of well-being. One could ask whether the sentence in the Report (p 9) "When health systems fail to mitigate vulnerabilities and adapt to changing contexts, they increase the likelihood of economic crises, political instability, social rupture and state-on-state conflict" has been taken seriously by policymakers. There is an important character in the WEF Risk Reports. Namely, the Global Risks Interconnections Map depicts the interconnections between the impacts of events. The impact of infectious diseases is, for example, related to global governance problems and possible social instability. However, not all links are indicated. It is, for example, surprising that infectious diseases are not related to the possible collapse of infrastructures and unemployment, as we witnessed in 2020.

The Global Risks Interconnections Map represents according to Helbing (2013) the hyper-connected world that leads to hyper-risks. He lists the drivers of systemic instabilities in this

world (system size, saving resources, the density of networks, high pace of innovation, etc.) and demonstrates how vulnerable networks of networks are. Unfortunately, the theoretical knowledge of systems, instabilities cascades, etc. (briefly described also above) has not found its way to policymakers.

"Humanity's estimated ecological footprint was 1.7 times as fast as planet Earth can renew it. We should also account for the social footprint which is the impact of human decisions and actions on the social fabric of society."

4. Some Ideas on Social Systems

It is not only about the COVID-19 crisis in 2020. This crisis has actually opened a Pandora's box of global financial, economic and societal crises. One cannot say that the scientists have not thought about that. The predictions about the future of the World (Meadows et al., 1972; Randers, 2013, etc.) warned mankind that the resources for constant growth are limited. The problems are mixed, but much attention is paid to the economy because this is actually the blood circuit of contemporary life and welfare. The human face of the economy is questioned by many think tanks of the world. Although already the French Revolution called for "liberty, equality, and fraternity", the situation in the World is far from it. The main obstacle for changes in the economy is in the following assumptions (Helbing, Kirman, 2013) which have a paradigmatic value: (i) an economy is an equilibrium system; (ii) selfish behaviour of individuals yields a result that is beneficial for society; (iii) individuals and companies decide rationally; (iv) the behaviour of all the agents together can be treated as the average; (v) financial markets are efficient, all the relevant information concerning an asset is reflected in the price of that asset; (vi) the financial markets function better if their liquidity is greater; (vii) the more connected the networks of individuals and institutions are, the more is the reduction of risks and the more stable is the system. The analysis of the economy as a complex system leads to the conclusion that these assumptions are erroneous (Helbing, 2015) and cannot work in the long run (see examples in Section 3). That is why a fundamentally new kind of economics is needed for 'networked minds' as Helbing (2015) states. This leads to the need that global networks must be redesigned by using the knowledge from complex systems and the digital revolution. The leading principle in all these actions is the transfer from a technology-driven society to a socially oriented technology.

It is important that in future discussions, the economy is not singled out as a special field of knowledge but analysed and modelled as the socio-economic system.

The ecological footprint is a well-known indicator to measure human impact on the environment. This indicator was introduced only about 30 years ago for defining the amount of the environment necessary to produce goods and services for supporting lifestyle in a particular country or the whole world. According to Lin et al. (2018), humanity's estimated

ecological footprint was 1.7 times as fast as planet Earth can renew it. We should also account for the social footprint which is the impact of human decisions and actions on the social fabric of society, let it be a community, a country, or the whole world (McElroy, 2008). Leaving aside the technical details, one can intuitively understand the social footprint of the recent US President. In all the societal actions, the social footprint whether we like it or not, is a factor that could influence life and welfare considerably.

Socio-economic systems possess many properties (Helbing, 2010): (i) the number of variables is very large; (ii) the relevant parameters and variables are often unknown; (iii) time scales are not often separated; (iv) there is just one realization, i.e. human history; (v) it is difficult to subdivide the system into simple, non-interacting subsystems; (vi) observers participate in the system; (vii) factors such as emotions, creativity, memory consciousness, communication, individual interpretation, etc. create complications in the analysis; (viii) social systems are influenced by normative and moral issues, etc. All this creates a lot of difficulties in modelling the socio-economic phenomena and none of the possible approaches (physical, economic, sociological, psychological) can reflect the complexity of interactions between the main actors of social systems—the people. During crises, the emotions, defence mechanisms, irrational thinking, and a disorganized approach to problems create more problems than rational actions.

5. On Interdisciplinarity

Interdisciplinarity means the combination of two or more research disciplines into one activity by drawing knowledge from several fields with one goal. Dealing with complex systems like socio-economic systems or even more widely—techno-socio-economic-environmental systems, the interdisciplinary approach is the best way to understand problems and analyse them. This means integrating information, data, techniques, tools, concepts, and perspectives of various disciplines. Dialogue is the main condition for success. Note that transdisciplinarity usually refers to what is found simultaneously between the disciplines and beyond any discipline.

Contemporary knowledge generation is divided between various disciplines, but the challenges mankind faces need mobilizing not only all the existing knowledge but the generation of knowledge between traditionally separated disciplines. What has been described above is a brief description of such complex systems and the phenomena occurring in them that call for knowledge from various fields. Some interdisciplinary fields are well-established, like biophysics, molecular biology, geophysics, etc. Some are gaining importance during recent years like econophysics (cf. Roehner, 2002; Stanley et al., 2008; and references therein). Let us use econophysics to illustrate interdisciplinarity. Classical school of finance and economics has described phenomena in economic activities by using the normal distribution of events. Although being correct in short time scales, and having an advantage of finite mean and variance, it fails to describe long term processes in economics. Namely, normal distribution severely underestimates the probability of large-scale changes in studied social phenomena. Furthermore, the classical school relies on independent, identically distributed variables in financial time series. This assumption has also been proven to be inaccurate,

as financial time series possesses autocorrelation in various time scales as well as self-similar behaviour patterns governed by multi-fractal processes (c.f. Kitt and Kalda 2005). Borrowing from natural sciences, econophysics replaced normal distributions with power laws, i.e., distributions with infinite variance. Thus, the methods and tools from physics were transferred to finance and economics that has led to the coining of the term 'econophysics'.

"The problems related to climate change cannot be solved without involving knowledge from physics, chemistry, ecology, biology, economics, and human values."

It seems that physics has much to contribute to other disciplines of research. Some cases are described above but one must stress the role of thermodynamics and nonlinear dynamics in developing more general knowledge. The concept of dissipative structures introduced by Prigogine (1945) has a fundamental importance in many areas of knowledge. Dissipative structures operate out of thermodynamic equilibrium and exchange energy, matter, and information with the external environment. This concept is extremely useful in biology, chemistry, social sciences, etc. and has also a paradigmatic value recognized in many branches of science and can be considered as a 'driving force' of organization. The concepts of network analysis (Barabási, 2016) are used in neural networks, biology, virus spreading, banking systems, power grids, etc. These concepts help to understand the signal (information) propagation speed, self-organization, synchronizability, etc. The concepts of physics (conservation laws, internal variables) are used for describing physiological processes (Engelbrecht et al., 2020). The concepts of chaos and unpredictability are derived within the framework of nonlinear dynamics and are nowadays widely accepted in many fields of knowledge (see, for example, Scott, 2005).

Interdisciplinary elements are also being developed in computational social science. Following these studies in the ETH (Zürich), it is remarkable how the focus of research has moved from studying pedestrian crowds and vehicle traffic to studying social coordination, cooperation, norms, and conflict as well as collective opinion formation and wisdom of crowds. And the problems related to climate change cannot be solved without involving knowledge from physics, chemistry, ecology, biology, economics, and human values.

The general information on interdisciplinarity has been collected by Frodeman et al. (2017) and a specified analysis—by the National Academy of Science et al. (2005). The latter analysis lists the needs for interdisciplinary research: (i) the inherent complexity of nature and society; (ii) problems that are not confined to a single discipline; (iii) the need to solve societal problems; (iv) the power of new technologies. Such research can be problem-oriented, concept-oriented, or method-oriented (Hübenthal,1994). In addition, she distinguishes intermeshing and complementing, related to agreements in respect either to the analyzed topic or the phenomena, respectively.

The interdisciplinarity of ideas is fruitful in many fields of research. Presently it seems that one of the strong drivers for interdisciplinary studies is a social science (Helbing, Balletti, 2011). The list of problems is long: how to avoid crises and contagious cascade-spreading processes, how to cope with the increasing flow of information, how to improve social, economic, and political participation, how to avoid 'pathological' collective behaviour (panic, extremism, breakdown of trust), how to avoid conflicts and minimize their destructive effects, how to cope with migration. The solving of these problems needs a lot of data mining, knowledge about psychology, economy, mathematics, etc. One cannot forget the ethical problems too.

"The social problems that are in focus now are strongly influenced by human behaviour and values spiced by ethical issues related to socio-economic processes."

An excellent analysis of how the concepts of nonlinear dynamics have a deeper meaning in epistemology and ontology is given by DeLanda (2002). He actually reconstructs the philosophy of Deleuze and Guattari (1987) that distinguishes intensive and extensive spaces together with actual and virtual space. The notions like attractors, bifurcations, phase portraits, fluctuations, self-organization, limit cycles, singularities, trajectories, vector fields, manifolds, etc. are used for explaining dynamical processes that are analysed by Deleuze and Guattari (1987). In this way, the notions of difference, intensity and multiplicity obtain the philosophical meaning and without any doubt justify using the methods of nonlinear dynamics for modelling the social sciences.

What should be stressed in fostering interdisciplinary ideas is the communication problem. This concerns not the mother tongue of researchers but the different terminologies. The differences between the disciplines are often due to different communities of researchers. Kagan (2009) has pointed out that even such a basic notion like the concept of truth is understood differently by different researchers. In principle, the concept of truth can be understood as correct, valid, coherent, and right. Kagan (2009) states that "most natural scientists trust only the first two; social scientists trust the first and third, humanists rely on the last two". As a consequence, one should pay serious attention to communication because interdisciplinarity is most of all about a widening of mindsets.

The crucial problems are always related to the future, that is from 2020 on, shadowed by the crises in many societal structures and activities. Many more traditional activities have been stopped. What will happen next? The world is complex and the mathematical models for the forecast should take into account the properties of complex systems, let them be of physical or of social character. A recent overview of ideas of such modelling is presented by Engelbrecht (2019). The models of Meadows et al. (1972), Randers (2013), for example, are based on the analysis of dynamics of rather general variables like resources, population, industrial output, productivity, consumption, etc. These models have served as a warning

for society because the growth of consumption has limits and the systems may collapse. Some remarks are needed to specify the situation. **First**, the GDP alone does not characterize the reality well, but the values related to the GDP give more information about the welfare of countries (Caldarelli et al., 2012) which is a sign of economic complexity. **Second**, Daly (1987) has distinguished two general classes of limits to growth: biophysical limits on the Earth and socioethical limits. The first class of limits involves resources, ecological connections, etc. resulting in changes in economic subsystems, explicitly shown in "The Limits of Growth" (Meadows et al., 1972). The second class involves (i) cost imposed on future generations; (ii) extinction in the number of sub-human species; (iii) effects of welfare; (iv) corrosive effects on moral standards. And besides GDP and material goods, there are intermediate goods (Hirsch, 1977) and public goods (Puu, 2006). Among the intermediate goods is also education which facilitates professional and social advance (Hirsch, 1977). All this is a clear call for interdisciplinary studies to understand the possible trends and threats of development. This is stressed by Helbing (2010) calling for (i) cooperation of social scientists and natural scientists, (ii) modelling of socio-economic systems; (iii) managing of complexity and corresponding systems design; (iv) applications of social coordination to the creation of self-organizing technical systems; (v) development of technical systems combined with social competence and human knowledge.

In the Summary "A Planetary Momentum" (Šlaus et al., 2020) these ideas are formulated as follows: "Attention should be paid to decision theory, rational choice and values in framing solutions taking into account the complex relations, interactions and reciprocal immediate and long-term influences involved. … Lessons concerning the weaknesses of social systems must be studied in-depth and analysed to understand why and how conventional thinking has led to global crises, the vulnerabilities generated by globalisation and networking, and the ideas needed to foster effective social innovation."

6. Final Remarks

The future is something we build with our actions. Academia understands this challenge and there are many examples of targeted research and activities (Engelbrecht et al., 2020). It is clear that the main problem is how to manage jointly with 'hard' (like in physics or chemistry) and 'soft' (related to values or behaviour) concepts. Whatever the problems or models concerning nature and material processes, the laws of physics and thermodynamics must be satisfied. It is well known that Erwin Schrödinger (1944) has explained the concept of living systems from the viewpoint of thermodynamics. Furthermore, Philip Anderson (1972) warned about reductionist thinking in science in his famous essay "More is different". He claimed that the properties of the systems could be different from the properties of their constituents. Nowadays we know much more about complex systems (Castellani, 2018) and the role of physics like explaining the behaviour of all ecosystems related to nonequilibrium dissipative structures and processes like Prigogine (1945) has proposed. The social problems that are in focus now are strongly influenced by human behaviour and values spiced by ethical issues related to socio-economic processes. One cannot forget that these processes are also strongly influenced by technological developments. In all cases, interdisciplinary

research is the best tool to proceed in this complex world. In this context, the words by John Donne (see the beginning of the article) have a special meaning.

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Bibliography

1. A. L. Barabasi (2016) *Network Science*. Cambridge University Press, Cambridge. IMF (2008) Globalization: A Brief Overview. https://www.imf.org/external/np/exr/ib/2008/053008.htm (downloaded 12.01.2020)
2. OECD (2015) *G20/OECD Principles of Corporate Governance*. OECD Publishing, Paris.
3. UN (2015) UNDP Sustainable Development Goals. *The 2030 Agenda*, UN.
4. N. Nakicenovic (2019) The World in 2050 and the six grand transformations. International Conference "Approaching 20?? year". *Montenegrin Academy of Sci*., Podgorica, 16-16 May 2019. Abstracts, p.39.
5. R. Inglehart et al., eds. (2004) *Human Belief and Values. A Cross-Cultural Sourcebook based on 1999-2002 Value Surveys*. Siglo XXI, Mexico City.
6. R. Inglehart, R. Foa, C. Peterson, and C. Welzel (2008) Development, freedom and rising happiness. *Persp. Psychol. Sci*., 3(4), 264-285.
7. U. Eco. (1998) *Serendipity. Language and Lunacy*. New York, Columbia University Press.
8. R.D. Putnam (2007) *E Pluribus Unum*: Diversity and community in the twenty-first century. The 2006 Johan Skytte Prize Lecture. Scandinavian Pol. Studies., vol. 30, 2, 137-174.
9. P. Collier (2013) *Exodus: How Migration is Changing our World*. Oxford University Press.
10. B. Castellani (2018) Map of the Complexity Sciences. https://www.art-sciencefactory.com/complexity-map_feb09.html (downloaded 16.02.20)
11. M. W. Seeger, T. L. Sellnow, and R. R. Ulmer (1998). Communication, organization, and crisis. *Annals of Int. Comm. Assoc*., 1998, 21, 1, 231-276.
12. R. Kurzweil (2006) *The Singularity is Near: When Humans Transcend Biology*. Penguin Books.
13. R. Thom (1975) *Structural Stability and Morphogenesis: An Outline of a General Theory of Models*. Addison-Wesley, Reading MA.
14. E. C. Zeeman (1976) *Catastrophe theory*. Scientific American, 234, pp. 65-83.
15. G. Pescaroli and D. Alexander (2015) A definition of cascading disasters and cascading effects: Going beyond the "toppling dominos" metaphor. In: *Special Issue on the 5th IDRC Davos 2014*, GRF Davos Planet@Risk, vol 3, no 1, 58-67.
16. D. Helbing (2013) Globally networked risks and how to respond. *Nature*, vol. 497, 51-59.
17. U. Bardi (2017) *The Seneca Effect. Why Growth is Slow but Collapse is Rapid*. Springer.
18. WEF (2020) *The Global Risks Report 2020*, Geneva.
19. D.H. Meadows, D.L. Meadows, J. Randers, and W.W. Behrens III (1972) *The Limits of Growth*. Universe Books, New York.
20. J. Randers (2013) *2052 - A Global Forecast for the Next Forty Years Using a Mix of Models*. ISDC, Boston, MA.
21. D. Helbing and A. Kirman (2013) Rethinking economics using complexity theory. *real-world economics review*, No 64, 23-52.
22. D. Helbing (2015) *Thinking Ahead - Essays on Big Data, Digital Revolution, and Participatory Market Society*. Springer, Cham et al.
23. D. Lin et al. (2018) *Ecological footprint accounting for countries updates and results of the national footprint accounts, 2012-2018*. Resources, 7. 3, 7030058.
24. M. McElroy (2008) *Social footprints: measuring the social sustainability performance of organizations*. Thetford Center.
25. D. Helbing (2010) *Pluralistic modelling of complex systems*. arXiv: 1007.2818v1 [physics.soc-ph] 16 July 2010.
26. B. Roehner (2002) *Pattern of Speculation: A Study in Observational Econophysics*. CambridgeUniversity Press, Cambridge.
27. E. H. Stanley, V. Plerou, and X. Gabaix (2008) A statistical physics view of financial fluctuations: Evidence for scaling and universality. *Physica A*, 387(15), 3967–3981.
28. R. Kitt and J. Kalda (2005) Properties of low-variability periods in financial time series. *Physica A*, 345, 622−634

29. I. Prigogine (1945). Etude thermodynamique des phénomènes irréversibibles. Bull. Acad. Roy. Blg. Cl. Sci. 31, 600-606.
30. J. Engelbrecht, K. Tamm, and T. Peets (2020) On mechanisms of electro-mechano-physiological interactions between the components of signals in axons.Proc. Estonian Acad. Sci., 69, 2, 81-96.
31. A. Scott – Ed. (2005) Encyclopedia of Nonlinear Science. Routledge, New York and London.
32. R. Frodeman, J. Thompson Klein, and R. C. S. Pacheco – Eds (2017) The Oxford Handbook of Interdisciplinarity. Oxford University Press, New York (2nd edition).
33. National Academy of Science, National Academy of Engineering, Institute of Medicine (2005) Facilitating interdisciplinary research. Washington DC, Nat. Acad. Press.
34. U. Hübenthal (1994) Interdisciplinary thought. Issues in Integrative Studies, 12, 55-75.
35. D. Helbing and S. Balietti (2011) From social data mining to forecasting socio-economic crises. Eur. J. Phys. Special Topics, 195, 3-68.
36. M. DeLanda (2002) Intensive Science, Virtual Philosophy. Continuum, London and New York.
37. G. Deleuze and F. Guattari (1987) A Thousand Plateaus. University of Minnesota Press, Minneapolis.
38. J. Kagan (2009) The Three Cultures. Natural Sciences, Social Sciences, and the Humanities in the 21st Century. Cambridge University Press, Cambridge, et al.
39. J. Engelbrecht (2019) On limits of technology and knowledge. In: M. Djurovic (ed.), Proc. Int. Conf. "Approaching 20?? year", Montenegrin Acad. Sci and Arts, Podgorica, 269-282.
40. G. Caldarelli, M. Cristelli, A. Gabrielli, L. Pietronero, A. Scala, and A. Tacchella (2012) Ranking and clustering countries and their products: a network analysis, *PLoS ONE*, 7(10), e47278.
41. H.E. Daly (1987) The economic growth debate: what some economists have learned but many have not. J. Environmental Economics and Management, 14, 323-336.
42. F. Hirsch (1977) Social Limits to Growth. Routledge & Kegan Paul Ltd, London.
43. T. Puu (2006) Arts, Sciences, and Economics. Springer, Berlin and Heidelberg.
44. J. Engelbrecht, M. Djurovic, and T. Reuter (2020) Current tasks of academies and academia. *Cadmus*, 4, 2, 118-126.
45. P.W. Anderson (1972) More is different. Science, 177(4047), 393-396.
46. E. Schrödinger (1944) What is Life? Cambridge University Press, Cambridge.
47. I. Šlaus, S. Brunnhuber, J. Engelbrecht, G. Jacobs, D. Kiniger-Passigli, T. Reuter, A. Zucconi (2020) A Planetary Momentum. Asymmetric Shocks, Global Preparedness for Change and the Rise of a New Paradigm. WAAS Newsletter, April 2020, p.1.

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How can we Transform Global Governance for the 21st Century?

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Abstract

The current global institutional architecture is a product of a bygone era of the power of dominant players to impose themselves on others. This paper argues that the multiple planetary emergencies upon us demand radical transformation of all institutions to reflect on the lessons learnt. It proposes an urgent examination of global governance institutions, with the UN system as the central pillar, with a particular focus on whether they are promoting justice and the social realisations that are part of their mandates. Countries in the Global South, such as South Africa, need to free themselves from the current irrational strictures of the Global Development Finance institutions, and mobilise their national resources—financial and natural—to provide basic needs and services to all their citizens to free their human potential. Citizens living dignified lives beyond survival would become creative energetic contributors to the wellbeing of all in a healthy biosphere, at local, national, regional, and global levels. We could do no better than heed Amartya Sen's advice and overcome the "institutional fundamentalism" that has made us addicted to the current global institutional framework. The UN system, the Global Development Institutions have evidence of too many fault lines to be able to meet the reasonable social benefits of people living in Most of the World. A Reimagined global institutional framework for the 21st century is urgently needed to provide a platform for wellbeing of all in a healthy biosphere.

1. Introduction

Reimagining global governance is an urgent and critical success factor for the human community to redesign a system more appropriate for the 21st century. The post-WWII global governance regime that has served us for over 70 years is due for a major transformation. Governance needs to be seen to be fair, representative and effective to gain legitimacy and respect of those governed.

The current regime established some ground rules about what matters most in governance from local, national to global: respect for human rights and the sanctity of life formed the fundamental touchstones of global governance through the United Nations. The institutional infrastructure of the global governance system served an important role in bringing stability into the political affairs of the world at that time. It also promised to make impunity history.

Nobel Prize winner Amartya Sen in his book, The Idea of Justice, makes the case that the choice of institutions is a central element in the pursuit of the promotion of justice. He asserts

that "…we have to seek institutions that promote justice, rather than treating the institutions as themselves manifestations of justice, which would reflect institutional fundamentalism." In Sen's view, it is not enough to simply have institutions without examining the social realisations that are actually generated through that institutional base. I would like to suggest that the multiple planetary emergencies we are facing in the 21st century call for an examination of global governance institutions, with the UN system as the central pillar, with a particular focus on whether they are promoting justice and the social realisations that are part of their mandates.

The UN has over the last 70 years become a major pillar of the new way of seeing the world as an interconnected and interdependent whole. The global development institutions, instituted to drive post-war reconstruction, were primarily designed to provide the underpinning of mutual support to promote socio-economic development for post-war Europe. The common feature of the UN system reflected and continues to reflect the dominance of Western powers—the victors of WWII.

The fault lines in the UN system stem from the rigidity of this 70+ year system and the blind spots of self-styled major powers to the contradictions of the current system in the context of the realities of the 21st century. The idea of the UN Security Council having 3 of the 5 Permanent members being Western countries representing 5% of the world's population, is an absurdity in the 21st century. So too the idea of a group of 7 nations (representing a minority of the global population and a decreasing size of its real economy) that presumes to have all the wisdom to set standards and priorities in the global socio-economic and political spheres, boggles the mind.

One of the greatest ironies of the post-WWII global governance regime is its blindness to, and historic tolerance of, continuing colonial exploitation of most of the world by the very powers that were victors of the anti-Nazi war to end the genocide against Jewish people. Anti-colonial struggles did not enjoy the support one would have expected from the UN Security Council given the Human Rights Charter on which the UN system rests. The same lack of support applies to the anti-racism Civil Rights Movement in the USA. Yet those struggles succeeded despite the lack of support from the UN until very late in the day.

The power of the human spirit's quest for freedom of choice at the very core of being human, continues to challenge assumptions of the practice that 'might is right'. Military power is proving inadequate to impose itself over peoples who yearn for the freedom to express their cultural beliefs and values around the world. Indigenous people across many spaces are choosing the dignity of being who they would like to be and to express their cultural tenets that are significantly different from the so-called Western culture.

Afghanistan is the latest example of indigeneity trumping imposed values and governance models. Whatever one thinks of their political philosophy, the Taliban appeals to the emotional pull of self-governance of Afghan people. Successive foreign powers from the British, Soviet Union and now Americans, have over many decades been forced to bow to the resilience of traditional indigenous systems in Afghanistan.

2. What are the Challenges of Global Governance in the 21st century?

The complexities of the challenges of the 21st century demand boldness to dare to ask the right questions about what we understand by "global" and "good governance" in the context of our greater awareness of the interconnectedness and interdependence of humanity and the ecosystems we find ourselves in. Definitions of the "global" at the expense of the "local" are proving to be inadequate.

The globalisation of the world has been framed largely as a political-economic imperative. The same dominant powers that defined the post-WWII regime including the United Nations System, seized the growing awareness of our interconnectedness and interdependence as opportunities for enhancing their dominance. The "global" in globalization does not embrace the planetary system and Earth, our planet as part of the web of life. Champions of globalization have often given scant attention to the reality that human beings are but part of nature—a much younger species than other forms of life that continue to live more consciously in harmony with nature's wisdom.

Globalisation as championed by dominant powers ignores, and in many cases, undermines the "local." Communities—humans and others—that have lived for thousands of years in their ecosystems, are often uprooted to make way for global corporate interests and witness the destruction of the Amazon, the Congo and other forests in the name of development. In my own country, countless communities continue to be displaced or pressured into making way for global extractive corporate interests. For example, the Xolobeni Community, in the Eastern Cape, had to resort to the Constitutional Court for protection of their rights to decide on their own development pathway, against the imposition of an Australian mining company, Transworld Energy and Mineral Resources, by their own government. The love affair with the neo-liberal development model with its promotion of foreign investments as the engine of "economic growth" lies at the root of the undermining of the local in favour of the global.

Good governance without local meaning and resonance undermines its own acceptance and legitimacy. What is good in the governance of people needs to be defined by them if democracy is to be true to the ideal of it being governance of the people by the people for the people. The current global governance system fails to meet the standards of good governance at a basic level. All major global governance institutions suffer from the dominance of Western dominant powers at many levels: selection and election of top leadership; agenda setting and priorities for action; resourcing of global institutions; how progress and success are measured; etc.

We now have the benefit of a greater understanding of the value of indigenous knowledge and wisdom systems strengthened by modern science. This understanding confirms that our humanity expresses its essence through the affirmation of other human beings. The African moral philosophy of Ubuntu—I am because You Are—has at its core a value system that reflects this understanding. What we know for sure is that human beings are at their best when they are affirmed, respected and feel that they belong. Mutual prosperity is ensured by each member of the community contributing the best of their efforts to promote the common good.

This truism is what our ancient African ancestors learnt from observing nature's intelligence in the ecosystems they found themselves in. The tenets of indigenous wisdom are common to every culture that has preserved the Ubuntu philosophical heritage as they migrated out of Africa, the Mother continent.

> *"What the COVID-19 pandemic and the climate change catastrophes have taught us is that wellbeing of a few is wellbeing of none, and that climate change impacts do not respect geographic nor any other boundaries."*

We also have the benefit of lessons from the disruptive impact of the multiple planetary crises we face. These crises compel us to understand anew that we need to reimagine new ways of being human and intentionally embrace our interconnectedness and interdependence. A reimagined global governance system would need to embrace the core values of Ubuntu that promote wellbeing of all in a healthy biosphere. Such a value system necessitates a reimagining of socio-economic systems that promote wellbeing of all, and a healthy biosphere as both goals and key indicators of progress.

The current Sustainable Development Goals (SDGs) as set out by the UN, are a statement of a minimalist agenda to address the extreme inequalities and inequities in our current global sociology-economic system. Not only are the goals minimalist, but the Global Footprint Network* estimates that at the current levels of consumption by the well-off globally, humanity would need the equivalent seven planets' resource base to provide every human being with the minimalist good and services set out. The implications are clear—current consumption patterns driven by rampant financialised economic systems that require higher and higher consumption, are totally unsustainable. The current global economic and financial systems are not capable of promoting wellbeing of all in a healthy biosphere. We need to reimagine new systems.

The challenge for humanity today is to harvest the lessons of the current planetary emergencies and the greater appreciation of nature's intelligence, to explore how we might emerge with new ways of being human. What the COVID-19 pandemic and the climate change catastrophes have taught us is that wellbeing of a few is wellbeing of none, and that climate change impacts do not respect geographic nor any other boundaries. We also have learnt anew that what matters most in life is life itself. Social distancing and lockdowns have also reminded us poignantly that we are at our core relational beings. We thrive best when we are in relationships with others. The medium and long-term impacts of social and emotional distancing are not yet clear, but they are likely to be significant.

* https://www.footprintnetwork.org

3. A Reimagined Socio-economic Development Model

The current global development model is driven by an increasingly financialised economic system that is more and more distant from real life experiences of people in their day-to-day lives. The distancing of economics from communities at the local level is further exacerbated by the "vacuum cleaner" effect of multinational supermarkets and malls that internalise their profits and externalise the costs to local communities. Think of plastic waste; air pollution; location of polluting industries in poorer countries to benefit shareholders in rich countries; and other externalised ecological costs that are borne by the poorest people amongst us.

Consumer corporates have gone full steam to ensure that they dominate every aspect of communities' consumer needs effectively replacing the 'mom and pop' corner shops in villages and townships across the world. Community savings and collaborative programs such as savings clubs, funeral schemes and revolving credit schemes have been hijacked and swallowed up by the rampant financial system to benefit their investors living in wealthy suburban areas. Poor people's cash no longer circulates within their communities but is sucked out into banks that hardly invest in those communities, but in the wealthy suburban areas where they are situated.

As a South African, I hang my head in shame about our economic system that has dismally failed to promote the socio-economic development of the majority population. The post-apartheid governments' adoption of a neo-liberal economic system has perpetuated colour coded patterns of ownership inherited from colonialism and apartheid regimes. The desire to be acceptable to the global development finance institutions and their dominant Western shareholders, has blinded successive governments to the futility of top-down development programs, and the pre-occupation with GDP as a measure of progress. It is not surprising that we are not only the most unequal society in the world but have failed to prepare our youthful population to become critical thinking contributing citizens. Our unemployment levels at 40% overall and 70% amongst the youth, reflect the inappropriateness of our development model.

We urgently need to reimagine a socio-economic development model aligned to our reclaiming our indigenous value system that promotes interconnectedness and interdependence within a single web of life. Such a model would need to depart from the premise that economic and financial systems are not the pillars of development, but its tools to serve a higher purpose of promoting access to life-giving goods and services. It would also have to end the dominance of the local by the global with its one size fits all approaches to socio-economic development.

David Korten in his paper, *Ecological Civilization: From Emergency to Emergence*, proposes a set of two key principles of a possible reimagined socio-ecological model:

1. The purpose of a functional economy is to provide all people with material sufficiency and spiritual abundance while supporting the wellbeing, beauty, and creative unfolding of Earth's community of life.

2. The economy best fulfils its purpose when we organise as communities of place in which people are empowered to fulfil their responsibility to and for themselves.

The fundamental feature of Korten's model is to reconnect local people with the sources of their spiritual wellbeing, livelihoods and sense of belonging as communities. The emphasis is on each community self-organising to meet its needs through its own labour in self-reliant balance with its local ecosystems. Such bottom-up development models would ensure that Earth's community of life remains in healthy balance with itself and Earth. Community based development models would also promote the localisation of power in an equitable manner. The focus in such models would be on making communities healthy and not on making corporates profitable.

Governance flowing from a bottom-up culturally appropriate development model would challenge the inordinate power that has been ceded to corporations, especially multinational ones that enjoy all the rights, but limit their responsibilities to the bare minimum in the conventional global regime in operation today. The current regime of limited liability, for-profit corporation legal framework, privileges unlimited concentration of economic power delinked from accountability to the communities in which corporations do business. The distancing of corporations from accountabilities to local communities undermines the very idea of rights and responsibilities being mutually reinforcing in a world of interdependence and interrelationships.

Africa and other regions of the so-called Global South have over many centuries suffered from the impact of extractive mining companies. Our vast mineral resources have been, and continue, to be extracted at the expense of generations of African families whose lives have been deeply scarred by the migrant labour system during colonialism and apartheid. The continuation of the migrant labour system in South Africa to date is a crime against humanity. Housing, health care and other social and emotional costs of mining have been externalised as private costs to the lowest paid workers, whereas these essential services are catered for as part of cost-to-company for the rest of higher paid staff.

The World Trade Organisation's mandate to ensure predictable free smooth flow of trade in the world economy is undermined by the inherent asymmetries of power relationships between participating nations. The same dominant global powers wrote the rules and regulations to suit their economic interests. In the name of free trade, countries with key infant industries find themselves falling foul of the anti-protectionist rules of the WTO. Powerful countries with more sophisticated legal practitioners are able to navigate the complex rules and regulations. A new regime of governance of trade and industry is needed to reflect a greater focus on the local before global and to embrace wellbeing of all in a healthier biosphere.

4. Conclusion

The world of the 21st century requires us to reimagine and establish new appropriate governance and development systems to meet the challenges upon us. We have the benefits

of lessons learnt from the existing systems that have served us over the last few decades to reimagine what would best emerge to meet current and future needs. The neo-liberal economic model has no place in our world today. The extent to which dominant Western powers abandoned the very strictures on debt and printing money by sovereigns that they impose on poorer countries, shows the bankruptcy of this orthodoxy.

Countries in the Global South, such as South Africa, need to free themselves from these irrational strictures of the Global Development Finance institutions, and mobilise their national resources—financial and natural to provide basic needs and services to all their citizens to free their human potential. Citizens living dignified lives beyond survival would become creative energetic contributors to the wellbeing of all in a healthy biosphere, at local, national, regional and global levels.

We could do so much better if we were to heed Amartya Sen's advice and overcome the "institutional fundamentalism" that has made us addicted to the current global institutional framework. The UN system, the Global Development Institutions have evidence of too many fault lines to be able to meet the reasonable social benefits of people living in Most of the World. Is it not the time to rethink global governance fit for the 21st century?

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Notes

1. Amartya Sen, *The Idea of Justice*, Penguin, 2010 p82.
2. See Court Order at Centre for Applied Legal Studies, University of Witwatersrand, South Africa
3. David Korten, *Ecological Civilization: From Emergency to Emergence*, Club of Rome, May 2021

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Achieving Global Justice, Security and Sustainability:
Compassion as a Transformative Method

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Abstract

This paper first examines the geopolitical trends of the post-Cold War era. The main features of this period are an escalating crisis of democratic institutions, extreme economic inequality with a concomitant lack of justice and compassion, and a rising sense of disenchantment with politics. This in turn has increased the appeal of nativist populism, especially among downwardly mobile middle classes. This crisis of political economy coincides with a severe and rapidly escalating global ecological crisis. In response, the author calls for a new paradigm of international cooperation wherein principles of justice and compassion are applied as a practical method to solve the key challenges of our times in an effective and inclusive manner, arguing that business-as-usual is not a viable alternative for survival.

1. The Problem: A New World (Dis-)Order

Built in 1961, the year I was born, the Berlin Wall symbolized the geopolitical order of the post-WW2 era. The opening of Russia under Gorbachev's politics of glasnost ('openness') and the fall of the Wall in 1989 brought this Cold War era to a sudden and peaceful end. In early 1990, not long after witnessing amazing scenes of celebration in Berlin, Nelson Mandela was released from prison, and South Africa's apartheid regime was to end with the first multiracial elections held in 1994. Also in 1992, Deng Xiaoping, on his now legendary 'Inspection visit to the South,' uttered the famous words: "kai fang!" (开放), which literally mean 'open up'. These words marked a watershed in China's economic and social development and made official the country's shift to a capitalist economy.

People who cherish the hope that humanity will one day live in peace and justice took heart from these developments. It seemed a light was appearing at the end of the long tunnel that had been the 20th century, humanity's most violent century to date. Some social theorists went so far as to celebrate the end of history itself. In his essay 'The End of History and the Last Man', Francis Fukuyama proposed, with no small dose of western triumphalism,

> *"What we may be witnessing is not just the end of the Cold War, or the passing of a particular period of post-war history, but the end of history as such: that is, the endpoint of mankind's ideological evolution and the universalization of Western liberal democracy as the final form of human government."* [1]

These observations were not just triumphalist but also lopsided. Fukuyama, it seems, had no eyes to see the dramatic developments that were unfolding in the US and UK under Reagan and Thatcher, even though the new laissez-faire liberalism that had been taking hold in the Anglosphere in the 1980s was spreading around the globe in the 90s, and has been ever since. This process has produced a 'New World Order,' imposing itself on developing countries as part of World Bank, ADB or IMF loan deals, and infiltrating other countries as a precondition for 'free' trade agreements, and spreading also by the use of military force, as in the case of Iraq.[2]

This new world 'order' signalled a fundamental departure from the model of old-fashioned, 20th-century liberal democracy. More prophetic than Fukuyama's musings were thus the words of French theorist Jean Baudrillard, who said:

> *"The end of history, being itself a catastrophe, can only be fueled by catastrophe. Managing the end thus becomes synonymous with the management of catastrophe. And, quite specifically, of that catastrophe which is the slow extermination of the rest of the world."*[3]

Baudrillard was here describing the world's political economy as he found it toward the end of the millennium, under the increasingly hegemonic neoliberal paradigm. Where his words proved prophetic is with respect to the ideological reimagining of the New World Order that was still to come. It turned out that the end of history was very unwelcome in some quarters, notably those quarters president Dwight Eisenhower first dubbed 'the military industrial complex'. To their minds, a highly visible and heavily media-amplified catastrophe was urgently needed, and it was conveniently delivered, right at the beginning of the new millennium, in the form of the S11, 2001 attacks on the World Trade Centre. This carefully 'managed catastrophe' diverted attention from, and added pace to, the steady hollowing out of old-fashioned liberal democracies around the globe, through the endemic practice of money politics and sponsored legislative change by the moneyed elite.[4] Further, it provided the legitimisation for a military spending spree within the context of a new, endless 'war on terror'—just the kind of conflict George Orwell had predicted in his book *Nineteen Eighty-Four*. Why? Well, as Orwell notes,

> *"the essential act of war is destruction, not necessarily of human lives, but of the products of human labour… which might otherwise be used to make the masses too comfortable, and hence, too intelligent."*[5]

It was from that time on that the chickens really did come home to roost for those who had at first supported neoliberal regimes with their vote: the world's most privileged masses, the Western middle class. They had been won over for the idea of small government with the promise of tax cuts and had also bought into the idea that it is a 'waste' to use public funds compassionately, in 'nanny state' fashion, to support 'unworthy people' at home, namely the poor and the sick or unemployed, except in a token fashion. Thus they cheaply divested themselves of their bad conscience at home just as they had long done in relation to unworthy others in poorer countries of the world, with the theatre of humanitarian aid

that Baudrillard caricatures so well. But the lure of middle-class welfare soon gave way to a reality of systematic stripping away of material entitlements, such as education and healthcare, from the middle class itself, far eclipsing what they had gained from tax cuts. The overall effect has been a drastic decline of the middle class in America and similarly in many western countries.[6]

9/11 also provided the excuse for a systematic elimination of political entitlements in the name of homeland security, eroding the 'civil liberties' for which the middle class had fought for centuries in its struggle against the absolutism of the feudal age. Even in a nice 'neoliberal' country like Australia, today's anti-terror legislation is such that a citizen can be arrested without a warrant, interrogated in a secret location, without access to family or lawyers, without proper legal process, and can also be stripped of their citizenship (if they are an immigrant) providing the relevant minister decides they are a terrorist. In the meantime, until their terrorist status is confirmed, like everyone else they are subject to systematic and comprehensive invasion of their privacy,[7] especially when using electronic media or walking in public spaces under CCTV camera surveillance. In the U.S., meanwhile, similar legislation has legitimised even the extra-judicial killing of citizens deemed to be terrorists (Chomsky 2012, Maximus 2013).[8] One might say 9/11 was the coup that secured and politically legitimised the new neoliberal patterns of economic domination that were already in place at the start of the 21st century.

The Western middle classes in fact had been becoming poorer in slow motion ever since the late 70s, as Senator Elizabeth Warren has shown for the US case in her path-breaking research (see FN 6). People had just not noticed yet because lifestyles could still be maintained by shifting to a dual-income-family model. The decline became obvious only during the 2007-8 GFC, another catastrophe, and one that the financial elite had created and subsequently managed. The management of this second catastrophe has been such as to facilitate the greatest daylight robbery in human history, or to put it more mildly, the greatest wealth transfer, away from middle class investors and the public purse, to enrich the highest echelons of the elite. This event was made possible by a trend towards financialisation in the world economy, based on financial deregulation,—a system set up to aid the accumulation of capital through seeking rent on capital, rather than through investment in productive real economy assets that could generate genuine wealth.

It is worth noting the simultaneous impoverishment of nation-states, whether gradually, by debt creation under the auspices of private reserve banks, or suddenly, by way of the publicly funded bail-outs of private banks in moments of self-inflicted crisis. This has now advanced to a point where bankers are dictating state policies not just to Third World countries but to European countries like Greece, Ireland and Portugal, enforcing privatisation of remaining state assets and a reduction of wages, pensions and social services so as to enable governments to pay back some of this mountain of debt to the bankers. This so-called politics of austerity has become emblematic of the political economy of the West since 2008, and I believe it is symptomatic of a general decline in the sovereignty of nation-states in today's post-Westphalian environment, wherein transnational capital and corporations rule.

The recent international rise of nativist populism, though it stems from the genuine grievances listed above, constitutes a weaponisation of public resentment that can be used by the ruling economic elite to demolish what remains of democratic institutions.

The rising economic inequality in the world today is so extreme that even the World Economic Forum—a club of the world's richest and most powerful people—in its meeting in Davos in 2014, took up the theme of inequality (as did the 2015 World Social Science Forum in Durban). It was noted that, ironically, inequality is now hurting the profits of the great corporations and their financiers.[9] The WEC acknowledges that

> *extreme economic inequality is out of control and getting worse. From Ghana to Germany, South Africa to Spain, the gap between rich and poor is rapidly increasing. At the World Economic Forum last year,* Oxfam released a statistic that made headlines*: 85 rich individuals held more wealth than the poorest half of the world's population—3.5 billion people. Now, a year later, that figure has become more extreme—80 billionaires have the same amount of wealth as the bottom half of the planet. Across rich and poor countries alike, this inequality is fueling conflict, corroding democracies and damaging growth itself.*[10]

Thomas Piketty's research traces the causes of this inequality to the modus vivendi of contemporary capitalism.[11] My own research on political elites in Indonesia further shows, by way of example, how the accumulation of massive private fortunes is predicated upon and reinforces a monetised system of political decision-making and media access.[12] This transforms democratic states into mere theatres of public participation.

Given that elites always have existed, it seems to me that the rise of extreme inequality under neoliberalism at this time can be described as a crisis of civilisation, similar to the dying moments of the Roman Empire according to some historians.[13] On one hand, it reflects a failure of the new transnational elites to behave in a civilised manner, which is not helped by the fact that they lack any mandate or incentive to pursue the common good. On the other hand, there is a failure by formal political elites to impose limits on these transnational elites, which has a range of causes. One is the general loss of state sovereignty, but another prime cause is a lack of international political cooperation. This is due to the fact that the world's most powerful states have failed to fulfil the hope of the 90s: they have not ended their puerile power struggle for hegemony over the global sandcastle. This moral failure is culminating in a "Cold War II," now unfolding in the form of proxy wars in Syria, Iraq, Yemen and Ukraine, and reflected also in tensions rising in the South China Sea. All this despite the fact that this time around there is no credible ideological divide between the contestants. This renewed international conflict, together with the fictional alternative held up by populist propaganda, distracts from the real issue, namely that transnational capital and corporations must be contained by law. This is possible only through global political cooperation and joint action by nation-states.

If what we face is thus in essence a crisis of political leadership, the crisis needs to be addressed as such. One classic approach would be to try and civilise the new transnational

money elite, the other to forcibly remove privileges from this elite and establish a fairer world system across all levels through political reform. In either case, this begs the same vexed question: what principle can serve as a foundation for building not an elitist New World Order but a New Earth for All?

"How can we liberate ourselves from the psychological stranglehold of an entrenched modernist culture, predicated on conspicuous consumption and fierce competition for material resources between atomised and alienated individuals?"

2. The Solution

Our current crisis of leadership is utterly unique in one important way: It is happening at a time when climate change and a host of other environmental challenges demand of humanity that it must unite or perish in an unintended and unmanageable, natural catastrophe that continues to escalate and will become irreversible by the end of this century. Our present era has come to be known as the Anthropocene, the time when humanity became the defining force influencing the planetary ecosystem on which humanity in turn utterly depends. We have gained such a generalised capacity for 'Mutual Assured Destruction' (MAD), we no longer require nuclear weapons for this purpose.

Ironically, this crisis is generating tremendous and unprecedented pressure for humanity to awaken. Never was it truer what physicist Leonard Euler once said: "The pull of the future is stronger than the push of the past." We humans are now called upon to turn this crisis into an opportunity by becoming conscious creators of our collective future.

The effect on the human psyche of being forced to adopt a long-term, geological perspective in the making of current decisions is hard to fathom. It creates new normative pressures, born of a new cognisance of interconnectedness across time and space, across generations and species. This perspective puts dynamite to the fortifications of the narrow liberal individualist worldview that has been a hallmark of modernity. The danger we now face of a global environmental collapse, in essence, is the cumulative effect of the mass pursuit of individual happiness at the expense of other people and nature, which this worldview has promoted. Now we must choose: wake up or descend into political and ecological chaos?

With this ominous incentive firmly in place, how can we liberate ourselves from the psychological stranglehold of an entrenched modernist culture, predicated on conspicuous consumption and fierce competition for material resources between atomised and alienated individuals? In my opinion, the foundation for such a change will be the cultivation in public discourse and subsequent internalisation of a renewed spirit of compassion.

What I mean by compassion is not the kind of aid mentality Baudrillard rightly criticises. I would define compassion as unreserved empathy for the suffering of others, leading to immediate comprehensive action pursued relentlessly until the cause of suffering is

permanently removed, insofar as it is humanly possible to alleviate the suffering of other sentient beings, human or non-human. Compassion is not compatible with a condescending attitude that establishes a hierarchical division between the compassionate subject and the object of its compassion. Rather, it is based on recognizing the fundamental equality and interconnectedness of all living beings, so that the sublimely compassionate person is compassionate in the firm knowledge that 'I am thou'.

"Let us all set an expectation that would-be leaders need to show a commitment to work hard to dispel fear in the face of crisis, and to seek tirelessly to instil in us all the trust and compassion needed to fulfil our shared destiny."

Empathy is a prerequisite for compassion that does not need to be cultivated. It is a natural human tendency and the key to the evolutionary success story of the human species (for a detailed discussion, see Reuter 2017).[14] Psychologist Dacher Keltner recently noted that

> *the term "survival of the fittest," often attributed to Charles Darwin, was actually coined by Herbert Spencer and Social Darwinists who wished to justify class and race superiority. […] Darwin's work is best described with the phrase "survival of the kindest." Indeed […] Darwin argued for "the greater strength of the social or maternal instincts than that of any other instinct or motive." In another passage, he comments that "communities, which included the greatest number of the most sympathetic members, would flourish best, and rear the greatest number of offspring".*[15]

What needs to be cultivated therefore is not more empathy but more public acknowledgement that the human condition is intrinsically a social condition, a condition of mutual interdependence. As the South African CEO of Greenpeace, Kumi Naidoo, puts it

> *"We have been completely led astray by big capital and an aggressive marketing industry that has convinced us that happiness comes from big houses and big cars—when in reality our facile acceptance of the gulf between the rich and the poor is a fundamental statement of our absolute spiritual poverty."*[16]

In other words, our natural reflex of empathy is being blocked at a cultural level because public discourse has been telling us incessantly that we do not deserve empathy from others, that we have no right to food, health care and education, that the user must pay, and that 'the age of entitlement is over', to quote the ultra-right-wing former Australian prime minister Tony Abbot. Such cultural conditioning seeks to break the link between natural empathy and active compassion.

Compassion is generally built on, but also exceeds, empathy. In Buddhism, for example, compassion (*karuna*) is said to be based on a combination of empathy (*maitri*) and 'skilful

means.' Active compassion entails the pursuit of an intelligent, wisdom (*prajna*)-based course of action aiming to permanently address the suffering we witness in other sentient beings and in ourselves.

While adherence to prescriptive moral codes, derived from religion or secular philosophy, inspires some individuals to extraordinary acts of compassion, and while the revitalisation of traditional moral discourses may help to challenge the litany of egotism and greed fed to the public by today's hegemonic neoliberal culture industry, this may not be enough. That is because the skilful means to solve today's large-scale challenges at national and global levels are yet to be developed. Resting on the natural foundation of empathy, these skilful means will need to take the form of a new political organisation—based on a radical entente across all lines of control, the setting of compassionate common goals, effective T2S (transformation to sustainability) pathways, and cooperative implementation strategies. This is the essential architecture that will be needed for manifesting systemic compassion and a new capability for 'mutual assured survival' (MAS), now and into the future.

There needs to be an act of mutual universal reassurance, a 21st century New Deal, that is, a renewal of our trust in each other, so we can achieve human security through active compassion on a systemic level. To restore hope and find inspiration we could do worse than remind ourselves of the achievements and (missed) opportunities of the 1990s.

Freeing ourselves from the negative dialectic of the past is difficult but possible. The wonderful work of the Truth and Reconciliation Commission in South Africa, as described by Archbishop Desmond Tutu in his book, *No Future Without Forgiveness*, can provide some inspiration on this issue.[17] South Africa has shown the world that violent injustice can be defeated through reconciliation, though the road is long and many challenges remain. What we need is a global systemic reform toward a compassionate and just political economy that serves the sustainable pursuit of the common welfare of the 99.9%, and not the distorted interests of a powerful egotistic minority and their coterie of hangers-on.

Today people everywhere fear their needs will not be met in a forthcoming crisis unless they now grab all they can, including what rightfully belongs to others if need be. We must give each other reassurances so as to halt this descent into fear and chaos. We need a pact on climate change mitigation beyond the 2015 Paris agreement. We need a pact on sustainable development that guarantees the implementation of the UN's SDGs, and perhaps most urgently we need a pact on global food security.

Those who feel strong and independent today must know that compassion is not linear, but a circle; it is not a gift but an exchange. What goes around comes around. For example, given the unpredictable local effect of climate change and the impossibility of picking winners or losers in advance, we must act now to assure each other that no one shall be left behind, no matter how rough the ride may become. To achieve this, let us all set an expectation that would-be leaders need to show a commitment to work hard to dispel fear in the face of crisis, and to seek tirelessly to instil in us all the trust and compassion needed to fulfil our shared destiny.

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Notes

1. Fukuyama, Francis 1989. 'The End of History?' *The National Interest* (16): 3–18, p. 1. https://www.embl.de/aboutus/science_society/discussion/discussion_2006/ref1-22june06.pdf
2. Perkins, John 2004. *Confessions of an Economic Hit Man*. San Francisco: Berrett-Koehler Publishers.
3. Baudrillard, Jean 1992. *The Illusion of the End*. Stanford: Stanford University Press, p. 66.
4. Rothkopf, David 2008. *The Global Power Elite and the World They Are Making*. New York: Farrar, Straus and Giroux.
5. Orwell, George 1974 [1949]. *Nineteen Eighty-Four*. London: Penguin, p. 155-156.
6. Warren, Elizabeth 2006. 'The Middle Class on the Precipice: Rising financial risks for American families.' *Harvard Magazine.* https://www.harvardmagazine.com/2006/01/the-middle-class-on-the-html
7. Butler, Josh 2016. 'Australia's Anti-Terror Laws Savaged By Human Rights Watch.' *Huffington Post*, online. Posted 21 October 2016 .http://www.huffingtonpost.com.au/2016/10/20/australias-anti-terror-laws-savaged-by-human-rights-watch_a_21587751/
8. Chomsky, Noam 2012. How the Magna Carta became a Minor Carta. Article for Tom Dispatch, part of the Guardian Comment Network, 25 July 2012. http://www.theguardian.com/commentisfree/2012/jul/24/magna-carta-minor-carta-noam-chomsky; and Maximus, Fabius 2013. *Obama repeals Magna Carta, asserting powers our forefathers denied to Kings*. Online article, 7 February 2013. http://fabiusmaximus.com/2013/02/07/obama-kill-list-assassinate-48595/
9. Gensler, Lauren 2017. 'Rising Income Inequality Is Throwing The Future Of Capitalism Into Question, Says World Economic Forum.' *Forbes Magazine*, online at: https://www.forbes.com/sites/laurengensler/2017/01/11/world-economic-forum-income-inequality-capitalism/?sh=662af3295dd3
10. Byanyima, Winnie 2015. *Inequality and climate change: 2015's challenges*, p.1. WEF website, posted Jan 19 2015. https://www.weforum.org/agenda/2015/01/inequality-and-climate-change-twin-challenges-of-2015/
11. Piketty, Thomas 2013. *Le Capital au XXIe siècle*. Paris: Éditions du Seuil.
12. Reuter, Thomas 2015. 'Political Parties and the Power of Money in Indonesia and Beyond.' *TRaNS: Trans-Regional-and-National Studies of Southeast Asia*. Vol. 3 (2), July 2015, pp. 267-278. http://dx.doi.org/10.1017/trn.2014.23
13. Scheidel, Walter & Steven J. Friesen 2009. 'The Size of the Economy and the Distribution of Income in the Roman Empire.' *The Journal of Roman Studies*, Vol. 99, (2009), pp. 61-91.
14. For a detailed discussion of this point, see: Reuter, Thomas 2017. Principles of Sustainable Economy: An anthropologist's perspective. *Cadmus* – Journal of the World Academy of Art and Science, Volume 3(2, May 2017):131-149.
15. Cited in: Seppala, Emma 2013. *The Compassionate Mind*. Association for Psychological Science, online, p.1. Posted May/June 2013. https://www.psychologicalscience.org/observer/the-compassionate-mind
16. Cited in: Tattersall, Amanda 2015. 'A billion acts of courage on 3.6 planets: A conversation with Greenpeace's Kumi Naidoo.' *The Conversation*, online. Posted 28 August 2015. http://theconversation.com/a-billion-acts-of-courage-on-3-6-planets-a-conversation-with-greenpeaces-kumi-naidoo-46393
17. Tutu, Archbishop Desmond 1999. *No Future Without Forgiveness*. New York: Random House, Doubleday.

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Making Sustainability Happen:
The Jena Declaration

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Abstract

The Jena Declaration, introduced below, argues that the SDGs cannot be achieved simply by intensifying the use of established methods and strategies. For a comprehensive transformation to sustainability a fundamental change in strategy is necessary, an approach that builds on the power of millions of citizens and local communities throughout the world and the integrative perspective of the social sciences and arts.

The Jena Declaration (TJD)

We are living in the *Anthropocene*, an epoch when the myriad social and economic activities of nearly 8 billion people dominate and shape the cycles and processes of nature. We are pushing the planet's boundaries to sustain life. The world faces an "omni-crisis" of climate change, biodiversity loss, the COVID-19 pandemic, financial instability, and glaring inequality. These problems are deeply rooted and interwoven, and call for global system-wide transformations towards socio-ecological sustainability.*

What will it take for the world to heed scientists' dire warnings? This question led a group of influencers in the social sciences and humanities to call for global grassroots mobilization to attain the United Nations' Sustainable Development Goals (SDGs) before the 2030 target date. Under the leadership of the UNESCO Chair on Global Understanding for Sustainable Development at Friedrich Schiller University in Jena, Germany, the group launched a public declaration on September 9, 2021. 'The Jena Declaration (TJD)' calls for a new bottom-up approach. Specific recommendations for institutional change are aimed at enabling ordinary citizens around the world to make fundamental changes in the way they live to build a better future for our planet. The approach respects cultural and regional diversities.

Change toward a sustainable and prosperous future for society ultimately requires deep behavioural changes from all 7.9 billion of us, and time is running out. While it is convenient to frame inaction as a crisis of leadership, it is simplistic to expect decisive action on a transformative political agenda without broad support in the electorate. Thus, the question that lies at the heart of the Jena Declaration is: How can large-scale public mobilization bring about transformative change on a global scale?

* I would like to thank fellow founding signatories of the Jena Declaration, Howard Blumenthal, Joanne Kauffman and Benno Werlen, for their detailed comments and suggestions on earlier drafts of this paper.

The dilemma of cultural change resistance has not escaped the attention of the scientific community, but organised attempts to address it have been sadly lacking. One reason for this is that policy advice on climate change and sustainability is dominated by natural scientists and technocrats whose expertise is not social or political change. Addressing this shortcoming, The Jena Declaration (TJD) aims to broaden perceptions of the sustainability dilemma by working in three program streams: the arts, learning and education across all age groups, and community engagement. TJD calls for societal transformation towards sustainability through holistic systemic changes in social, cultural and natural systems, and for solutions to real-world problems based on inclusive co-design and co-production of knowledge.

"TJD points toward necessary changes in human behaviour on a massive scale, and the necessity of redistribution of power so that the world's future is not determined by companies, governments and institutions which favor their own agendas over the needs of sustainable life on earth."

TJD argues the SDGs cannot be achieved simply by intensifying the use of established methods and strategies. A fundamental change in strategy is necessary, an approach that builds on the power of millions of creative people, teachers and students, and local communities throughout the world. Participants argued that faster, more robust progress can and must be made by involving the whole of society, and concluded that the arts, education and civil society need to be mobilized to engage far more people of all ages to understand the issues and their potential for transformational power. TJD points toward necessary changes in human behaviour on a massive scale, and the necessity of redistribution of power so that the world's future is not determined by companies, governments and institutions which favor their own agendas over the needs of sustainable life on earth.

This approach shifts the focus from technical solutions to active engagement by large numbers of people from every walk of life. For example, the budget plan for the European Union's sustainability policy allocates an overwhelming majority of funds to environmental technology, and only a small portion to all other approaches, such as education or civil society engagement. Conversely, TJD calls on all relevant political and scientific institutions and funding agencies to use the United Nations Decade of Action (2020-2030) as an opportunity to put the cultural dimension at the centre of sustainability programs. This would entail:

- Working across generations and heritages to ensure that people of all ages and backgrounds are engaged and their concerns heard from the start;
- Reforming sustainability research, funding, and organization to reflect these new priorities;
- Redesigning curricula and educational institutions to focus on global societal priorities and how to address them;

- Complementing solution-oriented top-down strategies with inclusive, regionally differentiated bottom-up approaches that address specific local and regional issues;
- Strengthening collaboration across all areas of research so that technical knowledge is deeply integrated with social engagement.
- Including the arts, humanities and social sciences and, especially, local stakeholders in the co-creation of culturally and regionally diverse sustainable lifestyles.

While there have already been numerous local initiatives, there has never been a serious attempt to coordinate local action throughout the world. The UNESCO Chair on Global Understanding for Sustainability is thus taking responsibility for launching a coordinated global movement for implementation of The Jena Declaration, in cooperation with local and global partners. To this end, the partners are asking for the broadest possible support. The declaration can be co-signed here. The official kick-off of this movement took place on 9 September 2021 with wide participation by communities and individuals from around the world.

Implementation has now commenced and entails a linking of various partners for mutual support and the launching of model projects across continents. This will be guided by three program lines:

1. Creating

Mindsets, daily routines and habits depend very much on their cultural context. How we do things depends on what they signify to us, how we see the world and our place in it. Much of this context is the result of exposure to imagery, music, stories, journalism, and other types of media. The arts in all their forms are crucial for expanding mindsets, providing a new aesthetic and ethical perspectives on what constitutes good living. TJD thus connects artists from many different orientations for the broadest possible arts movement throughout the world, in every language. By connecting arts with scientific understanding, we are building a new vision of transformation and sustainable life on earth.

2. Learning

Students are the second pillar of action. The current generation of students—who are 1 in 4 of the people now on earth—are curious, and increasingly concerned about global practices related to sustainability, environment, social structures, equality, equity, cities, public health, climate change, and more. They are learning much of this on their own, through media and from one another. Caught in 20th century traditions and thinking, schools are woefully behind. Recognizing the growing popularity of individual learning among students, we plan to reach students through one path and the teachers through another, in parallel. But our efforts cannot end with students finishing secondary school, or their tertiary education. We must think of every person on earth as one who learns. Everyone needs to know as much as possible about sustainability. Otherwise, they will not understand, and they will not care. The Jena Declaration is thus a global movement encouraged by students and teachers, powered by a massive shift in priority from 20th to 21st century thinking about priorities and desired outcomes.

3. Connecting

Community groups, NGOs, charities, faith-based organizations, youth organizations, and many other groups in this sector bring local citizens together to engage for the common good. Much of this activity is already underway, but little of it is coordinated on a global scale. As a result, most groups are unaware of their peers and their potential collaborators. TJD will assist and extend this solidarity and knowledge exchange with an online platform that will connect local civil society actors with local government and business for joint engagement in achieving global sustainability. Flagship projects will increase awareness of the vital role of local inter-sectorial cooperation in social transformation. Extensive media coverage will help everyone understand that they are part of a massive global movement.

The Jena Declaration was inspired by an October 2020 conference held in the historic town of Jena, Germany. Jena is the birthplace of libertarian thought and the Romantic movement in the early 19th century, and home to pioneering thinkers in sustainability (Carl V. Carlowitz) and ecology (Ernst Haeckel). Organized by the UNESCO Chair on Global Understanding for Sustainability, Prof. Benno Werlen, in partnership with the International Council for Philosophy and Human Sciences (CIPSH); the World Academy of Art & Science (WAAS), the Club of Rome; Academia Europaea, the Social Sciences and Humanities Research Council of Canada; the International Geographical Union and other partners, the conference asked these urgent questions: Why are the UN's 17 SDGs unlikely to be achieved by 2030, if ever? And what can we, as educators, influencers, activists, artists, and students do to turn the situation around and claim success?

We have begun. We hope you will join us.

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Our Common Agenda:
Review of Five UN75 Sustainability Reports

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Our Common Agenda: Report of the Secretary-General (UN, Sept 2021, 84p)

Our Future Agenda: A Vision and Plan for Next and Future Generations (UN, Sept 2021, 54p)

Shaping Our Future Together: Listening to People's Priorities for the Future and Their Ideas for Action (UN, Jan 2021, 92p)

The Future We Want, The United Nations We Need (UN, Sept 2020, 94p)

Declaration on the Commemoration of the Seventy-Fifth Anniversary of the United Nations (UN, Sept 2020, 4p)

Abstract

Antonio Guterres warns that COVID-19 is upending our world, threatening our health, destroying livelihoods, and deepening inequality. Six action areas are described—including new ways to work together, a global new deal, new economic measures, and meaningful youth engagement—along with many specific proposals such as a Global Vaccination Plan, a New Agenda for Peace, a UN Youth Office, a Special Envoy for Future Generations, a Summit on the Future, a Futures Laboratory, and a United Nations 2.0 with an expanded Security Council. This review of Our Common Agenda briefly mentions four earlier UN75 reports—a vision for next and future generations, two surveys of people's priorities for the future, and a Sept 2020 General Assembly Declaration outlining 12 Commitments—and a comparison with some of the proposals in Our Common Future, the 1987 "Brundtland Report" from The World Commission on Environment and Development.

1. Background

The 75th birthday of the United Nations, as well as the COVID-19 pandemic, prompted the 2020 **Declaration** that "much more remains to be done," and that "*the 2030 Agenda for Sustainable Development is our roadmap and its implementation a necessity for our survival.* Urgent efforts are required…we are not here to celebrate…we are here to take action…we are here to ensure the future we want, and the United Nations we need." The Declaration outlined 12 Commitments: leave no one behind, protect the planet, promote peace and prevent conflicts, abide by international law and ensure justice, place women and girls at the center, build trust, improve digital cooperation, upgrade the UN, ensure sustainable financing, boost

partnerships, listen to and work with youth, and be prepared to reduce risks and make our systems more resilient. It ended with a request for the Secretary-General to report back with proposals *to advance our common agenda and to respond to current and future challenges* (italics added).

> *"Now is the time to correct this "glaring blind spot" in how we measure prosperity and progress; new measures are needed to complement GDP, which fails to capture the human and environmental destruction of some businesses."*

This statement was followed by **The Future We Want,** which synthesized five data streams involving >1 million participants, and influenced the UNOG-WAAS Dec 2020 virtual conference on ***Global Leadership for the 21st Century***, with >800 participants in 16 working groups, on the need for leaders to keep up with a changing world. **Shaping Our Future Together**, through surveys and dialogues, reported on hopes and fears of >1.5 million people from all 193 UN Member States. In light of the COVID-19 pandemic, the immediate short-term priority globally was universal access to health care. The number one long-term priority was more environmental protection.

Our Future Agenda responded to an invitation by the Secretary-General for young people to have a seat at the table as "designers of their own future." Eight Next Generation Fellows, soliciting proposals from young people worldwide, called for a "New Deal for a New Generation," in that people under 30 account for nearly half the world's population and >10 billion people are likely to be born during the rest of the 21st century. The New Deal considers the right to learn what is needed to thrive, secure and meaningful work, building back greener after the pandemic, transformative shifts, access to justice, rebuilding the social contract, supporting youth-led movements, rejuvenating multilateralism with a UN Youth 2030 strategy, a Global network of Youth Envoys, an annual High-Level Meeting for Young People, and more.

2. The Secretary-General's Report

All of these participative streams flowed into **Our Common Agenda**, which begins with a statement by António Guterres that "*We are at an inflection point in history*" with "COVID-19 upending our world, threatening our health, destroying economies and livelihoods, and deepening poverty and inequalities." (italics added). The Secretary-General goes on to state that "humanity faces a stark and urgent choice: a breakdown or a breakthrough," with the two scenarios clearly outlined on pages 15 and 16. *Breakdown* involves more deadly pandemics, an uninhabitable planet, erosion of human rights, growing poverty, new types of warfare, underfunded public goods, etc. *Breakthrough* for a greener and safer future requires sustainable pandemic recovery, healthy people and planet, global

temperature rise limited to 1.5 °C, commitment to human rights, quality education and lifelong learning, ecosystems preserved for future generations, addressing illicit financial flows and tax avoidance, and more.

> *"A stronger, more networked, and inclusive multilateral system is needed, anchored within the UN."*

The agenda for action is "designed to accelerate the implementation of existing agreements, including the Sustainable Development Goals." Six action areas are described:

- *Global Solidarity*: finding new ways to work together, which must include a global vaccination plan against COVID-19, and bold steps to address "the triple crisis of climate disruption, biodiversity loss, and pollution destroying the planet";
- *Renewed Social Contract*: for rebuilding trust and embracing a comprehensive vision of human rights, delivering better public goods, national listening consultations in all countries, and equal participation of women and girls;
- *Ending the War on Science*: this "infodemic" is plaguing our world; all policy and budget decisions should be backed by science and expertise, with a global code of conduct to promote integrity in public information;
- *Measuring Economic Progress*: now is the time to correct this "glaring blind spot" in how we measure prosperity and progress; new measures are needed to complement GDP, which fails to capture the human and environmental destruction of some businesses;
- *Young People and Future Generations*: now is the time to think for the long term and encourage meaningful youth engagement; a Declaration on Future Generations is proposed, as well as a regular Strategic Foresight and Global Risk Report;
- *Effective Multilateralism*: a stronger, more networked, and inclusive multilateral system is needed, anchored within the UN; also proposes a new agenda for peace, stronger involvement of all relevant stakeholders, and a Global Digital Compact.

Many other proposals are made, including:

- A Global Vaccination Plan to at least double vaccine production and ensure equitable distribution, while tackling the serious problem of vaccine hesitancy;
- A High-Level Advisory Board led by former heads of state and government, to identify global public goods where governance improvements are most needed;
- A dedicated UN Youth Office in the Secretariat, to integrate current activities of the Office of the Envoy on Youth and serve as an anchor for coordinating UN youth matters;
- A Summit on Transforming Education in 2022 to build on the forthcoming work of the International Commission on the Futures of Education and help children and youth to catch up on learning lost during the pandemic and champion lifelong learning for all;

- A Special Envoy for Future Generations to support work on long-term thinking and foresight, giving voice to the unborn by the Trusteeship Council;
- A New Agenda for Peace focusing on reducing strategic risks, reshaping responses to all forms of violence, investing in prevention and peacebuilding, supporting regional prevention, and putting women and girls at the center of security policy;
- A Global Acceleration Plan for Gender Equality, promoting gender parity in all spheres, repeal of all gender-discriminatory laws, more support for women entrepreneurs, etc.
- A Futures Laboratory to conduct impact assessments, report on megatrends and catastrophic risks, and strengthen strategic foresight and anticipatory decision-making "that values instead of discounts the future";
- A Summit of the Future to forge a new global consensus on what our future should look like and what can be done to secure it;
- A World Social Summit in 2025 on universal social protection floors and health coverage, adequate housing, decent work, and education for all;
- Measures to assist and protect the internally displaced, to end statelessness by closing legal loopholes, and putting the Global Compact on Refugees into practice;
- The UN in a networked world as a Convener that builds consensus around priorities and strategies and supports networked approaches across different thematic pillars including peace and security, development, climate, human rights, and humanitarian response;
- An Advisory Group on Local and Regional Governments, to strengthen collaboration with sub-national authorities and enhance inputs at the UN;
- Strengthened governance of our global commons and global public goods through new resolve and ways of working together—"an increasingly urgent task";
- A new strategy by the Global Compact Office to promote its 10 principles, expand its network, raise ambition, and achieve stronger private sector engagement, accountability, and partnerships for a broader range of businesses;
- A reformed international tax system responding to the realities of growing cross-border trade and investment, and the need to reduce harmful tax competition;
- A dedicated focal point for civil society actors to contribute at country and global levels, and at UN meetings; "we will regularly map and monitor our relationships with civil society across the system to ensure better engagement";
- The UN Office for Partnerships will build on possibilities for greater inclusion, with digital solutions and hybrid meetings allowing more diverse actors to participate without limits of visas, funding, travel, time zones, and language;
- To make the UN more effective, "we will develop new capabilities that promote agility, integration, and cohesion across the system";

- A "United Nations 2.0" by expanding the Security Council, streamlining the resolutions of the General Assembly, turning the Trusteeship Council into a multi-stakeholder body to tackle emerging challenges, strengthening the Economic and Social Council, and expanding the role of the Peacebuilding Commission to more settings.

3. Comments and Comparison with 1987

An exhilarating and exhausting array of proposals, new and old, general and specific, already underway and still far away, easy and difficult, and practical and idealistic. An index would have been helpful for navigation, although there are several useful diagrams and charts.

" If we are indeed at "an inflection point in history"—a plausible truth—and the urgency of 2021 UN concerns is even more urgent, we must have far more than the usual calls for multilateralism and agendas for action."

Even more important, a major publicity campaign is needed. This reviewer in the United States follows current affairs in magazines, newspapers, and television shows and has yet to see any notice of this important report or its predecessors. Perhaps it has made a splash in some other countries, perhaps critical reviews are forthcoming, or perhaps they have been missed. **Our Common Agenda** deserves attention and debate through in-depth reporting, supportive or critical op-eds, special issues of major journals such as *Foreign Affairs,* and appearances of supporters on television talk shows. Even paid advertisements by supportive businesses and NGOs, if necessary. So far, to my knowledge, nothing but silence.

The 2021 Report of the Secretary-General evokes both similarities and differences with **Our Common Future,** from The World Commission on Environment and Development (Oxford University Press, 1987, 383p). The Foreword by Chairman Gro Harlem Brundtland stated that this "urgent call" by the UN General Assembly asked the Commission to formulate "a global agenda for change." She continued that "after a decade and a half of a standstill or even deterioration in global cooperation, I believe the time has come for higher expectations, for common goals pursued together, for an increased political will to address our common future."

Chapters described "urgent steps" needed for limiting population growth to 6 billion people, food security, disappearing species and threatened ecosystems, energy efficiency, hazardous industrial and agricultural chemicals, pollution of orbital space, urbanization, managing the global commons, the nuclear threat, growth of the "arms culture", expanding the traditional notion of "security", poverty, inequality, and sustainable development that does not compromise the ability of future generations to meet their needs.

Proposals included a return to multilateralism ("our most urgent task today"), enhancing financial flows to developing countries, controlling costs of air pollution, the potential of

renewable energy sources, producing more with less, major advances in ocean management requiring global regimes, the evolution of the Antarctic Treaty System, managing "the interrelationships between security and sustainable development" and military vs. environmental security, establishing a Global Risks Assessment Program, increasing the role of the scientific community and NGOs (often "an efficient and effective alternative to public agencies") and a UN Program of Action on Sustainable Development.

In sum, what is new in the 2021 report is concern about COVID-19 and future pandemics, global warming, Arctic meltdown, growing numbers of migrants and refugees, an "infodemic" of disinformation, the need for a new global deal, and emphasis on youth, gender equality, and foresight. But no mention is made of the human population—now approaching 8 billion people and expected to grow to 10 billion later in this century as habitable habitats decline—and many of the "urgent" concerns in 1987 are still with us, some worsening and some improving.

If we are indeed at "an inflection point in history"—a plausible truth—and the urgency of 2021 UN concerns is even more urgent, we must have far more than the usual calls for multilateralism and agendas for action, exploring the Five Ps: more called-for Partnerships and Participation, as well as ample Publicity, empirical Pedagogy for 21st-century life, and Political engagement at all levels pressing for even half-serious counter-arguments. There are none, including the so-called conservative "we can't afford it"; rather we cannot afford not to.

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Youth Groups:
A *Quick Look* at International Organizations

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Abstract

Much of the hope for resolving our world's greatest problems is vested in the power of youth. Since the adoption of the UN Security Council Resolution 2250 on Youth, Peace, and Security (2015), the recognition of young people as a positive force for preventing and resolving conflict and building sustainable peace has gained significant momentum. What is it that makes today's youth more capable of introducing radical and sustainable social transformation than the youth of the previous generations? It is not merely that the new generations are more capable of coping with the VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) world, but the urgency of overcoming the risks that our planet and our society are facing, has become so obvious that the younger generations are pushed to act for their security, here and now. Also, the technological environment and the widely spread skills have given youth unprecedented opportunities for interaction and collaboration like never before. Contemporary youth are the first globally networked generation in history with communication capabilities that allow an almost unlimited flow of information and widespread promotion of global causes. Collective participation of young people in international projects through youth groups provides possibilities for intergenerational dialogue that is necessary to both adjust current institutional frameworks and make room for new ones. Apart from intergenerational projects that empower youth to play an essential role in creating rapid social change, such as the UN projects in the last few decades, youth have also established themselves as crucial actors in global social movements which in their own right intend to bring about effective change in our highly fragmented and disparate world. Youth organizations inspire interaction among people from around the world, with a purpose of bringing about common well-being. For the new generation, this process ought to start at an early age and become a life-long quest to be nurtured as a social obligation. The article lists a selection of 22 dedicated international organizations, many of them youth-led, which have been addressing the Sustainable development issue.

1. Introduction

Keeping in mind tectonic changes taking place on the global political scene, it is essential to give voice to those groups of young people, determined to stand in the front line, speak out

and ask for an inclusive, responsible and just future that leaves no one on the verge of human indignity and survival. These people are ready to understand, educate and find common avenues of shared thoughts, ideas, and solutions from which new global cooperative systems can be constructed with an aim to sustain the well-being of all humanity in the long run.

Recognizing the efforts of these young activists, we give them the strength to become leaders whose vision of leadership will be built on the foundations of inclusiveness, equality, solidarity, ecological consciousness, and acceptance of diversity as complementarity and other such great values. If empowered and recognized in time, their efforts will give shape to valuable political movements and even political theories in the future, and moreover, they will be able to mobilize, educate and empower masses of young people sharing the same vision all around the world.

Nevertheless, the power of these movements can be unpredictably powerful. All the way from the "Civil Rights Movement" in 1965 up to the Arab Spring in 2010, youth movements have played a significant role in social transformation. Like never before in history, these youth movements have the capability to connect, mobilize and promote global causes worldwide and bring about effective and positive change in our highly fragmented and disparate world.

UNICEF recently reported that nearly half of the world's children face an extremely high human security risk due to the dangerous effects of multiple planetary crises, especially climate change and its consequences, including poverty and lack of access to food, clean water, and appropriate education. Most youth organizations' activities are centered upon the realization that the security of their future is uncertain. Youth are endangered and thus have a right to ask for radical change.

Listed below is a selection of 22 international organizations whose activities have been meaningfully addressing some aspect of security and/or sustainability. Some are explicitly youth-led (1, 2), some are designated youth units within larger organizations (4, 5, 6, 11, 21), while others appear to have an intergenerational leadership (3, 8). A few are broadly advancing the full spectrum of Sustainable Development Goals (4, 6), while most others have a more specialized focus on climate (5, 15, 16), human rights (7), peacebuilding (12), ecovillages (13), reforestation (17), energy (18, 19), global development (20), gender equity (21), or green schools and communities (22). Some are arms of the UN (4, 5, 6) or affiliated with the UN in some other way (3, 7, 8, 13).

1. **Fridays For Future** (2018, everywhere; https://fridaysforfuture.org) International movement of school students who skip Friday classes to participate in demonstrations to demand action from political leaders to prevent climate change and to push the fossil fuel industry into transition to renewable energy. The movement is active in more than 150 countries and has involved hundreds of thousands of protestors in thousands of strikes. Their demands: keep global temperature rise below 1.5 ^{o}C, create a safe pathway towards it compared to pre-industrial levels, ensure climate justice and equity for everyone, follow the Paris Agreement, unite behind the science, and listen to the best currently available science. The movement is led by Greta Thunberg, the Swedish environmental activist widely known for challenging world leaders. The long list of

Country Contact Information includes Fridays For Future Antarctica, with 30 photos of concerned penguins!

2. **Extinction Rebellion** (2018, London; https://rebellion.global/about-us) International, decentralized, and "politically non-partisan" movement of "ordinary" people, "using non-violent direct action and civil disobedience to persuade governments to act justly on the Climate and Ecological Emergency" and minimize the risk of social collapse. They have three demands for governments: 1) Tell the Truth, to declare a climate and ecological emergency; 2) Act Now to halt biodiversity loss and reduce greenhouse gas emission to net-zero by 2025; 3) Go Beyond Politics, with governments to be led by the decisions of a Citizens' Assembly on climate and ecological justice. The directory of >1,200 national and local groups includes XR Antarctica.

3. **Global Youth Action Network** (1999, New York; https://gyan.tigweb.org) Alliance of youth-led and youth-serving organizations in more than 190 countries. It acts as an incubator of global partnerships and a global information provider. Various levels of membership are open to any organization that supports young people and rejects hatred or violence in any form. More than 1,200 organizations have applied for GYAN to date. In 2004 it was granted affiliate status with the UN Department of Public Information, and in 2005 Special Consultative Status with the UN Economic and Social Council (ECOSOC).

4. **Youth2030** (2018, UN/New York; www.unyouth2030.com) A "system-wide strategy" that acts as an umbrella framework to guide the UN and its partners to work "with and for young people" across its three pillars, namely peace and security, human rights, and sustainable development.

5. **YOUNGO** (2009, UN/New York; http://www.youngo.uno) The "Youth Constituency" of the UN Framework Convention (UNFCCC), comprising 200 youth NGOs and 5,500 individuals and serving as an official conduit for youth participation in the UN climate talks as well as a global network of youth and youth-focused organizations working on climate change. YOUNGO runs various Working Groups (Access & Disabilities, Agriculture, Information, etc.) on specific aspects of climate change within the UNFCCC, with the aim to ensure that perspectives of future generations are considered in multilateral decision-making processes.

6. **SDSN Youth** (n.d., UN/New York; www.sdsnyouth.org) A program of the UN Sustainable Development Solutions Network (2012) aiming to educate young people about the SDGs and provide opportunities for them to pioneer innovative solutions to address world challenges. SDSN creates platforms for youth to connect, collaborate and integrate their ideas and perspectives into national and regional pathways for implementation of the 17 SDGs. More than 2,600 youth community leaders have been involved in 127 countries.

7. **World Youth Alliance** (1999, New York; www.wya.net) Aims to build a global coalition of young people able to defend the dignity of the person through education, culture, and advocacy. It trains youth to advocate for human dignity and develop creative solutions

to real-world problems in the areas of international policy, human rights, economic and social development, global health, and education. WYA works at international institutions such as the United Nations, the European Union, and the Organization of American States, bringing young people to international conferences and into dialogue with ambassadors, diplomats, and political leaders.

8. **Junior Chamber International** (1944, Chesterfield, Missouri; https://jci.cc/) A non-profit NGO of young people between 18 and 40 years old, with members in 124 countries, and regional or national partner organizations in most of these countries. Their mission is to motivate and empower youth to become active citizens, take responsibility for global challenges in their community, identify targeted and sustainable solutions, and build the courage to address the most critical challenges of our time. JCI has consultative status with the Council of Europe, UNESCO, and the UN Economic and Social Council.

9. **Generation Waking-up** (2010; Oakland CA; www.generationwakingup.org) Rallies high school and college-age young people for the "Great Turning". Its projects (*Wake up, Thrive* and *Amplify*) include social entrepreneurship ventures, community projects, and advocacy campaigns intended to awaken, empower and mobilize youth to build a more sustainable and secure world. More than 150 young people have been trained as WakeUp facilitators, and thousands of young people in Australia, Brazil, China, Germany, Egypt, India, Kenya, Mexico, Romania, the UK, and the US have participated in GW programs.

10. **Youth Fusion—Abolition 2000 Youth Network** (1995; New York; https://www.youth-fusion.org) Worldwide networking platform for young people in the field of nuclear disarmament, risk-reduction, and non-proliferation. Their focus is on youth action and intergenerational dialogue, building on links between disarmament, peace, climate action, sustainable development, and 'building back better' from the COVID-19 pandemic. Led by the principles of the Abolition 2000 Founding Statement and as part of the Abolition 2000 Network, they seek the total abolition of nuclear weapons. Youth Fusion organizes forums and events for inter-generational dialogue to build cooperation for more effective policy action.

11. **International Student/Young Pugwash** (2001, no location info; https://isyp.org/) Global interdisciplinary network of students and young professionals concerned with the interface of science, technology, society, and ethics, committed to the ideals of the Pugwash Conferences on World Affairs and the 1955 Russell-Einstein Manifesto that led to the founding of PCWA in Pugwash, Nova Scotia, Canada. ISYP is led by a youthful Executive Board with the responsibility to coordinate and expand the global network, engage a new 'peace generation', and organize regional and international events such as the annual conference.

12. **United Network of Young Peacebuilders** (1989, The Hague; https://unoy.org) A network of 123 youth organizations in 69 countries active in the field of peacebuilding and conflict transformation, "united around the vision of a world free from violence." Besides core programs on capacity building, advocacy, and campaigning, 'UNOY

Peacebuilders' supports members with networking possibilities, sharing information, a pool of resource persons, carrying out research, fundraising, international working group meetings, training seminars, and global regional conferences. Along with Search for Common Ground and the UN Peacebuilding Support Office, it co-chairs The Global Coalition on Youth, Peace, and Security (https://www.youth4peace.info/About_GCYP).

"Youth movements are one of the strongest catalysts of social evolution and future change. To accomplish a much-needed system transformation, however, it will be necessary to continually assess the most effective forms of action in dealing with security and sustainability issues."

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13. **Global Ecovillage Network** (2006, Findhorn, Scotland; www.ecovillage.org) Provides education and collaboration opportunities for young people to co-create a peaceful and regenerative culture. It has consultative status with the UN-ECOSOC and functions as a network of autonomous regions (in Latin America, Oceania & Asia, North America, Africa, and Europe), coordinated through the NextGen International Youth Council that meets on a monthly basis. Recent projects include Youth Social Innovation for Resilient Communities, Youth-Led Societal Innovation for Resilience, and the Zambia Greening Schools.

14. **Earth Guardians** (1992; Boulder, Co, https://www.earthguardians.org/) Provides the platform, resources, and collaborative opportunities necessary to elevate youth voices and strengthen the positive impact they are having in their communities and in the world. Their mission is to inspire, inform, engage and invest in diverse youth "to be effective leaders in the environmental, climate, and social justice movements…fueling the cultural shift toward a regenerative future." They claim to have trained 22,000 youth leaders, and educated 600,000 youth in more than 61 countries with over 450 action campaigns.

15. **Climate Cardinals** (2020; McLean, Virginia; www.climatecardinals.org) Seeks to make the climate movement more accessible to non-English speakers, especially young people. This youth-led movement was begun by high school senior Sophia Kianni, an Iranian-American climate activist, and named after the state bird emblem of Virginia to suggest migration of ideas. The organization has over 8,000 volunteers who are translating and sourcing climate change information into over 100 languages. The initiative spans 41 countries and has reached over 500,000 people with over 500,000 words of climate information translated to raise awareness and mobilize various groups.

16. **Protect Our Planet Movement** (2016, New York; https://thepopmovement.org) Aims to empower youth to participate actively in addressing climate change. It seeks to provide a common platform for youth associations, organizations, and young individuals

to share their action-oriented efforts, integrate activities, mobilize collective efforts, and utilize knowledge in addressing the threat of climate change. The POP Movement has developed projects across the US, Australia, Africa, Asia, and Europe.

17. **Plant for the Planet** (2007, Munich, Germany; https://a.plant-for-the-planet.org) Global children and youth initiative with over 88,000 ambassadors in 75 countries campaign for a massive reforestation drive to "plant a trillion trees." The organization has trained over 91,000 children and youth activists in 1,608 academies in 75 countries. As Climate Justice Ambassadors, they give speeches to adults to inspire them to combat climate change, prevent a temperature rise above the critical 1.5 °C limit, reduce fossil fuel emissions, reduce meat consumption, and more. They emphasize the great impact that planting trees has on society, including new economies based on reforestation that can generate billions of dollars for national and local economies and small farmers.

18. **Young International Solar Energy Society** (1954, Freiburg, Germany; www.ises.org) Serves as a social and professional network for young members of ISES working on photovoltaic and other forms of renewable energy. Through knowledge sharing and community-building programs, it aims to help its global members provide the technical means for an accelerated transformation to 100% renewable energy. Meetings and social events are organized at the biennial Solar World Congress and at some regional solar energy conferences.

19. **European Youth Energy Network** (2021, Brussels; https://youthenergy.eu) Seeks to put youth at the heart of energy transitions. The organizations active in this network educate youth on energy and sustainability, and represent and engage them in energy and climate policymaking. EYEN works closely with the European Commission's Director-General for Energy. It has been serving as Regional Focal Point for Europe on behalf of the SDG#7 Youth Constituency of the UN Major Group for Children and Youth since May 2020. Currently, EYEN's main project is OpenPolicy Europe, a tool that allows youth to get a better understanding of how the policymaking process works, who is involved, what policies are in place where, and how one can get involved.

20. **Youth Challenge International** (1989, Toronto; www.yci.org) Designs global development solutions that create conditions for youth to realize meaningful employment and overcome the health, environmental, and inequality challenges they face. It aims to equip young people with the tools, experience, knowledge, and networks to build sustainable livelihoods, taking into account market realities.

21. **Young Leaders Program of Women Deliver** (2007, New York; www.womendeliver.org) With an emphasis on sexual and reproductive health and rights, this program strives to elevate the work of young people for gender equality (SDG#5). Through Digital University coursework training, a Speakers Bureau, grants for short-term advocacy projects, workshops, and conferences, it connects young advocates with the platforms, people, and resources needed to amplify their influence. WD's Young Leaders Program has engaged more than 1,000 youth advocates under the age of 30 from more than 148 countries to date.

22. **Green Schools Alliance** (2006, New York; www.greenschoolsalliance.org) GSA mobilizes schools to help transform markets, policy, education, and behavior, increase community resilience, empower students, and prepare citizens to think and act in new and creative ways. It initiated the Sustainability Leadership Commitment, a call to action for schools and districts to help in reducing the climate and ecological impact, educating and engaging communities, and transforming the present institutional culture. By signing the Commitment, green schools and districts pledge to develop and implement a comprehensive climate action plan to achieve carbon neutrality. *GSA's work has reached 48 US states and 91 countries, with 579 signed commitments representing more than 8,000 schools.*

2. Conclusion

The growing mobilization of young people and their desire to have a say in local, national, and international policies and programs have caught the attention of the international community and policymakers. Successful intergenerational partnerships at the UN and in other regional and national settings necessitate the inclusion of young people, especially in projects dealing with sustainable development, human rights, peace, and security. Young people are now recognized as crucial agents of change in the UN 2030 Agenda.

Youth movements are one of the strongest catalysts of social evolution and future change. All of the movements listed above are built around a strong set of values advocating a responsible, greener, and just future for humankind. To accomplish a much-needed system transformation, however, it will be necessary to continually assess the most effective forms of action in dealing with security and sustainability issues.

3. Recommended Reading

The Climate Crisis is a Child Rights Crisis. Foreword by Fridays For Future. New York: United Nations Children's Fund (UNICEF), August 2021, 28p. Introduces the first Children's Climate Risk Index, ranking countries on how vulnerable children are to environmental stress and extreme weather events. Some 1 billion children—nearly half of the world's children—live in countries that are at an "extremely high risk" from impacts of climate change (especially in Africa). In sum, "The climate crisis is a child rights crisis."

Adults Are Failing Us on Climate, by Greta Thunberg, Adriana Calderon, Farzana Faruk Jhuma, and Eric Njuguna, *The New York Times* (Op-Ed), 22 Aug 2021, SR8. The four FFF authors of this UNICEF report foreword write that "For children and young people, climate change is the single greatest threat to our futures. We are the ones who will have to clean up the mess you adults have made, and we are the ones who are more likely to suffer now."

Young People's Voices on Climate Anxiety, Government Betrayal and Moral Injury: A Global Phenomenon, by Caroline Hickman and Elizabeth Marks (both at University of Bath), *The Lancet* Preprint, 7 Sept 2021, 23p. A survey of 10,000 young people aged 16-25 in 10 countries, finding 59% very or extremely worried about climate change (84% at least

moderately worried), >45% said that feelings about climate change negatively affected their daily life and functioning, and >50% feeling anxious, angry, powerless, and guilty.

Youth Climate Action in the United States, by Melanie Meunier (Univ of Strasbourg), *E-rea* [Online], 18 Feb 2021. Based on ample bibliography on climate change and youth activism (O′ Brien et al., Tilly & Tarrow, Jenkins et al., Gamber-Thompson, Kaplan, The Climate Group, Climate Academy etc.), this article explores the process of formation of youth groupings that starts with transforming "fear and frustration into positive action" and develops into three different levels of activism: disruptive, i.e. fighting against the system (since 1970s), dutiful, i.e. fighting inside the system (since 1990s) and dangerous, i.e. subverting the system by proposing new visions of society (contemporary).

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Repurposing Economies Towards Life

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Abstract

On a global scale, the COVID-19 pandemic is far from over; we experience forest fires of frightening magnitude, floods and storms scare many people to evacuate their homes. Not only do young people say that time is running out, the latest IPCC 2021 report paints a depressing picture of our collective future and many scientists are increasingly warning of the many negative path dependencies that deteriorate our planetary life-support system. But at the fringes of the mainstream neoliberal economics with mindsets of extraction and wealth accumulation are prototypes of future economies that need to be connected and amplified. This article suggests that the paradigm shift has begun: we need to help it gain speed. Individually, but also on a global scale, people should become aware of their responsibility for a livable future. Without a fundamental change in the global and local economic operating system, the chances to restore, improve and maintain life may be impossible. It is time to go mainstream with repurposing economies. This requires transformation literacy: shifting mindsets, transforming systems and designing transformative change processes. Many authors have suggested approaches to economies of the future. What runs through all of these different approaches for a new economic operating system is the focus on social and ecological vitality. "Life economies" as an overarching term reflects most appropriately what a future can look like that operates in accordance with the needs of people and the planetary life support system. The article shows that across the variety of proposals six guiding principles for life economies come through for which prototypal actions and change processes already exist. None of the set of principles will bring about the breakthrough alone, all need to come together. The article concludes that life economies can become the strategic driver of an attitude of care and contribution.

1. Introduction: Future Pathways are opening

Billions of years of life on our planet have brought about a rather strange species, one that loves and longs to be alive, yet is equipped with the capacity to destroy each other and seriously diminish the planetary life support system—the very basis on which this species developed. Humankind seems to have become oblivious to the fact that we are nature, that we are just a stage in the ongoing process of evolution. Many protagonists of an unlimited confidence in technological development would identify themselves as the most advanced species that evolution ever produced, so advanced that in moments of omnipotence some would claim that they could steer evolution into a different direction. And indeed, this is what

humankind is doing at the moment, but probably by no means with the envisaged outcomes. Before technological advancements will have enabled earthly people to settle on Mars, the human impact on our blue planet, manifesting as climate change, irreversible biodiversity loss and ecosystem destruction, will remind us that we are not separate from nature, we are part of it. It is time to become humble partners of evolution and not its enemies.

> *"The doctrine of free markets with constant economic growth is still enshrined as governments' main goal and manifests in the tyranny of GDP increase as the single most important metric for societal progress."*

On a global scale, the COVID-19 pandemic is far from over, we experience forest fires of frightening magnitude, floods and storms scare many people to evacuate their homes. Not only do young people say that time is running out, the latest IPCC report* paints a depressing picture of our collective future and many scientists have been warning of "Hothouse Earth" scenarios (Steffen et al. 2018) for years. The Club of Rome's famous report "Limits to Growth" (https://www.clubofrome.org/blog-post/herrington-world-model/) has been acclaimed and ridiculed at the same time—the fate of many people with serious foresight. Only a few years after the publication of "Limits to Growth", hence 45 years ago, in the subsequent and less famous Club of Rome publication written by the Club's founder Aurelio Peccei titled "The Human Quality", the author suggests that a human revolution is necessary to change the downward spiraling developments. He wrote: "Concerted worldwide action supporting and strengthening this revolutionary movement is indispensable" (Peccei 1977, page 189). Yet today, hopefully not too late, the Kassandras and visionaries are not alone anymore.

A recent survey of the Global Commons Alliance† shows that overall, 83% of global respondents are ready to become planetary stewards to safeguard the global commons. It is a lesson in humility that people in so-called developing economies are more prepared to protect nature and climate, e.g. Indonesia (95%), South Africa (94%), China (93%), than those in so-called advanced economies, e.g. Japan (61%), Germany (70%), and the United States (74%). These results tell us it is time to remember that the strange species has so many other capacities—caring for life, its fellow human beings and the wealth of natural beauty. It can join a call to learning how to collectively steward humankind's pathways towards a regenerative civilization, one in which it becomes the norm to better understand and partner with evolution. It is time to embed technological advancement with the humility that stems from reverence for our blue planet.

This article suggests that **the paradigm shift has begun: we need to help it gain speed**. Individually, but also on a global scale, people should become aware of their responsibility

* See https://www.wri.org/insights/ipcc-climate-report, accessed 11th September 2021

† See https://globalcommonsalliance.org/news/global-commons-alliance/global-commons-g20-survey/ accessed 10th September 2021

for a livable future. While pathways may divert and strategies need to be negotiated, it is clear that the revolutionary shift is daunting for many actors, change-makers and decision-makers: **without a fundamental change in the global and local economic operating system, the chances to restore, improve and maintain the life we know may be impossible**. This means **it is time to go mainstream with repurposing economies**.

2. A New Narrative is Emerging

The advent of the 17 Sustainable Development Goals in the year 2015 marked one important turning point, because for the first time in human history uniquely Global Goals had emerged in arduous rounds of negotiations. People may not be able to memorize all 17 goals, and there might be inherent contradictions in the objectives and indicators between the different goals, but they serve the purpose of making many more people aware of the fact that we live on this one planet together and need to move into the future collaboratively. What they have done is contribute to a global consciousness that paves the way for new insights. In order to gain speed in transformative efforts, it is important to identify what slows down or even blocks transformative efforts, or in a systems language, what keeps the old system in place, like drums beating in the background luring people into dancing according to rules that continue to deteriorate our planet. The number one element that beats such drums is our current economic system, its focus on unsustainable growth by all means, its orientation towards extraction instead of contribution, and its rules of the game that are so difficult to escape. The growth focus of the prevalent neoliberal economic framework works at the expense of nature's integrity and social cohesion. It is based on extractive mindsets and centuries of natural and human resource exploitation (Lovins et al. 2018). The overarching story of today's outdated drumbeats is simple, but powerfully ingrained in all global systems: its narrative suggests that the sole goal of the economy and of businesses is to generate financial wealth; that the freedom of the individual (person or corporation) is the primary societal value; that government should be small, protecting individuals and their private property; that markets need to be free and unrestricted, and will self-organize for the benefit of all. This current operating system assumes that resources are unrestricted. It is oblivious to planetary limits and carefully balanced geo-bio-physical life-support systems. The idea of commons that all people (and other living beings) should have access to and care about is absent. On the contrary: in the current economic system the commons can be appropriated and used for individual benefit (Bollier and Helfrich 2012; Ostrom 2009). Governments that guide or steer markets for the sake of the common good are seen as the problem; the doctrine of free markets with constant economic growth is still enshrined as governments' main goal and manifests in the tyranny of GDP increase as the single most important metric for societal progress (Hoekstra 2015; Costanza et al. 2014).

The global COVID-19 pandemic made the flaws of the current system transparent and reframed, at least the role of the public sector as a guardian of people's overall health. The pandemic raised additional questions, including how we as humans will live in greater harmony with nature in the near future. Changing the parameters of our economic system is high on the agenda, not only for the visionaries anymore, but for all those future-oriented

actors that have understood that the current framework of economics pushed us deeper into dangerous trajectories. Hence, it is time to gather the many existing approaches to new and sustainable forms of economies, and combine the promising elements. If there is a need to accelerate the speed of transformations, the key element is to look at human capacities, innovations, initiatives and collaborations that are already functioning as laboratories of the future. Connecting these fractals of a livable future would greatly advance what is so urgently needed: transformation literacy as the capability to steward transformative change across institutions, nations, cultures.

Could we rearrange our economic system in a way that it stops extracting life from the planet and instead regenerates and fosters our life support systems?

3. Repurposing Economies Towards Life Enhancement

The future needs a global economic architecture that focuses on the conditions for life on our planet and the vitality or aliveness of all living beings, including human beings, our societies, our technologies, and our knowledge. Truly well-functioning economies operate within the planetary boundaries (Rockström et al. 2009; Cornell 2012). This means, first of all, that we must understand the basic principles of what "well-functioning" will mean in future: **Economies must be life-serving.** Individual and collective well-being must be thought of together, as must be the interplay between people and nature. The core task for the future, then, is to recognize the conditions for interwoven social, economic, and ecological patterns and to continually and collaboratively ensure that these patterns enhance the vitality of local and global systems (Kuenkel 2019).

Yet, we are not starting from scratch. Many authors have suggested approaches to economies of the future that address the fundamental role of humans in the Anthropocene as responsible actors within the limits of planetary boundaries. There are concrete proposals for implementation available, some conceptually inspiring, others encouraging in practice. Nobody may have found the holy grail, but all contribute pieces to the puzzle that can ultimately create the revolutionary shift Peccei was hoping to see. Inspiring approaches to future economies include the Economy of Common Good (Felber 2018), the commons as approach to economies (Bollier and Helfrich 2012), an Economy in Service to Life (Lovins et al. 2018), the Mindful Economy (Magnuson 2007), the Sufficiency Economy (Bergsteiner and Dharmapiya 2016), the Caring Economy (Folbre 1995), the Wellbeing Economy (Fioramonti 2017), the Feminist Economy (Jacobsen 2020), the Circular Economy (Ellen MacArthur Foundation 2013), the Doughnut Economy (Raworth 2014), Economics of Arrival (Trebeck and Williams 2019), Mission Economy (Mazzucato 2021), Sustainable Economy (Reuter 2017), and many others.

What runs through all of these different approaches for a new economic operating system are themes that focus on social and ecological vitality or on what can be captured as **systems aliveness—the capability of human and ecological systems to develop, maintain and renew vitality and resilience in mutual consistency with smaller and larger systems** (see also Kuenkel and Waddock 2019):

- First, future economies include ecosystems and social vitality in their balance sheets. They incorporate boundary values of economic activity more clearly, and adopt a stewardship approach to the global and local commons.
- Second, future economies take care of fair distribution of resources, income and prosperity. Value creation includes collective value and is guided by contribution rather than extraction.
- Third, future economies are linked to forms of governance and political participation in such a way that economic development can be contextually adapted as well as negotiated and shaped in terms of individual and collective vitality.
- Fourth, future economies need thriving markets, but do not adore the unrestricted primacy of markets with little governmental steering. Instead, the role of trusted and legitimized governments is one of stewarding people's and planetary health.

4. Transformation Literacy

These four reorientations which reflect the underlying commonalities of the many suggested approaches to future economies are fundamental. Although it is clear to many that the urgent turnarounds the world needs need to be underpinned by such fundamental shifts, it takes deliberate effort to move new economic approaches from the fringes of the current economic operating system to its mainstream core process. This requires an integrated and strategic approach to transformative change. Indeed, it requires concerted action by many different actors at the same time, prototyping, testing, experimenting and innovating around different and new ways of operating in an economy that serves life. It calls for *transformation literacy*—the knowledge and capacity of collectives of individual and institutional actors to collectively steward the repurposing of economies effectively together across institutions, societal sectors and nations. The three elements of transformation literacy, as captured in table 1, are equally important—the level of mindsets, the level of systems, and the level of process—and need to be addressed at the same time (Kuenkel et al. 2020).

4.1. Mindset-shifts

Acknowledging the intrinsic relationship between people and nature (or the acceptance that we are part of nature, part of this planet) is at the core of transformations to life-enhancing economies. Unleashing the potential of human agency in stewarding economic actions away from the primacy of extraction and from dangerously altering the planetary life support system towards vital ecological and social systems must underpin transformations to a new economic architecture. Taking a stance for a collective responsibility in safeguarding the future integrity of our planet has many practical consequences, which range from changing consumption patterns to making green investments, from protecting ecosystems to expanding renewable energy systems. It also means to listen more carefully to ancient human worldviews with reverence for Mother Earth and integrate such perspectives with post-industrial rational worldview. Mindset-shifts change the way in which reality is perceived, they are the first

building block of *transformation literacy* towards new economic approaches that are life-enhancing.

> *"The understanding of what gives Life to systems is part of the foundation of a new economic architecture."*

4.2. System Awareness

Much has been said about the need to adopt a systemic perspective to the great transformations that lie ahead of humankind (Capra and Luisi 2014; Kuenkel 2019). While a systems view of the world may not yet be mainstream, it is clear that in the last 20 years, recently accelerated by the global COVID-19 pandemic, many more institutional actors and decision-makers have adopted a systemic approach, even though what it means in practice has multiple different connotations and interpretations. Yet, the Newtonian worldview that sees the universe as a machine-like entity to be controlled and exploited, is still dominating the hope for technological advancements, for example, to climate change challenges. Many actors favor solutions that keep the economic systems functioning as is, but add "green" solutions, rely on technological progress or hope that the digitalization will sort out some of the threats. But despite 100 years of systems science, there is a lot we do not know yet. Identifying what keeps the current extractive economic system in place, which power structures keep it going and which levers could be used to change this downward spiraling operating system, is paramount. It is time to explore how systems must operate in future so that economic actions can deliver wellbeing on a healthy planet. Hence, systems understanding is the second building block of *transformation literacy* towards new economic approaches that are life-enhancing.

4.3. Process Competence

Many global change-makers highlight that the current decade is decisive for humankind's ability to halt destructive trajectories and safeguard planetary boundaries. They call for an unprecedented speed of transformation. This means not only making courageous turnaround decisions, but also orchestrating and implementing successful transformative change processes at all levels of the global society. Knowledge and competence for transformative change have increased and have been practiced in multi-actor partnerships, cross-sector-collaboration and global alliances (Kuenkel et al. 2020; Kuenkel 2019; Kuenkel and Waddock 2019; Loorbach et al. 2016; Goepel 2016; SITRA 2016). These approaches are inspired by systems view of the world and by mindsets of interconnectedness, and they need to find avenues into the very structures that hold the old system in place. The successful design of transformative change requires new knowledge about the patterns and dynamics of human interaction systems, of collective leadership and collective stewardship. Process competence is a skill so essential for *transformation literacy* that it cannot be delegated to specialists. It is needed at scale. Designing transformations is a task that, in future, many decision-makers and change agents need to master.

Table 1: Building Blocks of Transformation Literacy
(adapted from Kuenkel et al. 2020, copyright by the author)

MINDSET 	An understanding of the world's complex interconnectedness and relational co-construction in which human agency acknowledges its co-evolutionary pathways with each other and the Earth.
SYSTEM 	An understanding of future systems that build regenerative civilizations and safeguard life support systems in their political, social and economic aspects.
PROCESS 	An understanding of the processes required to bring about transformations, hence the collective competence to design and implement effective large-scale transformative change processes at multiple levels with multiple stakeholders.

5. Guiding Principles for Life Economies

Even with new mindsets, system understanding and process competence, shifting the global economic operating system is not an easy task, yet it needs to happen much faster than most realize. For the exponential acceleration we need there is a lot to learn from the innovative transitions that are already taking place at the fringe of the mainstream systems: responsible value chains, circular strategies, sharing economies, value-oriented banking, regenerative communities, or decentralized renewables, among many others. The modification and remodeling of our economic system have already begun. The essence of *transformation literacy* is the ability to knit the new into the old—a lesson that can be learned from evolutionary processes (Alexander 2005). Repurposing our economies means building the new while the old is still in operation, insert strings and prototypes for a better way of operating into the existing structures, organizations and procedures. But this does not mean renovating the old, and saving the neoliberal doctrine of capitalism. It means taking repurposing economies seriously and connecting and scaling those economic approaches that work towards regenerating, maintaining and safeguarding Life on Earth.

Can we, together, acknowledge useful elements of the outdated economic system, amplify the promising new economic approaches, connect the underlying principles and re-purpose economies so that they take us and our planet into the future?

It is important to note that as much as there is agreement about the necessity of a fundamental shift in economics, the future may require a plurality in approaches. A new economic architecture needs to leave space for different manifestations, as long as they follow the principle of enabling and maintaining vital systems of life, and as long as they are based on the idea that humankind and nature are inextricably linked. *Life economies* as

an overarching term reflects most appropriately what the future can look like. Economies which are in service to *Life* operate in accordance with the needs of the planetary life support system, the planetary boundaries respectively. They are guided by multiple frameworks that safeguard the commons and balance the wellbeing of individuals and the collective. Hence, the understanding of what gives *Life* to systems is part of the foundation of a new economic architecture (Kuenkel and Waddock 2019). There are many attempts to define principles, properties or criteria that should guide a new economic system: they intend to not only halt the current negative path dependencies, but redirect the goal of economic activities away from what is perceived as an outdated growth paradigm towards a contribution to *Life*. Quite a few authors have entered this new territory in thinking and suggested principles that should guide new economic approaches (Fath et al. 2019, Parker & Ragnarsdottir 2021, Fullerton 2015, Raworth 2014, Wellbeing Economy Alliance*; Future Fit Foundation Guide, 2019; Lovins et al. 2018; Mazzucato 2021, Jackson 2016, Korten 2015, Kelly 2012, Jacobs 2002, Jorgensen et al. 2015, Leading4Wellbeing 2017). Although the level of principles suggested differs and the authors highlight different aspects of what it would mean to operate in economies in service to Life, the underlying commonalities are striking. Across the variety of proposals, six *guiding principles* for *life economies* can be identified that reflect operational aspects guiding the functioning of future economies. The guiding principles for *life economies* shown in Figure 1 and summarized in Table 2, are fundamental propositions that govern behavior in future economies. Such guiding principles inform and inspire, but they do not prescribe action. Moreover, if one looks closely at the many approaches and activities that are already happening around new ways of operating, it becomes clear that most of these guiding principles are already used. Pieces of the puzzle and building blocks of future economies are already in existence, prototyped, tested in real laboratories or at least conceptualized. These building blocks are happening across the entire global and societal spectrum, in corporations and small and medium-scale companies, in governments and municipalities, in the non-profit sector driving projects and in research and education. If the many moves in the right direction that already exists could be connected with each other and scaled, we would come closer to shifting the entire system.

Table 2: Guiding Principles, Features and Practices

1. Regeneration and Circularity	Production and consumption cycles are socially embedded and have net-zero negative impact or regenerate life-support systems.
2. Localization and Contextuality	Economic activities are contextually adapted and strengthen regional cycles.
3. Adaptability and Innovation	Learning mechanisms foster life-enhancing technological and social innovation

* See https://weall.org/

4. Transparency and Accountability	Reporting mechanisms and metrics create awareness of and track systems' vitality
5. Participation and Distribution	Governance and distributive measures guide wellbeing for all and ensure gender and social equity.
6. Regulation and Contribution	Voluntary and obligatory agreements safeguard commons and contribute to the vitality of social and ecological life-support systems.

Figure 1: Six Guiding Principles for Life Economies can be scaled to shift the entire system.

5.1. Regeneration and Circularity

Summary: **Production and consumption cycles are socially embedded and have net-zero negative impact or regenerate life-support systems. This carries through all products and value chains, but also applies to services. Ecosystems are cherished, social systems cultivated.**

Regeneration and circularity most often refer to the ecological flow of resources and materials. They need to be produced and consumed so that either waste is turned into new products, the use of products has no waste, or consumed products are biodegradable. Prototypal approaches are, for example, cradle-to-cradle approaches; circularity of materials; biodegradable products; zero-waste approaches; carbon-neutral strategies; net-zero strategies; regenerative investments; circular cities; national circular economy roadmaps, regenerative finance; and many more. As part of these principles, nature is seen as a guide for production and consumption in its regenerative capacity and circularity, but also in the limitation of usage, reusage and maintenance. Prototypal approaches that incorporate nature's wisdom are regenerative or organic agriculture; agroecology; nature conservation and ecosystem restoration; soil management; forest protection and reforestation; rewilding; allocating land portions for nature and national parks; nature-based solutions; land and resources entrusted, not-owned; solidarity agriculture; valuation of ecosystem services; carbon-capture in land management; regenerative and renewable energy systems; or responsible agricultural value chains. Yet, regeneration and circularity also refer to social systems: they need to be constructed in a way that social services, care work, arts and culture as well as services to the society are not only recognized, but valued as indispensable elements of regeneration and mutual support that enhances the vitality and resilience of societies. Prototypal approaches are care economy approaches, social entrepreneurship; service to society; reproductive activities valued; or arts and culture support. Although still far away from becoming mainstream, the global trend to integrate these principles in government strategies is undeniable. Prototypal actions are city-based or national Circular Economy roadmaps (SITRA 2016; MacArthur Foundation 2013), country-wide renewable energy strategies; citizens' energy cooperatives; policies for the advancement of regenerative agriculture or the protection of biodiversity and natural habitats. Only few of these approaches integrate the second element of societal care, as for example Feminist Economy (Jacobson 2020) and Caring Economy (Folbre 1995) as fundamental. Arts and culture, today, in life economies, are acknowledged as a crucial link between their culturally diverse societal regenerative effects and economy.

5.2. Localization and Contextuality

Summary: **Economic activities are contextually adapted, locally negotiated and strengthen regional cycles. Globalization and regional cycles are appropriately balanced. Economies are responsive to cultural value systems.**

Localization and contextuality acknowledge the potential of local or regional economic cycles (including what is still today framed as the informal sector). They not only thrive on cultural diversity, but also connect people in networks of mutually beneficial relationships. Future economies are locally embedded and adjusted to local needs. Prototypal approaches

already exist in the form of locally embedded economic cycles; regional bio-economies; community-based economic entities; shared ownership (cooperatives); from ownership of goods to sharing products; or locally governed commons. Globalization has not only had negative effects and massively contributed to an understanding of the world as a whole, global value chains with exploitative working conditions, high waste production, high energy usage for logistics, or resource depletion have become negative trajectories that localization and contextuality can counteract. Humankind has always traded across the world, and will do so in future, but *life economies* will require showing the true costs of resources and logistics, and calculate the internalization of costs into products. Global value chains will continue to operate, but in a responsible fashion with trusted relationships, and still strengthening regional economic cycles. Prototypes heading in this direction are responsible commodity value chains, healthy balance between small, medium and large economic entities; strengthening of small-scale farmers and small producers; inclusion of weaker and marginalized communities.

5.3. Adaptability and Innovation

Summary: **Learning mechanisms foster life-enhancing technological and social innovation. Cross-institutional learning takes place locally as well as globally. Governments and corporations invest in life-enhancing innovations.**

Adaptability and innovation refer to human inventiveness in future economies, to the capabilities for excellence and the creativity of social and technological innovations. Prototypal approaches exist already in the form of regenerative product innovation; zero-waste technologies, carbon-capture methodologies that are nature-based; guided technological innovation; digitalization technologies that support regeneration and circularity. Innovation and adaptability nurture an aspect of the free-market doctrine that is worth keeping—the commitment to quality and the role of healthy competition to achieve it. Despite the current ignorance of markets towards environmental and social impacts, the saying that the market rewards mastery is valid. Prototypal approaches can be found in resource efficiency; quality standards; valued social innovation; social entrepreneurship; impact investing; business purpose oriented towards value for societies and ecosystems. In future economies, product quality will have the additional meaning of including net-zero impact on the environment if not a positive contribution. The question, 'is what we invent life-enhancing'? will guide market freedom and inventiveness. *Adaptability* as a principle refers back to the way economies embed individual, collective, societal and global learning mechanisms, because these determine the capability to adjust pathways.

5.4. Transparency and Accountability

Summary: **Reporting mechanisms and metrics create awareness of and track systems' vitality. Societal progress indicators include a variety of aspects that measure social and environmental wellbeing. Transparency and accountability in economies create trust, which in turn reduces the transaction costs of societies.**

Transparency and accountability underscore learning mechanisms. Measuring progress towards life-enhancing economic action is crucially important, and without the responsibility

of economic actors, be they private, public, collectively owned or civil society actors, to reveal their impact on social and environment issues, life economies cannot thrive. Prototypal approaches exemplifying these principles are reporting standards; product traceability; transparent tax systems; or progress measurements that reflect contribution to society and ecosystems. The recent years have seen a proliferation of reporting mechanisms for companies*, environmental or social target setting and accountability procedures†, and demands for the traceability of goods‡. The shift towards life-enhancing economic action requires more than not doing harm or compliance with minimal legal standards. The future will link the license to operate not only for business, but all forms of enterprise (such as public and not-for-profit) to their net positive impact on people and nature. Whether this means, reinvestment of a certain portion of profits into regenerative activities, the legally anchored accountability of enterprises to social or societal development, or fundamental questioning of negative path dependencies of entire profit logic (Hinton 2021). Transparency and accountability coupled with the other principles, is the route to awareness, learning and measuring of progress. Already existing examples of this are wide array of wellbeing and sustainability indicators; the ESG criteria for sustainable investments standards; the internalization of social and environmental costs; business accountability for environmental and social impact; or digitalization that helps create transparency of economic activities.

5.5. Participation and Distribution

Summary: Governance mechanisms and participation in economic decision-making strengthen citizens' and employees' ability to influence purpose and impact of economic actions. Distributive measures and appropriate guidance of markets safeguard societal equality, guide wellbeing for all and ensure gender and social equity.

Participation and distribution are intrinsically linked. As principles they provide a framework for economic activities that guides action, informs behavior. Closing income inequality gap is a matter of political choice-making to influence the freedom of markets and close tax loops nationally and internationally. History has shown manifold since industrialization that heedless free markets do not solve social and environmental problems that they cause (Mazzucato 2021). Market dynamics historically play a role in advancing living conditions, but only if the state plays a strong role in ensuring wealth distribution through market guidance and tax systems. Strong and trusted states with transparent governance are indispensable for life economies (Nair 2018). Not necessarily only tax systems count, it is the good governance, the absence of corrupt economic activities, the support for small and medium-sized enterprises or cooperatives, the advancement of community owned enterprises, or technology guidance for regenerative and renewable production lines, or national strategies for circular economies, which set frameworks that are life-enhancing. Prototypal approaches that already exist are for example, wealth distribution measures;

* Most known is the Global Reporting Initiative. Accessed 3rd June 2021: https://www.globalreporting.org

† Examples are the "Science-based Target Network", "The Capitals Coalition" accessed 3rd June 2021: https://capitalscoalition.org; or the "Future-fit Foundation" accessed 3rd June 2021: https://futurefitbusiness.org

‡ Examples are the Fairtrade Standards or the Forest Stewardship Council, which most paper and packaging companies have already adopted with its traceability requirements.

distributive tax systems; public participation in economically relevant strategies; democratic control of economic development and strategies; participatory corporate governance models; social and racial equity as guide for economic activities. European countries gave evidence to the intrinsically linked connections between low rates of inequality, high democratic participation, environmental regulations and redistributive tax systems (OECD 2013; O'Neill et al. 2018).* In Asia, income inequalities have been rising significantly between 1990 and 2019.† The many implications of the deeply ingrained introduction of neoliberal free market narratives globally have taken its toll on social disparities. However, *life economies* require a serious turnaround for income inequality gaps. Poverty as much as power and wealth monopolization deteriorates the resilience of societies and their capability to respond to future challenges. *Life economies* function best with reliable participation of communities and citizens in the development of economic priorities that serve people and nature. Prototypes that can be scaled, already exist, such as broad access to education and political participation; use of digitalization for participation and tracking of ecosystems and social systems' health; peer-to-peer learning mechanisms; or affirmative action.

> *"Regulatory approaches such as constitutions, laws, standards and regulations are important, but only work if norms and values for economic activities are anchored in narratives of life-enhancement."*

5.6. Regulation and Contribution

Summary: **Voluntary and obligatory agreements (including resource allocations) safeguard commons and contribute to the vitality of social and ecological life-support systems. Constitutional laws as well as business and land management laws reflect the importance of everybody's responsibility for the future.**

Regulation and contribution refer not only to the role of strong and well-governed states that underpin the operating system of life economies. They address the human capability to jointly find agreements that regulate the relationship between the individual and the collective, and between people and the non-human world—a faculty which has always existed in human history, albeit more or less impactful. In addition to the other principles, the currently dangerous trajectories of climate change and deteriorating life-support systems require binding global agreements. The UN Climate Change Conferences are an example of humankind walking in the right direction, although many may rightly argue that both outcomes and implementation are too slow to halt the current negative trajectories. Safeguarding the commons and arriving at new understandings of prosperity require various different and legitimized instruments of regulatory approaches. Prototypal approaches are happening in

* Even in Europe the share of income of the top 10% has risen to 35% in 2019 with increasing tendency.

† For example: share of income of the top 10% has risen in India from 30% to 56%, in China from 28% to 40% Source: https://wid.world/news-article/2020-regional-updates/ accessed 10th September 2021

the discourse around finance systems in service of society and nature; tax incentive systems that safeguard nature, commons, and social equity; regulations and laws that create level playing fields for business regarding human rights, workers' rights and rights of nature; fiscal policies that incentivize regenerative investments; acknowledging rights of nature or the establishment of an ecocide law. However, regulations need to go hand in hand with mindsets and customs of *contribution*. Repurposing business as contributors to societies' and ecosystems' vitality is a mindset shift requiring a farewell to neoliberal doctrines and re-invigorating the human capability to care and collaborate. Regulatory approaches such as constitutions, laws, standards and regulations are important, but only work if norms and values for economic activities are anchored in narratives of life-enhancement. The economic guiding function of strong and democratically legitimized states is to ensure that economies do what their purpose is—to contribute to a quality of life that spans across humankind and includes all species. The core question of 'how do we contribute to life' is a constant orientation and re-orientation. Various manifestations of prototypal approaches are already existing such as embedding future responsibility in constitutional laws, business laws and land management laws; sustainable public procurements guidance; obligatory contribution of economic entities to societal wellbeing and progress; laws governing businesses that include the new life-enhancing and common good purpose; universal basic income; commons dividends; or taxing resources rather than workers or people.

6. Conclusions: Connecting the Future

The guiding principles for *life economies* show that attempts to establish such economies already exist, but need to be amplified and accelerated. Given the deeply ingrained mindsets of extraction and wealth accumulation as the core element of current economies, this is a daunting task, which requires a huge collective effort. All prototypal approaches count, because they engender learning and contribute pieces to the puzzle. Yet, none of the set of principles will bring the breakthrough alone, all need to come together. Future *life economies* need to be responsive to all principles at the same time. Moreover, they need to be connected in intelligent ways and linked to the underlying new narrative of life-enhancement. Enhancing *transformation literacy* means to connect people with the vision of life-serving economies and foster the ability of multiple actors from local to global level to radically change the way economies operate. This may at times be incremental: in the dissemination of emotionally compelling future narratives, and the powerful connection of movements, initiatives and pathways. But it also includes scaling people's ability to design and implement transformative change process that model the future way of operating. Whether climate change and the planetary emergency situations have taken us towards near collapse, or whether the patchwork of promising shifts will move us towards a positive tipping point of transformative change, cannot be answered at this point (Otto et al 2020). What is undeniably clear is that power concentrations including economic power, without checks and balances, have a life-deteriorating effect, hence do not serve *life economies*. They undermine almost all of the above-mentioned principles. Refocusing economic narratives towards life-enhancement suggests a fundamental reorientation towards addressing power imbalances. In addition, the potential for a different future may be growing right there at the

edges of the current system, where the most marginalized people live. Truly focusing on *Life* may reach actors of the global society for whom issues like climate change and planetary emergencies have no meaning, because they struggle with much more apparent problems. Hopefully, not everybody needs to travel into space like Amazon's CEO Bezos did, in order to realize that we need to take care of our fragile planet*, because it is the only home we have so far.† As the Global Commons Alliance survey‡ shows, many people have understood that this immensely beautiful yet tiny fragile planet has a delicate life support system that we need to take care of. Very practically *life economies* can become the strategic driver of an attitude of care and contribution. Scaling these practices will shift the entire system towards a future we can reasonably hand over to the next generation.

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Bibliography

1. Alexander C. (2005). *The nature of order. An essay on the art of building and the nature of the universe*: Book III - A Vision of a Living World, Berkeley, CA: The Center for Environmental Structure.
2. Bergsteiner H. and Dharmapiya P. (2016) The sufficiency economy philosophy process. In Avery G.C. and Bergsteiner H. (Eds.). *Sufficiency thinking. Thailand's gift to an unsustainable world*. Allen and Unwin, Sydney, Australia.
3. Bollier, D., & Helfrich, S. (2012). *The wealth of the commons: A world beyond market and state.* Amherst: Levellers Press.
4. Capra, F., & Luisi, P.L. (2014). *The systems view of life: A unifying vision*. Cambridge: Cambridge University Press.
5. Cornell, S. (2012). On the system properties of the planetary boundaries. *Ecology and Society*, 17(1), r2.
6. Costanza, R., Kubiszewski, I., Giovannini, E., Lovins, H., McGlade, J., Pickett, K. E. & Wilkinson, R. (2014). *Development: Time to leave GDP behind. Nature*, *505*(7483), 283-285. DOI: 10.1038/505283a
7. Ellen MacArthur Foundation (2013) *Towards the Circular Economy*. Ellen Macarthur Foundation, Isle of White, UK.
8. Fath, B.D., Fiscus, D.A., Goerner, S.J., Berea, A. Ulanowicz, R.E. (2019). Measuring regenerative economics: 10 principles and measures undergirding systemic economic health. *Global Transitions 1*. 15e27
9. Felber, C. (2018). *Gemeinwohl-Ökonomie*. Piper.
10. Fioramonti L. (2017) *Wellbeing Economy. Success in a World Without Growth*. Palgrave Macmillan Publishers, Johannesburg, South Africa.
11. Folbre, N. (1995). Holding hands at midnight: The paradox of caring labor. *Feminist Economics* Taylor & Francis Journals, vol. 1(1), pages 73-92, 1995.
12. Fullerton, John (2015). *Regenerative capitalism: How universal principles and patterns will shape our new economy.* Greenwich, CT: Capital Institute. Posted at: http://capitalinstitute.org/wp-content/uploads/2015/04/2015-Regenerative-Capitalism-4-20-15-final.pdf.
13. Future Fit Foundation (2019). Future-fit business benchmark. Methodology guide. Accessed 4th June 2021: https://benchmark.futurefitbusiness.org/
14. Göpel, M. (2016). *The great mindshift*. Cham: Springer International.
15. Hinton, J. (2021). Five key dimensions of post-growth business: Putting the pieces together. *Futures 131*, 102761
16. Hoekstra, R. (2019). Replacing GDP by 2030: *Towards a Common Language for the Well-being and Sustainability Community.* Cambridge: Cambridge University Press
17. International Energy Agency (IEA) (2021). Net Zero by 2050. A Roadmap for the Global Energy Sector. Accessed 4th June 2021: https://www.iea.org/reports/net-zero-by-2050
18. Jackson T. (2016) *Prosperity Without Growth. Foundations for the Economy of Tomorrow*. Routledge, London, UK.

* Source accessed 10th September 2021 https://www.space.com/jeff-bezos-blue-origin-spaceflight-earth-fragility

† See "The Pale Blue Dot". Sources accessed 10th September 2021: https://youtu.be/GO5FwsblpT8

‡ See (accessed 11th September 2021): https://globalcommonsalliance.org

19. Jacobs, J. (2002). *The nature of economies*. Toronto: Vintage.
20. Jacobsen, J.P. (2020) Advanced Introduction to Feminist Economics. *Elgar Advanced Introductions series,* Hobart and William Smith Colleges, US.
21. Jørgensen, S.E., Fath, B.D., Nielsen, S.N.; Pulselli, F., Fiscus, D., Bastianoni, S. (2015): *Flourishing within Limits to Growth: Following Nature's Way,* Earthscan Publisher: New York.
22. Kelly, Marjorie (2012). *Owning Our Future: The Emerging Ownership Revolution*. Berrett-Koehler Publishers.
23. Korten, D., C. (2015). *Change the story, change the future: A living economy for a living earth*. Oakland, California: Berrett-Koehler Publishers.
24. Kuenkel, P. (2019). *Stewarding sustainability transformations: An emerging theory and practice of SDG implementation*. Cham. Switzerland: Springer.
25. Kuenkel, P. & Waddock, S. (2019). Stewarding Aliveness in a Troubled Earth System. *Cadmus Journal*, Volume 4. Issue 1. October, 2019. http://cadmusjournal.org/article/volume-4/issue-1/stewarding-aliveness-troubled-earth-system
26. Kuenkel, P., Kuehn, E., Williamson, D., & Stucker, D. (2020). *Leading Transformative Change Collectively: A Practitioner Guide to Realizing the SDGs* (1st ed.). London: Routledge.
27. Leading4Wellbeing (2017). *Meadows memorandum: A new economic model for a finer future*. https://wellbeingeconomy.org/wp-content/uploads/2019/05/Meadows-Memorandum-with-Cover-V81-copy.pdf
28. Loorbach, D., Wittmayer, J.M., Shiroyama H., Fujino J., Mizuguchi, S.(Ed)(2016). *Governance of Urban Sustainability Transitions. European and Asian Experiences* Springer: Tokyo
29. Lovins H. L., Wallis S., Wijkman A. And Fullerton J. (2018) *A Finer Future. Creating an Economy in Service to Life.* New Society Publishers, Gabriola Island, British Colombia, Canada.
30. Magnuson J. (2007) *Mindful economics. How the U.S. economy works, why it matters, and how it could be different.* Seven Stories Press, New York, New York, USA.
31. Mazzucato M. (2021). *Mission Economy. A moonshot guide to changing capitalism*. Allen Lane.
32. Meadows, D., Meadows, D., Randers, J., & Behrens, W. (1972*). The limits to growth: A report for the Club of Rome's project on the predicament of mankind.* London: Earth Island Limited.
33. Nair, C, (2018). The Sustainable State: The Future of Government, Economy, and Society. San Francisco: Berrett-Koehler.
34. OECD Publishing, & Organisation for Economic Co-operation and Development. (2013). *OECD guidelines on measuring subjective well-being*. OECD Publishing.
35. O'Neill, D.W., Fanning, A.L., Lamb, W.F. et al. (2018) A good life for all within planetary boundaries. *Nature Sustainability*, 1 (2). pp. 88-95. ISSN 2398-9629. https://doi.org/10.1038/s41893-018-0021-4
36. Ostrom, E. (2009): A general framework for analyzing sustainability of social-ecological systems, *Science* 325, 419-422.
37. Otto, I.M., Donges, J.M., Cremades, R., Bhowmik, A., Hewitt, R.J., Lucht, W., Rockström, J. Allerberger, F., McCaffrey, M., Doe, S.S.P., Lenferna, A., Morán, N., van Vuuren, D.P., Schellnhuber, H.J. (2020). Social tipping dynamics for stabilizing Earth's climate by 2050. *Proceedings of the National Academy of Sciences*, *117*(5)*,* 2354-2365. https://doi.org/10.1073/pnas.1900577117
38. Parker, J. & Ragnarsdottir, K.V (2021). Criteria for an 'Economy in the Service of Life'. Draft working paper 36x36 transformation network.
39. Peccei, A. (1977). *The human quality*. Oxford: Pergamon Press.
40. Raworth K. (2018) *Doughnut Economics. Seven Ways to Think Like a 21st-Century Economist.* Random House Business Books, London, UK.
41. Reuter, T. (2017). Principles of Sustainable Economy. An Anthropologist's Perspective. *Cadmus Journal*. Volume 3, Issues 2, May 2017.
42. Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E. F., ... & Foley, J. A. (2009). A safe operating space for humanity. *Nature*, *461*(7263), 472-475.
43. SITRA (2016). *Leading the cycle Finnish road map to a circular economy 2016–2025*. Finland: The Finnish Innovation Fund, Sitra Studie 121. https://media.sitra.fi/2017/02/28142644/Selvityksia121.pdf
44. Steffen, W., Rockström, J., Richardson, K., Lenton, T. M., Folke, C., Liverman, D., ... & Donges, J. F. (2018). Trajectories of the Earth System in the Anthropocene. *Proceedings of the National Academy of Sciences*, *115*(33), 8252-8259, URL: https://www.pnas.org/content/115/33/8252.
45. Trebeck K. and Williams J. (2019) *The Economics of Arrival. Ideas for a Grown Up Economy*. Policy Press, Bristol, UK.

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Environmental Justice and Equity:
An Exploration through the POP Movement

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Abstract

Environmental Justice, defined as "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (EPA), has been the object of study of this article in which it is shown how through the work of Non-Governmental Organizations (NGOs), the problem of inequalities and problems that arise in the day for certain communities and spaces can be revealed. The background shown and the methodology used are the result of numerous activities developed by "The POP Movement" (2016), in collaboration with various organizations, academic institutions, governments, civil society and particularly with young people from various countries around the world, among others: The International Conference and POP Festival for Youth-Led Climate Action; Intergenerational Dialogue on Environmental Justice and Equity; Latin American Dialogue; GlobalMindED Webinar and Truth and Reconciliation Week. The results obtained from the direct participation of the actors are shown through the problem analysis format, which are recorded within the framework of equity, justice, human rights and the environment, during the events. These results have allowed the design of strategies of action to address the identified problem, under the principle of "Youth inspired by Knowledge." These results are manifested in various areas: Differentiated impact of climate change; Role of government in environmental justice, and Role of communities and other sectors. Finally, the conclusions obtained during the development of the various events mentioned are presented and that lead us to the following consideration, "The threat of the climate crisis is the one that looms over the world. And yet, the impact of climate change disproportionately affects some of the lives and livelihoods of the world's most vulnerable and marginalized communities."

1. Introduction

Many areas of climate policy making involve value judgments and ethical considerations. These areas range from the question of how much mitigation is needed to prevent dangerous interference with the climate system, to choices between specific mitigation or adaptation policies.[1] Along with the issues of mitigation and adaptation, issues of equity and justice arise.

> *"The environmental crisis can only be efficiently addressed and solved when each and every one of the deep-rooted social, economic, and political issues around the world is addressed and solved."*

In this regard, environmental justice is an idea that is quickly gaining popularity and acceptance in the global movement against the climate crisis. There is a new wave of awareness about the implications of the climate crisis; one that brazenly points out that communities of color, low-income communities, and indigenous communities among other marginalized and vulnerable* populations are disproportionately affected in different ways by the impact of climate change, environmental contamination, and other anthropogenic activities. Environmental justice aims to not only reduce the suffering borne by vulnerable communities owing to the climate crisis, but also to provide these communities with access to environmental resources.

Different countries face disparate challenges and circumstances, and have different capacities to address mitigation and adaptation. Evidence indicates that outcomes that are considered equitable can trigger more effective cooperation (Fifth Report of Intergovernmental Panel on Climate Change).

2. Methodology

The U.S. Environmental Protection Agency (EPA) has defined environmental justice as *"The fair treatment and meaningful involvement of all people regardless of race, color, national, origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."*[2] The three fundamental pillars or bases of environmental justice are the citizens' right to justice, citizens' participation and the right to truthful and effective information, as well as transparency.[3]

*For the purpose of this paper, by "vulnerable communities", we mean those that have increased exposure to adverse impacts of climate change, increased susceptibility to damage caused by climate change, and decreased ability to cope with and recover from the losses suffered. Climate Change and Social Inequality by S. Nazrul Islam and John Winkel, Department of Economic and Social Affairs, United Nations, 2017 October. https://www.un.org/esa/desa/papers/2017/wp152_2017.pdf

The origin of the ideal of environmental justice, particularly referring to geographic science, although it has a distant history, can particularly be traced back to the last quarter of the 20th century. From then on, expressions of equality, justice and spatial or territorial equity are derived.[4] The concept of territorial justice has a lot in common with that of environmental justice,[5] since both share a similar approach; to value the distribution of benefits and damages generated by human agents—largely considered as externalities between places and population groups, in order to determine if there is serious discrimination or not. The expression of environmental justice emerged in the 1970s under the protection of movements such as the unequal and racially discriminatory spatial distribution of hazardous waste and polluting industries in the United States, at the same time that the EPA was born, clearly responding to issues of environmental justice. Since then, the idea of environmental justice has spread across the world. The contemporary prevalence of the idea can be attributed to the rising awareness that the environmental crisis can only be efficiently addressed and solved when each and every one of the deep-rooted social, economic, and political issues around the world is addressed and solved.[6]

The POP (Protect Our Planet) Movement aims to empower youth to have active participation in addressing issues of climate change through knowledge sharing, capacity building, and climate action. With the belief that climate change will disproportionately affect the most vulnerable communities, the POP Movement conceptualizes, plans and executes various interactive activities where different communities and sectors are encouraged to come together, discuss needs and raise awareness on the challenges of and solutions to climate change. To this extent, the POP Movement works closely with different sectors and communities and organizes various capacity building workshops, international knowledge sharing events, mentorship programs and provides platforms for representatives from indigenous communities, media, academia, the legislative, the government, NGOs, and most importantly, youth to promote cross-sectoral and action-oriented engagement to tackle the threats of climate change and environmental degradation, and to amplify and address pertinent issues related to environmental justice. A number of preparatory meetings are conducted with all the concerned stakeholders prior to most events to understand the most pressing environmental problems, and the challenges and opportunities around addressing them, from the perspective of different sectors, from the perspectives of the communities in question. This is central to participatory approaches that facilitate interventions led by and for communities.

This article will showcase and discuss the voices and narratives of different communities and stakeholders collected through a diverse series of interpersonal discussions, events, and dialogue facilitated by the POP Movement. It highlights the importance of meaningfully engaging communities and building their leadership and participation in initiatives intended for them. Content and narratives regarding environmental justice were collected from a plethora of activities and events organized by the POP Movement, such as its flagship annual event called the POP Festival, Intergenerational Dialogue on Environmental Justice and Equity, Latin American Dialogue, GlobalMindED webinar, Conversations with Sidewalk School and Climate Refugees, and the Truth and Reconciliation Week (TRW). These

initiatives were designed and conducted in close partnership with the POP Movement's invaluable collaborators. To showcase the diverse context of these events, they have been briefly discussed below.

2.1. The International Conference and POP Festival for Youth-Led Climate Action

An inclusive global platform building a movement of youth leading innovation, advocacy and change

The annual POP Festival, organized in partnership with over 90 partners, provides a platform to stakeholders and the youth to come together to share their innovative ideas and local, practical solutions to address the threats of climate change and its impacts. The event sees participation of individuals between the ages 5 and 85 from regions including the United States, Mexico and Latin America and the Caribbean (LAC); Africa and the Middle East; and others.

In a segment in POP Festival 2021, leaders from the African region echoed the climate crisis reality in the region, during a session on climate crisis. Through this session, the youth from the various African countries actively participated in the discussion that emphasized issues related to an unsustainable environment such as floods, droughts, and low income, which are prevalent in the region. The discussion was initiated to better understand the cause and effect, scale of impact, and the mitigation process that could bring about the change.

The POP Festival 2021 also facilitated a conversation with Sidewalk School and Climate Refugees, organizations that work to promote the rights and to look at the populations which are displaced both internally and cross-borders as a result of climate change. The session sought to educate people on the situations faced by asylum-seekers at the US southern border and discuss the climate conditions they mention that they are fleeing.

In addition to this, during a session with some of the indigenous groups of Latin America, the topic of agrochemicals and indigenous health and mental health was discussed. This session discussed the problems and impact of the advance of the agricultural patch and extraction activities in indigenous territories on the health of indigenous communities in general, especially on mental health. Yet another session titled *Native American Youth Climate Leaders* discussed the detrimental environmental effects of the industrialization of territories, and its impact on indigenous communities.

2.2. Intergenerational Dialogue on Environmental Justice and Equity

A platform underscoring the importance of Equity and Justice for Climate Action and Sustainable Development

The event was organized in partnership with the Permanent Secretariat of the World Summit of Nobel Peace Laureates as part of their Youth Program, "Leading by Example". Through an intergenerational conversation between a global leader and youth from various regions such as Latin America, Africa and Asia, the cause of climate justice, gender equality, inclusion, and resilience was discussed. The dialogue underscored the importance of environmental justice, where equity and justice serve as the fundamental premise for climate

action and sustainable development. The session also emphasized the role of leadership, both at the community-level and at higher decision-making level, in promoting inclusive strategies and solutions that uphold the principles of environmental justice.

2.3. Latin American Dialogue

A platform to develop regional youth leadership and promote cross-sectoral engagement

The Second Latin American Dialogue, held in partnership with Dr. Rosalía Arteaga Serrano, on July 2020, served as a platform for representatives from indigenous communities, media, academia, the legislative, the government, NGOs, and most importantly, representatives from among the youth to promote cross-sectoral and action-oriented engagement against the threats of climate change and environmental degradation in the Latin American region. In the buildup to the event, an interactive session was held earlier the same month as a preparatory meeting for stakeholders to understand the most pressing environmental problems in Latin America, and the challenges and opportunities around addressing them, from the perspective of different sectors.

2.4. GlobalMindED Webinar

Strategies for Inclusive, Just, and Equitable Climate Leadership

GlobalMindED closes the equity gap by creating a capable, diverse talent pipeline through connections to role models, mentors, internships for low-income students, and returning adults, First Gen to college and inclusive leaders who teach them, work with them and hire them. The youth panel titled *Youth Panel: Strategies for Inclusive, Just, and Equitable Climate Leadership* aimed to provide a platform to young people to enable them to amplify their voices by sharing personal experiences about inclusive, just and equitable climate leadership, covering different regions of the world such as North America, Latin America and Africa.

Youth leaders shared their experiences on the manner in which certain climate action interventions practised by them were bringing about a positive change in society. These small-scale interventions are turning out to be a step toward bridging the gap in achieving climate equity and implementing climate culture. Global movements led by youth groups, introduction of educational tools at primary and secondary schools, participation of young people from vulnerable and marginalized populations, and acknowledging the knowledge shared by indigenous communities were some of the tools that the youth advocated for.

2.5. Truth and Reconciliation Week (TRW)

Indigenous Communities on Environmental Degradation and Adaptation

The relationship between indigenous peoples and their environment has been eroded due to continuous environmental damage. The panel to discuss environment-based degradation and adaptation with the indigenous communities, organized as part of TRW, sought to understand how environmental damage has been substantial, and has been impacting their communities. The session also focussed on possible adaptation measures that the community

could take at the local level, apart from their dependence on other stakeholders. Lastly, it aimed to promote discussion among the indigenous community and the young people.

3. Results and Analysis

The conversations, dialogues, and discussions that were facilitated during these events served as a means to shed light on crucial issues and solutions with regard to the climate crisis from the perspective of communities themselves. The personal narratives of representatives from among various stakeholders, as well as those of indigenous communities from Latin America and Africa, helped emphasize an irrefutable fact; the impacts of climate change were heavily borne by the most marginalized communities. The discussions also revealed the manner in which governments, communities, and stakeholders could participate in the process of ensuring environmental justice by mitigating the impact of climate change on the most vulnerable and marginalized communities.

3.1. Differentiated Impact of Climate Change

The true extent of the differentiated and disproportionately severe impacts of climate change and anthropogenic activities unfolds itself before the world. One such testament is the case of Timor-Leste, a small developing island state located in Southeast Asia. José Ramos-Horta, the former president of East Timor, noted that Timor-Leste contributes negligible amount of carbon emissions; yet, the island state has faced the repercussions of climate change, and the damage done to the environment. Ironically, while facing the damage that climate change causes, Timor-Leste is yet to benefit from the very same industrialization and extraordinary growth that has brought about the rampant environmental crisis. He also observed that the casualties of the effects of climate change have primarily been the poor, who have very little responsibility for climate change, for environmental pollution and for carbon emissions. He further pointed out *that "We must focus on climate change justice, because there has been too much inequity in the receiving end of suffering consequences of climate change."*

The impact of climate change and anthropogenic activities also disproportionately affects indigenous communities in Africa and Latin America. African leaders reflected about the various human-enabled results of human activities and shared their sentiments about the manner in which these climate calamities are impacting Africa, and other countries, in a similar manner.

Natural calamities such as floods and their long-term effects impact various factors such as health, food security, sources of income, social protection, job security and well-being of communities, creating fragile conditions for the citizens, ultimately forcing them to migrate. The impact of climate change has also affected Africa's agriculture industry, which is the main source of employment in the region. The effects of climate change on the industry are making communities dependent on agriculture vulnerable and impacting their source of income. This leads to the creation of an income gap not only within the communities, but one that also broods nationwide. The impact of climate change on the agriculture industry also affects food security, which is a complex, inter and multisectoral, interinstitutional, inter- and

transdisciplinary system, with profound social, economic and environmental implications, with strong synergies at different levels, and can determine the viability for poor or less developed countries or nations.

> *"People who are fleeing their countries due to climate change are not covered under international law; they are not eligible for asylum. This is a gap in international law that must be addressed." – Amali Tower*

In Latin American countries such as Brazil, the situation is similar; extensive agriculture has resulted in the consumption of high levels of agrochemicals that ultimately affect human and animal health. On the other hand, Mr. Luis Betancourt, Researcher of Indigenous and Environmental Rights in the Venezuelan Amazon, brought to attention the activity of mining, stating that contamination due to mining has caused a number of different diseases among indigenous community members of the region.

Sam Schimmel, Indigenous Youth Advocate and Arctic Youth Ambassador of the Arctic Youth Network, also shed light on some more of the consequences faced by indigenous communities; he spoke of the changes in weather patterns that have changed the migration routes of the animals that indigenous communities rely on for food. Schimmel also drew attention to the detrimental effects of the climate crisis on the mental health of community members, and spoke of the trauma associated with watching places where he and his ancestors had grown up, changing in ways that make these places uninhabitable.

3.2. Role of Government in Environmental Justice

A key part of the discussions that were facilitated were people's narratives about what it is that can be done by governments in the process to attain environmental justice. Meshack Muga, the National Project Coordinator of The Restoration Initiative Project (GEF project 6) of The Food and Agriculture Organization (FAO) of the United Nations in Kenya, shared information about the restoration of arid and semi-arid areas in the country. Muga noted that Kenya's local county governments and national government were participants in intervention measures to aid the process of land restoration. The local government agencies included the Kenya Forest Service, Kenya Forest Research Institute, and the National Environment Management, along with a number of other government entities. The intervention measures include the development of relevant policies that can help in mitigating the effects of land degradation, development of management plans to help manage the forests in degraded areas, and development of grazing plans to help in management of grazing. The involvement of the government at the policy level has made significant contributions to deal with land degradation and restoration in the long-term, and to promote the well-being of communities that are dependent on these areas in the immediate short-term.

The example of Kenya lends itself as a lesson toward the importance of the role that the government can play in achieving environmental justice. A similar dedication toward human welfare is a necessity around the world; the pertinence and urgency of the matter can be better understood through the plight of asylum seekers in the United States. Felicia Rangel-Samponaro, the Director of The Sidewalk School, remarked that there are people whose lives are affected by hurricanes and drought and now there is nothing left to go back to their place.

> *"The movement for environmental justice is one that also requires the participation of the communities that are impacted by the climate crisis, as well as that of stakeholders from other social, political, and economic sectors."*

The plight of such asylum seekers is amplified by the lack of legislation in place to provide protection to them. Though there is a temporary protection sanction within the US that provides safety from natural disasters, the protection is only offered to those people who are within the boundaries of the US. Amali Tower, Founder and Executive Director of Climate Refugees, thinks there must be provision in international law to address the issue of climate change refugees. *"People who are fleeing their countries due to climate change are not covered under international law; they are not eligible for asylum. This is a gap in international law that must be addressed," she said.*

It is equally important that education be made accessible to indigenous communities as well. Roberto Ayala, the Director of Research and Postgraduate Studies at the Higher Institute of Fine Arts, Paraguay, said that the inequality gap should be lessened through formal and non-formal education, and that the authorities must respect indigenous life and educate indigenous communities in their native languages. The importance of this stance can be better understood through the words of Diego Toj. An indigenous community member, he talked about the lack of resources that prevent his community from having a voice and participating as a community and said that *there are no indigenous libraries, nor have any native schools been built in the last 35 years, and the teachers who are in those schools do not speak Mám. Therefore, it becomes almost impossible to have a voice and participate as a community."*

As pointed out by Ramos-Horta, the need of the hour appears to be a definitive blueprint for global reconstruction, especially in the period post-COVID-19. In order to overcome global inequity with regard to the consequences of climate change, governments have to do better to address the matters of global poverty, access to clean water, sanitation and housing, in addition to elimination of child malnutrition, child labor and child slavery.

Ameenah Gurib-Fakim, former President of Mauritius, has also pointed toward the concept of common, but differentiated responsibilities. In her opinion, the responsibilities toward the goal of environmental justice have to be differentiated. Those who have polluted

the environment over the span of many years and centuries will have to take up greater responsibility, so as to help those who are more vulnerable. She believes that those countries, which are part of the green fund, should help the poorer countries adapt to the challenges of climate change. The disproportionately affected countries should be given the tools to be able to actually look at the ways in which to address climate change.

3.3. Role of Communities and Other Sectors

The movement for environmental justice is one that also requires the participation of the communities that are impacted by the climate crisis, as well as that of stakeholders from other social, political, and economic sectors.[7] In fact, the involvement of indigenous communities played an important role in the process of land restoration in Kenya, with communities meeting together and agreeing to not graze in areas that had grass and trees planted in them. Similarly, indigenous communities in Paraguay, Brazil and Argentina undertake ecosystem-based adaptations with regard to the cultivation in their territories. People who cultivate in these territories respect methods of traditional planting. The activities undertaken in these territories include crop association, bee-keeping, soil recovery, and reforestation. The wealth of knowledge and wisdom of indigenous communities are extremely advantageous in the global fight against the climate crisis. Stephanie Evans, the Founder of Seas of Change, Australia, said,

> *"Indigenous communities have been here even before colonization and they know and understand their country better than others. However, this knowledge has consistently been devalued by colonizers resulting in the current unsustainable use of our earth's resources. Indigenous people have this incredible knowledge about how to help & protect our environment. Yet they are still facing challenges to have their knowledge valued. Western culture is so focused on researching, without realizing that the knowledge base is already there that we just need to listen."*

The importance of education and technology for indigenous communities was emphasized by Roberto Ayala, who believes that education and technology can be the tools employed to ensure rights. He shared his opinion that non-governmental organizations should provide formal education on sustainable topics through regional programs, moulding education to the realities of the indigenous communities. He added that communities needed to be empowered to use technologies to conserve and record ancestral knowledge, and also to record various areas of the country with environmental problems. Furthermore, along with these tools, it is equally important for stakeholders to advocate for and facilitate the participation of indigenous communities.

It is also vitally important that the inequities in wealth distribution be addressed. Ramos-Horta believes that it is possible for the wealthy few, who have amassed large amounts of wealth in the past few years, to work together with the member states of the United Nations. Together, they have the potential to mobilize the financial resources, know-how, and brain power required to design a better future for all—a future that is centered around people.

Furthermore, it is possible for organizations to take action and support adaptation and mitigation measures. Adaptation measures can include early responses to the effects of climate change, education of the masses, installation of weather forecast systems in drought prone areas to support farmers, and encouragement of innovation by the youth, among others. Both adaptation and mitigation are imperative to reduce the impact of the climate crisis. In fact, the impact of the climate crisis compounds the suffering of marginalized communities, such as asylum seekers; organizations such as Sidewalk School are able to lessen the burden of these asylum seekers, through providing education to their children, who would otherwise find themselves deprived of the same.

"For the vision of environmental justice to become a reality, the vast inequities that plague the planet must be dealt with."

It was also noted that more efforts have to be made in order to truly involve various communities in the journey toward environmental justice and, by extension, to ensure environmental justice.

4. Conclusions

The threat of the climate crisis is one that looms over the world as a whole. And yet, the impact of climate change disproportionately affects the lives and livelihoods of some of the world's most vulnerable and marginalized communities. It, therefore, becomes imperative that these disparities be duly addressed in the fight against the climate crisis. The idea of environmental justice then becomes a powerful concept that can aid in mitigating the effects of the differentiated impact of the climate crisis. Environmental justice can also aid in ensuring that all individuals and communities, regardless of race, class, and ethnicity among other factors, have equal access to opportunities and resources to combat the various detrimental effects of the climate crisis. It is important to recognize that the environmental crisis can only be solved if, and when, all other social, economic, and political issues are solved.

The different accounts and narratives of multiple communities and stakeholders, which have been collated through various events facilitated by the POP Movement, showcase perspectives about environmental justice. These personal accounts discuss, in detail, the differentiated impact of climate change, and the role of governments, communities, and other sectors in promoting, supporting, and ensuring environmental justice. For the vision of environmental justice to become a reality, the vast inequities that plague the planet must be dealt with; it must also be guaranteed that those groups that suffer the most from environmental injustices are the primary recipients of global support; racial and ethnic minorities, individuals and communities in extreme poverty, mine workers, farm workers, women, and children, among others. The development and enactment of climate projects and climate action must therefore, without doubt, keep at heart the objective of environmental justice. The POP Movement is committed to this goal.

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Notes

1. Thomas J Wilbanks et al., "Climate-Resilient Pathways: Adaptation, Mitigation, and Sustainable Development," in *Climate Change 2014 Impacts, Adaptation, and Vulnerability,* Christopher B. Field, et al., eds., (Cambridge: Cambridge University Press, Cambridge, United Kingdom and New York, USA, 2014), 1101–31
2. Office of Policy United States Environmental Protection Agency, "Learn About Environmental Justice," Overviews and Factsheets, U*nited States Environmental Protection Agency* (February 13, 2015). https://www.epa.gov/environmentaljustice/learn-about-environmental-justice
3. Carmen Gonzalez, "Environmental Justice, Human Rights, and the Global South," *Environmental Justice*, (2015): 47. https://digitalcommons.law.seattleu.edu/cgi/viewcontent.cgi?article=1631&context=faculty
4. Antonio Moreno Jiménez and Julio Vinuesa Angulo, "Intra-metropolitan imbalances and rebalances: Evaluation principles and analysis methodology," *City And Territory Territorial Studies*, Vol. XLI, no. 160 (2009):232-262. https://recyt.fecyt.es/index.php/CyTET/article/view/75924
5. Jerry O. Jacobson, Nicolas W. Hengartner, and Thomas A. Louis, "Inequity Measures for Evaluations of Environmental Justice: A Case Study of Close Proximity to Highways in NYC," *Johns Hopkins University, Department of Biostatistics Working Paper29*, (January 21 2004). https://biostats.bepress.com/jhubiostat/paper29
6. *Ibid*. Office of Policy United States Environmental Protection Agency, "Learn About Environmental Justice," Overviews and Factsheets, U*nited States Environmental Protection Agency* (February 13, 2015). https://www.epa.gov/environmentaljustice/learn-about-environmental-justice
7. *Ibid*. Carmen Gonzalez, "Environmental Justice, Human Rights, and the Global South," *Environmental Justice*, (2015): 47. https://digitalcommons.law.seattleu.edu/cgi/viewcontent.cgi?article=1631&context=faculty

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No More Excuses! Why the Climate and Ecological Emergencies Demand a New Paradigm

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Abstract

In this paper we reprise some of the themes set out in our recent special issue of Globalizations, which explores the contributing role of mainstream economics in the current climate emergency. We provide a brief update on the current state of the declared 'climate emergency' and we make the case for a paradigm shift informed by quite different principles, including 'transversalism'.

"Gimme spots on the apples, but leave me the birds and bees…"

– Joni Mitchell

1. Introduction

In our view, it is strategically vital to 'overturn' the dominant conventional wisdom in the mainstream paradigm in the field of economics and to actively collaborate to create and propagate a radically different paradigm and deploy a new standard curriculum for the teaching of the field. Such a claim is not new—similar claims have been made for a variety of reasons in the pages of this journal (e.g. Jacobs et al., 2017). Our current claim, however, is more specifically motivated by the present ongoing and accelerating planetary crises of climate change and ecological or biophysical breakdown, involving global heating, species extinction, and numerous other adverse outcomes (e.g. Ripple 2021a, 2021b). This combination of crises compels us to make a radical departure from the existing dominant paradigm(s) and to actively work for the creation and realisation of a new transformative paradigm.

Intrinsic to this call then, is the aim to critique the dominant mainstream economics paradigm, to expose its function as a causal driver of the planetary crises of global climate emergency and ecological breakdown (Gills and Morgan, 2020a). In pursuit of this goal we have recently organised a project in which we invited a number of economists, other social scientists, and

* The authors would like to confirm that they are joint and equal co-authors of this article. Some of the material is drawn from the previously published, Barry Gills and Jamie Morgan (2021), 'Editorial Postscript: An End to the War on Nature: COP in or COP out?' *Globalizations*, 18 (7).

expert activists to contribute critiques of mainstream economics and to explore associated issues.* There is a variety of terminology that refers to and is used to categorise mainstream economics and a great deal of literature which seeks to account for key characteristics of the field, how it develops, and for the limits to its diversity, but the core of this mainstream is often referred to loosely by the term neoclassical economics and typically associated currently with neoliberalism. While there is always scope to discuss the adequacy of concepts and there is a great deal of dispute regarding the meaning of terms like neoclassical and neoliberal, we would suggest the terms are sufficiently associated with theory and practice that have helped to create the world in which we live for them to stand as rough and ready reference points for key characteristics of contemporary theory and practice that we must move beyond if our species is to survive and flourish.† The following are by no means original and many will be familiar to interested parties in one way or another:

1. The new paradigm must embody a profoundly different understanding of what constitutes 'wealth creation' and human well-being.

2. It must rethink the way needs are met through different 'satisfiers' operating within a differently conceived 'provisioning' system—a system that overturns the current tacit situation in which we live to 'keep the economy going and growing' rather than the economy exists to serve our needs. It must encourage a concept of 'enough' and distinguish consumption from consumerism and reconcile use value and exchange value.

3. It must radically alter how we conceive and how we act in regard of how we conceive our place in the world as a species—a metaphorical and structural switch from 'empty world' to 'full world' thinking, from profligate prairie 'cowboy' to 'spaceship Earth', from Master to steward, from 'on' to 'within and with', a form of thinking that looks to nurture, preserve and harmonise more than it extracts and destroys (to add yet another metaphor, no longer holing the boat in which we float)…

4. It must be a paradigm that fully respects the parameters of what is necessary to live on this planet without destroying the basis for future social well-being, peace, and security. It must be a paradigm that values human well-being above gross material production.

5. It must move beyond the contemporary dominance of capital accumulation.

6. It must move beyond an incentive system built around bottom lines, profit at all costs, and corporate greed in the name of shareholder value.

7. It must break the chains of overriding corporate interest: constraints which capture states and policy discourse, constraints which feed and are fed by a financialized system in which money comes from debt, and finance acts as inequality-enhancing, bubble-forming, asset-expanding fuel for, rather than lubricant of the economy.

* The list of included contributions in the special issue volume 18 issue 7, 2021 of *Globalizations* includes (in order and as dated from online publication): Gills and Morgan (2020b); Spash (2020a); Hickel (2020a); Trainer (2021); Galbraith (2020); Spash (2020b); Keen (2020); Asefi-Najafabady et al. (2020); Gills and Morgan (2020c); Bacevic (2020); Koch and Buch-Hansen (2020); Dale (2020); Fox and Alldred (2020); Goodman and Anderson (2020); Egmose et al. (2021); Franco and Borras Jr. (2021) and Steffen and Morgan (2021).

† For those interested in debates regarding adequacy of concepts and their relevance see e.g., Venugopal (2015); Bruff and Tansel (2019); Jessop and Morgan (2021).

8. It must move beyond the centrality of economic growth and the conventional measurement of GDP, and embrace post-growth, degrowth, and social-ecological economics perspectives.

"Mainstream economics has little time for discussion of values or of its own role in the world because its concept of science has undermined the capacity of economists to reflect and work with norms and with power – these are shunned as 'ideological', as 'distortions' of a fact focused science."

These are not substantive elements of a curriculum or of how it should be taught, but rather orienting issues and principles. For a mainstream economist much of this will seem beside the point, cosmic, utopian, someone else's problem—but that is precisely part of the problem. Economics has become a universal toolkit, behind which sits a framework of theory and attitudes which constitute 'thinking like an economist'. This has involved implicit values and policy preferences and a whole set of omissions and commissions with adverse consequences—not least economics' role in facilitating our descent into climate emergency. And yet mainstream economics has little time for discussion of values or of its own role in the world because its concept of science has undermined the capacity of economists to reflect and work with norms and with power—these are shunned as 'ideological', as 'distortions' of a fact-focused science. But as the list above indicates (if one pays attention to its contrasted claims) and as readers are perhaps aware—mainstream economics is built around the theory of the circular flow of income and measuring exchange values in a pricing system (the aggregate of which is GDP) and material consequences and processes play little to no direct role in its theory and thus in its policy relevance. Consider what that means, the dominant theory-form and the most influential source of social science policy on the planet has no foundational regard for the planet—this is merely subsumed in pricing processes or tagged on via environmental economics.

As such, mainstream economics is a theory of the most material aspect of human activity (the economy) with no *binding measurement* of what an economy really is and really does. This raises deep questions regarding mainstream economics status as a fact-focused science, since this is the equivalent of cosmology having no interest in gravity. From this point of view economics has become the most aberrant of contemporary social sciences and this too demands a paradigm shift, but one which some social theorists suggest speaks to a problem across the social sciences. Andrew Sayer puts this best:

> It seems that becoming a social scientist involves learning to adopt this distanced relation to social life, perhaps so as to be more objective as if we could be more objective by ignoring part of the object… Values and objectivity need not be inversely related. For many social scientists, assessing well-being

> is a step too far, a dangerous importation of the researcher's own values. But well-being and ill-being are indeed states of being, not merely subjective value-judgments… The very assumption that judgments of value and objectivity don't mix—an assumption that is sometimes built into the definition of "objectivity"—is a misconception… How people can live together is not merely a matter of coordination of the actions of different individuals by means of conventions, like deciding which side of the road to drive on, but a matter of considering people's capacities for flourishing and susceptibilities to harm and suffering… I have often encountered the strange idea that values are not only subjective but synonymous with "bias" or distortion. It is further assumed that they are personal biases that one ideally should confess to, so that others will at least be able to "take them into account", that is, *discount* them… As social scientific spectators we tend to talk about behaviour in terms of what *explains* it, usually by reference to existing circumstances and meanings, but as participants, we tend to *justify* what we do, and implicitly invite others to accept or reject our justification. (Sayer, 2011: 6-11)

"The new paradigm must create a workable framework to ensure future peace and security for all of humanity and the perpetuation of the ecosystems and myriad other species upon which human life depends."

Sayer's point is that social science needs to reconcile a whole set of false binaries and remember what the point of social science is—to help others think about what it means for our species to flourish not merely to measure a set of metrics and state a set of regularities that constitute what it is that we currently do. As such we would also add to our list in the light of climate and ecological breakdown:

9. The idea of progress must be philosophically and culturally redefined to embody post-materialistic aspirations and meaning as primary for human flourishing.

And because climate and ecological breakdown are global problems:

10. The new paradigm must create a workable framework to ensure future peace and security for *all* of humanity and the perpetuation of the ecosystems and myriad other species upon which human life depends.

Our claim then is that we need a new paradigm that connects all aspects of systems and understands that objectivity is not impartiality. Reality is not just interesting: we have an interest in reality and what we value manifestly affects both the planet and ourselves. At the moment that interest extends to an existential imperative—creating a paradigm of social transformation that guarantees a human future not condemned to perpetual acute crises of environmental and social breakdown and collapse. As we have already noted, this

new paradigm should reflect whole systems thinking, respect the insights and empirical information derived from contemporary Earth system science, and definitively abandon the false dichotomies of the separation of politics from economics and humanity from 'nature' (Biermann, 2021). There is no scope here to discuss all aspects of this subject, so in what follows we will provide some flavour of our thinking, and would urge you to read the collected essays and the sources they draw on. We begin with a review of the significance of recent climate science and why it compels us to renew our call for urgent radical transformative action and end with a discussion of 'transversalism' (Gills and Morgan, 2020a; Gills, 2020; Gills and Hosseini, 2021).

2. The consequences of complacency and delay: what once was a problem for the future has become an urgent problem for the now

As the classic hockey stick graph of GDP highlights, the first industrial revolution radically changed economic output and this industrialisation created a whole new order of resource and carbon-dependent energy use, beginning with coal (see Newell, 2021). Subsequent industrial revolutions (electrical, chemical, digital) built upon this; as economies developed, they also diversified and through various socio-economic processes developed consumerism as a key component of the economy—creating a mutually dependent source of growth, identity, and aspiration. This resource and energy-hungry complex has gradually spread from place to place, and especially so in the last 50 years. However one historicizes contemporary 'globalization', there are more of us and more of us living lives of a kind we did not before or servicing those who do, since only a fraction of the world's population experience the kind of lifestyles that the spread of industrialisation and consumption offers as its aspirational ideal.

It is entirely explicable then that this 'great acceleration' (McNeill, 2001) has massively increased the demands we place on the planet—such that our species and its dominant system now define a post-Holocene epoch (the Anthropocene for some, the 'capitalocene' for others—see Moore, 2015). The cumulative consequences have been sufficiently obvious through the last 50 years to induce various organisations to address those consequences: the UNEP in 1972, the various UN Earth Summits since 1992 (following the creation of Earth Day in 1970 and also the work of the UN World Commission in 1987 on 'sustainable development') and, of course, the UNFCCC in 1992 and the subsequent Conference Of the Parties (COP) process to address climate change—of which COP26 in Glasgow is the latest in 2021. Across this period a contrast has developed between the adverse consequences of 'business as usual' and a different more viable way forward, and yet throughout there have been numerous state and corporate-led attempts to prevent significant change across numerous fronts (Oreskes and Conway, 2010; Lamb et al., 2020): questioning the science, questioning the need for urgent action, counselling delay, arguing that problems will essentially take care of themselves (as company investment and consumer behaviour adjust) with some minor steering from global organization and individual governments.

As our special issue of *Globalizations* makes clear, mainstream economics has been part of this problem rather than a source of solutions. Delay has continued sufficiently long now

for a problem for the future to become an urgent problem for the now, and this is across multiple fronts. The UNEP, COP etc. notwithstanding, it used to be considered 'alarmist' to refer to 'business as usual' as an existential problem, but this is no longer the case and reference to the potential for a 'mass extinction' event and 'civilizational collapse' by the end of this century if we do not act commensurate to the problems that now are beginning to manifest has become common media currency (for the background on biodiversity loss and a sixth mass extinction see Bradshaw et al., 2021).

Most Earth systems operate according to multi-faceted interactions of parts in a system, where that system has emergent properties that endure for very long periods. This is 'complexity' as a rough tendency for reproduction or stabilisation of some complicated process—weather patterns and parameters within climate systems etc.—and this is dependent on a balance between positive feedback processes (self-augmenting changes) and negative feedback (self-dampening changes). Human intervention can disrupt these processes in numerous ways—adding or extracting chemicals, removing species, modifying land and seascapes—leading to a combination of anthropogenic 'forcing' factors, destructions and disruptions. The more pervasive we become the more our impact is felt, the longer our activity continues the greater the cumulative consequence and the more possibility of a breakdown of systems and also transition of states of systems—and this is very important since the Holocene was an unusually benign period over the last 12,000 years or so. Consider then:

- In 1900 the world's population was about 1.6 billion and global GDP was estimated at $1.1 trillion, while in 2020 global population approached 7.8 billion and GDP stood at about $85 trillion (a reduction from over $87 trillion in 2019 due to the effects of COVID-19).
- According to a special report from the IPCC, 70% of ice-free land surface is now directly affected by human use (IPCC, 2019).
- Our rate of resource use has already exceeded the regenerative capacity of the Earth (Earth 'overshoot' day was July 29th in 2021, two months *earlier* than twenty years previously and our current activity requires more than 1.7 Earths in this context).*
- Volume atmospheric carbon dioxide (CO_2) concentration has increased from an average 280 parts per million (ppm) at the beginning of the industrial revolution to 417ppm in 2021 (approaching levels not seen in 3.6 million years). It took around 200 years for the 280ppm figure to increase by around 25% but just the last 30 years for it to increase by about 50%.
- According to research sponsored by Oxfam, the current situation of resource exhaustion and climate emergency reflects deep inequalities. Between 1995 and 2015: 'The richest 10% of the world's population (c.630 million people) were responsible for 52% of the cumulative carbon emissions—depleting the global carbon budget by nearly a third (31%) in those 25 years alone; The poorest 50% (c.3.1 billion people) were responsible

* Note there is some dispute regarding the modelling of data for this metric but most of the criticism tends to argue that the approach underestimates rather than overestimates the problem.

> for just 7% of cumulative emissions, and used just 4% of the available carbon budget; The richest 1% (c.63 million people) alone were responsible for 15% of cumulative emissions, and 9% of the carbon budget—twice as much as the poorest half of the world's population' (Gore, 2020: 2).

There are numerous similar statistics covering a whole array of related aspects of life on Earth. In any case, we have in recent years witnessed an intensification and acceleration of the conjoint crises of global climate change and ecological breakdown or 'biosphere degradation'. According to work by Earth system scientists, over the last two decades or so the 'safe operating space' of 3, then 4, and now likely 6 out of 9 components of Earth systems have been transgressed, of which the best known is the climate system and the effects of greenhouse gases (Steffen and Morgan, 2021).*

3. Climate Emergency Update

A main focus of climate science is the relation between carbon emissions and changes in average global surface temperature and this is typically defined using 'climate sensitivity', i.e. the increase in temperature per doubling of atmospheric CO_2 (from the preindustrial benchmark of 280ppm to 560ppm). The Earth is an 'open system' of conditional relations between many parts so the resultant level of heating is contingent—until recently estimates usually placed this between 1.5 ^{0}C to 4.5 ^{0}C per doubling, but more recent consensus raises and narrows this to the lower decimal end of 2 ^{0}C and upper decimal end of 3 ^{0}C as processes feed through systems and the derivation of this and the upper bound is now hotly debated in climate science, insofar as the effects may be even higher (see Sherwood et al., 2020). Temperature has already increased by 1.1 ^{0}C-1.3 ^{0}C depending on measure and dataset used, and to be clear, this is average temperature *not* weather—average temperature affects climate systems and thus weather patterns, in turn affecting the range of temperatures, levels of water vapour, cloud cover and thus further processes, such as patterns and intensity of rainfall and wind speeds. This then feeds through other processes—carbon capture by forests varying by growing season, ocean absorption etc. and it should be noted that emissions occurring now can take hundreds and thousands of years to work their way through—even if we stopped emitting now the processes of heating set in train will continue based on cumulative emissions. According to the IPCC:

> A large fraction of anthropogenic climate change resulting from CO_2 emissions is irreversible on a multi-century to millennial time scale, except in the case of a large net removal of CO_2 from the atmosphere over a sustained period. Surface temperatures will remain approximately constant at elevated levels for many centuries after a complete cessation of net anthropogenic CO_2 emissions. Due to the long time scales of heat transfer from the ocean surface to depth, ocean warming will continue for centuries. Depending on the scenario, about 15 to 40% of emitted CO_2 will remain in the atmosphere longer than 1,000 years. (IPCC, 2014: 28)

* The Kyoto Protocol defined the GHGs as: Carbon dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), Hydro-fluorocarbons (HFC), Perfluorocarbons (PFC), Nitrogen Trifluoride (NF_3) and Sulphur Hexafluoride (SF_6).

Some Earth system scientists have placed the threshold for 'safe operating space' at 350ppm and we are already well past that, but it is because observed effects at lower rises of temperature have been greater than initially thought and anticipated effects as temperatures rise are expected to be more extreme, that the Paris Agreement, negotiated in 2015 at COP21, aimed to restrict global heating to less than 2 ^{0}C with an aim of 1.5 ^{0}C. The IPCC is a UN mandated organization founded in 1988, and it collates climate science. It operates in cycles and forms working groups whose combined work is published at the end of the cycle as a synthesis report (we are in the sixth cycle and AR6 is due in 2022). It was mainly based on the IPCC *Global Warming of 1.5 ^{0}C* special report that governments acknowledged the need for greater urgency in achieving emission reductions and began to focus on the high profile goals of a 45% reduction on 2010 levels by 2030 and 'net-zero' by mid-century (IPCC, 2018: 12). The situation however continues to deteriorate in a number of ways.

Myriad actors have rhetorically taken on board the need to plan to decarbonise more rapidly with the aim of achieving 'net-zero' status. But much of this lacks effective concrete plans or clear implementable policy—in most cases governments are at the first step rather than having taken it—though hopefully COP26 in Glasgow November 2021 will signal some further progress. However, even the assessment of the nature of 'net' is in question insofar as many plans depend on smooth transition to use of technologies untested at scale and in some cases not yet existent in their anticipated form (see next section and Dyke et al., 2021; Lewis, 2021). There is much legitimate concern (especially in civil society) that 'net-zero' by mid-century is but another tactic of delay and deferral that in practice allows governments and corporate entities to continue with practices that perpetuate the present patterns of pollution and ecological degradation and destruction as if there were no real Emergency. If one looks to the 'Nationally Determined Contributions' (NDCs) of states, other aspects of government policy (creation of a new 'social infrastructure' addressing change to heating systems and housing standards, dependence on fossil fuel energy, transport systems, aviation, and shipping conformity, standards and goals for industry, digital service emissions etc.) in terms of real actions, as well as the actual activity (rather than statements of intent) by major global corporations and banks, aimed to produce radical and immediate greenhouse gas emissions cuts, then these remain woefully inadequate to prevent potentially catastrophic scenarios from becoming a future reality.

China is a major focus of concern. It may be the case that emissions have a strong correlation with inequality and that the majority of emissions have historically been accounted for by the longstanding industrialised countries and by a few corporations and so on. It may also be the case that 'just transitions' are a key issue, but unless emissions start to fall everywhere these problems become moot—and this means the major emitters today must begin to act now since the planet does not care about how we apportion 'historic emissions'. Richard Smith points out that China is more than simply the place wealthy nations outsource their emissions to through offshoring in globalized supply chains. It has its own internal drivers of climate profligacy and by various measures its share of emissions is disproportionate (based on the size of its population, its GDP, and GDP per capita). Moreover, its emissions continue to grow.

For more than a century the US was the world's largest CO_2 emitter by far. But its emissions declined from their peak of 7,370 million Mt CO_2e (metric tons of CO_2 equivalent) in 2007 to 6,457 million Mt CO_2e in 2017, reflecting the ongoing replacement of coal-fired power plants with solar, wind and lower-emissions natural gas energy sources. The emissions of the European Union countries have also trended downward over the past three decades, from 5,654 million Mt CO_2e in 1990 to 4,206 million Mt CO_2e in 2017. To be sure, these declines are far from sufficient to reverse global warming—they aren't even enough to meet their commitments to the 2015 Paris Agreement on climate change—but at least they were declines. By contrast, China's carbon emissions have relentlessly grown, quadrupling from 3,265 million Mt CO_2e in 1990 to 13,442 Mt CO_2e in 2018… [Though China is the world's biggest investor in and producer of renewable technologies across economic sectors it continues to build coal power production facilities and capacity] China isn't replacing fossil fuels with renewables so much as building more capacity of *both*. (Smith, 2020: xiv) In just twelve years from 2005 to 2017, China's CO_2 emissions nearly doubled again to more than twice those of the US. Yet China's GDP was only 63% as large as the US GDP in 2017… [While] Per capita CO_2 emissions surged past those of the EU six years ago and are now half those of the US (7.45 Mt CO_2e vs. 15.56 Mt CO_2e in 2018). Yet China's per capita GDP was just 15 percent that of the US in 2018 ($9,627 vs. $62,904) [and its population was just 68% of the five other top emitters]. (Smith, 2020: xiii & vii).

The point here is not to single China out in some malign sense, but to illustrate the urgency of the problem and to highlight a basic *shared* issue that countries and corporations have different reasons (and continue to different degrees) to try to square a circle that seems impossible to square. China is committed to maintaining economic growth of around 6.5% per year and is still building coal-powered power stations. And despite the IEA stating a need to stop the search for new fossil fuel sources, most countries in the world have continued to do so.

In the meantime, emissions continue to rise across the world albeit at a slower rate, and trends remain adverse despite the temporary dip in emissions that resulted from the COVID-19 global pandemic in 2020. The UNEP publishes periodic emissions gap reports and the latest (the eleventh) in 2020 reveals yet another set of dire statistics for current and projected greenhouse gas emissions—record levels in every category of measurement, for example, 38Gt CO_2 from fossil fuels in 2019 (UNEP, 2020). We are already witnessing more frequent and intense 'extreme weather events' all around the globe: widespread forest fires, more intense hurricanes, extended droughts, and sudden deluges resulting in flooding. Much of this is occurring earlier than expected and this too speaks to growing concerns expressed by climate and Earth systems scientists. There are inherent limitations in attempting to model complex systems based on multiple interacting and dependent aspects, and reasonably well-understood relations and processes can still deliver surprises and are subject to basic uncertainty. As longstanding IPCC contributor and one of the originators of the planetary boundary approach to Earth systems (and one of the early proponents of the Anthropocene concept), Will Steffen, puts it:

> We know, with a high degree of certainty, that many positive feedback processes exist, but we don't know—with a high degree of certainty—where the tipping

> points for these processes might lie. That is, where is the level of forcing (e.g., temperature rise) beyond which permafrost melt becomes self-reinforcing and thus unstoppable? Even more uncertainty surrounds the interactions among these feedback processes, interactions that could lead to a global tipping cascade. In effect, this is the process that would drive the Earth System from one stable state—the Holocene—into another stable, but much hotter, state, sometimes called 'Hothouse Earth'. Large uncertainties remain regarding the point at which such a global tipping cascade, if it exists, could be initiated (Steffen and Morgan, 2021).

A recent paper in *Earth System Dynamics* highlights this problem of uncertain 'domino effects' and problems of sudden runaway irreversible changes (Wunderling et al., 2021). The underlying point such science alludes to is that even the best science we have can be underestimating the problem and that problems might begin to manifest earlier than expected and there is some evidence that we are beginning to see that now. For example, temperature variation at both poles have been much wider (and temperatures far higher) than in recent history and the rate of melting of ice sheets has accelerated, while the rate at which ice shelves in the West Antarctic impede this has slowed due to fragmentation of sheets rather than a slower effect from just gradual melting (Joughin et al., 2021).

The situation then, hangs in the balance and a recent well-publicised report from IPCC Working Group 1 ('physical science') highlights this (IPCC, 2021). The report provides detailed measurements of the actual extent of greenhouse gas emissions and unfolding global climate patterns. According to the report, 'low likelihood' but potentially high impact or 'extreme events', including the possibility of 'abrupt responses and tipping points of the climate system' are now becoming more likely as global heating continues. This includes processes such as Antarctic ice sheet melt, forest dieback, and the (ongoing) slowing of the Atlantic Meridional Overturning Circulation (AMOC) oceanic flow (the conveyor which brings warm waters north in the Atlantic, popularly known as the Gulf Stream). Among the further consequences are continued trends of ocean acidification, and sea-level rise, which will be 'irreversible for centuries'. According to the report, humanity is currently on course for the IPCC 'intermediate' and 'high' emissions scenarios, which could produce heating of 2.7 ^{0}C to 3.6 ^{0}C by 2100. Moreover, the report makes it very clear **that in all 5 of its scenarios**, within the next two decades it is now likely that global warming reaches or exceeds the 1.5 ^{0}C goal of the Paris Agreement, regardless of how radically governments and corporations now cut greenhouse gas emissions, moreover it may do so earlier than previously expected (up to twenty years earlier when compared to the IPCC special report of 2018).*

The authors of the special report, however, make every effort not to convey the impression that our situation is irredeemable. According to the report the 'good news' is that, in the most ambitious low emissions scenario, the global climate might eventually (re)stabilise after

* The expectation is that 1.5 ^{0}C will be reached by 2040 at latest compared to 2052 previously but the band overlap allows for 20 years; and the report begins from a current averaged heating figure of 1.09 ^{0}C, which as some of the previous material indicates, is less than some datasets (placing it at 1.2 ^{0}C to 1.3 ^{0}C).

some 20 years, and global heating could fall back to 1.4 ^{0}C by 2100—commensurate to Paris goals. This is a highly optimistic account of scenario pathways that assumes immediate and effective actions to achieve 'net-zero' through more ambitious NDCs, major changes to land management, significant emission reductions across all aspects of society and economy, and with an additional role for carbon capture and also potential atmospheric carbon removal i.e., 'negative emissions'. To put this in context, depending on the measurement category, humanity emits around 40 billion tonnes of CO_2 per annum into the atmosphere. Under the 'very low' emissions scenario that will need to fall to 5 tonnes per annum by 2050. As Ed Hawkins, one of the authors of the IPCC report states, 'Every bit of warming matters… Every tonne of CO_2 matters.'*

The 'good news', furthermore, has additional context. With assistance from members of Scientist Rebellion a leaked report has emerged from sources within IPCC Working Group 3 (CTXT, 2021).† This is the group responsible for analysis of how to reduce emissions and mitigate impacts. Their final report is not due to be published until March 2022, long after vital decisions have been made at COP26 and this seems to have motivated a breaking of ranks. According to the leaked report, emissions must peak globally *before* 2025 and reach net-zero between 2050 and 2075. Concomitantly, no new coal or gas-fired plants should be built and existing ones should be wound down before their normal time of decommissioning, growth in global consumption of energy must *reduce* and there must also be a 'massive transition in the consumption of materials around the world' i.e. a *reduction* in a whole array of processes that produce emissions over and above the energy sector (CTXT, 2021). The report represents yet another ramping up of calls for urgent and immediate action and the significance of this leaked report is not only scientific but also political, given there is a clear sense that the leak was provoked by concern among some of the scientists involved that their findings and urgent warnings would be watered down through the intervention of governments in the complex processes of approval of IPCC reports before final publication. They did not want to risk that, and so they sought to ensure that their actual findings could be discussed globally prior to COP26.

So, as new data has emerged, scientific warnings have grown ever more urgent and there has been a recent trend for observed effects to tend to the severe end of possibilities i.e. worst-cases—and this is despite some consensus that climate sensitivity might be within a narrower band than 1.5 ^{0}C to 4.5 ^{0}C per doubling of CO_2, but partly accepting a continual problem of underestimating of effects in modelling systems and underlying problems of uncertainty regarding where exactly self-reinforcing transitions might lie.

4. Social Redesign, Redistribution, and Doing Less versus Technofixes and Technocratic Desperation?

We seem to have reached a political crossroads as much as a climate one. Until recently it was not uncommon for climate activists to ask, 'what will it take to make enough people, and

* Ed Hawkins, Reading University, UK, cited in New Scientist, 9 August, 2021 'Earth will hit 1.5^{0}C climate limit within 20 years, says IPCC Report'.
† See: https://scientistrebellion.com

enough people in places where power centres reside, sit up and take notice?' We now seem to have reached that point. In the last few months there has been virtually no corner of the world that has not reported an extreme weather event that has required a disaster response. And these seem to be coming thick and fast now. For example, in early September 2021 the *Washington Post* conducted an analysis and found that nearly a third of Americans lived in a county within an area where the federal government had declared a disaster in the previous three months and two-thirds lived in a county that had suffered a dangerous heatwave (Charter, 2021). A simple Google search quickly throws up similar events elsewhere, all in July—Angela Merkel's shocked face as she confronts destruction from flash flooding in Germany, terrible pictures of commuters trapped in a flooded underground rail service in Zhengzhou, Henan Province in China, a rare high-pressure heat dome effect in Canada producing temperatures of nearly 50 ^{0}C (in a country whose previous and *recent* record temperature was 45 ^{0}C) etc. *

Flooding and outright destruction of homes, interruption to taken-for-granted basic services such as electricity, sanitation, and transport, and various other observable impacts mean the consequences of disaster (not just minor inconvenience) are being *felt* in more places and thought about everywhere. It is surely beginning to dawn on people in a visceral way that climate and ecological breakdown are a threat to social cohesion and it is surely starting to occur to more people than in the past that if this is happening at current temperatures then it can only get worse as temperatures rise… As such, populations are now becoming more receptive to policy change to address these problems (with some likely friction created by demagogues like Trump or Bolsonaro) and this receptivity seems set to grow.†

The question, of course, is 'what to do?' and here governments face a basic decision regarding how to frame responses. At the moment there is a strong 'technofix' and technocratic dimension to policy framing. 'Technofix' does not mean the use of technology—clearly, any response to climate and ecological breakdown will involve technological change.‡ 'Technofix' means presenting technology as *the* solution to a problem and while in real policy circles it rarely rises to the status of the only solution there is a typical tendency to place primary focus on technology. As we previously noted a dominant focus on technology tends to gloss over a whole host of issues and the list of issues can be extensive: whether a technology currently exists, whether it is possible in principle, whether it can be scaled, whether resources (real and financial) can be organised to expedite it, whether it can be commercialised, and whether any and all of these apply within relevant timelines. And behind these sits also the temptation to proffer technological fixes because these offer the scope for apparent solutions that change the means by which we do things but have less impact on what we do and thus the drivers of the system in which we do those things. This readily becomes a line-of-least-resistance approach to policy—selling the public on the idea that fundamental changes to society are less necessary and perhaps unnecessary. However, given the whole array of risks and uncertainty associated with technology, the problem of timelines and urgency, and the fact that technofixes do not address the underlying sources (drivers of energy and resource use

* BBC report of Merkel's response: https://youtu.be/faXSsw76C9A Henan flooding reports: https://www.bbc.co.uk/news/world-asia-china-57861067

† See, for example, the recent University of Bath 10 country youth survey of climate fears: https://www.bbc.co.uk/news/world-58549373

‡ For an interesting survey of innovations see the BBC podcast series, '39 Ways to Save the Planet': https://www.bbc.co.uk/programmes/m000qwt3

built around economic growth and the vested interests of powerful groupings liable to create delay) of climate and ecological breakdown, then such an approach seems reckless at best.

There are, of course, different arguments—whether growth is an inherent aspect of capitalism, whether economic growth can be sufficiently 'decoupled' from climate effects to allow a growth system to be viable, whether it is best to focus piecemeal on reducing emissions and resource use and just not worry about economic growth as a metric—and these can be claims about theory (is something impossible in principle?) or can be more empirical (what does the evidence currently suggest?). We would argue (and this is basic to the essays in the special issue of *Globalizations*) that both theory and evidence are on the side of reducing the size of economies in aggregate. We would argue that this requires different ways of thinking about the nature of economic systems, what drives them and how they 'provision'. Moreover, in the absence of full certainty this would also seem to be the rational prudential response to the urgency of our situation. Technofixes place confidence in things that may not be possible in various senses of that word. However, as a species we can control the conventions by which we live since these are a matter of how we organise and what we choose collectively to do. In this sense social redesign is more realistic and achievable than technofixes (though opinions differ, contrast the critiques of growth by Keyber and Lenzen, 2021; Hickel and Kallis, 2020; Parrique et al., 2019; and the recent techno-optimist behavioural analysis from Tony Blair's think tank, Meyer and Lord, 2021).

Consider, for example, the range of changes the 2021 Working Group 1 IPCC report we previously referred to suggests. Quite a bit of this (in addition to land use changes) turns on technologies—some of them more advanced in development than others, but all invite basic questions regarding feasibility and advisability. At the extreme are negative emissions technologies. Iceland is perhaps most advanced in establishing proof of principle for these technologies. Climeworks' 'Orca' plant has just been completed there and it comprises a huge fan system running on Iceland's abundant geothermal (renewable) energy that sucks surrounding air through filters that extract CO_2. Once the filters are saturated, they are heated to release the CO_2 into water which is then pumped into underground caverns where the carbon reacts with basalt and up to 90% of the CO_2 is mineralised within 2 years. The plant has a capacity of around 4,000 tonnes of CO_2 a year, a meaningless amount in terms of current emissions levels but sufficient for the IPCC report to mention the technology and there are several variations on this theme now in development around the world.* One might describe this as an ingenious technological marvel, but equally it might be viewed as the desperate last gasp of a moribund system. The order-of-magnitude difference between capacity and the reality of emissions makes these technologies marginal at best and their existence cannot 'dematerialise' an economy.

The problem with technofixes (rather than technology per se) is that its framing of technology becomes a distraction and source of complacency—even if well-meaning and

* Note, while these atmospheric negative emissions technologies are relatively new, bioenergy with carbon capture and storage (BECCS) have been an assumed component of net changes to emissions since at least IPCC AR5 (whose primary concerns predate the 1.5^{0}C goal of Paris and which assumes a growing role for this and forestation over the second half of the century based mainly on a 2^{0}C target). Work questioning the feasibility of this modelling (itself using fairly dubious integrated assessment models) is longstanding. (See, for example, van Vuuren et al., 2018).

even if there are plenty of people urging us to keep new technology in perspective. There is a tendency to think solutions are in hand and one might argue that it takes a great deal of socialisation to persuade us that technology is a more realistic escape route than social redesign—it requires us to have an oddly disempowered sense of what we could control and what we are able to decide to do. This brings us to the technocratic dimension of current policy. Few readers will need persuading that we live in societies with a complex division of labour that has exhibited a general tendency for capture of authority and control of decision-making. The curious thing about this in the modern era is that 'neoliberalism' has combined this with marketisation. We tend to accept that market processes can solve problems as unintended consequences of processes of profit-making etc. and we tend to accept that society is complex and that it is experts in given fields who should make primary decisions about what is done and how—economics of course has been a primary site for these changes.

Technofixes become more attractive if one has a technocratic mindset, and yet even technocratic responses require buy-in by citizens. Citizens, for example, are required to adopt market psychologies and make 'investments' to ensure technological changes happen—electric cars, hydrogen heating systems, new insulation for homes etc.—in order for technology to be mirrored by behaviour. But this has self-limiting potential since it invites citizens to treat collective existential threats as individual consumer decisions. More fundamentally it socialises people to think less about the norms by which they live and to expect to have less scope to deliberate and participate in decisions about society. The problems this has caused, of course, do not relate only to climate and ecological crisis—they are relevant to a host of issues regarding the crisis of democracy (polarisation, cynicism, sense of disenfranchisement etc.) that has erupted, but for our purposes, the combination of disempowerments is extremely problematic since from a climate and ecological point of view, it is the system itself that is in question.

One might argue then that the system itself makes thinking about living differently problematic even if the problems of that system seem to require us to do so. 'Problematic', however, does not mean impossible (and see conclusion). Recognition that more fundamental change is needed is growing and has numerous sources. Physicists, climatologists, Earth system scientists etc. are rarely by inclination radicals and have over the years (with a few notable exceptions) tended to be reticent about organising and campaigning (perhaps concerned that this would harm scientific credibility). But the situation is now dire enough for the scientific community in the guise of groups like The Alliance of World Scientists to take a leading role in declaring climate emergency and in making the case for radical and urgent action (see Ripple et al., 2021a, 2021b). Social movements creating pressure from below are also on the rise and demonstrations, dissent and disobedience are occurring around the world. Many events are currently (at time of writing) planned to create pressure in the run-up to COP26—for example, the 'Fridays for Future' global climate strike held on 24th September 2021, and the latest 'Global Day of Action' held on November 6th.* General activist groups such as Extinction Rebellion can now be found in many parts of the globe, as

* Visit: https://fridaysforfuture.org; https://en.wikipedia.org/wiki/Global_Day_of_Action; https://takeclimateaction.uk/get-involved/global-day-action-6-november-2021

can sector-specific groups such as the aviation campaigning organisation, 'stay grounded'.* These movements can be expected to grow in the coming decade, and depending on the decisions made and actions implemented by governments, corporations, and banks, may potentially become even more radical in their tactics and their demands. In any case, such calls for 'system change' imply the existing social order is open to question (Gills, 2020).

It should also be noted that officials, governments and groups like the IPCC have begun to make statements or offer analysis that endorses reducing the scale and intensity of economies, and recognise the importance of 'just transitions'—albeit inconsistently. The leaked Working Group 3 report from the IPCC, for example, states, 'In scenarios that contemplate a reduction in energy demand, mitigation challenges are significantly reduced, with less dependence on CO_2 removal (CDR), less pressure on land and lower prices of carbon. These scenarios do not suppose a decrease in well-being, but rather a provision of better services' (CTXT, 2021). The report also suggests it is possible to address extreme poverty around the world without exacerbating the global heating crisis—given that 'the largest emitters are the richest' and the richest 10% emit ten times more than the poorest 10%' (CTXT, 2021). As such, the report resonates with some aspects of degrowth, postgrowth and social ecological economics and we would argue that there is great scope for development along these lines to combat misunderstandings regarding what these entail (see Spash and Guisan, 2021; Hickel, 2020b; O'Neill, 2018; Liegey and Nelson, 2020; Kallis, 2018; Demaria et al., 2013).

There is a great deal more that could be said here, but space precludes further discussion. Suffice to say, and in regard of the 'crossroads' we find ourselves at, we would argue that we should turn towards doing less… we need a concept of 'enough', of 'sufficiency' and 'sufficient development', and these concepts need careful elaboration. In the current environment, people confuse degrowth, post-growth and socio-ecological economics with their experience of uncontrolled collapse, recession etc.—situations of rising unemployment, falling incomes, individual suffering, and systemic pressure. Degrowth, however, is not this—it is in fact an attempt to prevent a future climate-induced version of this problem via a managed transition that redirects resources in smaller economies to meet needs through different sets of 'satisfiers' (allowing for smaller working populations, universal basic income, and universal basic welfare services, more focus of resources on meeting primary care needs, and a decisive shift away from economies built around designed obsolescence, conspicuous and superfluous consumption and waste creation).

Moreover, this approach to 'enough' is *not* about preserving the privilege of some wealthy parts of the world by denying development to others. It rather extends concepts of justice and redistribution to planetary scales precisely in order to avoid the all too foreseeable consequences of global climate emergency and ecological breakdown: an intensification of trends we are already beginning to see, such as fractious conflict as global North states compete for diminishing resources and to control borders as mass migration increases to escape the immediate effects of insecurity (see, for example, Quiggin et al., 2021: 36). As readers are no doubt aware, it has always been the poorest in both the global North and

* Visit: https://stay-grounded.org

South who have suffered first and most from crises and climate crisis is no different in this regard. For example, in launching its Children's Climate Risk Index UNICEF reports that about 1 billion children live in 'extremely high-risk countries' (nearly 50% of children)—areas exposed to multiple vulnerabilities of drought, heatwaves, flooding etc.* Of these the highest ranked countries are mainly in sub-Saharan Africa, though Bangladesh and India are also listed (UNICEF, 2021: 14). India is the only one in the top ten carbon emitters and the 'extremely high risk countries' in combination account for only 9% of annual global emissions.

> *"While the pandemic will eventually end, responses to it have created a precedent. Dramatic action is now urgently needed by all—from governments, financial entities, corporations, communities, households, and individuals. We need to believe 'deep restoration' is possible and we need to act like it is possible."*

The degrowth alternative begins from the premise that current development models perpetuate structural inequality and we should stop taking from the poor (see Hickel et al., 2021). As with so much else this may seem like utopia but refusal to countenance something is not the same as its impossibility. Universal suffrage seemed absurd in societies built around strict hierarchical distinctions rendered as God-given 'natural order', and yet eventually change came—people struggled and *took* rights previously denied to them. The first step in doing so was thinking differently and understanding that 'different' is also feasible (for climate-based feasibility argument see, for example, O'Neill et al., 2018). In contrast, hanging onto attitudes and practices associated with a necrotic climate profligate civilization may turn out to be the real fantasy.

5. Conclusion: from Crisis to 'Transversalism'

As we stated in the introduction and as our essay title (the phrasing 'demand') suggests this paper amounts to reasons why a new paradigm is needed rather than a detailed account of its content. Again, we suggest you read the special issue papers and other noted sources. To conclude, we would note that we are in the midst of a triple crisis of capital, climate, and COVID, and their intimate interrelationship, is now apparent to everyone. The existing global system, and indeed our present form of civilisation, is entering a period of 'implosion' (Gills, 2020).

One thing seems certain, that what 'we' i.e., the whole of humanity, do to respond to the present accelerating climate emergency and ecological breakdown during the decade of the 2020s is absolutely pivotal to our future. Our collective actions will largely determine the future prospects of humanity for centuries to come. The 'radical urgency of now', is here.

* Visit: https://data.unicef.org/resources/childrens-climate-risk-index-report/

An 'age of adaptation' looms, and an era of 'the politics of tipping points' will ensue (Lewis, 2021). We urgently need transformational change, across myriad processes and behaviours, at all levels from the individual, to the national, regional, and global. We need to redefine and transform our way of life. Politics and policy in the coming decades will be compelled to debate and organise sweeping adaptations and mitigation, as the progress of the global climate crisis increasingly threatens our existing infrastructure, built environment, and food system with increasingly rapid obsolescence. How will we provide cabling for power infrastructure and surfaces for roads in periodic *melting* temperatures, how will we maintain crop yields in the face of *pervasive* unpredictable flooding combined with heatwaves and drought (Quiggin et al., 2021)? As global heating increases, our existing infrastructure, built environment, and agricultural and forestry systems will be rendered 'unfit for purpose' and will become more prone to potentially calamitous system failures. We need to redesign our civilisation.

While we need governments to act, and policy coordination through initiatives such as the COP process are vital, they are not sufficient and we cannot depend on them. Political pressure and grassroots changes from below are just, if not more, important. For this to be achieved we need new ways of thinking. 'Transversalism' is one possibility. Rather than co-optation:

> Transversalism aims at consolidating political coalitions and achieving ideational accommodation between social groups… it does not imply uniformity or a general theory of social emancipation… [it] consists of the following elements: (1) recognition of diversity and difference, (2) dialogue (deliberation across differences), (3) systemic self-reflection, (4) intentional openness (intention to explore the reality of the Other), (5) critical awareness of the intersectional nature of power relations that affects interconnections, and finally (6) commitment to creating alterity through hybridization and creolization of ideas and actions. (Gills and Hossieni, 2021)

'We are living in a time of exception. A time when the existing order is open to question' (Gills, 2020: 577). The triple conjuncture of climate change and ecological breakdown, global pandemic, and neoliberal economic globalization speak to a Great Implosion, and while the pandemic will eventually end, responses to it have created a precedent. Dramatic action is now urgently needed by all—from governments, financial entities, corporations, communities, households, and individuals. We need to believe 'deep restoration' is possible and we need to act like it is possible. Maybe this is wishful thinking, but without it our nightmares may become realities.

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References

1. Asefi-Najafabady, S. Villegas Ortiz, L. and Morgan, J. (2020) 'The failure of Integrated Assessment Models as a response to 'Climate Emergency' and ecological breakdown: *The Emperor has no clothes.*' *Globalizations,* https://doi.org/10.1080/14747731.2020.1853958

2. Bacevic, J. (2020) 'Unthinking knowledge production: from post-Covid to post-carbon futures.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1807855
3. Biermann, F. (2021) 'The future of environmental policy in the Anthropocene: time for a paradigm shift.' *Environmental Politics* 30 (1-2): 61-80.
4. Bradshaw, C. et al. (2021) 'Underestimating the Challenges of Avoiding a Ghastly Future.' *Frontiers in Conservation Science,* https://www.frontiersin.org/articles/10.3389/fcosc.2020.615419/full
5. Bruff, I. and Tansel, C. (2019) 'Authoritarian neoliberalism: trajectories of knowledge production and praxis.' *Globalizations,* 16(3): 233-244.
6. Charter, D. (2021) 'Fires, drought or hurricanes plage a third of America.' *The Times*, September 6th.
7. CTXT (2021) (Contexto Y Accion) 'El IPCC considera que el decrecimiento es clave para mitigar el cambio climatico.' Juan Bordera and Fernando Prieto, 7/08/21
8. Dale, G. (2020) 'Rule of nature or rule of Capital? Physiocracy, ecological economics, and ideology.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1807838
9. Demaria, F. Schneider, F. Sekulova, F. and Martinez-Alier, J. (2013) 'What is degrowth? From an activist slogan to a social movement.' *Environmental Values*, 22(2): 191-215.
10. Dyke, J. Watson, R. and Knorr, W. (2021) 'Climate scientists: concept of net-zero is a dangerous trap.' *Social Europe*, April 27th. https://www.socialeurope.eu/climate-scientists-concept-of-net-zero-is-a-dangerous-trap
11. Egmose, J. Jacobsen, S. Hauggaard-Nielsen, H. and Hulgard, L. (2021) 'The regenerative turn: on the re-emergence of reciprocity embedded in living ecologies.' *Globalizations,* https://doi.org/10.1080/14747731.2021.1911508
12. Fox, N. J. and Alldred, P. (2020) 'Climate change, economics and the policy-assemblage: Four policies and a materialist synthesis.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1807857
13. Franco, J. and Borras Jr., S. (2021) 'The global climate of land politics.' Globalizations https://doi.org/10.1080/14747731.2021.1979717
14. Galbraith, J. K. (2020) 'Economics and the climate catastrophe. *Globalizations,* https://doi.org/10.1080/14747731.2020.1807858
15. Gills, B. K. (2020) 'Deep Restoration: from the Great Implosion to the Great Awakening.' *Globalizations* 17 (4): 577-579.
16. Gills, B. K. and Hossieni, S. A. H. (2021) 'Transversalism and transformative praxes: Globalization from below.' *Cadmus*, forthcoming.
17. Gills, B. K. and Morgan, J. (2020a) 'Global Climate Emergency: After COP24, climate science, urgency, and the threat to humanity.' *Globalizations,* 17(6): 885-902. https://doi.org/10.1080/14747731.2019.1669915
18. Gills, B. K. and Morgan, J. (2020b) 'Economics and Climate Emergency.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1841527
19. Gills, B. K. and Morgan, J. (2020c) 'Teaching climate complacency: mainstream economics textbooks and the need for transformation in economics education.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1808413
20. Goodman, J. and Anderson, J. (2020) 'From climate change to economic change? Reflections on 'feedback'.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1810499
21. Gore, T. (2020) Confronting carbon inequality. Oxfam, September 21st.
22. Hickel, J. (2020a) 'What does degrowth mean? A few points of clarification.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1812222
23. Hickel, J. (2020b) *Less is More: How Degrowth will Save the World.* Penguin Random House UK.
24. Hickel, J. and Kallis, G. (2020) 'Is Green Growth Possible?' *New Political Economy,* 25(4): 469-486.
25. Hickel, J. Sullivan, D. and Zoomkawala, H. (2021) 'Plunder in the Post-Colonial Era: Quantifying Drain from the Global South Through Unequal Exchange, 1960–2018.' *New Political Economy* https://doi.org/10.1080/13563467.2021.1899153
26. IPCC. (2014) *Synthesis Report.* Geneva: Author.
27. IPCC (2018, October) *Global Warming of 1.5^{0}C: Summary for policymakers*. Geneva
28. IPCC (2021) 'The Physical Science basis Summary for Policy Makers.' Working Group 1 of the IPCC, IPCC 6th Assessment Report (AR6)
29. Jacobs, G. Swilling, M. Nagan, P. Gills, B. and Morgan, J. (2017) 'Quest for a New Paradigm in Economics: A Synthesis of Views of the New Economics Working Group.' *Cadmus* 3(2): 10-44.
30. Jessop, B. and Morgan, J. (2021) 'The Strategic-Relational Approach, Realism and the State: From Regulation Theory to Neoliberalism via Marx and Poulantzas, an interview with Bob Jessop.' *Journal of Critical Realism,* forthcoming.

31. Joughin, I. Shapero, D. Smith, B. Dutrieux, P. and Barham, M. (2021) 'Ice-shelf retreat drives recent Pine Island glacier speedup.' *Science Advances*, 7(24): DOI: 10.1126/sciadv.abg3080
32. Kallis, G. (2018) *In Defence of Degrowth: Opinions and Manifestos.* Uneven Earth Press.
33. Keen, S. (2020) 'The appallingly bad Neoclassical Economics of climate change.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1807856
34. Keyber, Lorenz T and Manfred Lenzen, (2021) '1.5^{0}C degrowth scenarios suggest the need for new mitigation pathways.', *Nature Communication* 12: article 2676 (11 May)
35. Koch, M. and Buch-Hansen, H. (2020) 'In search of a political economy of the postgrowth era.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1807837
36. Lamb, W. Mattioli, G. Levi, S. Roberts, J. Capstick, S. Creutzig, F. Minx, J. Muller-Hansen, F. Culhane, T. and Steinberger, J. (2020) 'Discourses of climate delay.' *Global Sustainability* 3, e17, 1–5. https://doi.org/10.1017/sus.2020.13
37. Liegey, V. and Nelson, A. (2020) *Exploring Degrowth: A Critical Guide.* Pluto Press.
38. Lewis, S. (2021) 'The climate crisis can't be solved by carbon accounting tricks.' *The Guardian*, 3 March. https://www.theguardian.com/commentisfree/2021/mar/03/climate-crisis-carbon-accounting-tricks-big-finance
39. McNeill, J. (2001) *Something New Under the Sun*. London: Penguin.
40. Meyer, B. and Lord, T. (2021) *Planes, Homes and Automobiles: Behaviour Change in Delivering Net Zero.* London: Tony Blair Institute for Global Change. https://institute.global/sites/default/files/articles/Planes-Homes-and-Automobiles-The-Role-of-Behaviour-Change-in-Delivering-Net-Zero.pdf
41. Moore, J. (2015) *Capitalism in the Web of Life.* Verso: London.
42. Morgan, J. (2020) 'Electric Vehicles: The future we made and the problem of unmaking it.' *Cambridge Journal of Economics,* 44(4): 953-977.
43. Newell, P. (2021) *Power Shift: The Global Political Economy of Energy Transitions.* Cambridge: Cambridge University Press.
44. O'Neill, J. (2018) 'How not to argue against growth: happiness, austerity and inequality.' Pp, 141-152 in Rose, H. and Henning, C. (eds.) *The Good Life Beyond Growth* London: Routledge.
45. O'Neill, D. Fanning, A. Lamb, W. and Steinberger J. K. (2018) 'A good life for all within planetary boundaries.' *Nature Sustainability,* 1(2): 88-95.
46. Oreskes, N. and Conway, E. (2010) *Merchants of Doubt.* New York: Bloomsbury.
47. Parrique, T. Barth, J. Briens, F. Kerschner, C. Kraus-Polk, A. Kuokkanen, A. and Spangenberg, J. H. (2019) *Decoupling debunked.* European Environmental Bureau. https://eeb.org/library/decoupling-debunked/
48. Quiggin, D. Meyer, K. Hubble-Rose, L. and Froggatt, A. (2021) *Climate Change Risk Assessment 2021: The risks are compounding and without immediate action the impacts will be devastating.* London: Chatham House. https://www.chathamhouse.org/sites/default/files/2021-09/2021-09-14-climate-change-risk-assessment-quiggin-et-al.pdf
49. Ripple, W. Wolf, C. Newsome, T. Barnard, P. Moomaw, W. (2021a) 'The climate emergency: 2020 in review.' *Scientific American*, January 6th
50. https://www.scientificamerican.com/article/the-climate-emergency-2020-in-review/
51. Ripple, W. Wolf, C. Newsome, T. Gregg, J. Lenton, T. Palomo, I. Eikelboom, J. Law, B. Huq, S. Duffy, P. and Rockström, J. (2021b) 'World Scientists' Warning of a Climate Emergency 2021.' *BioScience* https://doi.org/10.1093/biosci/biab079
52. Sayer, A. (2011) *Why things matter to people.* Cambridge: Cambridge University Press.
53. Sherwood, S., Webb, M., Annan, J., Armour, K., Forster, P., Hargreaves, J., Hegerl, G., Klein, S., Marvel, K., Rohling, E., Watanabe, M., Andrews, T., Braconnot, P., Bretherton, C. S., Foster, G. L., Hausfather, Z., von der Heydt, A. S., Knutti, R., Mauritsen, T., Norris, J. R., Proistosescu, C., Rugenstein, M., Schmidt, G. A., Tokarska, K. B., and Zelinka, M. D. (2020). 'An assessment of Earth's climate sensitivity using multiple lines of evidence.' *Review of Geophysics* 58, e2019RG000678.
54. Smith, R. (2020) *China's Engine of Environmental Collapse.* London: Pluto Press.
55. Steffen, W. and Morgan, J. (2021) 'From the Paris Agreement to the Anthropocene and Planetary Boundaries Framework: An interview with Will Steffen.' *Globalizations*, https://doi.org/10.1080/14747731.2021.1940070
56. Spash, C. (2020a) 'The economy as if people mattered: Revisiting critiques of economic growth in a time of crisis.' *Globalizations* https://doi.org/10.1080/14747731.2020.1761612
57. Spash, C. (2020b) 'Apologists for Growth: Passive Revolutionaries in a Passive Revolution.' *Globalizations,* https://doi.org/10.1080/14747731.2020.1824864
58. Spash, C. (2020c) 'A tale of three paradigms: Realising the revolutionary potential of ecological economics.' *Ecological Economics,* 169: article 106518.

59. Spash, C. and Guisan, A. (2021) 'A future social-ecological economics.' *Real-World Economics Review* 96: 220-233 http://www.paecon.net/PAEReview/issue96/SpashGuisan96.pdf

60. Trainer, T. (2021) 'What does degrowth mean? Some comments on Jason Hickel's 'A few points of clarification.'' *Globalizations,* https://doi.org/10.1080/14747731.2020.1860621

61. UNEP (2020) *Emissions Gap Report.* (eleventh) Nairobi: Author.

62. UNICEF (2021) *The Climate Crisis is a Child Rights Crisis: Introducing the Children's Climate Risk Index.* New York: Author.

63. van Vuuren, D. Stehfest, E. Gernaat, D. van den Berg, M. Bijl, D. de Boer, H. Daioglou, V. Doelman, J. Edelenbosch, O. Harmsen, M. Hof, A. and van Sluisveld, M. (2018) 'Alternative pathways to the 1.5 °C target reduce the need for negative emission technologies.' *Nature Climate Change,* 8: 391-397.

64. Venugopal, R. (2015) 'Neoliberalism as concept.' *Economy and Society,* 44(2): 165-187.

65. Wunderling, N. Donges, J. Kurths, J and Winkelmann, R. (2021) 'Interacting tipping points increase risk of climate domino effects under global warming.' *Earth System Dynamics*, 12: 601-619.

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Terrorism, Security and Democracy:
20 Years after 9/11

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Abstract

This article situates itself in the context of the 20th anniversary of the 9/11 attacks which launched the 'Global War on Terror'—coming shortly after the debacle of the Taliban's triumphant return to power in Afghanistan. The article contends that both terrorism and the war on terrorism have upset the delicate balance between democracy and security, and placed democracy at risk. This article begins by examining the evolution of the nature and scope of terrorism over the past 20 years. It explores critically the vexed nexus and complex relationships between democracy, security and terrorism. Then it delineates the three-fold threat posed to democracy by terrorism and counter-terrorism. It elaborates how these three threats might be not simply countered but indeed transformed through a genuinely democratic response. It seeks to establish that justice, rule of law and the pursuit of human and planetary security are the non-negotiable cornerstones needed today to rescue democracy from these corrosive effects of terrorism and the war on terrorism. The article ends by outlining some key policy recommendations for leaders of global governance that would be essential to rebalance the delicate relationship between democracy, security and terrorism and ensure our collective and planetary wellbeing at this crucial moment of reckoning.

1. Introduction: the vexed nexus between Terrorism, Security & Democracy

On 15 August 2021, the Taliban swept back to power in Kabul. This was less than a month short of the 20th anniversary of the terrorist attacks of 11 September 2001 that launched the global 'war on terror' and precipitated the ouster of the Taliban from power in Afghanistan, in retaliation for their hosting of the Al-Qaeda perpetrators of the attack.

On 7 September 2021, the Taliban announced their caretaker government, sporting a prime minister on the UN's sanctions list and an interior minister on the US' terrorist list, and not a single woman. This came one week before the UN International Day of Democracy celebrated on 15 September each year.

It is in this sobering context that this article addresses the strained nexus between terrorism, security and democracy that has oft raised its head in the last twenty years of the 'war on terror' and deserves renewed scrutiny today.* In effect, the relationship between

* This is a revised and revisited version of a paper originally commissioned and written for the Sixth International UN conference on New or Restored Democracies held in Doha in 2006. It was revisited in light of the 20th anniversary of the terrorist attacks of 11 September that triggered the 'War on Terror', and in the face of the recent debacle of US withdrawal from Afghanistan, ceding power to the Taliban, and abandoning Afghan citizens to a future of heightened insecurity and absence of participatory democracy.

the three keywords that have dominated public discourse and in turn impelled or paralysed political decisions since the calamitous events of 9/11 has become increasingly complex over the past two decades. These keywords—democracy, security and terrorism—are not new for they lie at the core of all debates of democracy since its early infancy in Mesopotamia, Athens and elsewhere.[1] While democracy and security have frequently been challenged through the centuries by extremists, secessionists, terrorists, or other such threats, never have their relationships with each other been more vexed and in need of critical self-examination and honest redress than today.

"In the fight against terrorism, democracies should not only pursue state or homeland security but human security."

At this twentieth anniversary of the 'war on terror', despite the innumerable scholarly, political and public debates fostered by and since 9/11, democracy continues to face particular threats. These threats are threefold.

The first threat is the obvious one that Al-Qaeda-inspired terrorism undermines democracy both deliberately and indirectly, and attacks the security of citizens that is democracy's central asset.

The second is that the attempt to prevent terrorism through democracy promotion, a deliberate strategy of the 'war on terror', has backfired into a broad backlash against democracy promotion initiatives and democracy itself.

Third, the pursuit of the 'war on terror' itself poses a significant threat to democracy by eroding the core values of democracy, namely human rights, rule of law and legitimacy.

In effect, both terrorism and the war on terrorism have upset the delicate balance between democracy and security, and placed democracy at risk.

As we mark sombrely the 20th anniversary, it is more urgent than ever to recognise and redress these three threats and the ways in which they have endangered the fragile balance between security and democracy, and initiated an insidious process of eroding democracy itself.

To counter the first challenge of the threat to democracy from terrorism, the response must be to reintroduce social and distributive justice into both the rhetoric but more importantly the practice of democracy. This alone will resonate with the current and potential sympathisers of terrorists who are alienated by the current practice of 'western democracy' which promotes profit but not its equitable sharing.

Second, to save democracy promotion initiatives from the current backlash, the way in which democracy is fostered and promoted internationally must be fundamentally changed. Its promoters must focus on substantive or moral rather than procedural or pragmatic democracy, and give a higher profile to acceptable and especially non-western proponents while reducing

the visibility of western and especially American proponents. At the same time, in the fight against terrorism, democracies should not only pursue state or homeland security but human security. The ground gained by human security between 1994 and 2001 has been steadily lost to the resurgence of state security concerns after 9/11. State security justifies the pursuit of national security interests even if these are to the detriment of the human security of non-citizens. These reduce the credibility of democracy both nationally and internationally. Citizens of democratic states will only make so many concessions for state security but will be more willing to support their state's pursuit of broader human security.

We have witnessed how this strain between democracy and security has been further stretched in the past two years due to COVID-19. Corona virus confinement has been used by several governments as a convenient excuse to tighten control of their citizens, increase the use of force against them and reduce democratic space—in the name of 'human security' and health, despite the UN's explicit measures to respect democracy alongside protecting the health of citizens. UN Secretary General António Guterres has urged governments to be transparent, responsive and accountable in their COVID-19 response and ensure that any emergency measures are legal, proportionate, necessary and non-discriminatory. "The best response is one that responds proportionately to immediate threats while protecting human rights and the rule of law," he said.[2] It is thus even more important today to address this nexus.

Third, and perhaps most important, the rule of law offers the fulcrum for balancing security and democracy in the fight against terrorism. Citizens will accept some restrictions on their democratic civil liberties in the name of greater securities, at least for a time, but only if these restrictions are seen to be in conformity with the rule of law, both nationally and internationally. If democratic states fighting terrorism in the justifiable pursuit of security violate or bypass the rule of law, they lose legitimacy both with their own citizens and with the world. In the process, they lose both their own democratic credentials and the fight against terrorism. As expressed by Heymann,

> "All *terrorism* can do is expose our deeper values and capacities as a *democracy* by stripping away the comfort of our feeling completely secure against foreign attacks. If underneath our feelings of *security* there lie courage and wisdom, terrorism will lose its capacity to generate a next generation of leaders."[3]

The rest of this article elaborates on these threats and responses to them, in order to recalibrate the delicate balance between terrorism, security and democracy and respond to the real challenges of our times, including the inescapable one of climate emergency.

2. Defining the Scope and Nature of Terrorism

It seems but normal to begin such a discussion with some definitions to delimit the scope of what is under discussion. Yet, the irony of the accentuated attention and seemingly limitless resources devoted to terrorism by the international community over the past twenty years is its continued lack of definitional clarity. There is still no official globally accepted definition of what this iconic keyword of the 21st century actually constitutes.[4]

Attempts at framing and adopting a UN convention on terrorism have been grounded for years due largely to the failure to reach consensus on a definition. Indeed, there have been up to 19 international conventions on terrorism, yet as scholar Jean Boulden reports as recently as 2020 about "the nearly complete, but stalled, UN effort to develop a comprehensive convention against international terrorism. At the core of all of these efforts is the difficulty inherent in attempting to find an agreed definition of terrorism."[5]

Many of the international instruments related to terrorism actually preceded 9/11. The International Convention for the Suppression of the Financing of Terrorism, for example, dates back to December 1999.[6] Indeed the period preceding 9/11 saw a range of UN treaties and conventions on different aspects of terrorism being adopted, as outlined in the detailed review in 2006 by O'Donnell, a long-term UN senior official.[7]

Shortly after 9/11 and especially in the aftermath of the vexed debates surrounding the Iraq invasion in the name of the war on terror, there was a renewed attempt at the UN's 60th anniversary summit in 2005 to seek a consensual definition, but this failed yet again. The Secretary-General's report "Uniting against terrorism: recommendations for a global counter-terrorism strategy" submitted to the General Assembly on 6 September 2006 (A/60/L.62) again eschews any reference to definitions.

Academics generally concur that, 'terrorism is violence or the threat of violence calculated to create an atmosphere of fear and alarm—in a word, to terrorize—and thereby bring about some social or political change.'[8] Terrorism's defining feature is this deliberate design to have an impact beyond the incident through creating fear, and thereby force change in the targeted government or institution. The US State department adopted a broadened definition of terrorism after 9/11: "Premeditated, politically motivated violence perpetrated against non-combatant targets by sub-national groups or clandestine agents."[9]

Al-Qaeda, ISIL and their many related and unrelated offshoots around the world are not the only terrorist outfits active today or in the recent past. Terrorism, as well known and commonly agreed by scholars and policy makers, is not new but has existed historically in many forms. It was already an issue of serious concern on the global agenda well before 9/11. Terrorism has been used as a tactic by many other groups espousing objectives very different from Al-Qaeda and with no linkage to Islamic fundamentalism, or any kind of religious extremism. Examples are ETA in Spain, the LTTE in Sri Lanka, which did not profess any religious affiliation. Multiple political groups of varied hues have included terrorism often as one within a wider panoply of strategies in their struggles for autonomy, self-determination, independence, or other political aims, while some groups have formed only or primarily to pursue terrorist tactics to secure their (purportedly 'legitimate' or illegitimate) aims. Of course, governments themselves have been notorious for utilizing terrorist tactics themselves against real or perceived threats to their power, for example against insurgent forces, opposition movements or simply against civilian protestors, as witnessed during the Arab Spring. Here, the focus is specifically on Al-Qaeda-related terrorism, including ISIL, which has been the main target of the war on terror, as it is here that the most contentious issues of the relationship between democracy, security and terrorism have arisen on the global agenda.

Typologies for terrorism differ. Terrorism expert Paul Wilkinson identifies several distinct types of terrorism according to their objectives, including: nationalist (e.g. IRA); ideological (e.g. Red Brigades in Italy); Religiopolitical (e.g. Hamas); single-issue (e.g. Anti-abortion groups); and last but critically important, state-sponsored or state-supported terrorists.[10] I find it useful to identify at least three major categories of terrorism, based on who sponsors such terrorist acts: (1) non-state terrorism (2) state terrorism and (3) state-cum-non-state or 'amphibolous' terrorism.[11]

Al-Qaeda, ISIL, and other so-called *Jihadi* terrorism that rose to global attention with and since 9/11 have presented some new and defining characteristics: it is more lethal; is religiously driven and religiously justified violence; and has greatly enhanced striking power. Nevertheless, like older forms of terrorism, the form of terrorism they employ remains an, "asymmetric method by which a weaker power seeks to obtain its ends by breaking the will of a stronger power."[12]

What is also unchanged is terrorism's fundamental nature. Terrorism is a tactic, not an ideology or strategy. It is a tactic used by a variety of groups sometimes exclusively, but more often as part of a wider arsenal of tools, including diplomacy or negotiation, to achieve their purposes (e.g. The African National Congress, in South Africa). Hence, it raises the question of how inappropriate and misleading it might be to counter a 'tactic' through a 'war', as the 'war on terror' sought to do since 2001.

A key question is how serious is the threat posed by Jihadi style terrorism that is the focus of the 'war on terror'. Let us compare the situation as it stood at what was then considered the high point of the 'war on terror' after the Iraq war, in 2005-2006, with the situation today. With the broader definition adopted by the US State Department, the number of reported terrorist attacks in 2005 as of data on April 2006, was 11,000, causing 14,600 deaths. However, Iraq alone accounted for 30% of the attacks and 55% of the deaths. 6000 attacks targeted facilities and caused no casualties. In 2005, of 56 American fatalities, 47 were in Iraq. In 2004, there were no attacks on US soil, and the worst incidents, in Beslan, Madrid and the Philippines ferry, were perpetrated by local groups.[13]

The Pew Global Attitudes Project also reported in 2005 a marked decline in Muslim countries in the support for suicide terrorism and violence in the name of Islam: in Jordan, only 29% justified it, down from 57% in 2005, and in Pakistan only 22% down from 25% in 2005 and 41% in 2004 supported it.[14] Confidence in Bin Laden fell across Muslim populations, including in the two countries registering a rise in 2005: in Jordan, 74% reported having no confidence in him compared to 60% who had confidence in 2005; in Pakistan, 30% as against 49% in 2005 had no or minimal confidence.

Let us jump forward to the situation in 2021. As the latest report of the Global Index on Terrorism released in February 2021 is perhaps one of the more comprehensive and reliable current sources, it is worth quoting the relevant sections quite extensively to help frame our enquiry.[15] "In 2019, deaths from terrorism fell for the fifth consecutive year, after peaking in 2014. The total number of deaths fell by 15.5 percent to 13,826. The fall in deaths was mirrored by a reduction in the impact of terrorism, with 103 countries recording an

improvement on their GTI score, compared to 35 that recorded a deterioration." Honing in on the situation of Afghanistan, "The largest fall in the impact of terrorism occurred in Afghanistan, which recorded 1,654 fewer deaths from terrorism in 2018, a 22.4 percent decrease from the prior year. However, Afghanistan remains the country most impacted by terrorism, after overtaking Iraq in 2018." The report was also prescient about the Taliban: "The Taliban remained the world's deadliest terrorist group in 2019. However, terrorist deaths attributed to the group declined by 18 percent to 4,990. Whether the peace talks in Afghanistan have a substantial impact on terrorist activity remains to be seen."[16] Tragically, after the reduction of violence reported in 2019, Afghanistan then saw an epidemic rise of terrorist attacks over the past year, including the vicious targeting of girls' schools in Hazara neighbourhoods of Kabul earlier in 2021, culminating in the Taliban takeover of August.

As ISIL has monopolized the attention of countries waging the 'war on terror', it is important to note what the report states about ISIL attacks and their impact:

> "ISIL's strength and influence continued to decline, with deaths attributed to the group in 2019 falling to 942, down from 1,571 in the previous year. This is the first time since the group became active in 2013, that it was responsible for less than a thousand deaths from terrorism in any one year. The number of terrorist attacks attributed to the group also fell to the lowest level since it was formed, with 339 incidents attributed to the group in 2019. However, despite the decrease in activity from ISIL in the Middle East and North Africa, ISIL's affiliate groups remain active across the world, and have become especially prominent in sub-Saharan Africa where deaths attributed to ISIL affiliates increased. Twenty-seven countries experienced a terrorist attack caused by ISIL or one of its affiliates."[17]

They elaborate further:

> "In the West, ISIL directed or inspired at least 78 terror attacks between 2014 and 2019, resulting in 471 fatalities. France recorded the most ISIL-related terrorism deaths, followed by the United States and Belgium. However, there was only one attack recorded in the West in 2019. Forty-one percent of total ISIL-related attacks in 2019 occurred in sub-Saharan Africa, highlighting the shift in ISIL-related attacks away from the Middle East."[18]

What is worth noting is the attention the report draws to the rise of 'far-right terrorism'. "One of the more worrying trends in the last five years is the surge in far-right political terrorism, even though the absolute number of far-right attacks remains low when compared to other forms of terrorism. In North America, Western Europe, and Oceania, far-right attacks have increased by 250 percent since 2014, with deaths increasing by 709 percent over the same period. There were 89 deaths attributed to far-right terrorists in 2019, with 51 of those occurring in the Christchurch mosque attacks in New Zealand. There have been over 35 far-right terrorist incidents in the West every year for the past five years." Why this is of concern to us and to the counter-terrorism strategies employed by governments is that

"Far-right terrorism is also more likely to be carried out by individuals unaffiliated with a specific terrorist group. Nearly 60 percent of far-right attacks from 1970 to 2019 were carried out by unaffiliated individuals, compared to under ten percent for both far-left and separatist terrorist groups."[19] These unaffiliated lone-wolf terrorist acts are of course much harder to counter, let alone wage war against. Biden's 'National Strategy for Countering Domestic Terrorism' launched in June 2021 signals this.

> *"Governments have retreated from the broad concept of human security that had gained ground during the 1990s, to narrower objectives of state or homeland security."*

In summary, terrorism remains undefined, continues to evolve in its forms and strategies, while counter-terrorism is not always adapted to these evolutions. Today, while long-established democracies particularly in America, Australia and Europe continue to see the offshoots of Al-Qaeda, ISIL and other *'Jihadi'* terrorism as a major existential threat to their democracies, their way of life and their civilisation itself, current statistics and studies paint a more complex picture and indicate otherwise.

3. The Key Issues: The complex relationships between Terrorism, Security and Democracy

Democracy is traditionally seen as a panacea to provide security and civil liberties to citizens and avoid political extremism or terrorism provoked by un-redressed grievances. The oft-cited theory of democratic peace holds that democracies do not wage war against each other. Yet, today, this platitude is being challenged by both research and evidence. Democracy is in crisis; insecurity is on the rise and the threat of terrorism is equally menacing in newly democratising and long-democratic countries.

Terrorism, and equally the fight against terrorism, pose a dual challenge to recent and long-established democracies: terrorism undermines a cherished goal and objective of democracy, that of providing citizens with security and the rule of law; and in responding to terrorism, democracies risk undermining the values of democracy such as the rule of law and human rights that are central to their existence and legitimacy.

The wave of terrorism launched by Al-Qaeda and its offshoots since 2001 not only seeks to create insecurity in its target populations and countries but also deliberately seeks to undermine democracy. 'Western style' democracy is an explicit target of the current wave of terrorism espoused by Osama Bin Laden and like-minded extremist Islamist leaders who have followed him, right up to the recent proclamations by the triumphant Taliban leadership in Kabul.

As far back as the Madrid Summit in March 2005 on 'Democracy, Terrorism and Security', which specifically linked the three keywords of this article, political, academic and

civic leaders present re-emphasised that the fight against terror should not violate the core values of democracy and human rights. I myself was invited as a justice expert to participate in the Summit's working group on human rights, alongside such veteran human rights icons as Juan Méndez and late Asma Jahangir and colleagues from Afghanistan, and I can testify to the vigour with which democratic values and human rights were defended and considered essential allies in response to terrorism in those still 'early years' post the Afghanistan and Iraq invasions. Yet, despite their low comparative casualties especially in Western democracies, compared to other causes of mortality they face, the terrorist threat continues to provide grounds for governments to seek to limit democratic freedoms in the name of security while pursuing terrorists. In doing so, governments have retreated from the broad concept of human security that had gained ground during the 1990s, to narrower objectives of state or homeland security that we believed had been buried in the ashes of the end of the Cold War. The creation of new departments, bureaus and investigative units, like the Homeland Security Unit in the US, has gone apace with more encroaching laws and measures.

This is not only true of the USA, where a free press and articulate critics publicly denounce and debate all transgressions, from Abu Ghraib, Guantanamo, to attempts to change the Geneva Conventions, and the rampant use of drone warfare and its civilian casualties. Troublingly, this is rampant even in countries traditionally associated with humanitarian law and human rights. In Switzerland, a referendum tightening asylum laws and non-European immigration was passed by a 67% majority in September 2006, whereas 63.7% had rejected a similar referendum in 2000 and was lauded as a model by right wing extremist groups across Europe.

Consequently, the initial security measures adopted in the name of counter-terrorism in western democracies have cast their net in ever-widening circles to cover legal and illegal immigrants, foreign residents and asylum seekers as 'suspect' populations. It indirectly fuelled public resentment of foreigners and racist violence, and raised the popularity of extreme right-wing parties as in the Belgian elections of October 2006. In the US, it spilled over into the politicisation of the immigration debate and riots by Latino immigrants. This has continued until the present times, and at the height of the COVID-19 pandemic and in the midst of strict confinement, in May 2020, we witnessed the unstoppable global outburst of the Black Lives Matter movement for institutional justice after the police brutality that led to the killing of George Floyd. In France, in September 2021, President Macron called for a doubling of police presence on city streets, while citizens have been protesting against what they see as the increased securitization and policing of their democracy.[20]

This twenty-year period has also been marked by a souring of relations between Muslim and non-Muslim citizens. In the US while the Muslim population has risen slightly, anti-Muslim sentiment has risen and become more politicised since the Trump era, as reported by Pew.[21] Unfortunately, such divisions have also been rising in Europe, which had been considered relatively tolerant overall in the past. An explosive peak was witnessed in 2006, when an alienated European Muslim community reacted virulently to the Danish cartoons, and Pope Benedict XVI's speech—coincidentally made at the time of International Democracy Day, September 15 in 2006.[22] The Charlie Hebdo attack by Al-Qaeda on 7 January 2015, again for publishing cartoons of the Prophet, hit a nerve across Europe around the borders between

freedom of expression and religious tolerance, though it met with a more balanced response from Pope Francis.[23] The Bataclan attack of 13 November 2015 in Paris was the deadliest attack in France since WWII claiming 130 lives, claimed by the Islamic State, which sent shock waves across Europe. Yet, the trial only opened on September 8, 2021,[24] and the defiant opening posture of the lone surviving defendant Salah Abdeslam, claiming to act as a soldier of the Islamic State in the name of the only true God Allah and his prophet Mohammed, threatens to deepen the rift between Islamic and non-Islamic European populations.

"By making Europe unsafe for and hostile to immigrants and refugees, Europeans are aggravating their own future insecurity, as demographic and economic studies make a compelling case for Europe's increasing need to rely on larger flows of migrant labour to compensate for its aging and declining population."

European governments' largely inhospitable and costly securitized, militaristic response to the heartbreaking refugee crisis—with the exception of few governments like Merkel's Germany—played on this anti-Islamic public sentiment. While large parts of the population were openly supportive of receiving refugees, governments militarised their borders and rejected refugees brutally, in the name of security and terrorist infiltration. Yet, as scholars note, by making Europe unsafe for and hostile to immigrants and refugees, Europeans are aggravating their own future insecurity, as demographic and economic studies make a compelling case for Europe's increasing need to rely on larger flows of migrant labour to compensate for its aging and declining population.[25] Thus immigration and asylum are two casualties of terrorism with potential far-reaching security ramifications.

These are only a few of the aspects of the complex and nuanced relationships between democracy, security and terrorism. It is important to understand these relationships and the threats they pose in order to respond adequately and strike the right balance.

4. Terrorism's Three Threats to Democracy

While democracy is menaced in several ways, three distinct and salient threats are identified here as requiring priority attention.

4.1. Terrorism's Threat to Democracy

Acts of terrorism are always a threat to democracy. Democracies are natural soft targets for terrorists, because of the loopholes their civil liberties and freedoms provide for terrorists to penetrate target sites, and the restrictions democracies place on their government's and military's response to such attacks. Al-Qaeda and ISIL style terrorism pose a particular threat to democracy both indirectly by causing insecurity and directly by deeming democracy to be heretical and anti-Islamic, and hence a legitimate target.

Twenty years after 9/11, and in the absence of any comparable catastrophic attack, incertitude and fear continue to pervade daily life in all capitals and metropoles on both sides of the Atlantic. This insecurity has been generated, I would contend, both by Al-Qaeda and ISIL, as well as by democratic governments fighting them. First, it is due to the sporadic timing and choice of targets by terrorists—public places where ordinary citizens are caught in the midst of normal life. Second, it is due to the targeted governments' choices of reactions to these attacks, through massive crackdowns and security operations that not only paralyse normal life but erode civic liberties. Third, it is due to the high media attention paid to such attacks, despite their relatively low casualties, as compared to the numerous causes of far greater mortalities, creating a climate of fear and suspicion amongst civilians, which both governments and terrorists playoff.

Democracy is also a direct target of the ire of Bin Laden, and subsequent leaders of ISIL, Taliban and other Islamist terrorists. Bin Laden called democracy a 'deviant and misleading practice' and the 'faith of the ignorant', in his message of October 2003. Abu Musab al-Zarqawi openly rejected democracy in the January 2005 Iraqi elections saying that the fact that in a democracy 'the legislator who must be obeyed is a man, and not God,' made democracy 'the very essence of heresy and polytheism and error.'[26] Thus they justify *jihad* against democracies.

In the 'clash of civilisations' thinking popularised by Huntingdon, a popular view has grown that democracy is alien to Islam. Western scholars of Islam claim that Islam does not have a conception of democracy, and that Arabic does not have a word for 'citizen': "the idea of people participating not just in the choice of a ruler but in the conduct of government, is not part of traditional Islam." The Koran emphasises instead obedience to authority, although it requires the ruler to be justly chosen and to exercise authority justly.[27]

However, many Islamic groups have welcomed and participated in elections, such as *Front Islamique du Salut* (FIS) in Algeria in 1990, and *Hamas* in 2006, although for both, their electoral victory had calamitous consequences. The ostracism and complete bottlenecking of funding to the PNA following Hamas's victory has not only aggravated anti-democracy sentiment in many parts of the Muslim world, but also exacted an immense and tragic human toll on impoverished Palestinians. And it has been used to justify the Israeli government's state-sponsored terrorism against Gazan civilians repeatedly, as recently as May 2021. To many Muslims, this is yet another sign of the double standards of western democracy to both condemn Islam as anti-democratic and penalise Muslim parties that participate in democratic elections.

An increasing number of Muslims reported supporting democracy after 9/11, according to Pew: 74% of Jordanians, 70% of Indonesians and 65% of Egyptians, as well as the majority of European Muslims. Rather, it is westerners, especially Germans (42%) and Spaniards (37%), who believe democracy would not work in Islamic countries.[28] The reasons why Muslims and indeed non-Muslim citizens of democracy might be disappointed or disillusioned by the gap between the promises and reality of democracy and its failure to deliver on justice, equity and inclusion, will be underscored later.

4.2. Democracy Promotion under Threat

Democracy has been recognised as an important priority by the world's nations. At its 60th anniversary summit in September 2005, member states established a UN Democracy Trust Fund, and India was its first enthusiastic contributor. Many organisations including the EU, UNDP and a plethora of international and national NGOs have promoted democracy over the past decades. Nevertheless, Washington, spending USD 1 billion spread over 50 countries, is the big weight in democracy promotion. Notwithstanding the gains made in democratization aided by the UN and others, democracy promotion has been caught up in the 'war on terrorism' to negative effect.

As an absence of democracy was seen by the Bush Administration as a main cause of terrorism, democracy promotion was adopted as one key pillar of its counter-terrorism strategy, based on the democratic peace theory that democracies do not go to war with each other. A year after 9/11, the US National Security Strategy of 2002 declared its goal to "extend peace by encouraging free and open societies on every continent." In his second inaugural address, Bush declared, "it is the policy of the United States to seek and support the growth of democratic movements and institutions in every nation and culture, with the ultimate goal of ending tyranny in the world."[29] The wars in Afghanistan and Iraq aimed in part to install democracies exactly for this reason. However, this linear correlation is open to several critical questions.

The first fundamental question is: *do democracy and democratisation really prevent terrorism or war?* The democratic peace theory has been challenged both in theory and experience. Jack Snyder and Edward Mansfield argue, based on copious evidence, that emerging democracies are not more peaceful but rather more belligerent, and more likely to go to war, especially in the early stages when accountability mechanisms are not in place.[30] Furthermore, there is no evidence indicating either a higher prevalence of terrorism in authoritarian countries or a lower prevalence in democratic and free countries, as Gregory Gause compellingly argues: of all terrorist acts reported by the US State Department from 2000 to 2003, the vast majority, 269, were in 'free' countries, 119 in 'partly free' countries and 138 in 'not free' countries (according to Freedom House categories). A study of 1980s terrorism found that the majority of terrorist incidents occurred in democracies and most victims and perpetrators were citizens of democracies.[31]

The second fundamental question is: *would democratisation reduce the first threat presented above of Islamic fundamentalism's opposition to democracy*? Middle East experts Gause and Lewis argue democratic elections today in many Islamic countries would bring to power the very groups who espouse Islamic fundamentalism and are not well-disposed to western-style democracy and US pre-eminence, as Gaza and Iran have already proven. Lewis points out that 'in a genuinely free election, fundamentalists would have several substantial advantages over moderates and reformers.' Thus, democracy promotion may in fact not be in the US's interest, especially in the very region, the Middle East, where its efforts are concentrated. As Gause remarks, "the problem with promoting democracy in the Arab world is not that Arabs don't like democracy; it is that Washington probably would not like the

governments Arab democracy would produce." As a Watson Fellow in 1989-90, I witnessed personally the lead-up to the first democratic elections in Algeria—and the first electoral victory of the FIS, following popular democratic foment in 1990—which was aborted by a military coup and a slide into violent conflict to avoid a fundamentalist-led regime taking power.

The third fundamental question is: *Is democratisation always pursued as the desirable end state for undemocratic countries or rather is there a selective—or opportunistic—case-by-case approach?* Carothers adroitly pinpoints the dilemma Bush faced after 9/11 in his need to balance on the one hand closer relations with autocratic regimes as allies in his fight on terrorism including Pakistan and Saudi Arabia, and on the other to promote democracy to eliminate potential 'breeding grounds' for terrorism.[32] The Bush Administration's mandatory prescription of democracy in Afghanistan, Iraq and Iran, rejection of democratic outcomes in the Palestinian Authority and, rich rewards for unreformed authoritarianism in Pakistan and Saudi Arabia make it difficult to convert a sceptic to the democratic cause.

Fourth, *is democratisation a new form of US interventionism and is 'nation-building' in the name of anti-terrorism simply US imperialism?* The Government of Sudan's intransigent refusal to allow a UN force to mitigate the savage genocide in Darfur on the grounds that it is western imperialism seems completely unjustifiable. The tragedy is that the US's pursuit of nation-building, often with UN support, has roused fears of US imperialism, and made such reservations commonplace. Opinion leaders like Sebastian Mallaby and Francis Fukuyama have urged that liberal democracies had no alternative but to assume the responsibility of imperialism to bring order to dangerously failing states.[33] Even human rights advocate Michael Ignatieff mused that "the case for empire is that it has become, in places like Iraq, the last hope for democracy and stability alike".[34]

The fear of US interference in domestic affairs pervades well beyond war-torn countries like Sudan. Opposition to US-led attempts at democracy promotion to counter terrorism has come not only from the targeted Middle East but more critically from a host of diverse governments across all continents. Carothers maps the extent of the worldwide backlash against democracy promotion from Russia, across Uzbekistan, Belarus and Tajikistan, down to Zimbabwe and across to Venezuela.[35] The colour revolutions and the linkage of local activists with international NGOs and foreign funding have fuelled fear and triggered draconian laws controlling or banning NGOs, including in Uzbekistan, Russia and Zimbabwe. Furthermore, as in Uzbekistan, anti-terrorism security laws are used to suppress such riots and arrest individuals: that is, demands for democracy are explicitly thwarted by governments in the name of security and anti-terrorism. The colour revolutions of Ukraine, Georgia and Kyrgyzstan and their association with western funding triggered security crackdowns by anti-democratic governments on protesters, international NGOs and civil society groups. Governments liberally use anti-terrorism security measures to justify such crackdowns on those demanding liberty and freedom. Consequently, in the guise of the fight against terrorism, 'security', narrowly defined as state or homeland security is the justification used by both democratic states to curb democratic liberties and rights, and by authoritarian states to crush demands for democratic liberties.

The Arab Spring uprisings were perhaps the greatest blow for democracy promotion: as the aspirations of millions of Arab citizens, especially youth, who began demonstrating peacefully for freedom, human rights, equality and democratic participation were repressed violently by their own governments. To their even greater bewilderment, they felt betrayed by the ardent promoters of democracy in the West, and they are continuing to pay double the price for their dream of democracy: continued war at home, and hostile rejection of asylum seekers in the very countries that nourished their dream of democracy. The civic uprising that could have led to the greatest spread of genuine publicly-supported, locally-grounded participatory democracy—as opposed to regime change and democratic imposition from outside—in the long-authoritarian states of the Middle East instead became a death knell for democracy promotion.

The final and most important question is: *'What is being promoted in the name of democracy?'* One of the leading global institutes on democracy, International IDEA, asserted in its 2006 publication that overall, international democracy promotion has been concerned with the form and not with the substance of democracy. Democracy's failure to deliver, state capture by elites, proclivity towards conflict and the perception of international democracy promotion as imperialistic has led to deep public dissatisfaction and a crisis of democracy.[36] Until those genuinely committed to promoting democracy can face up to the tough challenges and contradictory evidence outlined above, and reshape democracy promotion, this erstwhile growth industry may run aground.

Despite this, the longing for genuine democratic participation by citizens weary of tyranny continues today, despite COVID restrictions and governments' oppression: Belarus is a poignant case we have been witnessing through COVID confinement, and we have been impotent witnesses of such democratic aspirations, repeatedly and painfully, in Putin's Russia. So it is time for us all to reclaim what genuine democracy in substance, beyond form, might mean in each specific context and for local citizens to be given their right to determine the shape and nature of their own democracies—beyond costly elections alone.

4.3. The War on Terrorism's Threat to Democracy

The 'war on terrorism' itself has become, inadvertently, a great source of threat to democracy, albeit waged and led by the world's strongest and most prosperous democracies. This threat has two dimensions. First, the determined pursuit by governments of narrowly-conceived national or homeland security to the detriment of broader human security of their own residents and those of other countries have alienated and antagonised populations within and outside these democracies. Second, the reduction of democratic liberties, and violations of the rule of law have corroded democratic values, and eroded democracies' legitimacy at home and abroad.

Describing the first dimension, human rights lawyer Richard Falk observes, "as soon as the choice of violent means is entrusted to human evaluations of effectiveness in supporting a political cause in a given setting, a terrorist ethos is bound to hold sway in circumstances of crisis and pressure."[37] This indeed is what has transpired in Western democracies. In their desperate pursuit of national security in the crisis-environment generated post 9/11, they

resorted to measures that, according to Falk, belie a double standard, are unjustifiable, and are tantamount to terrorism by the state. Human security has been sacrificed by the wayside.

Regarding the second, Heymann rightly cautioned,

> "One of the great dangers of terrorism in every democracy is that it may lead, as it is often intended by terrorists, to self-destructive actions. We must learn never to react to the limited violence of small groups by launching a crusade in which we destroy our unity as a nation or our trust in the fairness and restraint of the institutions of the US govt that control legitimate force."[38]

Yet, this is exactly the backsliding that has occurred as the venerable institutions of the US have lost legitimacy in violating the rule of law and international laws. Leading US human rights and international lawyers like Nancy Baker and Michael Reisman have documented painstakingly each violation of laws in the US-led war on terror.[39] Writing shortly after the Iraq invasion, I have described how the war on terrorism has confounded the rule of law by variously (a) bypassing laws, (b) transgressing laws or (c) simply inventing new laws to meet its perceived needs.[40]

In the pursuit of security, increasingly intrusive means of surveillance and intelligence are being introduced, not just in the US but in many democracies. These may be temporarily tolerated by citizens in the name of security, despite their incursion on civil liberties. Heymann describes the danger that as such 'intelligence states' are built up in climates of suspicion and fear, democratic habits are gradually lost and are hard to recover thereafter.[41] The danger is even more pronounced for new or restored democracies whose populations have barely begun to develop and grow accustomed to new democratic habits. Here the slip back towards intrusive intelligence and law enforcement societies and towards harsh crackdown on suspected opposition is a first step towards a regression to authoritarianism (as Snyder and Mansfield portray), and has to be particularly eschewed. This issue of the loss of hard-won civil liberties even in the most established democracies becomes more acute in the face of what we have witnessed during COVID-19. While governments have by and large purportedly followed WHO-mandated health regulations, there is no doubt that many authoritarian-minded governments have taken advantage of the health justification to extend their oversight and control of citizens. Furthermore, many democratic governments and their citizens seem to be largely oblivious to the loss of democratic space and civic liberties in the name of health, and to their long-term consequences for the health of democracy. We will not diverge here into the polemic discussion of how the vaccination issue is further polarising citizens across the world, and leading to further government control and even criminalisation of citizens who differ, in some democratic states like France.

5. The Democratic Response to the Three Threats

"Counterterrorism actions in democracies reflect the will of citizens, and citizens feel integrated into the overall actions of their government. In contrast, fighting terror with oppression eventually leads to more of both." These words were penned by none other

than the US Undersecretary of State for Democracy and Global Affairs Paula Dobriansky and the US Ambassador at Large for Counterterrorism, Henry Crumpton.[42] This citation alone provides sufficient basis for a radical re-framing of the endangered balance between democracy and security in the war on terrorism. How can this be done? It may appear that the war on terrorism has gone too far, is too set in its ways to be re-adapted or changed. Yet, the humiliating debacle of Afghanistan, and the tough critique the US Administration is facing might provide the opportunity for a change not just in anti-terrorism strategy but in mindset, attitude and even in conscience. The four measures I would recommend are straightforward, and, I would argue, even more pressing today than when I first articulated them in 2006.

5.1. First: Making Justice a Core Foundation of Democracy

"Bush's 'forward strategy of freedom' will never be received as well as an approach stressing justice and dignity, concepts that resonate much more strongly in Muslim societies."[43] These simple words capture the essence of how the first threat to democracy can be mitigated. Bernard Lewis may assert that democracy and citizenship are absent in Islam. However, Islamic scholars and ordinary Muslims around the world testify to the reality that justice is central and fundamental to Islam and with it, dignity and equality.[44] It was the desire for justice and dignity above all that triggered and fuelled the democratic aspirations of the brutally-repressed Arab Spring demonstrators. But this yearning for justice is not limited to the Muslim world alone: the desire for justice is a definitional human aspiration and condition, whose lineage dates back to our oldest ancestry, across all cultures and continents.[45] "Justice is at once philosophical and political, public and intensely private, universal in its existence and yet highly individualized and culturally shaped in its expression", as I had noted in the conclusion of my publication on restoring justice in post-conflict societies.[46] Yet, as with democracy, and the varied forms and expressions it can take across cultures and societies, there is a tendency to 'dumb down' justice to its lowest common denominator, and overgeneralize it, if not to overlook it entirely.

The first reaction to 9/11 from the international community was a call for justice, and Bush launched the 'war on terror' ostensibly to bring the perpetrators to justice. Yet while retributive justice was demanded, there has been no attempt at distributive justice. Percovich laments, "unfortunately the elision of the notion of justice from the president's speech matches its elision from his foreign policy, with the result that in recent years, US diplomacy—public and private—has been limping along on one leg and stumbling."[47] The reversal of this omission of justice and the adoption of social justice in foreign policy has been vehemently argued by influential US scholars including Benjamin Barber, Percovich and Heymann, and demanded by publics in the US, Europe and elsewhere. After the Trump era, it is to be hoped that the Biden Administration will see a revival of justice—notwithstanding the Afghan case.

The political and economic dangers and costs of astronomical inequality and the need for equity have been highlighted since 9/11 as never before by the World Bank, the Economist, the World Economic Forum, and other traditionally conservative sources.[48] Scholars have drawn the link between globalisation's gaping disparities and grievances leading to opposition to western market democracies, and support for terrorism.[49] Yet the world's richest democracies

have shown their unwillingness to narrow global inequalities whether in power (on the UN Security Council), wealth (through fair trade and remittances) and consumption (of energy and the environment). This conduct belies an incomprehensible selfishness, which is alien to the generosity and solidarity preached by Islam and considered normal by all Muslims. Further, the quotidian indignity and humiliation faced by Muslims whether in Guantanamo and Abu Ghraib or in airports, streets and border crossings, and the common practices of scapegoating, stereotyping and racial profiling, often displayed on television screens add to the sense of injustice.

The absence of the values of justice and dignity in the political and economic conduct of prosperous democratic nations casts aspersions on the value of democracy itself. IDEA observes "democracy is not only about elections. It is also about distributive and social justice". Percovich cogently argues, "ultimately, however, freedom is not enough; the human appetite for justice is inherent and inextinguishable", as proven by emerging psychological evidence. Barber decries the ills of a globalised, homogenised 'McWorld' and evocatively calls upon the US, UK and their allies to open up a second civic and democratic front advanced "not only in the name of retributive justice and secularist interests but in the name of distributive justice and religious pluralism".[50]

The only way to rescue democracy from this taint of selfishness and injustice is for democratic countries to commit to justice not just in words, but more importantly in actions. They cannot accept the exclusion, marginalisation and humiliation of parts of their own resident population, whether ethnic or religious minorities, the homeless, asylum seekers or immigrants, and must seek inclusion of all groups as equal members of the polity. They can no longer be piecemeal fractional increases in aid while forcing unfair trade rules on the poor or rejecting migrant labour and cutting off their remittances to home countries. Rich democracies must prepare now for the real prospect of sharing power as well as the resources of and responsibility of care towards our home planet with the rest of the world. This may seem a stretch of the imagination, but several rich democracies have prospered while pursuing justice and inclusion, and have enjoyed great popularity and legitimacy with their domestic population for doing so. Notable are Sweden, Norway who give large ODA contributions, and Canada which is a model of social integration and dignified inclusion of its diverse immigrant population. Lessons can be learned from their experiences.

Governments of rich democracies are actually out of step with their own opinion leaders and with a vast swathe of their citizens, who have been demanding just such a redistribution of the benefits of globalisation ever since 1999 through the global justice movement which has mobilised millions across the US and Europe. It is time governments listened to the real wishes of their people and respected the founding ethos of equality and dignity of all humans which gave birth to democracy. If more western democracies were seen to be just, generous and respectful, Bin Laden's exhortations that democracy is heresy would have no appeal for Muslim populations and democracy would no longer be under threat from terrorists. It is only when established democracies have conducted this basic but fundamental internal reform and restored justice to the centre of their democracies that they can go forth and promote democracy abroad.

5.2. Second: Reshaping Democracy promotion away from (externally imposed) form to (internally shaped) substance.

Democracy is often reduced to its most visible lowest common denominator—elections. However, there are two conceptions of democracy. The pragmatic view or 'formal' democracy is indeed simply summed up as government by, for and of the people, for which periodic elections are a proxy. However, the moral view or 'substantive' democracy is 'more than majority rule disciplined by checks and balances'; "democracies don't just serve majority interests, they accord individuals intrinsic respect".[51]

Ultimately democracy can only emerge in a country if it is primarily shaped and driven by a majority of people within the society and not externally imposed. Like justice, democracy too needs to be culturally relevant in order for it to be acceptable and respected; and for this it has to be shaped and evolved by the local population to their cultural values and context, free of political agendas and economic vested interests. However, to the extent that international facilitation and assistance to civil society can accelerate and amplify this essentially domestic process, democracy promotion needs to radically overhaul its motivations and methodology to be acceptable and effective. It must shift from a merely pragmatic focus on the institutions of democracy through the conduct of regular elections, to a focus on normative and substantive democracy. The term 'democratic practice' has been proposed by International IDEA to capture this notion of a process and ethos that goes beyond the form and institutions. It includes devolution of power and making the voiceless and marginalised feel included and heard. It also requires meeting the human needs of citizens and ensuring distributive and social justice as alluded to above. Democratisation must deliver on fostering inclusion and reducing inequality.

Snyder and Mansfield recommend as well the fundamental importance of following the right order in democratisation and not missing steps to eschew the danger of new democracies returning to war. First, the values of democracy and the rule of law must be instilled before proceeding to elections. Without the checks and balances and practice of accountability, elections can be held ransom, and governance institutions can be too easily hijacked. This would explain the high rate of relapse into conflict in post-conflict societies—in upto 50% of cases—as in Haiti and Angola.

Who is seen to be promoting democracy is also important. If the democratic countries preaching democracy abroad have not themselves adopted substantive democratic practice based on justice, inclusion and equity, they will be ill-equipped to transfer this to new democracies they support and the enterprise will fail. This is why internal reform of established democracies noted above, is the first step. Ensuring that democracy promoters themselves do not eschew or violate justice, rule of law and democratic liberties is essential before they proselytise.

Given the many challenges and critiques facing democracy promotion today due to its association with the US-led war on terror, it would also be expedient for the US to maintain

a low profile for the present time and to allow other actors perceived as less self-interested and more legitimate to take the lead. New and restored democracies should take the lead as they might be more acceptable advocates of democracy's intrinsic benefits and also be able to impart early challenges and lessons learned to their counterparts.

5.3. Third: Re-expanding state security to encompass and respect human and planetary security

The concept of human security gained rapid ground from its launching into the public domain by UNDP in 1994 till September 2001, winning major victories along its way such as the landmines treaty and the establishment of the international criminal court. Since 9/11, national security has re-emerged from cold storage to reassert its predominance. The security measures adopted in counter-terrorism strategies since 9/11 have not promoted the human security of either its own citizens or those abroad, and that was not their design. The securitization and remilitarisation of the world's poorest continent, Africa, by the US as part of its war on terror have had a catastrophic impact on the human security of impoverished Africans, as chillingly documented by Padraig Carmody.[52] This resurgence of national security in the face of a terrorist threat which exemplifies the borderless nature of today's world and the limits of sovereignty is paradoxical. As Falk notes, "…the idea of national security in a world of states is becoming obsolete and that the only viable security is what is increasingly called these days, "human security". Yet the news has not reached Washington, or for that matter, the other capitals of the world."[53]

Many democratic citizens are appalled by the security measures taken in their name which violate not only their own liberties but also the human security of distant strangers. As Heymann poignantly says, "What we must do is ensure that no one assumes the American people would willingly buy a small amount of increased safety in exchange for the torture, detention or imprisonment of innocents abroad."[54] Ultimately, if democracies appear not to care about the security of non-citizens and foreigners, they expose themselves to a greater risk of attack by aggrieved terrorists and to lack of support from potential allies.

It is imperative that the strides of national security be corrected rapidly by a return of human security. It is important to underline that human security, despite its anthropocentric semantics, includes ecological and environmental security in its remit. This is crucial in today's context of undeniable climate emergency, underlined by the Sixth Intergovernmental Panel on Climate Change's August 2021 Report seen by the UN as a "code red for humanity". There is inadequate space here to discuss both the damage to the environment through terrorism and the war on terrorism as well as the attention and resources that have been diverted from addressing the most major threat to planetary and human security and indeed survival, but it is of paramount importance. For all these reasons, counter-terrorism measures must be cast through the lens of human security, and a judgment must be made as to whether each measure furthers or at minimum does not hinder the human—including planetary—security of citizens and non-citizens at home and abroad, and of planetary security as a whole—and indeed that counter-terrorism be put in its correct perspective vis-a-vis other existential threats requiring collective responses and resources.

5.4. Fourth: Recasting the 'war on terrorism' within the rule of law

The terrorist acts of 9/11 and those that followed were greeted with shock by the world at large, with some minor exceptions, because it outraged the human sense of what is right, and what is legitimate; it violated the rule of law. All terrorist groups eventually lose their support exactly because the barbarity and lawlessness of their acts in targeting innocent civilians alienate their constituency, as was seen with Bin Laden's waning popularity, well before his capture and summary execution at sea.

> *"Democracy is not about perfection: it is as fallible as the human beings who choose it as their political system and as the humans they put in place to guide it."*

However, states are more beholden to uphold the rule of law than non-state actors, and this is what their citizens expect of them. The war on terror has faced many criticisms but the harshest has been for its violations of the rule of law and human rights. Several scholars have critiqued the US Administration for misdiagnosing terrorism and launching a 'war' against it. They have underscored that even wars and states of emergencies are subject under international law to rules, codes of conduct and non-derogable rights.

The Achilles' heel of the architects of the war against terror and the erosion of their own democracies will prove to be their violations of the rule of law. The only way out is to return systematically to the path of the rule of law. As expressed by eminent Sudanese scholar An-Na'im, the rule of law is "the only effective and sustainable response to the reality of our shared vulnerability as human beings everywhere—even the most privileged and apparently secure persons and groups".[55] Seeking cover under the veneer of legality through hastily passed executive decrees or bills will no longer suffice; new laws may legalise the government's actions but will not legitimise them in public eyes. Government actions must be commonly perceived as just, legitimate and acceptable. There are valuable lessons to be learned from countries which did successfully meet terrorist threats while respecting the rule of law. Italy in the pursuit of the Red Brigade and the UK with the IRA are two examples, albeit neither is far from perfect nor totally accountable.[56] Neither was perfect and some excesses occurred, but the willingness of the governments to accept their mistakes, subject themselves to judicial enquiry and correction, and review and recalibrate their measures is exemplary. Citizens are forgiving of their governments when they accept accountability for their unintended mistakes.

Indeed the rule of law will be the fulcrum for reaching the balance between security and democracy. Unconstrained by the rule of law, security becomes repressive and democracy becomes unaccountable. Citizens will accept some concessions on their democratic liberties if they see their governments acting accountably under the rule of law. However, they will withdraw both consent and support if their government's actions, however effective they may claim to be, are unaccountable and violate the rule of law.

6. Conclusion: Justice, Human and Planetary Security, and Rule of Law to Rescue Democracy

Most experts on terrorism from Wilkinson to Heymann caution that the total eradication or disappearance of terrorism from democratic societies may never happen. There will be a continued need for new and established democracies to take firm and effective security measures to prevent terrorist attacks, and this is natural and understandable. Thus, the need to seek the fine balance between security and democracy will remain a constant challenge for some time. It is timely now to assess and correct mistakes made so far, and to learn and apply the successful lessons of past experiences in countering terrorism within democracies, such as in Italy, the UK and Germany.

We have spelt out the three main threats posed by the disequilibrium between democracy and security in the fight against terrorism, and suggested how each of these threats could be met. To summarise, justice (requiring both inclusion and equity), substantive democratic practice, human security and the rule of law are the central pillars to re-equilibrate security and democracy, and, in the process to save democracy from becoming a victim to both terrorism, and the war on terrorism. To conclude, there is no contradiction between security, understood as real 'human security,' and democracy understood as substantive 'democratic practice' in the fight against terrorism. The problem arises when state security alone is defended to the absence or detriment of human security and when democratic processes like elections are proposed or imposed in the absence of democratic practice and values. This adds fervour to Bin Laden's castigation of democracy as heresy and provides *'Jihadi'* terrorism with ready converts to their cause. It also alienates the majority of the population of democracies who do not like their governments abusing the rights, dignities and human security of their own compatriots or of distant strangers in their name.

Democracy is not about perfection: it is as fallible as the human beings who choose it as their political system and as the humans they put in place to guide it. These leaders must know that while their constituencies do not expect perfection, they do expect accountability, legitimacy and truth. Publics will not accept for long a government that lies, cheats or robs them of the liberty and justice so precious to them without providing them with security. Democratic governments fighting terrorism need to recognise the importance of popular consent both to meet their security challenges but also to ensure their own longevity in power. They should concentrate their efforts now on seeking legitimacy in all their actions. In this, justice, inclusion and equity will be the keys to balancing democracy and security, and to counter terrorism as well. It is in so doing that Al-Qaeda and all other forms of terrorism will recede as threats to democracies.

Above all, it is high time for governments and indeed all citizens to ensure that taxpayers' resources and attention are devoted to the real threats and challenges we face in proportionate measure. It is also time to go beyond the anthropocentric preoccupation with the security of our species alone, to concern ourselves with the security and wellbeing of the other forms of life with whom we share our planetary home, and whose extinction we are causing on an accelerating scale. The now inescapably imminent threat of climate emergency cannot be dealt

with through cheap, short term and quick-fix measures, as we have done so far. COVID-19 is showing us how our neglect of climate and pollution paved the way for this unprecedented health crisis, although governments have dealt with COVID primarily as a security threat—another war to be waged and won in the terminology of many governments—rather than addressing the obvious ecological underpinnings of what made humanity susceptible to this virus and its virulent spread. Now that we have passed the 'red line' on climate change, now that we have had a bitter taste of what a single virus can do to our species, it is imperative that we rebalance our attention to terrorism and state security with the larger security and wellbeing of Planet Earth. Indeed, it is to be hoped that this looming threat signalled by the IPCC's August 2021 report will shake humanity out of its torpor and its obsession with terrorism and state security to attend to the integral security and well-being of the indivisible family of life.[57]

7. Next Steps: Immediate Policy Recommendations for Leaders of Global Governance

A first step for all governments of the United Nations would be to subject their own anti-terrorism strategy to critical scrutiny to ensure it does not slip into any of the pitfalls above and endanger democracy. It is recommended that states review their anti-terrorism strategies to ensure that the following points are fully and thoughtfully considered, and to undertake to adjust their strategy accordingly. Civil society organisations better equipped to conduct such audits may offer their services to governments to assist in this, or be approached directly by governments for assistance.

1. **Inclusion and Integration policy:** Review counter-terrorism strategy to ensure that no group feels alienated, marginalised or humiliated. Upon each such incident of individual mistreatment, use media carefully for a public apology to the victim and community/group. Wherever possible ensure that security measures apply evenly to the full population. Explain publicly any policy that requires particular measures for certain groups.
2. **Immigration Policy:** Review recently passed laws and measures affecting resident aliens and new immigrants. Are they warranted by security concerns? Do they cast an unfair burden upon immigrants? Do they disadvantage them economically, e.g. restrictions on remittances affecting families in home countries? Do they disadvantage your own country economically, e.g. by reducing the required work force to meet the economy's needs? Do they fuel racism and extremist groups? Adapt policy accordingly. Explain publicly the economic need and benefits of immigration to the country's economy and counter all symptoms and incidents of racism.
3. **Rule of Law:** Conduct an audit on all security measures undertaken under counter-terrorism in terms of compliance or deviation from the rule of law, constitutional rights and international human rights and humanitarian law. In consultation with the judiciary and civic human rights advocates map out how the security measures can be brought back in line with the rule of law without compromising state security. Wherever this is impossible due to incommensurable state security concerns, explain publicly why such

measures are required, and how the state authorities will remain accountable for any excess**.**

4. **Equity:** A longer term measure that must be initiated now, in collaboration with the finance ministry and development NGOs is an audit of the state of inequality within the country, and the level of alienation or marginalisation of impoverished groups. Consider measures to redress inequality within the country. Also, review development aid and trade policies and consider the trade offs that would be acceptable to the local population and trade concessions that could be made to reduce global inequality without too significantly reducing national wealth. Explain such changed trade and aid policies publicly to win trust.

5. **Planetary Security and Well-being of all Life**: An immediate first recommendation is for governments to do an ecological audit of their anti-terrorism and state security programmes, and to commit to reversing all environmental damage that worsens climate change. As noted above, the preoccupation with terrorism and state security needs to be balanced with attention to planetary security and long-term regenerative solutions to climate crisis requiring changed mindsets, consciousness, lifestyles and economies.

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Notes

1. Raul S Manglapus, "Mesopotamia: Earliest Formal Democracy?" *Asia Pacific Report*, Number 66, 26th December 2004.
2. Antonio Gutierrez, cited at https://www.un.org/en/observances/democracy-day ; "COVID-19 and Human Rights We are all in this together" *United Nations*, April 2020. https://www.un.org/sites/un2.un.org/files/un_policy_brief_on_human_rights_and_covid_23_april_2020.pdf.
3. Philip Heymann, *Terrorism, Freedom and Security*: W*inning without War* (Cambridge: MIT Press, 2003), p. 179.
4. Henok Kebede Bekele, Problem of Defining Terrorism under International Law: Definition by the Appeal Chamber of Special Tribunal for Lebanon as a Solution to the Problem, *Beijing Law Review*, Vol 12, No 2, June 2021.
5. Jane Boulden, the UN General Assembly and Terrorism, in Ben Saul ed . *Research Handbook on International Law and Terrorism*, Edward Elgar publishing, 2020, pp 493-505.
6. UN Treaties: https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XVIII-11&chapter=18&clang=_en
7. Daniel O'Donnell, "International treaties against terrorism and the use of terrorism during armed conflict and by armed forces", *International Review of the Red Cross*, Volume 88 Number 864 December 2006, pp. 853-880.
8. Brian Jenkins, "International Terrorism: the Other World War" in Charles Kegley, Jr., *The New Global Terrorism: Characteristics, Causes, Controls,* (NJ: Prentice Hall, 2003), pp. 15-26, (p. 16)
9. (US Department of State, *Country Reports on Terrorism*, released by the Office of the Coordinator for counterterrorism, April 28 2006, www.state.gov)
10. Paul Wilkinson, *Terrorism and Liberal Democracy*, (London: Frank Cass, 2000), pp. 19-21.
11. Mani, 'Attacking the Roots: Peacebuilding and Terrorism', in Thomas Weiss and Jane Boulden (eds.), *Terrorism and the United Nations: Before and After September 11* (University of Chicago Press, 2004), pp. 219-242.
12. Andrew Tan and Kumar Ramakrishna *The New Terrorism: Anatomy, Trends and Counter-Strategies,* (Eastern Universities Press: Singapore, 2002), pp 6-9 (p.9)
13. US State Department, *Country Reports 2005 and 2004* respectively
14. All references to Pew draw on, The Pew Global Attitudes Project, "The Great Divide: How Westerners and Muslims View Each Other", (Washington, D.C., 22 June 2006) and "Islamic Extremism: Common Concern for Muslim and Western Publics" (14 July, 2005).

15. Institute for Economics and Peace, **Global Terrorism Index 2020**: **Measuring the Impact of Terrorism**, Sydney, February 2021, p. 2.
16. Ibid., p. 4.
17. Ibid, p. 2
18. Ibid. p 5.
19. Ibid. p3.
20. RFI, "Macron aims to double police presence, increase oversight" 14 September 2021, https://www.rfi.fr/en/france/20210914-macron-aims-to-double-police-presence-increase-oversight
21. Besheer Mohamed, "Muslims are a growing presence in U.S., but still face negative views from the public", 1 September, 2021, Pew, https://www.pewresearch.org/fact-tank/2021/09/01/muslims-are-a-growing-presence-in-u-s-but-still-face-negative-views-from-the-public/
22. Jeffrey Donovan, "Islam: Pope sparks controversy with Jihad remarks" *Radio Free Europe*, September 15, 2006, https://www.rferl.org/a/1071361.html
23. BBC: 'Paris attacks: Pope Francis says freedom of speech has limits', 15 January 2015.
24. France24: "Marathon trial begins over November 2015 Paris jihadist attacks", *France24*, 8 September 2021. https://www.france24.com/en/france/20210908-marathon-trial-begins-over-november-2015-paris-jihadist-attacks
25. Paul Ames, Experts: Security Future is Bleak, Associated Press, October 3, 2006, International Migration Organisation, *World Migration Report 2005* (IOM Geneva 2006).
26. Gregory Gause III, "Can Democracy Stop Terrorism?" *Foreign Affairs*, vol 84, no. 5, Sept/Oct 2005, p 62.
27. Bernard Lewis, "Freedom and Justice in the Modern Middle East", *Foreign Affairs*, vol. 84, no. 3, (May/June 2005).
28. Pew ibid.
29. Cited by Ted Galen Carpenter, "The Imperial Lure: Nation Building as a US Response to Terrorism", *Mediterranean Quarterly* vol 17, no.1 (2006) pp. 34-47.
30. Edward Mansfield and Jack Snyder, *Electing to Fight: Why Emerging Democracies go to War* (Cambridge: MIT Press, 2005), see review article by John Owen IV, "Iraq and the Democratic Peace", *Foreign Affairs*, Vol 84, no. 6, Nov/dec 2005, p. 122.
31. Gause, op.cit.
32. Thomas Carothers, "Promoting Democracy and Fighting Terror", *Foreign Affairs*, January/February 2003
33. Cited by Carpenter, op.cit.
34. American Empire: The Burden." *New York Times Magazine* January 5, 2003. Ignatieff, Michael.
35. Thomas Carothers, "The Backlash against Democracy Promotion", *Foreign Affairs*, Vol 85, Issue 2, March/April 2006, p. 55.
36. International IDEA, "Pursuing Peace in the 21st Century: Why Democracy matters for Human Security", *Policy Summary* (IDEA: Stockholm, August-October 2006)
37. Richard Falk, "A Dual Reality: Terrorism against the State and Terrorism by the State", in Charles Kegley, Jr., *The New Global Terrorism: Characteristics, Causes, Controls,* (NJ: Prentice Hall, 2003), pp. 53-59 (p. 55)
38. Phillip Heymann, *Terrorism and America: A commonsense strategy for a democratic society* (Cambridge: MIT Press, 2000/2001), p. 158
39. Nancy Baker, "National Security versus Civil Liberties", *Presidential Studies Quarterly*, Vol.33, Issue 3, 2003, pp 547; Michael Reisman, "International Legal Responses to Terrorism", *Houston Journal of International Law,* Vol.22. Issue 1, 1999.
40. Rama Mani, "In Pursuit of an Antidote: The Response to 11 September and the Rule of Law', *Journal for Conflict, Security and Development*, vol. 3, no. 1, April 2003.
41. Heymann, Chapter 7, "The Problem of Drifting into an "Intelligence State"", in *Terrorism, Freedom and Security*, pp. 133-157.
42. In their "Tyranny and Terror", *Foreign Affairs*, Jan/Feb 2006.
43. Zeyno Baran, "Fighting the War of Ideas", *Foreign Affairs*, vol 84, issue 6, Nov/Dec 2005, p 79.
44. Abbas Mirakhor, Abbas and Hossein Askari, *Conceptions of Justice from Earliest History to Islam*, Palgrave, Macmillan, 2019.
45. While the lineage of studies of justice is legion, dating back to Aristotle, Confucius, and Plato, see eg Martha Nussbaum, *f,* Harvard University Press 2006, Amartya Sen, *The Idea of Justice*, Harvard University Press, 2009; John Rawls, *A theory of Justice*, Harvard University Press 1971.
46. Rama Mani, *Beyond Retribution: Seeking Justice in the Shadows of War,* Polity/Blackwell, 2002, 2007, p. 186.
47. George Percovich, "Giving Justice its Due" *Foreign Affairs* July Aug 2005, vol 84, issue 4, pg 79

48. *World Development Report 2006: Equity and Development* (World Bank: 2006), especially. pp.6-7; "Why Inequality Matters", in *Human Development Report 2005* (United Nations Development Program, 2005), pp.5-11
49. See e.g. Benjamin Barber, "the Era of Jihad versus McWorld", in Ken Booth and Tim Dunne eds. *Worlds in Collision, Terror and the Future of Global Order* (Palgrave: Houndsmill, 2002), pp. 245-262 and *Jihad vs McWorld* (New York, Ballentine Books, 1996); Ibrahim Elnur, "11 September and the Widening North-South Gap: Root Causes of Terrorism in the Global Order", *Arab Studies Quarterly*, vol 25, Issue 1-2, 2003, p.57; Marjorie Cohn, "Understanding, Responding to and Preventing Terrorism", *Arab Studies Quarterly vol 24,* 2002, pp. 25.
50. IDEA, op.cit; Percovich, op.cit, Benjamin Barber, p. 246
51. Michael Ignatieff, *The Lesser Evil : Political Ethics in an Age of Terror* (Edinburgh University Press : Edinburgh, 2004), p. 5
52. Padraig Carmody, "Transforming globalization and security: Africa and America post-9/11." *Africa today* (2005), pp. 97-120.
53. Falk, "The Aftermath of 9/11 and the Search for Limits: In Defence of Just War Thinking", in Kegley, op.cit, pp. 216-222 (p. 222).
54. Heymann, *Terrorism, Freedom and Security,* p. 113
55. Abdullahi Ahmed An-Na'im, "Upholding International Legality Against Islamic and American *Jihad*", in Booth and Dunne, pp. 162-171 (p. 165).
56. See Wilkinson for discussion.
57. See Humanity Charter, a collective vision for our times, at https://www.homeforhumanity.earth/humanity-charter

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Moving from the Pandemic to a Global Culture of Peace

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Abstract

The COVID-19 pandemic has not only affected people's health and livelihood around the world, it has caused social upheaval in many nations and is creating a lasting impact on relations between individuals, communities and nations. The need for a culture of peace has never been greater. The Inter-Parliamentary Coalition for Global Ethics (IPCGE) calls for mandatory education for the implementation of the culture of peace and SDGs, as well as the Development of a "Ministry of Peace" in UN member states.to achieve this goal. The Council of Europe has issued a written document to support this initiative. A parallel initiative calls for the UN to declare a "Global Day of Giving" to promote individual acts of volunteering to fill in the gaps in areas where the government cannot fulfil all of societies' needs as experienced by all nations during the pandemic. The recent global chaos in the social, health and economic arenas brought about by the COVID-19 pandemic has further highlighted the crucial need for initiatives to help society recover from this trauma.

Throughout the years since the founding of the United Nations in 1945, many multinational treaties on issues such as human rights, terrorism, international crime, refugees, disarmament, protection of the environment, business ethics, and social justice have been enacted through the efforts of the United Nations to achieve sustainable global peace and stability. The U.N. organs, agencies, programs and bodies work tirelessly to implement the goals of the United Nations as specified in the U.N. Charter including: keeping peace throughout the world; developing friendly relations among nations; helping nations work together to improve the lives of poor people; encourage respect for each other's rights and freedoms; serving as a center for harmonizing the actions of nations to achieve these goals. The recent United Nations Sustainable Development Goals (SDGs) encompass many of these goals for the next decade. Towards these ends, the General Assembly has passed a series of resolutions towards the creation of a global Culture of Peace, a concept introduced to the United Nations by the former Director General of UNESCO H.E. Prof. Federico Mayor. These resolutions form the foundation for a Culture of Peace, especially necessary in areas of conflict as well as in all societies and nations torn by internal conflict and violence. Goal 16 of the UN SDGs aims to develop peaceful and inclusive societies in order to accomplish all the stated goals.

The Inter-Parliamentary Coalition for Global Ethics (IPCGE) has been established as a resource for parliamentarians, religious and civic leaders from all U.N. member states towards the goal to assure the implementation and legislation in member parliaments of

the universal values of "global ethics" which we share and to act together for prevention of international and national conflicts which pose a threat to freedom, human rights and environmental protection across the globe.

> *"Peace is not only a political problem defined by the absence of violence and war but is also characterized by the liberation of fear and includes political, cultural, economic, environmental, social and educational issues."*

The overall initiative calls for parliamentarians to commit to initiate legislation on mandatory education for the implementation of a culture of peace in their respective parliaments. Religious and spiritual leaders are called upon to teach their followers and supporters the values and concepts of a culture of peace as inherent in global ethics and the law of the land; educators are tasked with implementing education for a culture of peace in the educational system; civic leaders are invited to join the effort to imprint the values of a culture of peace in civil society. Through the energetic support of Spanish Senator Gutierrez, the Council of Europe has issued a written document to support this initiative. The recent global chaos in the social, health and economic arenas brought about by the COVID-19 pandemic has further highlighted the crucial need for our initiative to help society recover from this trauma.

In a 2019 webinar held in partnership with the World Academy of Art and Science, former Speaker of the parliament of Madagascar, H.E. Jean Max Rakotomamonjy, presented an additional view which has been adapted by the IPCGE as a supplement to the ongoing initiative to implement a culture of peace. In the words of His Excellency: "Today, we are actually facing one of the biggest world crises with the COVID-19 pandemic, it is time to show support for each other and bring down all barriers. Today, good health system and infrastructures are key conditions in order to better fight the pandemic. However, in all countries affected by war, conflicts and internal tensions, there is a lack of capacity to detect and slow down the spread of the virus."

This explains why the UN first called on a Global cease fire on March 23, 2020. This could seem like a quest that would fall on the deaf ears of guerrillas, terrorists and belligerent governments across the globe. In addition, COVID-19 has also provoked a series of discriminatory acts across the continents, with different groups being targeted. If the profile of the victims varies from one country to another, there seems to be a common pattern in the discriminatory acts that occurred during the pandemic: most often, the target is generally "the other", the foreigner, a person belonging to an ethnic or cultural minority. The COVID-19 pandemic has reinforced inequalities and exacerbated the problems faced by disadvantaged groups, including access to health care, social assistance, education and employment.

The main challenge is to take this as an opportunity for peace, dialogue and negotiations. In order to do so, we need to invest in peace in a sustainable way. Peace is not only a political problem defined by the absence of violence and war but is also characterized by the liberation of fear and includes political, cultural, economic, environmental, social and educational issues. It involves living together with our differences—whether of sex, language, religion or culture, by promoting universal respect for justice and human rights that such coexistence depends on.

"Over the years, the Guatemalan Secretariat of Peace has succeeded in implementing the UN resolutions on the culture of peace among the indigenous populations and even created an online educational program on the culture of peace."

Since we believe that the environment is important, we have a Ministry of Environment. Since we believe that education is important, we have a Ministry of Education. Same for health and justice that have their own Ministries. What about peace? Why does it sound so unfamiliar to have a Ministry of peace? Because we do not have examples of success? The reality is that we do not want to learn from each other. Is it because we do not know what kind of mandate this Ministry could have? Once again, no it is not. This is not only a concept since we know our needs and many tasks could be attributed to this kind of Ministry. One such example is the Office of Secretariat of Peace created in Guatemala in the aftermath of the civil war in that country in 1997. Over the years, this Secretariat of Peace has succeeded in implementing the UN resolutions on the culture of peace among the indigenous populations and even created an online educational program on the culture of peace. The IPCGE hosted the previous Secretary of Peace at a unique High Level Panel summit at UN headquarters in January 2020 on the eve of the outbreak of the COVID pandemic.

Not enough detailed attention has been given by academics and peace activists as to how the peace perspective can be institutionalized within governments and even parliaments. The peace perspective will not suddenly emerge within government; it has to be worked at. Creating such Ministries and even parliamentarian commissions is a very practical way of working for peace. We may already have peace institutes, national platforms working on a culture of peace or a national peace strategy, but we can have more impact, better coordination and mobilization of resources within a public administration fully dedicated to these missions. It would help direct government policy towards non-violent resolution of conflict prior to escalation to violence and seeking peace by peaceful means above all.

The pandemic has not only affected people's health and livelihood around the world, but it has also caused social upheaval in many nations and is creating a lasting impact on relations between individuals, communities and nations. The need for a culture of peace has never been greater.

The IPCGE hopes to promote the Guatemala model presented at the UN High Level Panel summit as a model for all nations to secure a better more peaceful and just world. Another feature of the January 2020 High Level Panel was the notion that societies cannot function without the voluntary actions and contributions of ordinary civilians and citizens. This was most evident during the pandemic when it became clear in all affected nations that the government alone could not supply the sustainable needs of its citizens without the voluntary contribution of organizations and individuals. Towards that end the IPCGE in coordination with various NGOs is initiating a Global Day of Giving to be presented as a resolution to the UN General Assembly. We hope to gain global support for this most crucial endeavor. One immediate project will be the "Art of Giving" and "The Art of Peace" global art competitions for youth, an endeavor which hopefully will bring these messages to the youth and through them to the adults. We hope all these goals will be met successfully in partnership with the World Academy of Art and Science as they truly represent the values of the founders for the Academy to serve as "a forum for reflective scientists, artists, and scholars dedicated to addressing the pressing challenges confronting humanity today independent of political boundaries or limits".

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The Present Silent Revolution

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Abstract

A silent revolution occurs per definition outside our views. The present silent revolution is the unprecedented shift of focus away from numbers towards values. At a time of crisis where all numbers fail us, the future of the world is opened, directed, and saved through values. Numbers represent the inhuman side of life, whereas values represent the human quality of life. Numbers are subject to time, values stay objective in time and have an eternal nature. Numbers are abstract. Values are derived from truth. The present silent revolution is born from and supported by human values such as collaboration, harmony and unity.

1. Introduction

Silent revolutions are the most effective revolutions. With a silent movement, they change our societies by changing our social outlook and views, our social feelings, even emotions, and change our basis of social functioning. Nobody is opposing these changes as we think and feel they are our own, that they originate from ourselves.

2. The Nature of the Silent Revolution

A silent revolution starts with a few pioneers who have a vision and try to implement that vision in their lives and work. Their success breeds followers and more creative ideas for implementation. The larger society does not notice and in case it notices, it cannot follow as it is organized along different lines, very large lines for that matter. The pioneers and followers lay the groundwork for the coming silent revolution.

At a certain point in time, the weight and mass of the movement are sufficient to accelerate the movement substantially and call in the support of the Zeitgeist. The Zeitgeist moves us at a subconscious level. Obviously, we cannot resist the subconscious as we are by definition not aware. Without our knowledge, our thinking moves in another direction, sees a new perspective (even a new worldview) that accommodates our feelings in the process. These are the results of the silent revolution.

3. The Cause of the Present Silent Revolution

Neoliberalism has in its greed and arrogance been the instrument to break down the welfare state from the '80s. The results are: inequality in society keeps growing, insecurities are rising, mental and psychological health is declining, higher education generates unsupportable debts, populism and solidarity are at an unknown level, and at the same time,

the rich are becoming richer and evade paying taxes! The right ingredients for an open revolution, one would think.

> *"The pandemic and the results of climate change are catalysts for the silent revolution that is increasingly dependent on values."*

4. The Present Silent Revolution poses the Solution for Future Society

The question can be asked: What lies under this destruction of our welfare society? What is the cause of this rising inequality? Knowing its larger cause can bring us to the knowledge of reversal.

The answer is simple: numbers. Our present societies are run by numbers and as a result by competition. The factor quality is exchanged for the factor quantity. Quality is based on values, quantity is based on numbers. Values are stable and universal factors grounded in reality, numbers are fluid and variable, subject to time, subject to manipulation, subject to falsification and falsehood and so many factors. Values are trustworthy and secure, numbers generate mistrust and distrust, failure, wrong thinking and doing, greed, blind faith, blind spots and tunnel vision, danger, disaster and destruction, war, poverty, and so forth.

Thus, the numbers have failed us in our being a human society. The inhuman factor has grown exponentially and is not sustainable.

Enters the silent revolution. A revolution based on values and sustainability.

Many have high expectations with regard to solution-based science. But even new science and technology cannot be built by large corporations as they are lodged in the past. Tesla is the best example that large corporations, as they are run by numbers, will not be part of the future. Our future is built by small groups that dare to risk their all for their vision.

5. The Role of the Pandemic & Climate Change in the Silent Revolution

Competition as the ruling principle in our functioning in society is averse to solutions for the pandemic and climate change. Competition is halting progress in major ways.

Our societies and our planet cannot wait for solutions through competition. It needs an approach on war-footing. Without it, we will always run after the facts, after the numbers. The values that can save us are collaboration, harmony, unity.

The pandemic and the results of climate change are catalysts for the silent revolution that is increasingly dependent on values. The projects of the pioneers and followers promote collaboration, they promote harmony with nature, they promote the unity of the earth.

6. What will the Silent Revolution of Values bring us?

What if values are the stuff of which we are made? What if values are the ruling principle

in our lives? What if society changes its perspective from numbers to values? What if values become truth and numbers lose their subjective value?

The implementation of values will bring us freedom, joy, harmony, equality, honesty, trust, and faith in our lives and the planet that we commonly share.

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Individualism and Collectivism:
Reconciling the Values of Freedom & Equality

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Abstract

Individualism and collectivism are two competing philosophical and social movements that have divided the world for centuries. Their origins can be traced back to ancient times. They are founded on different interpretations of the value and place of freedom and equality in society. While their rivalry is ancient, it is also evolving and taking on ever new forms. Their evolution reflects a progression of global society from physical to vital-social and increasing mental levels and forms of consciousness. The clash of values takes many forms in different cultures and settings, but they all arise from the inability to reconcile apparently contradictory values and view them as complementary aspects of a greater truth. Today the unreconciled conflict is exemplified by the growing rivalry between the pluto-democratic capitalism in America and state capitalism in China, but the fissures run within countries and cultures as well as between them. This article traces the development of individualism in the West and positive and negative characteristics associated with its more extreme manifestations in order to understand both the strengths that perpetuate it and the weaknesses that continuously erode its stability. It points to the emergence of a reconciling formula based on a shift from individualism to mature individuality and the prevailing struggle within democratic societies in recent times.

> *"The divisions between the adversaries are no longer defined as a geographic spread between East and West or even between nations and cultures. The center stage of the struggle between values is now within nations and among their own people."*

The age-old rivalry continues today between two sacred universal values—freedom and equality. For ages, the rivalry played itself out on different sides of the planet between cultures with little knowledge and contact with one another and in various forms, permutations and combinations as if humanity were experimenting with all possibilities before finally arriving at a proper balance or synthesis—a complete unifying formula but a richly diversified world culture.

In earlier times, the rivalry presented itself as combat between conformity to tradition versus openness to change, as the contrast between intellectual Athens and militant Sparta, the

Hellenic power of thought and aesthetics and the Roman power of ethics, law and social organization, the dogma of church and the creativity of Renaissance Italy, the proclamations of religious scripture and the enlightenment of experimental science, the stability of monarchy and the convulsions of revolution, the conventions of static feudalism and the expansive dynamism of mercantilism, the massive power of empire and the convulsions of nascent nationalism, and during the latter half of the 20th century as the global rivalry between communist authoritarianism and capitalist social democracy.

"What appear as contradictions are complementary dimensions of a greater truth."

With the end of the Cold War, it appeared that the rivalry had finally been brought to a definitive conclusion. Some scholars prematurely proclaimed the final victory of the freedom of capitalist plutocracy combined with the liberating democratic power of the Internet over the power of state socialism. It now appears the announcement was premature and the victory was short-lived. Three decades later, the world confronts a new incarnation of the age-old combat, but in more complex forms which are more difficult to clearly distinguish and define. It expresses as the assertion of state capitalism combining freedom and authority with unparalleled adeptness and results, mobilizing the dynamic energies of capitalism entrepreneurship with the central authority and power of the state. The dividing lines have lost their clarity, the opposing values mix in unexpected ways. While authoritarian communism leans toward capitalistic freedoms, democracy edges towards the intolerance of opposing dogmas. The divisions between the adversaries are no longer defined as a geographic spread between East and West or even between nations and cultures. The center stage of the struggle between values is now within nations and among their own people.

The unresolved debate today still poses the same dilemma—an inability to reconcile two universal principles—the liberating energy and creativity of individual freedom and the pursuit of social justice founded on equality and fairness. The more extreme incarnations of the conflict demonstrate the inherent weaknesses of a formula based on a partial truth. For, the truth transcends individual values and resides in a reconciliation and harmony of innumerable aspects of reality. So long as we seek to proclaim a sole victor, we assure ourselves of another defeat. The solution lies in recognizing that what appear as contradictions are complementary dimensions of a greater truth. Freedom and equality, the individual and the collective, form indivisible components of a greater whole seeking to emerge. And even in combination, they do not represent the whole truth. The French Revolution went beyond them, proclaiming a triune truth—liberty, equality, and fraternity. No society has yet really even attempted in practice that still greater reconciliation.

This essay explores one side of the equation from the perspective of its acknowledged virtues and blatant limitations. It focuses on the creative power of freedom and its inherent tendency to self-destruct when pursued as a sole end in itself without regard for other truths. It holds that the key to resolving the apparent contradiction lies in our conception of individual freedom. It makes an important distinction between two concepts—individualism and individuality.

1. The Rise of Individualism in the West

Human cultures vary over a wide range between individualistic and collectivistic. Since the birth of mind in ancient Greece, Western cultures have tended towards individualism in thought and action, while Asian societies from Mesopotamia and India to the Far East have leaned toward increasing degrees of collectivism. The individualistic streak in Western cultures was evident in the democratic assemblies of ancient Athens and the spirit of free enquiry exemplified by Plato, Socrates and Aristotle. It expressed during the Roman Empire as the predilection toward republican forms of governance and aversion to the monarchical tendencies displayed by Julius Caesar. It re-emerged powerfully at the end of the Middle Ages in Renaissance Italy and the early Enlightenment, the birth of modern science, the Protestant Revolution, French Revolution and the prolific entrepreneurial innovations of the Industrial Revolution that preceded the rise to prevalence of modern democracies and capitalism in the West.

The culture of individualism is associated with many positive attributes. It nourishes a spirit of self-confidence and self-reliance, independent thinking, an urge to question, inquire, innovate and create self-chosen value systems, the sense of adventure and love of challenges, non-conformity, the love of freedom and independence, the insistence on equality, respect for human rights, etc. Taken to an extreme, it results in a lack of concern for community welfare and neighbourhood spirit, exaggerated emphasis on individual rights rather than social responsibility, excessive competitiveness and extreme forms of possessiveness, egoism, selfish individualism, too much stress on the right to self-defence leading to violence, lack of communal cooperation and social harmony due to the animosity and conflict arising from the clash of divergent viewpoints.

The individualistic spirit of self-reliance gave rise to the right of each person to interpret the Holy Scriptures, question religious doctrine and directly relate to God without the intermediacy of Church during the Protestant Reformation and thereafter the emergence of the protestant work ethic which spurred the economic rise of the West. It provided the impetus for massive migrations of impoverished landless and persecuted minorities to the new world in search of freedom to create better lives for themselves—an attitude now widely prevalent among aspiring masses around the world, but previously more exceptional than commonplace.

In comparison with the insularity and cultural self-absorption prevalent for centuries in the East, the individualistic cultures of the Western world have always been adventurous explorers and ambitious conquerors. When the Ottomans blocked the Silk Road for European trade with Asia in the 15th century, European nations began a quest which led to the Age of Discovery and European Colonialism. Overcoming the superstitious fears that had barred navigation down the west coast of Africa and across the Atlantic, they discovered the New World and established permanent sea routes to the Orient.

The value of self-reliance gave immigrants the confidence to brave adventure, settle in the lawless wildernesses of America bereft of protection from man or beast within the safety of settled communities. With no police force to depend on, both men and women had to

rely on their own courage and resourcefulness for personal safety, and often take the law into their own hands. The right to self-defence gave rise to the gun-culture in America as an extreme form of physical self-reliance on personal arms rather than community defences for protection.

From the 16th century onwards impoverished peasants and working class Europeans started aspiring for a new life in the New World. Leaving one's native country to settle in virtually unknown places calls for courage, a spirit of adventure, a willingness to confront unanticipated challenges, and a rugged fighting spirit. Pioneers had to face hostile Indians, defend their crops from marauding wild animals and those bent on stealing their harvests and property. The New World was settled by men with such an adventurous spirit. Then there came the task of winning freedom from their European mother countries from which they had migrated. Western literature is replete with adventurous individuals who loved to embrace challenges. R.L. Stevenson's *Treasure Island* and Mark Twain's *Adventures of Huckleberry Finn* are typical examples. The challenges of surviving on a deserted island are the dreams of many Western teenagers.

With the emergence of rule of law backed by police and courts for the administration of justice, one might have expected the preoccupation with personal self-defence to become obsolete. But the entrenched habit borne of individual insecurity and insufficient investment in social institutions persists, especially in less populated and less educated parts of the country, where the culture persists of training youth at an early age to defend themselves for self-reliance. Such training equips youth with the confidence to decide on their own careers, learn skills of their own choice, seek out jobs for their livelihood, and to search for and choose their own marriage partners. It motivates adults to work hard and save for their future, mindful that they will be responsible for their own security after retirement and often solely dependent on their personal savings and social insurance.

The insecurities of both youth and age are a source of energy and motivation for the individual to learn, develop and assume responsibility. But they are also a source of competitiveness, anxiety and tension which deprive many of the security resulting from lifelong cooperative and harmonious relationships. High rates of divorce, drug addiction, crime and imprisonment are the flip side consequence of societies which fail to arrive at an effective balance between the freedom of the individual and allegiance to the collective.

The spirit of self-reliance fosters many other healthy attitudes. One such found in marked measure among Americans is the attitude that nothing is impossible and no problem is beyond solution by resolute human effort. People in collectivist societies such as India are far more likely to blame the government, karma or their horoscope for their misfortunes, persistent poverty, ill health and failure to accomplish. Whereas self-reliant individuals believe that prosperity is their birth-right and the story of rags to riches is applicable to anyone who truly aspires to rise. This belief that nothing is impossible spurred Americans to land a man on the Moon at a time when such a feat was still regarded as science fiction.

The remarkable power of self-reliance was revealed in World War II after virtually all of mainland Europe had fallen under the control of Nazi military power and Britain stood

alone as the last bastion of freedom. When no other leader had the confidence or faith in the resolve of the British people, the Tory cabinet reluctantly put Winston Churchill in charge. Without consultations, hesitation or even asking people for resolve, he went on public radio and broadcast his famous speech culminating with the words "We will never surrender!" His speech was not merely intended to deter the Nazis. It was a stirring appeal to the deeply seated faith of the British people, their love for freedom and determined self-reliance. The Nazis expected to complete the conquest of Britain within three months, whereas at the end of that period they withdrew in defeat. It was not merely the courage and conviction of Churchill that won the Battle of Britain. His leadership drew on the strength of the people's self-reliance which withstood extreme adversity and turned defeat into victory. It was not achieved by the compulsions of an authoritarian military government but by the passionate loyalty of a free people who valued their independence above all else.

That same remarkable power was exhibited in America during the 1930s, which followed immediately after one of the most prosperous and at the same time unequal periods in American history. America was not at war in the 1930s, but it faced the equally oppressive challenge of economic depression and the worst financial crisis in American history. In the three years following the Great Crash of 1929, 6000 American banks had failed and closed. When Franklin D. Roosevelt became President in early 1933, he had to order temporary closure of the banks to stop the panic from bringing down even the strongest financial institutions. A week later he went on public radio to address the American people. FDR appealed to the spirit of self-reliance and self-confidence in the American people. He told them that the crisis was man-made and could be stopped by the people. He called on them to banish fear and panic and draw on the values which had made America the most prosperous nation in the world. He announced the reopening of the banks and urged the American people to redeposit their hard earned savings back into the financial system as a vote of confidence in themselves and the nation. His appeal evoked a positive response in the hearts of many Americans and a vast majority supported his New Deal program. Within a week, the panic subsided and the banking crisis came to an end. FDR later commented that nothing he had learned about economy at Harvard had prepared him to meet this situation. An intangible human value accomplished what three years of monetary and fiscal policy had failed to achieve. That is the value of Values.

2. Evolution of Social Individuality

Individualism values unconventional behaviour and respects life styles that do not conform to what society currently approves. During the first and second World Wars and the Great Depression, extreme individualism was muted in America by the extreme insecurity of war and poverty and the demand for national social cohesion. But the new generation was born in peace and prosperity after WWII that far exceeded what was known by earlier generations. When the so-called Baby Boomer generation reached young adulthood many scoffed at the conformity of their parents and unquestioning acceptance of government policies. The Hippy Movement of the 1960s challenged virtually all established beliefs and customs, from music, art, dress codes, sexual conduct and marriage to faith in all forms of authority. American youth questioned social values relating to the pursuit of money and

comfort, scorned conspicuous consumption, political hypocrisy and police violence. In expressing their rejection of conformist values they renounced formal codes, disparaged marriage, affirmed gay rights, dropped out of colleges in large numbers, retreated into communes and back to nature. Youngsters who took to hippy culture dropped out from college and travelled overseas in unprecedented numbers, started living together without undergoing proper marriage ceremony and even begot children.

They questioned and challenged almost everything. But they also affirmed ideas and values that had been spurned as primitive, superstitious, absurd or heresy by previous generations. They challenged conventional political theories dividing East and West and exposed the hypocrisy of their own leaders for espousing idealism while violating the very ideals they affirmed both at home and abroad. They pointed to the inconsistencies between the cherished values on which America and democracy were purported to be based and the practical realities of life in America. They rejected conventional religions in favour of a highly individualistic exploration of esoteric ideas and doctrines. It led to a mushrooming of meditation centres and yoga schools all over the U.S. and a surging demand for all types of books relating to Eastern spirituality. Without a healthy respect for diversity of views such openness to radically different beliefs and cultural values would not have been possible. They protested racial and gender discrimination, supported the American Civil Rights Movement, founded the environmental movement, protested the war in Vietnam and the nuclear arms race, affirmed the collectivist values of socialism, and embraced foreign ideas, people and cultures more openly than any previous generation.

Yet for all its idealism, the 1960s was essentially a rebellion against all forms of established convention. It exposed and condemned more than it created. It affirmed the value and right of the individual to protest against the rank injustices and hypocrisy of the prevailing system and viewed what was then the world's freest nation as an authoritarian police state and imperialistic aggressor. It sided always with the weak and downtrodden, but had few solutions beyond rejection of the status quo. In opposing the Vietnam War, it never considered the potential consequences of the spread of revolutionary communism throughout Asia until it undermined democracy in a fragile, nascent Indian democracy, which had just been freed after half a millennium of external rule.

Although the anti-establishment movement of the 1960s gradually faded back into the mainstream, many of its core values of tolerance, openness, respect for nature and other cultures permeated into the mainstream and reshaped American culture. Its most valuable contribution was a shift in emphasis from extreme individualism to individuality. The hippies scorned in principle the extreme egoism of selfish accumulation and vain status symbols. They replaced idolatry of the self-made man who overcame adversity to rise to the highest centers of wealth and power with a more refined concept of a person who could think for him or herself, adopt and live by idealistic values, dedicate themselves to the welfare of humanity and not merely their own personal success. A subtle shift began from pursuit of social success to the quest for psychological growth and spiritual self-development. The notion of the physical self-reliant person who could brave adversity, gradually evolved into that of the mentally and emotionally mature individual who could live in harmony with those

different from themselves, who could understand and respect those who were different, and cherish the universal values that transcend cultural distinctions in form and expression.

The greatest contribution of the Hippy revolution was to affirm a type of individual freedom that extolled idealistic individuality founded on universal spiritual values rather than selfish, egoistic individualism. What was borne in the 1960s inspired youth around the world on both sides of the Iron Curtain in pursuit of a universal set of values founded on a shared sense of identity as citizens of the global village called Earth. It extolled a love of nature and respect for the planet. Like the idealism of the French Revolution, it was quickly smothered by more mundane pursuits. Like the values proclaimed in the Universal Declaration of Human Rights in 1948, it extolled idealism but failed to provide a realistic framework for achieving it. It took 72 years for the principles set forth in UDHR to be transformed into the 17 UN Sustainable Development Goals in 2015 and affirmed by 193 nations. The idealism of the 1960s still awaits its transformation and universal affirmation.

The historical development of individualism and its partial transition to individuality corresponds to a general evolution of human consciousness from physicality to vitality and mentality. The emphasis on self-reliance and exploration so prominent in early America represents the emergence of individuality at the physical level. Its expression as invention, entrepreneurship and social innovation is an expression of individuality at the vital social level. The capacity and propensity to think differently and dependently mark its development at the mental level.

The recognition of individual rights marks an important stage in the political and social evolution of individuality. The transition from feudalism, aristocracy and monarchical rule by a tiny elite class can be traced back to the Reformation in the West, long before it gained momentum further East. The subordination of the individual to religious authority gradually waned as more and more people exercised religious freedom of choice. Politically, the US rejected English monarchy at the end of 18th century while France threw out royalty at roughly the same time, only to call it back for a last fling a few decades later. By the first quarter of the 20th century most people of Europe had weaned themselves from subordination to monarchical rule. Yet the values of authoritarian collectivism remained far longer in the European colonies established in Asia and Africa. Even today the authority of religious leaders, the upper classes, the elderly, the family, the teacher, the employer, the government official, and the community at large is far more prominent in collectivist nations of the East.

In 1789 the French Revolution adopted its Declaration of the Rights of Man and the Citizen, echoing some key elements of the Magna Carta of 1215 and the English Bill of Rights of 1689. Two years later, America added the Bill of Rights as an amendment to the US Constitution. Neither document specifically prohibited or denounced slavery. All four served as the basis for much of the content of the Universal Declaration of Human Rights adopted by 48 nations in 1948. None of them granted women the right to vote which was won by the English women in 1918, by American women in 1920 and by the French in 1944. Progress elsewhere in Europe was slower. The last canton in Switzerland to accord women the right to vote did so in mid 1970s.

The right to private property and freedom from taxation without representation were fundamental to the birth of Western democracies, for without them the individual could never be freed from the arbitrary exercise of power of the state. The seizure and collectivization of ownership under communism was deemed by the West as one of the greatest infringements on individual freedom.

"Individualism is the freedom of the ego to tyrannize over others for its own aggrandisement. Individuality is the quest of the soul for self-perfection and universal well-being."

Social rights were harder and slower to come by, yet the inexorable march towards gender equality continues. Women in India won the political right to vote almost two decades before some of their counterparts in Switzerland, but social freedom was more difficult to achieve because it required the consent of society and not merely public law. The social stigma attached to unmarried and divorced Indian women still prevails and the authority of the husband and his family remains paramount in most households.

3. Evolution of Mental Individuality

Mental individuality can be traced back to the elite intellectuals of ancient Athens, but it remained at that time a rare capacity rather than a widely held endowment. Its re-emergence in Renaissance Italy and the Enlightenment can be characterized as the emergence of mental individuality at a much wider level. It has been postulated that the inexplicable popularity of Shakespeare's *Hamlet* over the last four centuries can be attributed to the representation of mental individuality in a common man of action as expressed in "To be or not to be."

In collectivist cultures conformity is the norm, education is founded on rote learning, and unconventional thinking is discouraged. But in individualistic cultures the value of diversity is revered and originality is encouraged. In such cultures children are taught to understand rather than memorize and accept nothing without questioning. A culture of mental curiosity gave impetus to the revolutionary ideas espoused by such thinkers as Newton, Darwin, and Einstein. Darwin's theory of evolution challenged the Biblical theory of divine creation still propagated by the Church. This assertion shook the Catholic Church to its very foundations and it took a century or more for Darwin's theory to gain near universal acceptance in America, where conservative resistance prevails even today. Darwin succeeded not only because he exercised the freedom to challenge established dogma but even more so because he lived in a society which cherished that freedom.

Apart from physical challenges of exploration and migration, Europeans responded to mental challenges in the quest for new knowledge on the frontiers of science and in the search for technological innovations to improve production and communication and transportation. Engineers in English coal mines faced the big problem of pumping out the water that was collecting in coal pits. Finally, they came up with the idea of the steam engine which could

pump out the water. It was only one more step to inventing the steam ship, steam locomotive and the countless other machines which launched the First Industrial Revolution at the time when American colonists were drafting their *Declaration of Independence* and Adam Smith was writing *Wealth of Nations*. Less than a century later the Second Industrial Revolution founded on electricity began. And the marriage of science and technology in the 20th century has since given birth to further revolutions in computing and artificial intelligence.

It is only with the spread of education over the last hundred years that mentality has been widely valued as an endowment in general society. Wherever education transcends indoctrination, instruction in abstract theory or mere transfer of information and mental skills, the mind begins to awaken to both its capacity and right to think independently and differently, which is the foundation for mental freedom. Modern education transforms the freedom embodied in physical self-reliance into the mental freedom to inquire, question, debate and dissent. Yet even today intellectuality is frowned on with suspicion in many countries, especially among political leaders. Social conformity in thought predominates even in highly educated countries, as symbolized by the susceptibility to fake news, and it is still prevalent even in science and other fields of academia.

Arthur Conan Doyle's Sherlock Holmes became the epitome of the thinking individual combating evil with the power of scientific thinking combined with acute intuitive perception. Every criminal case that came to him challenged his capacities for detection and pursuit and he thrived on that challenge. He refused to fall prey to false clues, circumstantial evidence and the pressure of popular opinion. He displayed a capacity for original thinking that bordered on genius. He delved deeper into cases to discover deeper motives beneath the superficial clues. In *Silver Blaze* the police arrested a gambler who had been seen in the neighbourhood where a champion race horse suddenly disappeared and the horse's trainer was found murdered. Holmes rejected the conclusions of the police because they overlooked apparently irrelevant facts—a receipt for an expensive woman's dress in the trainer's pocket, the failure of the trainer's dog to bark at the intruder during the night the horse was stolen and the accusation against the gambler rested on the supposition that he had slipped opium into the stable boy's dinner to knock him unconscious. Holmes' capacity to reject convention and public opinion led him to the only conclusion consistent with all the facts. It was the champion horse that killed the trainer with a kick in the head while the trainer was trying to maim the horse's leg so it would lose the race that would enable the trainer to win enough by betting against the favourite to support a mistress in London and repay his accumulated debts.

Humanity has yet to become fully mental. But it is gradually growing both due to the continued spread of education as well as through the remarkable broadening of personal experience characteristic of our times. Exposure to other cultures physically through travel, immigration and emigration further dissolves the rigid cultural barriers that distinguish and divide groups. The exponential growth in inter-cultural electronic communication has vastly accelerated this movement, in ways it will be impossible to fully comprehend until decades after the impact begins to be felt. The unprecedented contact between individuals and cultures is not only breaking down old distinctions but also creating new combinations and forms which will gradually come to permeate the increasingly complex and diverse shared

cultures of the future making it more and more difficult to classify and compare according to conventional stereotypes.

4. From Individualism to Individuality

Individualism extols a partial and largely illusory freedom which effectively liberates each person to pursue his or her own selfish, egoistic ends with only a modicum of social responsibility as required by law and practical necessity. Individuality affirms a higher principle of freedom in which the individual is liberated from the pressures of conventional social conformity to think for him or herself but bound by a higher standard of universal values which dictates action for the benefit of all. Individualism is the freedom of the ego to tyrannize over others for its own aggrandisement. Individuality is the quest of the soul for self-perfection and universal well-being. The former views the person as the sole author of his or her own destiny and therefore the sole rightful beneficiary of the fruits of action. The latter recognizes that the individual and the collective are two inseparable dimensions of one reality and neither can exist without the other. The collective provides the physical protection, practical know-how, knowledge, skills, tools, organization, education and opportunity for the individual to develop and excel. The formed individual provides the vision, aspiration, inspiration, originality, creativity, innovation, entrepreneurship and catalytic impetus for the growth and development of the collective. Both owe their greatest virtues to the contributions of the other. Neither can arrive at fullness and fulfilment without fully recognizing the value of the other. All attempts to compromise them are bound to fail due to the inherent inadequacy in partial truth.

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Reference

1. Harlan Cleveland et al., *Human Choice: The Genetic Code for Social Development* (Minneapolis: World Academy of Art and Science, 1999)

11 Essays on Societal Transformation:
The Most Important Challenge Facing Humanity

In February 2021, the World Academy of Art and Science hosted an expert panel on societal transformation as part of its 60th anniversary conference. From this, a working group was formed for the purpose of identifying, developing, promoting and implementing practical, catalytic strategies for addressing major challenges and evolving human society into sustainable form. The societal transformation project was proposed and initiated by WAAS Associate Fellow Julene Siddique, a System Change and Arts expert. She is co-moderating the working group with WAAS Fellows Frank Dixon and Barry Gills.

Societal transformation has been a foundational theme of the Academy for many years. This project builds on WAAS' substantial body of work in the field. This paper provides a collection of short essays from group members about societal transformation concepts and strategies.

Evolving human society into sustainable form (societal transformation) is the meta challenge. All other issues are sub-elements of it. Many experts have addressed different aspects of societal transformation over the past 50 plus years. It is widely recognized that reductionism is a, if not the, foundational cause of humanity's unsustainability and major challenges. As WAAS founder Albert Einstein famously said, we must think at a higher level to solve our most complex challenges.

That higher level is whole systems thinking. It is based on the reality of humanity's interconnectedness with nature and each other. This higher level thinking illuminates societal interconnections, root causes, systemic barriers, key leverage points and optimal systemic solutions. The following essays emphasize interconnectedness and provide societal transformation theories and strategies based on it.

Humanity is facing a multifaceted planetary crisis. This has fueled incredible potential momentum for change. The human species has so greatly impacted the natural world that we are crossing possibly six of the nine planetary boundaries identified by Rockström (Rockström et. al. 2009; Steffen and Morgan 2021). The recent IPCC Sixth Assessment report alerts us to the profound need for wide ranging societal transformation at a global scale. The COVID-19 pandemic has highlighted long entrenched systemic flaws in national and global systems and brought social and economic inequalities into a sharper focus.

Societal transformation has occurred numerous times throughout global history. But the depth, breadth and rapidity of transformation we face today are unprecedented. To address this heightened challenge, the Societal Transformation Working Group brings together a diverse group of thinkers. They discuss the deep systemic change and societal transformation needed to protect humanity and all life on Earth.

The following collection of essays provides several perspectives from differing fields and expertise areas. A number of common themes emerge. These can be summarized as follows:

a. Top-down approaches are not enough. National and international economic and governance strategies are not resolving major challenges in a timely manner. Climate change and many other problems are getting worse. Reductionistic economic and political systems are the root causes of major challenges. Improving them through top-down and bottom-up approaches is essential. Many of the authors discuss the need for fundamental structural and systemic change.

b. Several authors discuss the essential role of arts and culture in societal transformation. Suggested approaches include: critically addressing destructive social narratives that perpetuate flawed systems and harmful consumerism; using arts and cultural action to mobilize social movements; developing culture and arts-based approaches for driving widespread consciousness and behavioral change; and employing dialogic processes and localized action.

c. Fundamental change to economic and financial system is essential for genuine social transformation. To resolve socio-economic inequality and ecological decline, the authors discuss different aspects of system change in economics, redistribution of resources and new financial mechanisms.

d. Deep systemic change of educational systems is essential. Long-term solutions seek to achieve a sustainable and truly prosperous society, for example, by 're-architecting knowledge' and fostering new values and behaviors.

In line with the above themes, new 'literacies', skills and capacities are emerging that will facilitate a coherent and coordinated global movement for systemic change. These include 'transformation literacy', 'structural literacy', 'collaboration literacy' and 'integral capacities'. The authors discuss these literacies and other tools needed to facilitate effective societal transformation.

In summary, the interconnected nature of global crises demands a new kind of thinking and action. To provide this, the authors discuss many aspects of whole system thinking and holistic worldviews, including aligning human systems and society with the laws of nature.

References

1. Rockström, J, & Steffen, W et al (2009) Planetary boundaries: Exploring the safe operating space for humanity. Ecology and Society, 14 (2), 32. doi: 10.5751/ES-03180-140232

2. Steffen, W & Morgan, J (2021) From the Paris agreement to the Anthropocene and planetary boundaries framework: An interview with Will Steffen. Globalizations, 1-3. doi: 10.1080/14747731.2021.1940070

Essays

The essays address many societal transformation issues, ranging from higher-level, whole system concepts and approaches to more specific transformation themes and strategies.

Essay 1: **Frank Dixon** – Global System Change: A Whole System Approach to Societal Transformation

Essay 2: **Garry Jacobs** – Process of Social Transformation

Essay 3: **Mariana Bozesan** – An Integral Approach to Social Transformation

Essay 4: **Petra Kuenkel** – Transformation Literacy as a Collective Stewardship Task

Essay 5: **Piero Dominici** – From Below: Roots and Grassroots of Societal Transformation, The Social Construction of Change

Essay 6: **Thomas Reuter** – Transformations to Sustainability: Why integrated social change requires a political process based on inclusive communication

Essay 7: **Barry Gills** and **Hamed Hosseini** – Transversalism and transformative praxes: Globalization from below

Essay 8: **Alberto Zucconi** – Effective tools for promoting change in complex and interrelated realities

Essay 9: **Janani Ramanathan** – Systemic Change through a new Paradigm in Global Education

Essay 10: **Benno Werlen** – What Constitutes Societal Transformation?

Essay 11: **Jay Bragdon** – The Emerging Economic Renaissance

Global System Change:
A Whole System Approach to Societal Transformation

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Human society is rapidly transforming. Rising climate change, pollution, inequality, and many other environmental and social problems show that we are grossly violating the laws of nature. For 3.5 billion years, any species that violated these laws changed or disappeared. Throughout human history, economic and political systems that violated natural laws often collapsed quickly and traumatically (i.e. American and French revolutions, end of US slavery, and USSR communism).

The transformation of human society is inevitable. But the means of transformation are not. Time is limited. If we quickly align with the laws of nature, humanity can reach unprecedented levels of prosperity. If we do not, nature and reality will drive traumatic change and probably collapse. COVID-19 is just the beginning. Failure to align with the laws of nature will bring more disruptive transformation.

The time is right for a change. The energy to drive it exists in abundance. Pain is a great teacher. Billions of people on Earth are suffering, unable to meet basic needs. We are rapidly destroying life and life support systems. Now is the time to take charge of our destiny, protect future generations and establish a sustainable society.

Societal transformation can be framed up by starting from the present and moving forward or going to the endpoint and looking back. Incremental improvements to fundamentally flawed human systems will not work, especially in our limited time frame. This article uses a whole system approach to clarify the endpoint (sustainable society) and practical means to achieve it. Widespread public demand is essential for voluntary systemic change. Illuminating how humanity can practically achieve an immensely more prosperous future builds hope and demand for societal transformation.

1. Current Transformation Approaches

Many academics and other experts have been researching, developing, and implementing successful transformation and system change approaches for decades. Studying past successes, numerous experts assert that bottom-up approaches are essential. Systems theory experts suggest that while complex, adaptive systems cannot be predicted or controlled, it is possible to learn from and guide them to positive outcomes. Many process experts have developed effective collaborative transformation approaches, frequently using the arts to engage people's hearts and minds.

Other experts suggest that lessons can be learned from successful past societal transformations. Still, others assert that human goals and the means to achieve them are clear, necessary transformation resources are abundant, but effective whole system change theories and processes still are needed.

These ideas and approaches are wise and effective. Whole system thinking shows that they often can be accelerated with supporting strategies. For example, regarding bottom-up or top-down approaches, vested interests often block systemic change. Trying to impose it on them through bottom-up or grassroots strategies frequently yields revolutionary or traumatic change. Effective top-down approaches are not dictatorial. Instead, they often help vested interests to understand that system change is inevitable. Therefore, they are far better off driving voluntary change rather than waiting for the involuntary collapse. Top-down and bottom-up approaches working together can greatly accelerate positive transformation.

Regarding systems theory, there may be an infinite number of ways that complex living systems could evolve. But they are bounded by natural laws. These constraints illuminate the most important aspects of sustainable systems. This in turn greatly facilitates the development of sustainable transition strategies. Regarding collaborative system change and transformation processes, these can be accelerated and made more effective by clarifying system change content. This includes natural law qualities of sustainable systems and the systemic changes needed to achieve them.

Past successes can guide the development of societal transformation theories and processes. But past voluntary, peaceful transformations often were focused on one issue, such as agriculture, the environment, or global governance. There are few if any, examples involving the scale, scope, and pace of transformation facing humanity now. The imminent transformation (voluntary or involuntary) foundationally is one of consciousness, substantially impacting many areas of society and lifestyles.

One of the most important requirements for societal transformation is widespread public energy, desire, and demand for positive change. Clarifying goals and the means to achieve them is essential for manifesting this demand. There is growing unanimity around societal goals, in particular the UN Sustainable Development Goals (SDGs). There also is growing consensus about necessary action for achieving them, such as switching from fossil fuels to renewable energy. However, the goals and actions usually are not communicated in a whole system, nature/reality-based context. In addition, proposed solutions usually are focused on addressing symptoms instead of root causes (i.e. reducing fossil fuel use instead of changing the economic and political systems that compel its use).

The numerous, sometimes conflicting nature of societal goals and the many opinions or philosophies about transformation strategies often produce confusion. Combining this with vested interest deceptions intended to block systemic change greatly suppresses public enthusiasm and demand for transformation. Effective whole system approaches catalyze transformative energy and demand by providing clear, simple, compelling visions of a sustainable society and the means to achieve it.

2. Whole System Framing

There are two basic ways to frame up societal transformation—start from the present and move forward or go to the endpoint and look back. This article asserts that the latter is more effective. Humans usually are wedded to current ideas and systems. They learn them in

school and live their whole lives under them. It is frequently difficult to look into the future and imagine substantially different human systems and ways of living. Stepping back and viewing the trajectory of life on Earth helps people to let go of current ideas and systems and see their transitory nature.

Considering the evolution of consciousness on Earth probably is the most effective way to understand human evolution. The whole system book series *Global System Change* introduced a new model of individual and collective human consciousness development. It describes three levels of consciousness—unconscious unity, conscious separation, and conscious unity.

The whole system of nature implicitly operates on unconscious unity. All aspects are balanced and taken into account. Individual plants and animals do not think or reflect about what they do. They are guided by instinct, intuition, and other mechanisms in ways that produce essentially infinite coordination, technological sophistication, and widespread prosperity. The unified results of nature strongly indicate the presence of some type of transcendent unity consciousness. It is extremely unlikely that this resulted from a random activity.

For 3.5 billion years, life on Earth has been constrained by natural laws and operating principles. These are objective, observable requirements for living system success at all levels. Violation of these laws only can exist for relatively short periods. Nature restores balance by compelling compliance with its laws. When these qualities are absent, systems change or die.

Observable laws of nature include seeking balance, not growth, producing no waste, living on renewable resources, equitable resource distribution, widespread cooperation (with limited competition at the individual level), equally valuing generations and species, decentralizing production and governance, and enabling individuals to reach their fullest potential. Implied operating principles of nature include democracy/self-government, equality, full cost accounting, no externalities, and full employment.

Humanity could be thought of as nature's experiment in self-reflection. Apparently, to consciously understand the reality of our unity with each other and nature, we had to first venture through the illusion of separation. When we first began to reflect upon our existence, we apparently perceived ourselves to be separate individuals.

But this is not black and white. It occurred to varying degrees. For example, original people often at least partly retained conscious awareness of unity with nature. However, as the intellect ascended above the intuitive in Western and other societies, the perception or illusion of separation became more firmly established. This phase of collective human development could be called conscious separation. This false perception of reality is the genesis or root cause of essentially all problems facing humanity.

One of the most destructive results of conscious separation is the overvaluing of power and men and undervaluing of wisdom and women. The illusion of separation produced fear that needs would not be met and belief in the need for competition. In this environment, those

with greater physical strength, aggressiveness, and competitiveness (men) often were more highly valued. When power is defined this way, men innately have more power. Women innately have more wisdom when wisdom is defined as empathy, cooperation, whole system thinking, multitasking, relationship skills, and intuitive wisdom. (These generalizations are irrelevant at the individual level because everyone is different. All men and women have power and wisdom.)

Suppressing wisdom and women is a foundational quality of conscious separation. Honoring and teaching wisdom is essential for achieving conscious unity. It will elevate women to a position of true equality with men. Wisdom and power, women and men are different, but equal and essential. Power without wisdom is destructive, as we see in the world today. Wisdom can do nothing without power. Power can do nothing right without wisdom.

The dominant qualities of women are exactly what is needed to reach our next level of development (conscious unity), establish a sustainable society, and live in harmony with each other, all life and nature. If we achieve this state, nature will have become conscious of itself. If we do not emerge from conscious separation, we will disappear and nature will return to unconscious unity.

Unconscious unity refers to the parts of nature. They apparently do not self-reflect. However, as noted, the unified results of nature indicate the presence of some type of transcendent consciousness. The human body models this. Cells in the body apparently do not self-reflect. But the human mind reflects on the whole system of the body.

At our current level of development, we probably cannot prove to others that transcendent consciousness exists. However, people can prove it to themselves through meditation, intuition, and their own inner experience. Many people have tangibly experienced conscious unity. It is possible for humanity to live in this state. When this occurs, we will each be nature reflecting upon its unified self from different points of view (like the human mind reflecting on the unified human body).

Regardless of consciousness, the laws of nature are objective, observable, and easily proven. Abiding by them will completely determine the extent to which humanity survives and prospers on Earth. Short-term, myopic self-interest drives the tragedy of the commons. Destruction of life support systems and the growing pain it causes can compel people to look at the big picture. The rational human mind could understand and act upon the laws of nature, prior to attaining unity consciousness. The survival instinct of conscious separation can initially compel us to abide by these laws. However, over the longer term, achieving conscious unity will be necessary for attaining the level of sustainability and widespread prosperity seen in nature for 3.5 billion years.

Considering the inviolate laws of nature shows the temporary, transitory state of human systems. For example, there are no national borders in nature. Human borders are arbitrary, arising from our illusory, destructive, competitive mindsets. There also is no money in nature. The use of money results from fear and a lack of trust and mutually supportive action. The

dominant monetary system (private sector creation of fiat currency) unfairly concentrates wealth, economically enslaves people, and often prevents them from freely achieving their fullest potential.

From the current perspective, imagining a human society with no borders or money could seem utopian or impossible. This reflects the unsophisticated nature of conscious separation. We often think that our ways are more sophisticated and advanced than those of nature. We frequently are enthralled with our governance structures, financial systems, computers, and blockchains, failing to realize that the technology and sophistication of nature are essentially infinitely greater.

Many people believe that humans are more sophisticated than other creatures because we have self-reflective consciousness. But consciousness and sophistication are two different things. Comparing the technological sophistication and coordination of nature to that of humanity shows that self-reflection made us far less sophisticated than nature. The misperception of superiority results from the illusory individual perspective. It is not logical to compare a freely acting human to an individual nonhuman. As discussed above, there are no independently acting creatures in nature, except for humans. The individual human must be compared to the whole of nature because the individual parts of nature implicitly operate as one interconnected entity. Once we understand and act upon the reality of unity, we have the potential to match the sophistication and coordination of nature.

From the limited human perspective, nature can seem brutal. One creature eats another. But creatures do not take far more than they need (as humans often do), and thereby cause many other individuals to lack resources and go hungry. As a result, nature achieves vastly higher levels of individual and collective prosperity than humanity. Self-reflection, freedom of choice, and independent action do not necessarily produce less sophisticated outcomes. This occurs among humanity due to the illusion of separation. Self-reflection based on the awareness of unity could produce the essentially infinite sophistication and prosperity seen in nature.

Perhaps someday self-reflective consciousness will enable humans to advance beyond nature. But our life-destroying results show that we are not remotely close to this point. Until now, self-reflection has been more of a curse than a blessing. We used the power in an illusory way that brought us close to extinction. But self-reflection gives us the power of choice. We can choose our destiny. We can choose to exit the illusion of separation and enter the reality of unity.

The preceding is not said as a criticism of humanity. We are like children on the path to full development. Judgment does not exist in nature. It is a creation of our limited, fearful consciousness. In nature, there is only abide or not abide by the laws of nature. Not abiding causes death. Abide produces essentially infinite prosperity.

Effective societal transformation strategies must be based on the reality of unity. We do not need to mention that there almost certainly will be no borders or money in sustainable society (except perhaps for vestigial purposes). This goes so far beyond conventional ideas

that it might not inspire action. However, younger generations often seem to be progressing more rapidly to conscious unity. This is indicated by their broader embrace of unity concepts, such as racial equality, environmental sustainability, economic justice, and freedom to follow one's heart.

> *"The illusion of separation produced reductionistic thinking and systems. Flawed economic and political systems compel companies to degrade the environment and society. These systems, and the reductionistic thinking that created them, are the root causes of major challenges."*

Original people also generally better understand the transformation facing humanity. Their culture and worldviews frequently are based on the reality of unity with nature. They watched as Western civilizations living in the illusion of separation ignorantly claimed to be more advanced and unintentionally marched us towards destruction.

Modern ideas frequently suggest that we must protect the environment, implying that we could harm it. This reflects a misunderstanding of our relationship to nature. The environment will adapt, regardless of what we do. It will survive. But we probably will not if we continue to drastically change it. In this sense, we are not the caretakers of the environment. It takes care of us. It is the source of life. It provides our air, water, and food. We are not above nature, as our myopic, unintentionally suicidal religious, economic, and political ideas often imply. We are subordinate to it. We will not survive on this planet unless we recognize our appropriate role in nature and ascend to conscious unity.

From the current perspective, the future of humanity can seem bleak. We have created immense environmental, social, and economic problems. But that is the key. We created them. That means we can uncreate them. Comparing ourselves to nature, we only have reached the tiniest fraction of our potential. We can be nearly infinitely more prosperous than we are now.

Societal transformation does not mean changing everything. The best things will remain the same or improve—fulfilling relationships, love for children and animals, living in strong communities, being in nature, creating and enjoying all forms of art, and doing what one loves.

Attaining conscious unity is returning to reality. At a deep, often unconscious level, we yearn for a connection to and harmony with other people, all life and nature. Why? Because they actually are part of us. We literally are parts of one interconnected system, like cells in the body. The five senses and limited mind create the illusion of separation. This phase of human development is quickly coming to an end.

3. Practical Implementation

Humanity almost certainly has entered the phase of rapid transformation. We might only have five to ten years to resolve major challenges before nature and reality resolve them for us. The illusion of separation produced reductionistic thinking and systems. Flawed economic and political systems compel companies to degrade the environment and society. These systems, and the reductionistic thinking that created them, are the root causes of major challenges. As noted, incremental improvements to fundamentally flawed systems will not work, especially within our limited time frame.

An inspiring new vision of human society and systems is needed to achieve voluntary societal transformation. The SDGs discuss many aspects of a sustainable society. But the goals are human-centric. They are not grounded in the reality of nature. The laws of nature provide a simple, clear vision of a sustainable society. They go beyond human ideas and biases to objective reality. They show what absolutely will occur on Earth, regardless of what humans think, say, or do. For example, we know that equitable resource distribution, extensive cooperation, balance, and widespread prosperity will occur on Earth, as they have for 3.5 billion years. A main question is, will humans be here to experience it?

Global System Change uses the laws of nature to provide a clear, reality-based system change roadmap for humanity. It describes three components—sustainable society, systemic changes, and necessary actions. The laws of nature clarify the most important aspects of a sustainable society. This clear vision illuminates the major systemic changes needed to get there. This in turn clarifies the actions required to bring about these changes.

Three principles can guide systemic changes—emulate nature, implement democracy and abide by the rule of law. The answers to nearly all questions about establishing sustainable economic, political and social systems are shown or implied in nature. Democracy is the only sustainable form of government. It is based on the innate rights to equality and self-government.

The rule of law can be used to frame up economic and political reform, especially in the corporate and financial areas. The principle says that individuals and companies should be free to do what they want, provided that they do not harm others. The primary overarching flaw of economic and political systems is the failure to hold companies fully responsible for negative environmental and social impacts. This is the general mechanism that compels them to cause harm. In competitive markets, not holding companies responsible makes it impossible for them to stop harming society and remain in business. The foundational solution is to hold them fully responsible (i.e. abide by the rule of law).

Achieving these changes requires action in all major areas of society, including government, corporate/financial, and the general public. Only government can enforce the rule of law. In the corporate and financial areas, System Change Investing (SCI) can be used to engage companies and investors in system change. The approach rates companies on system change and uses this research to develop SCI funds. The new paradigm approach

shifts the focus of responsible investing and corporate sustainability strategies from company change and symptoms to system change and root causes.

The people collectively are the most powerful force in society. The clear vision and strategy provided by *Global System Change* can inspire action and demand for positive change. Raising public awareness about the urgent need for change requires many actions, including establishing honest media and empowering education. A critical action is overcoming vested interest-driven divisions and helping citizens to understand and act upon their many common interests.

One of the most important societal transformation strategies involves learning from and building upon success. For example, Jay Bragdon's books, *Companies that Mimic Life* and *Economies that Mimic Life*, analyze the superior sustainability performance of Nordic countries. Through education and culture, they understand that humanity is a sub-system of life. This accurate perception of reality enables them to achieve world-leading levels of prosperity and happiness.

Millions of people around the world are working to improve society. We have all the knowledge, expertise, and resources needed to achieve sustainability and real prosperity. We stand at the dawn of a new human consciousness and civilization. With free will, we can choose our destiny. Let us use it to reach our fullest potential and manifest the wisdom of nature in human society.

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Process of Social Transformation

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Humanity confronts existential challenges and unprecedented opportunities. Perhaps for the first time in history, there is a broad-based consensus among all the nations and peoples of the world regarding the common essential and desirable goals that need to be achieved—a rapid end to the worldwide pandemic is the most immediate and urgent. The accomplishment of all 17 Sustainable Development Goals and urgent actions to halt climate change are vitally needed to ensure longer-term human security and ecological stability, sustainability, and resilience.

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There is also a remarkable consensus emerging regarding the essential steps and measures needed to achieve these goals—universal vaccination, the shift from fossil fuels to renewable energy, strengthening of the multilateral system, extension of digital connectivity, and enhanced cybersecurity for all sections of the population, more and better quality education, financial inclusion, equitable tax policies to reduce inequality, respect and protection for the environment, reduction in air pollution, etc.

We also observe an increasing recognition that in fact, the world possesses the essential knowledge, technology, and financial resources to achieve these objectives. The total annual expenditure to support the UN system, including its vital peacekeeping activities, represents less than 3% of the total annual expenditure of $2 trillion by nation-states on military security. The shortfall in funding available for financing the SDGs is estimated at $4-5 trillion a year, which pales into insignificance compared with the more than $250 trillion in global financial assets and the availability of several viable strategies for filling the gap. Similarly, the world possesses all the essential knowledge and technological know-how to supply low-cost renewable energy, generate sufficient food, achieve full employment, deliver quality education, and provide digital connectivity to all.

In spite of this remarkable consensus, progress on the achievement of humanity's shared goals lags far behind the optimal levels of implementation. Yet, something seems to be missing. Something else is needed. Over the past two decades, the World Academy of Art & Science has examined the process of social change from various perspectives, in different contexts and fields of activity. We have concluded that what is missing is clear and complete

knowledge of the process of conscious social evolution, i.e. social transformation, or as Jeffrey Sachs terms it: a "theory of change". For the first time in history, humanity seeks to consciously and collectively alter the direction and radically accelerate the pace of social change. We know the goals, we know and possess the means, but we lack the complete knowledge of the process by which we can consciously and collectively act in a coordinated manner for the common good of all human beings.

Society changes, grows, develops, and evolves continuously. Change is incessant in all fields and levels, even during times of social stagnation, including the changes that fortify the past, reject the future, reverse progress, and zigzag back and forth between past and future. Growth is a natural horizontal movement of expansive energies to extend, replicate and multiply present types and levels of activity and organization. Development is a progressive vertical movement from lesser to greater levels of social organization, complexity, integration, and values already prevalent elsewhere, such as the extension of the 1st Industrial Revolution from England to the rest of Europe and beyond. Evolution is the creative emergence of new ideas, values, organizations, technologies, and social patterns, as expressed in the social and political transition from monarchism to constitutionalism inspired by Enlightenment ideas and values in Revolutionary France, and the multiple evolutionary transitions from animal power and human labor to steam, electricity, electronics and artificial intelligence spurred by technological advances in the 19th and 20th centuries.

All these forms of social transition are mostly unconscious or subconscious in the sense that they occur spontaneously at isolated points without a clear master vision of the values, goals, structure, and strategy they seek to manifest. They gradually unfold and spread by a long, slow process of trial and error, experimentation and imitation over decades or even centuries.

Social transformation is a further stage in the series and an exception. It seeks to replace the long, slow trial and error process of natural evolution with a conscious effort to accelerate social advancement. A dramatic example is India's Green Revolution launched in 1966 during a period of severe drought when 10 million lives were threatened by sudden food shortages. Initiated by the government from top-down, it sought to transform India from its dependence on foreign food aid to national food sufficiency within a decade. It was launched by a conscious decision of the government and was made possible by successfully enlisting the support and participation of tens of millions of farmers. The strategy involved the rapid induction of advanced production technologies for foodgrains based on hybrid varieties, combined with the establishment of a national food grain marketing organization to ensure purchase of surplus production and distribution in food-deficit regions, and special purpose corporations for production of fertilizers, hybrid seeds and warehousing. The participation of farmers was secured by guaranteeing producers a remunerative floor price for increased production, through a national program to demonstrate the new technologies on hundreds of thousands of plots on farmers' lands, and through expansion of agricultural research and extension services. The result was a 50% increase in foodgrain production within five years, sufficient to eliminate the need for foreign food aid, and a doubling of production within 10

years. India achieved an increase in a single decade equivalent to the total production it had achieved during 10 millennia of agricultural development.

Transformation may also take place when what begins as an uncoordinated grass-roots initiative gains sufficient attention and momentum to be adopted and consciously organized on a massive scale. It may spring up spontaneously by the initiative of local leaders, as air pollution control and recycling did in California in the early 1970s, generating spreading waves of awareness and acceptance by local communities, releasing social energies, and spurring rapid social innovation that spilled over to other regions of the country and spread overseas. Based on their initial success, a formulated pattern of values, principles, and organization mechanisms may be consciously replicated at higher levels over an increasingly wide area. The gradual evolution of Silicon Valley out of a small cluster of technology companies, universities, and research institutes quickly morphed into conscious efforts to reshape the region into the world's leading center for technological innovation not only in computing but in distant fields such as the automotive industry and biotechnology as well. At some point, such nascent initiatives acquired the critical mass and intensity needed to attract attention and support from the government, law, and other organized sectors of society. Then we can say the nascent evolutionary movement has become a conscious movement for social transformation.

Efforts at conscious transformation may be initiated locally as applied by the Asian Tiger nations to spur rapid economic development through export-driven rapid industrialization from the 1960s. Or it may emerge from a nascent small-scale experiment such as the recent application of the "doughnut economics" model in Amsterdam. The current worldwide endeavor to accelerate the transition from fossil fuels to renewable energy probably represents the greatest coordinated effort of the world community for transformative change on a global scale.

Regardless of the field of application or the circumstances, successful transformation involves several common elements. First, there must be a goal that is widely perceived to be desirable or essential to meet human aspirations. In the case of India's Green Revolution, the goal was complete food self-sufficiency of a country with a rapidly expanding population. Second, transformation requires an effective strategy or method for accelerating the transition. The method adopted in Green Revolution was an integrated approach that included induction of new technology, marketing, price incentives, research, infrastructure development, training, demonstration, and national information campaigns. India's integrated approach soon became the model for similar achievements in many other developing countries. Third, transformation involves a change in organization, such as the political organization for governance by democratic institutions, the organization of economic production into industrial clusters or global supply chains, and the social organization for personal relationships and commercial transactions through the Internet.

Finally, the effectiveness of these three elements depends on a fourth element—a social process for rapid transmission, imitation, and adoption by society at large. The social process for Green Revolution required educating, training, persuading, and incentivizing

tens of millions of uneducated traditional farmers to adopt new production methods within a very short time. The transformations that gave rise to the global environmental movement required building widespread social awareness at the household and community level combined with growing support for political action and new legislation, changes in research priorities and methods, induction of new subjects in the educational system at all levels, increasing coverage by the media, invention of new technologies, modifications in industrial processes, development of new types of jobs, creation of new types of businesses, changes

"What the world needs today is a global social movement inspired by high values and backed by the aspirations of youth determined to usher in a better world for all."

in accounting and economic measurement systems, new concepts and methods for financial risk management, alterations in investment behavior and countless other changes permeating virtually every aspect of social life.

Social transformation may be initiated by pioneering entrepreneurs such as Steve Jobs or Elon Musk or visionary leaders such as Lee Kuan Yew, father of Singapore's economic miracle, or C. Subramaniam, father of India's Green Revolution, but it acquires effective power and momentum only when it is backed by appropriate organizational mechanisms and fuelled by the endorsement, rising expectations and overflowing energies of society at large.

These are dramatic examples of what can be done in specific sectors and places. Countless experiments and successful models of this type can help prepare the ground for wider social change. A study of the successful transformations of the past—local, sectoral, national, and international—and the gradual growth and progression of change from one place and one sector to another can yield valuable insights into the process—its onset, stages, drivers, organizational and leadership strategies—relevant for accelerating transformation in countless areas.

But the transformation the world needs today is not limited to any geographic area or field of activity. It encompasses all sectors of society all over the world. Inspired leaders and organizations can play powerful catalytic roles in promoting and supporting the needed change as the UN is doing to support the implementation of the SDGs. But unless and until the need is embraced by a critical mass of informed individuals—political leaders, intellectuals, educators, journalists, business and financial executives, civil society and youth leaders, and representative of the wider population of humanity—it is likely to remain mostly on paper. What the world needs today is a global social movement inspired by high values and backed by the aspirations of youth determined to usher in a better world for all. No representative organization of government presently exists at the global level with sufficient power and influence to direct the movement. The global multilateral system first needs to be redefined and reinvented to serve the needs of humanity as a whole. No individual group can lead that

movement. But individuals and organizations can play a powerful role as catalysts in that movement.

Many organizations are working on goals and strategies for social transformation with specialized knowledge and research on specific fields, regions, and applications. The Academy's emphasis has been on a complete holistic knowledge of the principles on which social evolution and social transformation are based and the application of that knowledge to more effectively address global social challenges.

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An Integral Approach to Social Transformation

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1. Introduction

From conquering polio,* malaria,† or HIV/AIDS,‡ to the adoption of the Montreal Protocol to eliminate ozone depleting substances§, the history of humanity is full of success stories for collective action. According to research by the Oxford-based Our World in Data organization,¶ humanity is on average better off today than many decades ago. Despite the unprecedented population growth over the past century, we live during one of the most peaceful, most progressive, and stimulating eras in history. We are more apt to die from unhealthy lifestyle choices, suicide, or old age than from hunger, war, terrorist attacks, or transferrable illnesses. Since 1820, global poverty has been reduced from 94% to 9.6% in 2015, and global income has increased on average tenfold with falling global child mortality rates. Also, literacy has increased—from 12% in 1820 to 87% in 2014—and most countries are ruled by democratic governments. This progress would not have been possible without massive amounts of energy, economic globalization, and exponentially growing technologies, all of which must now become sustainable. This was all created by the collective application of human curiosity, innovation, creativity, a sense of wonder, and purpose. This should give us hope because creating better societies to ensure the future of life on Earth despite the grand global challenges can only occur if we believe it can be done. Positive motivation is important yet understanding the full picture including the factors hidden from view is the premise for any successful action.

To better understand how social transformation could be achieved within the context of planetary boundaries for many generations to come, let us take a closer look at the underlying factors influencing it through the lens of integral theory by Ken Wilber that has been successfully applied in more than 50 disciplines from medicine to economics, investing, and business. Explicating integral theory here would go beyond the scope of this paper, however, its roots are embedded in evolutionary theory and in the Platonic values, the True, the Good, and the Beautiful. Integral theory can help identify the missing pieces in the current paradigms that are failing us, and integrate all of reality, its exterior as well as interior dimensions, such as culture, emotions, and spirituality. It is a map that can help simplify and eventually navigate the complexity of reality while maintaining multiple world views and honoring the evolution of human consciousness from pre-modern to modern, postmodern, and post-postmodern structures of consciousness.

* https://en.wikipedia.org/wiki/Polio_vaccine
† https://en.wikipedia.org/wiki/Malaria_vaccine
‡ https://en.wikipedia.org/wiki/HIV_vaccine_development
§ https://en.wikipedia.org/wiki/Montreal_Protocol
¶ https://ourworldindata.org/

2. Inflationary Economics, Deflationary Technologies, & Social Manipulation

Nouriel Roubini warned about an impending collapse of the financial system long before the financial crisis of 2008.* Yet, we all know what happened then and during the COVID-19 pandemic making it obvious that our economic system in its current form would have to change to provide the necessary breeding ground for sustainable social transformation. Why? Because it is designed to allocate more money (quantitative easing) to an already bankrupted system that is based on debt versus real assets and one that is borrowing from future generations. Like cancer, the system must grow to prevent its own collapse. It is inflationary, it creates inequality, and is not sustainable long-term. It is hardly meeting the needs of the current generation and is compromising the ability of future generations to meet their own needs. The citizenry is losing trust in its government, a fact that leads to political and societal polarization across the globe.

Unfortunately, not only regular citizens will be affected, but the entire financial and economic system, said James Arbib and Tony Seba in their latest Rethink† report. They argue that a quickly growing global financial bubble around energy assets from conventional coal, gas, nuclear, and hydro power is imminent, and show that (1) achieving carbon neutrality more quickly and cheaply than expected is possible, (2) energy assets are severely mispriced, (3) fossil fuels, nuclear, and hydro power are no longer competitive and are doubly mispriced, (4) renewable energy sources have reached cost parity and are cheaper than non-renewable ones, and (5) governments must protect people, new companies, or industries from the financial risk of the conventional energy asset bubble.

At the same time, Silicon Valley technologists like Peter Diamandis insist that "tomorrow's speed of change will make today look like we're crawling" putting humanity at that ground-breaking point of technological evolution where its exponential growth is becoming explosive and massively disruptive.‡ Thus, sustainable social transformation can only occur if we quickly learn how to think, and most importantly to act, exponentially and globally, rather than previously in our history, locally and linearly. But that is easier said than done. While the complexity around us is accelerating making it virtually impossible to keep up with the storm of information, emails, explosion of technological advances, the price of technology and its application in every area of life from transportation to food, to education keeps tumbling too. Once an application or a gadget has been developed, the price of replicating it is virtually down to zero. A case in point is the smartphone. Before its creation, we had to pay separately for a camera, a GPS device, a computer to browse the internet, a recorder, or a dumb mobile phone, to name a few devices, all of which we now get as part of a relatively cheap smartphone. Thus, the technology explosion operates in a deflationary manner in the long run with one important caveat: its growth must occur sustainably and within planetary boundaries. This is currently not the case as demonstrated

* https://nymag.com/realestate/features/21675/

† https://www.rethinkx.com/energy-lcoe

‡ https://tinyurl.com/rnbcc27

by Sir Attenborough in the documentary "Breaking Boundaries".* If we want to ensure our future, we must go back to a safe planetary operating system. If climate emergency is not enough to threaten our very existence, we are also at war with sensemaking.

> *"How can capital abundance be leveraged to ensure the future of life within the context of deflationary technology, inflationary economics, and the grand global challenges including social transformation?"*

3. At War with Sensemaking?

Climate change has become obvious to most critics, but what is rather hidden from view and plays a key role in social transformation, is the digital technology behind the current social media manipulations. According to former Google ethicist, Tristan Harris†, the social media digital technology *à la* Facebook, Google, or TikTok, to name a few, has quickly become the most worrisome infrastructure of the 21st century. It is more intimately embedded in our minds and nervous systems than any previous infrastructure be it electricity, planes, cars, or printed media. In its current form, this unethical, unchecked digital infrastructure assaults the very foundations of our humanity. Individually and collectively, we no longer own the ability of sensemaking because we do not see the threats coming, we lack a good understanding of the underlying technology—mostly driven by unethical AI—and become the involuntary victims of its profit- or politically-oriented manipulations. These take place outside of existing democratic legislation, lead to unprecedented levels of addiction, depression, hate crimes, and act like a brain implant bypassing our explicit permission, volition, or approvals by accredited organizations that are supposed to protect us.

The Social Dilemma movie‡ demonstrates eloquently how the lives of billions of people on social media are manipulated by (mostly young) AI programmers without a deep understanding of the long-term impact their AI code might have on the society at large. Daniel Schmachtenberger goes even farther and argues that this situation has turned into a World War III that is not fought kinetically but on digital platforms.§

4. There is Hope

On the climate emergency front comes hope, for example, from the European Commission¶ that launched the European Green Deal. When completed and if implemented properly, this action plan can support the implementation of a sustainable finance model to

* https://en.wikipedia.org/wiki/Breaking_Boundaries
† https://en.wikipedia.org/wiki/Tristan_Harris
‡ https://www.netflix.com
§ https://aqalgroup.com/fighting-ww-iii/
¶ https://ec.europa.eu/info/publications/180308-action-plan-sustainable-growth_en

transform the economy of the European Union such that it can meet the goals of the Paris Accord and Agenda 2030 (SDGs) of the United Nations. The European Commission intends to achieve carbon neutrality by 2050 and has been joined by US President Biden's Green New Deal* and the Chinese government's 5-year plan aims to divest their investments from fossil fuels to green tech.†

These new green deals are providing the first regulatory and legislative steps for creating the economic foundation on which sustainable businesses can be built and societal transformations can occur.

5. From Capital Abundance to Social Transformation

The great advantage of both deflationary tech and inflationary economics is the availability of capital abundance starting with Venture Capital funding, Crowdfunding, or Sovereign Wealth Funds, to name a few. The only question is who gets the capital. VC funding has been a more traditional source of startup capital over the past five decades, helping to birth household names from Google, to Apple, and to Amazon, to name a few. Despite the pandemic, in 2020, U.S. venture capital investments reached the new staggering record of $156 billion (or about $428 million every day!), an increase from $136.5 billion in 2019; in Asia, VC capital ended up at nearly $80 billion, and European venture reached $40 billion in the same period.‡ On the crowdfunding side we can witness a similar capital abundance which demonstrates that crowdfunding has the potential to further disrupt the investment industry in a meaningful way because it levels the playing field by bypassing antiquated start-up funding through bank loans by attracting small capital investments to projects, business, and other causes from many people via Internet platforms. They are projected to grow by $124.35 billion during 2020-2024 with a CAGR of 18% in the same period.§

Mobile access is at the core of these developments with an estimated 80.9 percent of people having Internet access in developed economies in 2018 compared to 45.3 percent of persons living in developing markets. The global online access rate was 51.2 percent.¶ The significance of this connectivity from the economic let alone the social and cultural point of view is remarkable. Not only are there billions of additional minds and intelligences being added to the collective intelligence, but these minds have the potential to become both entrepreneurs providing new business ideas that seek funding online and to be also providers of cash/capital, in short, crowdfunders. This is not only true for the developed world but also for the emerging world. In 2013, the World Bank had estimated that the emerging world has the potential to leapfrog the developed world in crowdfunding, thanks to more than 344 million households that are able to financially invest via crowdfunding in community businesses.** By 2025 they should have the ability to deploy US$96 billion per year in crowdfunding investments with China in the lead and accounting for US$59 billion

* https://joebiden.com/climate-plan/

† https://www.weforum.org/agenda/2021/03/china-green-tech-coal-five-year-plan-environment-climate-change/

‡ https://tinyurl.com/ydwdxwp5

§ https://tinyurl.com/z8c49wp6

¶ https://tinyurl.com/nt6wfvwx

** https://tinyurl.com/y5rekclz

per annum. What does that mean? It means that somebody in one part of the world who has a great idea will get the capital she needs to start her company. That was never possible before. This is revolutionizing the start-up capital worldwide and could become a key vehicle to ensure the future of life on this planet, if guided in a sustainable manner. The same could hold true for another source of massive abundance of deployable capital, namely state-owned Sovereign Wealth Funds, which had held an estimated $9.94 trillion in global assets under management at the end of 2020.*

> *"The future of life can only be ensured through a massive mindshift toward a level of consciousness that can induce significant social transformation and save humanity from extinction. We know what to do. Now, we must do what we know."*

The main question remains: How can capital abundance be leveraged to ensure the future of life within the context of deflationary technology, inflationary economics, and the grand global challenges including social transformation?

6. Job Creation Is at the Heart of Social Transformation

An empty stomach will not get us anywhere. So, we must leverage said abundance in technology, money, and human capital to make the transformation to a sustainable world feasible. James Arbib and Tony Seba assert in their paper entitled "Rethinking Humanity: Five Foundational Sector Disruptions, the lifecycle of Civilizations, and the Coming of Age of Freedom" that this decade is decisive for the future of humanity. They argue that disruption will unavoidably affect all major sectors of the global economy from information technology, food, energy, to transportation, and materials, whose costs are projected to fall by a 10x factor or more. The production processes are prone to become more efficient by a significant order of magnitude and use 90% less natural resources while generating between 10x-100x less waste. Arbib and Seba join the ranks of Jorgen Randers et al. (2018) and consider that the implementation of the UN SDGs within planetary boundaries by 2050 is within reach. If we fail, we must be ready to face the resulting collapse and descend into another dark age as previous civilizations. They propose (1) to acknowledge that we are at a breaking point without equilibrium and there is no going back (2) to brace for the impact caused by the breaking down of every major system and mass migration, all of which will be compounded by technological disruption (3) to beware of the cascading impact of further disruptions and the race to the top (4) to follow smaller communities and big cities such as Shanghai, Seattle, and Silicon Valley that will be more likely to succeed over big countries (5) that resiliency and robustness will win (6) to rethink old concepts like economies of scale and efficiency because they are not shock-absorbent (7) to apply existing technology and tools to solve the

* https://tinyurl.com/5a44u7ru

problems; to not waste time to develop new ones (8) to follow exponential thinkers because they are more likely to succeed than linear thinking forecasters.

Small to medium enterprises (SMEs) have a significant role to play in achieving these goals, because they represent a significant economic force globally—with a contribution of about 90% of businesses and more than 50% of employment worldwide, according to the World Bank.* Also, SMEs contribute up to 40% of national income (GDP) in virtually all economies. Independent from the massive capital abundance, SMEs have suffered the most since the financial crisis of 2008 for governmental stimulus packages rarely reached them due to bureaucratic hurdles and outdated measurements criteria. That must change if we want to succeed.

Exponentially growing technologies are deflationary and are thus shifting the inflationary world economy right under our eyes. As the new green deals are getting implemented and massive amounts of capital are becoming available, SMEs are best positioned to fulfill the requirements of systemic change. They are by nature more flexible and progressive than older and larger corporations and can enable accelerated job creation in the new green economy. They can avoid social polarization. They are attractive to investors but de-risking becomes key because the new regulation eliminates investors and entrepreneurs' previous dilemma in which they had to choose between profit and impact; between traditional, for-profit-only models on the one hand, and multiple-bottom-line structures with a positive social or environmental impact on the other. This leads to the next paradigm in investing, the Integral Investing framework. With the support of new green deal legislation, capital abundance, exponential tech know-how, and existing talent, we are best positioned to create the type of social transformation we all desire. If we only knew what the hidden manipulators are! That, we do not see coming.

7. Hidden Attractors in Plain View

Unfortunately, climate change is not the only existential threat to humanity and social transformation. After nuclear threat, unsafe AI poses a third significant threat, particularly if it evolves to superintelligence, a major challenge for which we are not ready. It is time we join the ranks of Elon Musk, Oxford professor Nick Bostrom, MIT's Max Tegmark, and the late Stephen Hawking, who deem AI more dangerous than nukes and call for the general adoption of the 23 Asilomar AI Principles to ensure the ethical application of AI.† We must awaken to the reality that our current digital infrastructure (hardware and software) must be regulated and evolve quickly to counteract the already existing monopolies of AI-driven private platforms that rule the social media and are undermining democratic institutions right under our noses. These platforms already have a life of their own, unmitigated by law and legislation, and have become massively pathological and manipulative with the sole intention to maximize profit at the expense of human development and global unity. The result is ongoing cultural wars and societal polarization that manifest as ongoing attacks on science and reason by the ignorant. They pose a present danger to cultural evolution,

* The World Bank SME Finance, 2020, https://www.worldbank.org/en/topic/smefinance

† https://futureoflife.org/

social stability, and the future of consciousness. AI algorithms are data-hungry and depend on our data generosity because without data they cannot function. Their main purpose is to collect massive amounts of data to improve themselves, which in turn translates into higher revenues for their operatives. For example, nobody thought much about Google's vehicles driving through our streets and taking pictures of our houses, cars, or gardens. Without our consent, our data is available globally for everybody to access through Google maps. Before it become known that Facebook, to give another example, unlawfully sold millions of personal data sets to the Cambridge Analytica, hence enabling Russian hackers to target and significantly influence American voters during the 2016 election, few people took Facebook's AI algorithms seriously or thought them dangerous.* In fact, no one has offered me a share of the revenue derived from my own data, yet, although it would seem only fair to do so.

When I talk to people about their views about privacy, most say they have nothing to hide. But whistleblower Edward Snowden asks to think again: "saying that you don't care about privacy because you have nothing to hide is no different from saying that you don't care about freedom of speech because you have nothing to say." In other words, if we care about social transformation by preserving our democracies along with all our precious human rights—equality, freedom, and liberty—we must think again, and more profoundly. Why? Because our freedom is priceless, and it is certainly not up for grabs. I grew up in Romania under Ceausescu's dictatorship and felt first-hand what it means to have a Big Brother watching you all the time. We must take this very seriously. Organizations like Tristan Harris's Center for Humane Technology† or Daniel Schmachtenberger's Consilience Project‡ were built to accelerate the development of social transformation literacy by counteracting manipulative social media companies. We would be well counseled to stay vigilant.

In the final analysis, the future of life can only be ensured through a massive mindshift toward a higher level of consciousness that can induce significant social transformation and save humanity from extinction. We know what to do. Now, we must do what we know.

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* https://tinyurl.com/y9rorxln

† https://www.humanetech.com/

‡ https://consilienceproject.org/

Transformation Literacy as a Collective Stewardship Task

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The recent years have seen the increasing use of the term *transformations* in the context of the multiple crises of climate change, biodiversity loss, and global health challenges. Transformations encompass conscious change efforts that involve collaboration, innovation, societal learning, institutional strategy changes, and individual approaches towards thinking and acting. They include shifts in power structures and relationships and are built on the assumption that positive change for a future, a more sustainable state of the world, can be achieved. The premise is that human behavior can change at a collective scale. The envisaged transformations would alter the way human beings operate with each other and the planet Earth in the Era of the Anthropocene in favor of a world that works for 100% of humanity and the planet.

Societal transformations have always happened in human history, and many have been consciously and actively promoted. What is new about the situation at the beginning of the 21st century is both scale and depth. The scale of transformations needed—as a result of the impacts of climate change—is almost globally acknowledged. No country, no government, no company, and no citizen can escape the consequences of global warming. But the depth of change needed is only partly accepted. This is not surprising as the institutional and political structures on which our globalized current systems are built, tend to perpetuate the existence of the multi-faceted global arrangement that took us to the sustainability challenges we face.

The story about how the world works, how reality emerges, and how people can or cannot co-create the future, gives rise to narratives of possibilities, which are one of the key leverage points for *transformation literacy*. ***Transformation literacy*** **is the knowledge and capacity of collectives of decision-makers, change agents, and institutional actors to steward sustainability transformations effectively together across institutions, societal sectors, and nations** (Kuenkel 2019). It rests on people's ability to collaborate or act in complementarity, and refers to multiple actors in multiple places that can hardly be coordinated, yet need to find local solutions to global challenges, or drive global turning points that support local changes. There is already a scientific history of the call for mindset-shifts towards seeing the world as an interconnected living system that has a long history, which has been emerging as a backdrop to the increasing destruction of the living world.

Two complementary forms of narratives have been emerging in support of transformations in the last decade. The first is a narrative of **emergency**, evidenced in the frequent use of terms such as climate emergency or more recently called "planetary emergency" in which the scientifically predicted threats and the actual experience of such predictions such as extreme weather events, ocean level rising or droughts accelerate substantiated *anxiety* which leads to taking a more responsible decision, both individually and collectively. Examples are the Club of Rome report on 'Limits to Growth' (Meadows et al. 1972) and its updates (Meadows et al. 1992; 2004); the concept of peak resources and the corresponding effect on the global

economy (Heinberg 2011); the concept of a 'safe operating space for humanity to thrive' in the context of avoiding further transgression of the biophysical planetary boundaries (Cornell 2012; Rockström et al. 2009); the image of 'Hothouse Earth' (Steffen et al. 2018); the declaration of a 'Planetary Emergency' (Club of Rome 2020); the warning by more than 100 scientists of a 'climate emergency'(Ripple et al. 2020), the outlining of a 10 point action plan for a circular bioeconomy for sustainable wellbeing (Fath et al. 2020), and the emphasis on a 'global crisis' (Dasgupta 2021). The *emergency narrative* assumes that the operating system of humankind can be improved while using the existing institutional and political structures. Enhancing *transformation literacy* for implementing pathways to a regenerative civilization here means to foster the ability of institutional actors and political governance to decide, orchestrate and implement these solutions at scale.

The *second* narrative can be seen as one of **emergence** (Preiser et al. 2020). It has grown in the last decade more prominently around pathways to different futures that acknowledge the possibility of wellbeing on a healthy planet. It is a narrative that emphasizes the human potential, the ability to co-create the future more consciously, and, above all, the role of planetary care-taking as the likely route to Anthropocene responsibility. It is a narrative of possibilities and of inventing a different future in an interconnected world, while acknowledging that there will be plural futures and multiple pathways to enacting them. The *emergence narrative* is naturally complex, less directive, and open to fundamental, if not revolutionary shifts. It is a narrative of learning societies that are capable of adapting and also has a long history already. Scientific examples of the *emergence narrative* are the human responsibility to 'further life-enhancing structures and patterns' in the Potsdam Manifesto (Dürr et al. 2005); the concept of an 'Earth Community' (Korten 2007); the 'wellbeing' approach (OECD [Organisation for Economic Co-operation and Development] 2015); the concept of the 'regenerative economy' (Fullerton 2015); the concept of 'Earthland' (Raskin 2016); the B-Team's 'Great Transformation' approach*, the 'Meadows Memorandum' (Leading4Wellbeing 2017); or the concept of pluraversality (Preiser et al. 2020). *Emergence narratives* often emphasize the need to fundamentally shift the operating system of human action on the planet, call for reconstructing a more just global society, and a redefinition of the purpose of the economy to recalibrate its essential principles in line with planetary life support systems.

Both narratives influence the global discourse as much as local action. Some of the required transformative efforts get integrated into the tasks of companies, governments or international institutions. Other transformative efforts take place outside the dominant institutional structures, partly out of the frustration that change from within structures is too slow, partly, because transformative social innovations have always emerged from niches outside the mainstream (Verbong and Loorbach 2012). In transformation as well as transition research, it is widely acknowledged that social change at scale requires deliberate strategies: top-down approaches, such as advanced and future-oriented policy decisions, as well as bottom-up approaches which model the societal or even global change (Avelino et al. 2014, Rotmans and Loorbach 2010; Loorbach et al. 2016). In addition to administrative

* Source accessed on 15th April 2017: http://bteam.org/

transformation efforts and innovative communities, a new phenomenon has emerged in the last ten years: global alliances and networks of networks that subscribe to transformative change at scale and organize around issues and themes across the globe (Kuenkel et al. 2020; Waddell 2016, Waddell et al. 2015). Networked action is a patterned constellation that mirrors dynamic life structures much more than the ordinary, most often clearly delineated and hierarchical institutional set-up.

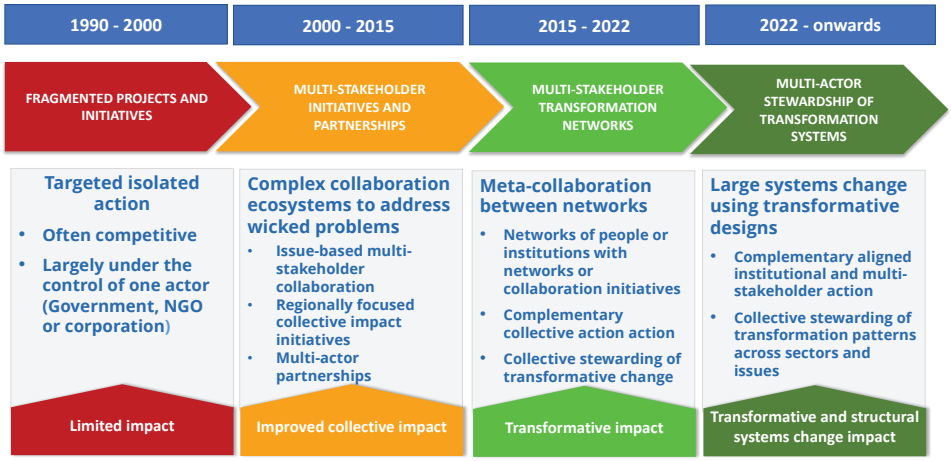
"No one network, movement or alliance can solve the multi-faceted sustainability problem because of their very embeddedness."

What is important to understand for *transformation literacy* is that partnerships and collaborative initiatives begin to knit new communicative and action-oriented structures into the given institutional arrangements. While in the last decade of the 20th century it was certainly strange to sit at the same table with company representatives, civil society activities, and government officials, today, this is perfectly normal. These multi-stakeholder partnerships have not always been easy to implement and may have had questionable results, but they contributed to cross-societal learning, overcoming stereotyped thinking, and developing new working relationships across societal sectors (Bierman et al. 2007; Kuenkel et al. 2020), which is a prerequisite for the collaborative capacity pro-active transformations need. Meanwhile, and partly parallel, the above-mentioned networks and alliances emerged. Some are composed of international communities of people and institutions who pursue the same sustainability goals in their different practices, others are deliberate networks of actors that intend to accelerate change in institutions at scale. Their purpose is to influence institutional and political actors in many entities across the globe at the same time. Often, they create meta-collaborations between existing initiatives and networks. Hence, they, again, create dynamic, new, non-hierarchical, cross-sectoral, and complex structures that bring forward transformative change across and within the existing institutional set-up. These multi-stakeholder transformation networks are at the forefront of pathways to regenerative civilizations, because they model many aspects of future societies that will be crucial for the way such societies will operate, such as complex adaptive structures, broad strategizing, and joint responsibilities. They allow fast communication across silos and institutional boundaries. Subsequently, they are able to adapt and adjust strategies more quickly; or, they develop strategies, information and action plans collectively in communication loops, which are non-hierarchical and allow for co-created results, and contextualized implementation in different areas. They have the potential to enliven not only their own members to experience that co-creating future is possible, but also bring the vision of regenerative civilizations into existing institutions.

These networks of networks and alliances are laboratories for a regenerative future. Stewarding transformative change in patterns of collaborative networked action will sooner

or later become the main and conscious managerial task of politicians, administrators, companies, societal actors, and citizens. Cross-sectoral and cross-institutional structures can better cope with the speed that sustainability transformations require. But there is a next step on the horizon of the trajectories towards transformations for which networked action as described above is the basis: the stewardship of *transformation systems.* The complexity of sustainability challenges is coupled with the insight that loosely coordinated intentional and collaborative systems of actors from within and outside institutional structures need to work together in a complementary way. Today, the many initiatives that operate globally begin to connect with each other, but tend to stay oblivious to understanding themselves as loosely connected parts of *transformation systems*. These interventions need to be implemented in appreciative acknowledgment of each other, without centralized coordination, and they also need to function as a collective learning system. Fig. 1 shows the trajectories of emerging forms of networked and collaborative section towards stewarding transformative and structural systems change. Of course, the periods overlap: there are still many isolated projects happening driven by institutional or sectoral silos, and only a few countries have adopted a collaborative multi-stakeholder partnership approach to overcoming sustainability challenges. But the trends are clear: pathways to regenerative civilizations require networked action and large systems change requires the stewarding of complex transformation systems with many institutional and non-institutional actors involved. We are only at the beginning to understand what it really means to build and leverage *transformation systems* for the transformative and structural systems change our planet and humankind needs.

Figure 1: Trajectories in Transformative Change (Copyrighted to the author)



Taking the perspective of *transformation systems* invites us to take care of the many small and large change efforts that already exist. Pathways to regenerative civilizations are organic processes that involve multiple approaches and practices. They are decidedly nonlinear based on multiple visions of regenerative civilizations that require translation into different

contexts. There is no 'one right way' to drive transformations. The more freedom there is to experiment with pioneering the future, the higher is the potential that transformative change happens. Yet, the experiments need to be exposed to collective learning, and ultimately, they need to be integrated in both existing and new structures. For the enhancement of *transformation literacy,* this means that actors from within and outside institutions need to become familiar with new approaches that tune into the emerging trend of dealing with the complexity of transformations in a more effective way. There are three strategic core approaches that require conscious attention in *transformation literacy*: *Collective stewardship* as the pro-active engagement for a regenerative future in mutually supportive strategies (Kuenkel 2019, Kuenkel and Waddock 2019, Kuenkel et al. 2020); *visionary multiplicity* as the acknowledgement of plural approaches to the quality of life as an underlying principle of regenerative civilizations; and *network leverage* as the deliberate and reflective use of power and influence across sectors and institutions. Table 15.1 shows an overview of how these strategic core approaches of *transformation literacy* manifest.

Table 1: Strategic Core Approaches of Transformation Literacy

Collective Stewardship	The pro-active engagement for a regenerative future takes place collaboratively by many complementary actors without centralized control. Mutually supportive strategies towards safeguarding planetary and human wellbeing at different levels of the global society connect in transformation systems.
Visionary Multiplicity	The strategic acceptance that the potential of humankind's future lies in its diversity allows for plural approaches to the quality of life as an underlying principle of regenerative civilizations. There cannot be one vision that fits all circumstances and contexts. The broad agreement on the properties of regenerative civilizations allows for a plurality of interpretations and manifestations to be anchored in the political and institutional landscape.
Network Leverage	Network leverage crosses boundaries to make use of the power and influence of the variety of actors involved in networks, alliances, movements or communities. Bridges between pioneering niche initiatives and the institutional landscapes create leverage to influence and finally shift structures and strategies of existing institutions.

In the complexity of transformative systems change with multiple actors in diverse places and various institutions who have different interests and capabilities, it is important to recognize that no one network, movement or alliance can solve the multi-faceted sustainability problem because of their very embeddedness. Only multiple contributions by many networks,

all referring to the broad vision of properties of a regenerative civilization, are the pathway to better functioning, more vital systems. No matter how small or large change initiatives are, they are evenly important, because multiple small system change is the cornerstone of large systems change. *Transformation literacy* integrates complementary approaches: from technical to social to cultural to economic. It is built on the understanding of essential features of life's processes which guide evolutionary processes. The design of transformative change needs to reach people's hearts and minds—because this is the pathway to dynamic and self-driven change in behavior. The agent of change is human, hence leveraging human competencies is central to the acceleration of change.

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References

1. Avelino, F., J. M. Wittmayer, T. O'Riordan, A. Haxeltine, P. Weaver, R. Kemp, D. Loorbach, & J. Rotmans (2014). *Gamechangers and transformative social innovation. The case of the economic crisis and tranformative social innovation*. TRANSIT Working Paper, TRANSIT: EU SSH.2013.3.2-1 Grant agreement no: 613169.
2. Club of Rome (2020). *Planetary Emergency Plan. Securing a New Deal for People, Nature and Climate*. Retrieved from https://clubofrome.org/wp-content/uploads/2020/02/PlanetaryEmergencyPlan_CoR-4.pdf 7th May 2021.
3. Cornell, S. (2012). On the system properties of the planetary boundaries. *Ecology and Society 17*(1): r2.
4. Dasgupta, P. (2021). *The Economics of Biodiversity: The Dasgupta Review.* London: HM Treasury.
5. Dürr, H. P., Dahm, D. & zur Lippe, R. (2005). *Potsdam Manifesto 2005. We have to learn to think in a new way,* Federation of German Scientists - Vereinigung Deutscher Wissenschaftler VDW e.V. München.
6. Fath et al. 2020
7. Fullerton, J. (2015). *Regenerative capitalism: How universal principles and patterns will shape our new economy,* Capital Institute: Future of Finance Publication [online publication]. Retrieved from http://capitalinstitute.org/wp-content/uploads/2015/04/2015-Regenerative-Capitalism-4-20-15-final.pdf
8. Heinberg, R. (2011). *The End of Growth. Adapting to our New Economic Reality.* New Society Publishers, Gabriola Island, Canada.
9. Korten, D. C. (2007). *The great turning: From empire to earth community*. Oakland, California: Berrett-Koehler Publishers.
10. Kuenkel, P. (2019). *Stewarding Sustainability Transformations. An Emerging Theory and Practice of SDG Implementation.* Switzerland, Cham: Springer International Publishing.
11. Kuenkel, P., Kuehn, E., Stucker, D., Williamson, D.F. (2020). *Leading transformative change collectively*. A practitioner's guide to realizing the SDGs. New York: Routledge
12. Kuenkel, P., Waddock, S. (2019). Stewarding Aliveness in a Troubled Earth System. *Cadmus, 4*(1), 14-38.
13. Leading4Wellbeing (2017). Meadows Memorandum: A new economic model for a finer future. Retrieved from https://wellbeingeconomy.org/wp-content/uploads/2019/05/Meadows-Memorandum-with-Cover-V81-copy.pdf
14. Loorbach, D., Avelino, F., Haxeltine, A., Wittmayer, J., O'Riordan, T., Weaver, P. & Kemp, R. (2016). The economic crisis as a game changer? Exploring the role of social construction in sustainability transitions. *Ecology and Society*, *21*(4):15. http://dx.doi.org/10.5751/ES-08761-210415
15. Meadows, D., Meadows, D., Randers, J., & Behrens, W. (1972*). The limits to growth: A report for the Club of Rome's project on the predicament of mankind.* London: Earth Island Limited.
16. Meadows, D., Randers, J. & Meadows. D. (2004). *Limits to growth: the 30-year update.* White River Junction, Vermont, USA: Chelsea Green.
17. Meadows, D.H., Meadows, D.L, and Randers, J. (1992). *Beyond the Limits. Confronting Global Collapse, Envisioning a Sustainable Future.* Chelsea Green Publishing Company, White River Junction, VT, USA.
18. OECD (2015). *System innovation. Synthesis report*. Retrieved from https://www.innovationpolicyplatform.org/www.innovationpolicyplatform.org/sites/default/files/general/SYSTEMINNOVATION_FINALREPORT_0/index.pdf (2017-06-30)

19. Preiser, R.; Swilling, M., Nnoli-Edozien, N., Ramphele, M. (2020). Towards New Narratives of Hope for Fostering Transformative African Futures. Publication by the African Chapter of the Club of Rome. Retrieved from https://www.clubofrome.org/wp-content/uploads/2021/01/COR-ENCI_NewNarratives_Dec2020_A4-v1-1.pdf 7th May 2021.
20. Raskin, P. (2016). *Journey to Earthland: The great transition to planetary civilization*. Boston, MA: Tellus Institute.
21. Ripple, W. J., Wolf, C., Newsome, T. M., Barnard, P. & Moomaw, W . R., (2020). 11,258 Scientist Signatories from 153 Countries. Corrigendum: World Scientists' Warning of a Climate Emergency. *BioScience*, 70(1), 100. https://doi.org/10.1093/biosci/biz152
22. Rockström, J., W. Steffen, K. Noone, Å., Persson, F. S., Chapin, III, Lambin, E. & Foley. J. (2009). Planetary boundaries: Exploring the safe operating space for humanity. *Ecology and Society 14*(2): 32.
23. Rotmans, J. & Loorbach, D. (2010). Towards a better understanding of transitions and their governance: a systemic and reflexive approach. In J. Grin, J. Rotmans, & J. Schot (Eds.). *Transitions to Sustainable Development: New Directions in the Study of Long Term Transformative Change* (pp. 105–222). New York, US: Routledge.
24. Steffen, W., Rockström, J., Richardson, K., Lenton, T. M., Folke, C., Liverman, D., ... & Schellnhuber, H.J. (2018). Trajectories of the Earth System in the Anthropocene. *Proceedings of the National Academy of Sciences*, *115*(33), 8252-8259, URL: https://www.pnas.org/content/pnas/early/2018/08/07/1810141115.full.pdf.
25. Verbong, G. & Loorbach; D. (Eds.)(2012). *Governing the Energy Transition: Reality, Illusion or Necessity*? Routledge Studies in Sustainability Transitions, Band 4
26. Waddell, S. (2016). *Change for the audacious: A doers' guide to large systems change for a flourishing future*. Boston, MA, USA: NetworkingAction.
27. Waddell, S., Waddock, S., Cornell, S., Dentoni, D., McLachlan, M. & Meszoely, G., (2015). Large systems change: An emerging field of transformation and transitions. *The Journal of Corporate Citizenship, 58*, 5–30.

From Below: Roots & Grassroots of Societal Transformation
The Social Construction of Change

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Those who aim for societal transformation, understood as systemic change, must first understand fully what the concept of systemic change indicates and implicates. Historically speaking, even before the scientific world had begun to explore the meaning of complexity, setting forth the unique characteristics of complex systems as opposed to merely complicated systems, the *idea of systems itself* had revolutionized the entire framework of the sciences, and later, the humanities as well as the sociological sciences, which unite both.

"That systemic change must begin from grassroots communities and single individuals and groups, and by definition can never be a top-down imposition, implicates a necessary rethinking of our educational institutions, which are still based on logics of separation and on "false dichotomies"."

In order to pursue systemic change, therefore, it is first and foremost essential to understand the basic structure of a *system*—of *any* kind of system, be it biological, physical, social, or otherwise. All systems, as defined many years ago by Ashby, Wiener, Von Neumann, Kauffman, Von Bertalanffy, Bateson, Anderson, Simon, Von Foerster, Morin, and others, are made up of smaller, interactive subsystems, or subunits, arranged *hierarchically*, where the changes "from below", in smaller sub-units, trigger changes in higher levels of units, changes which will affect the entire system and its interactions with other systems and with the environment [1-17, 18-58].

Systemic change, in fact, regards complex dynamic systems, open to the environment, whose changes and interactions, initiated among subunits, give rise to what is termed self-organization, or emergence, a universal phenomenon that is responsible for the appearance of life itself. What social leaders, political authorities, experts, intellectuals, and last but not least, economists fail to realize is the inescapable necessity that such change—systemic change—begins at the bottom level, among the smallest and most unassuming elements in the system. It is simply impossible to obtain systemic change from the top down, and herein lies the fatal error made over and over again by well-intentioned reformers from the upper echelons of society.

We continue to invoke "excellence", calling for the best of the best, the top talents, the most highly celebrated geniuses from the halls of the most prestigious institutions, to spark off, implement and execute the metamorphoses we need in order to transform society in the

most positive, efficient and enlightened manner. Yet despite the undeniable importance of a complex, systemic approach on the part of leaders chosen for their brilliance and integrity, true and profound change, that is, social and cultural change, can only come about from the bottom up, a transformation that will never be realized as long as the protagonists are taken solely from select groups of elites and/or intelligentsia, but must arise from a conscious, deliberate action intent on widening the foundations horizontally, as amply as possible, through processes of inclusive education and literacy, not only digital literacy. Because genuine societal transformation consists of local, national, and global citizens educated and trained in critical thinking and towards a systemic vision of reality, carried out on a long-term basis.

Thus, the first thing we must recognize is that systemic change shares the essential characteristics of complex adaptive systems and their emergent properties and processes. That systemic change must begin from grassroots communities and single individuals and groups, and by definition can never be a top-down imposition, implicates a necessary rethinking of our educational institutions, which are still based on logics of separation and on "false dichotomies" [1, 7, 15, 16], as well as on frontal didactic methods that exclude participation and empathy. The didactic methods that should be fostered from now on, adopted by teachers who have themselves been trained in systems thinking—thus requiring fundamental changes in the universities that carry out the function of "forming" future teachers and professors—are those encouraging collaboration and contribution, where the error is welcomed and analyzed, and where digressions from the main topic open other paths to knowledge. It is furthermore crucial to realize that schools and universities are not separate "entities", but rather are *a single ecosystem* and must be treated as such.

Furthermore, within a framework that has become essential, of rethinking and re-defining/overcoming the dichotomy nature/culture, an interdisciplinary and multidisciplinary approach to complexity is becoming more and more urgent for the analysis and study of dynamics that are themselves more and more complex (non-linear and unpredictable), in which the patterns of discourse strongly condition one another, sharply challenging traditional linear theoretical-interpretive models. All of these need to materialize into educational proposals and functional strategies for the *social construction of change*, which as we have said, when imposed top-down is (and will always be) an exclusive change, for the few and for a brief period.

Above all, it is not merely a matter of adapting educational and training processes to technological progress. It is essential to uproot the bases, modifying the entire *architecture of the fields of knowledge and skills* [1-16]. Our students and our teachers alike must be capable of recognizing the radical interdependency of all phenomena, and of the impossibility of eliminating uncertainty and unpredictability in complex systems such as biological and social systems, thus realizing that setting objectives of control and *elimination of error* (intrinsic to life itself) are based on pure illusion.

We are already living in a hyper-technological civilization that is progressively augmenting its systems of automation and simulation, which are pushing aside human beings and their decisional territories and reducing the dimensions of responsibility; a cultural paradigm

poised towards reaching perfection, towards rivaling the perfection of the machines. But it is precisely our errors that denote our being human and being free, which must include the *freedom to make mistakes* or even just to think about making them.

This means rethinking the relational and communicative spaces within the formative and educational institutions, re-launching education within a systemic perspective, which can only be socio-emotional.

Another essential requirement for educating towards societal transformation is the breaking up of what I have termed elsewhere the "tyranny of concreteness" [10, 11, 14-16]. Educators, students, and managers alike need to find the courage to go beyond that deceptive vision that pushes us to always look for something useful in what we do, even regarding our personal growth and intellectual maturation.

It is the passions and the interests of young people, instead, that should be awakened, encouraged and brought out through a complex educational pathway that must begin during the first years of school; avoiding the "great mistake" [1,3,5,7-9] of the hypertechnological civilization: that of believing that the kind of education and/or training that is necessary today is purely technical and/or technological, which instead is the exact opposite of what we so desperately need. While the universally declared objective of technological innovation is to improve human performance, paradoxically, this performance is measured in exclusively quantitative terms, while instead it is undoubtedly *qualitative*. Measuring quality is a contradiction in terms, but it is something that must be addressed. Certain benefits, for example, the effects of training, renewal, and update courses for human resources cannot be evaluated in quantitative terms, and especially not in brief periods.

Only through well-designed and implemented educational strategies can we produce the level of cultural change which can set off economic, political and social change: there is no room for improvisation or shortcuts—the strategic level for teaching begins in the earliest years of school: this is the crucial level where "well-made heads" are formed, and only here can a culture of legality, respect, and non-discrimination be forged, where the socio-cultural conditions of a New Humanism that will reduce the hegemony of the individualistic and egoistic value systems that have been weakening social bonds can be constructed.

The achievement of these dimensions will not be feasible, however, if students are not capable of critical analysis, systemic thinking, and using the *scientific method*, if they have not been taught how to use *logic* to develop or verify arguments, if they have not learned a method for synthesizing the enormous quantities of information they encounter, if they have not received an education that enables them to see the *connections* between knowledge and life-experiences and to evaluate the social-historical origins of cultural and legal norms.

Any global initiatives that may be set up to coordinate movements and ideas from local individuals, groups and communities, should have the following objectives, both on a macro and micro level:

- to overcome the age-old linear and cumulative models that are still profoundly affecting the structure and the very organization of fields of knowledge, by setting up **international**

projects focusing on rethinking education, training, and research within educational institutions. These projects should be designed to reformulate and redefine the complex architecture(s) of fields of knowledge and skills within educational institutions and training agencies, with the objective of transforming the logics of separation and mono-disciplinary visions into inter/multi/trans-disciplinary approaches;

- **to define new international networks of research and work with universities and scientific academies, associations and institutions, overcoming** the traditional idea or view of learning as a process of accumulation of knowledge, in view of increasingly complex and articulate learning processes that are, above all, more and more oriented towards cooperation and collaboration, with the aim of actually reformulating an entire system of thought, increasing what Morin has called the *knowledge of knowledge* [43, 44, 45] with greater awareness, with didactic methods using error, doubt, and unpredictability to form critical minds;
- To recuperate the complex dimensions of educational complexity through **local and international projects** rewarding empathy, critical thinking, a systemic view of phenomena, and the teaching of communication, other than those dimensions we have deliberately chosen to remove, namely, creativity and the collective imagination;
- To trace the "best" (rather than "ideal") itineraries by preparing people to *inhabit the current and future complexity*, favoring those who will be able to shape critical and elastic minds at every level: *hybrid figures* [1-11, 15, 16] open to the contamination among fields of knowledge and skills;
- To ensure that the international projects and working groups created are in agreement with and will act on the premise that **cultural transformation must not be underestimated by entrusting strategies and actions to technology alone.**

It is of the utmost importance, of course, to acknowledge that all of the above can only come about through **long-term policies and substantial investments** in education, training, and research as well as in **orientation**, which should never be delegated to mere marketing practices. Without funding, the self-organization and emergent properties that will spring up from grassroots participation will be unable to thrive and spread; thus, tangible actions must accompany the good intentions on the part of leaders, policymakers, and innovators.

It is time to become aware that the progress made so far in large areas of society is essentially technological in nature, whereas similar progress in social, cultural, and moral awareness has not yet been reached. Although we are surrounded by immensely sophisticated levels of connection and technology, new levels of inequality and asymmetry have emerged, even within (and sometimes owing to) this very technological progress.

In my opinion, social transformation implies *"inclusion",* which in the age of globalization, is a problem of global inclusion and global citizenship; because rather than simply "connected citizens", we need citizens educated and trained in critical thinking and with a systemic vision of reality (long period). Indubitably, innovation is a complex process;

"innovation is complexity". The absolute value of culture must be reformulated in terms of its being a 'common good' and a fundamental device for social cohesion, in a historical phase that asks us urgently to rethink the structural conditions of the 'social contract', of our cohabitation [2, 11, 13].

A project for transnational communities that, we hope, will carry with it the ambition of finally putting the *People* (and the *life-worlds*), and not *technique,* the market or *consumerism,* at the "heart" of a developmental model, which up to now has clearly shown us all of its criticalities and incongruences.

Conclusions

From a whole system perspective, societal transformation is the meta issue. All aspects of human society are sub-elements of it. Around the world, many experts have developed well thought out societal transformation theories and processes. The above essays reflect the rich diversity of ideas in this area.

The authors highlighted a number of key themes related to the arts, humanities, system sciences and economics. A main theme is that current societal narratives perpetuate system failure. There is a profound need for new narratives. Several authors suggested that they should be created through dialogic social processes (Reuter) as well as processes that facilitate reconstruction of societal ideas and systems (Werlen).

There also was a broad recognition of unsustainable values. Through the lenses of different fields, the authors discuss how the values and narratives of consumerism, growth and industrialization are unsustainable and driving system failure. The creation and cultivation of more sustainable values is an essential part of societal transformation. This goes hand in hand with a new worldview, one that recognizes the diverse aspects of society as interconnected parts of one dynamic whole system. Gills and Hosseini discuss this through their 'globalisations' and recognition of interconnected local and global systems. Several of the authors discuss the need for grassroots, local and communal processes and how these facilitate the development of new values and worldviews that support societal transformation.

The requirement for structural change is another theme emphasized by the authors. A consensus emerged around the need to recognize how fundamentally flawed systems perpetuate socio-economic inequality and ecological decline. To address this, several authors suggested different strategies for resolving systemic flaws in education, economics and the arts. There was widespread recognition that institutional and systemic change is essential for achieving societal transformation.

Combining the suggested new narratives, worldviews and system change strategies provides an overall framework for societal transformation. The framework recognizes the interconnectedness of local and global challenges, and shows that re-alignment with the laws of nature is essential. New narratives and societal transformation strategies must operate within planetary boundaries and abide by the laws of nature. Humanity cannot survive and thrive without these adaptations.

Many challenges and opportunities remain in areas including the arts, culture, education, and systemic change (economic, political, institutional). The above essays illuminate the need for cross-disciplinary, whole system approaches. Combining local and global, top-down and bottom-up approaches also is essential for successful societal transformation. These essays provide a foundation for the ongoing work of the WAAS Societal Transformation Working Group. Going forward, a primary emphasis will be on highlighting, developing and implementing practical, specific societal transformation strategies. Given the rapidly growing environmental, social and economic challenges facing humanity, there is an urgent need to engage in creative thinking together to develop real transformative alternatives and redesign civilization.

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References

1. Dominici P. (1996). *Per un'etica dei new-media. Elementi per una discussione critica*, Firenze: Firenze Libri Ed.1998.
2. Dominici P. (2010). *La società dell'irresponsabilità*, Milano: FrancoAngeli.
3. Dominici P. (2014). *Dentro la società interconnessa. Prospettive etiche per un nuovo ecosistema della comunicazione*, Milano: FrancoAngeli.
4. Dominici P. (2016b). *La filosofia come "dispositivo" di risposta alla società asimmetrica e ipercomplessa,* in Candioto L., Gambetti F. (Eds.), *Il diritto alla filosofia. Quale filosofia nel terzo millennio?*, Bologna: Diogene Multimedia.
5. Dominici P., *Il grande equivoco. Ripensare l'educazione (#digitale) per la Società Ipercomplessa* [*The Great Mistake. Rethinking Education for the Hypercomplex Society*], in "Fuori dal Prisma", Il Sole 24 Ore, Milano 2016.
6. Dominici P., *L'ipercomplessità, l'educazione e la condizione dei saperi nella Società Interconnessa/iperconnessa*, in «Il Nodo. Per una pedagogia della Persona», Anno XXI, n°47, Falco Editore, Cosenza 2017, pp.81-104.
7. Dominici P., *For an Inclusive Innovation. Healing the fracture between the human and the technological*, in, European Journal of Future Research, Springer, 2017.
8. Dominici P., *Dentro la Società Interconnessa. La cultura della complessità per abitare i confini e le tensioni della civiltà ipertecnologica,* Milano: FrancoAngeli 2019d.
9. Dominici P., "*Educating for the Future in the Age of Obsolescence*", in CADMUS, Volume 4 - Issue 3, November 2020, pp.93-109.
10. Dominici P.(2005). *La comunicazione nella società ipercomplessa. Condividere la conoscenza per governare il mutamento*, Roma: FrancoAngeli 2011.
11. Dominici P. (2008), *Sfera pubblica e società della conoscenza* in De Cesaris, A. (Ed.), *Oltre l'individualismo. Comunicazione, nuovi diritti e capitale sociale*, Milano: Franco Angeli 2008.
12. Dominici P., *A.A.A. cercansi manager della complessità* [Complexity Manager], in «Business People», 2019a
13. Dominici P., *The Struggle for a Society of Responsibility and Transparency: the core question of Education and Culture*, in, E.Carloni & D.Paoletti, *Preventing Corruption through Administrative Measures*, European Union Programme Hercule III (2014-2020), European Commission, ANAC, Morlacchi Ed., Perugia 2019b
14. Dominici P., *La complessità della complessità e l'errore degli errori*, in Enciclopedia Italiana "Treccani", Treccani, Anno 2019c. http://www.treccani.it/magazine/lingua_italiana/speciali/digitale/5_Dominici.html
15. Dominici P. *Controversies on hypercomplexity and on education in the hypertechnological era*, in, A.Fabris & G.Scarafile, Eds, *Controversies in the Contemporary World*, Amsterdam-Philadelphia: John Benjamins Publishing Company, 2019e.
16. Dominici, P.(2021) *The weak link of democracy and the challenges of educating towards global citizenship*, in Torres C.A., Gaudelli W. and Bosio E. Eds., *Values, Knowledge and Curriculum in Global Citizenship Education*, Springer, UNESCO [forthcoming]
17. Ashby W.R., *An Introduction to Cybernetics*, London: Chapman & Hall 1956.
18. Bertalanffy von L. (1968), *General System Theory: Foundations, Development, Applications*, It.trans., *Teoria generale dei sistemi*, Milano: Isedi 1975.

19. Kauffman S. A. (1971), *Gene Regulation Networks. A Theory for Their Global Structure and Behaviours*, in "Current Topics in Developmental Biology", 6, pp.145-182.
20. Kauffman S. A., Origins of Order: Self-Organization and the Nature of History, Oxford Univ. Press, NY 1993
21. Bateson G. (1972), *Steps to an ecology of mind*, It.trans., *Verso un'ecologia della mente*, Milano: Adelphi 1976.
22. Bateson G. (1979), *Mind and Nature. A necessary Unity*, New York: Dutton, it.trans. *Mente e natura. Un'unità necessaria*, Milano: Adelphi 1984.
23. Anderson, P., More is Different, Science, 04 Aug 1972, Vol 177, Issue 4047, pp. 393-396.
24. Wiener N. (1948), *Cybernetics: or Control and Communication in the Animal and the Machine*, It.trans., *La cibernetica*, Milano: Il Saggiatore, 1968.
25. Wiener N. (1950), *The Human Use of Human Beings*, It.trans., *Introduzione alla cibernetica. L'uso umano degli esseri umani*, Torino: Bollati Boringhieri 1966.
26. Neumann von J. (1958), *The Computer and the Brain*, New Haven: Yale University Press.
27. Neumann von J. (1966), *The Theory of Self-reproducing Automata*, Urbana: University of Illinois Press.
28. Hayek von F.A. (1964), *The Theory of Complex Phenomena*, in Bunge M., *The Critical Approach to Science and Philosophy. Essay in Honor of K. R. Popper*, New York: Free Press.
29. Piaget, J. (1970), *Psicologia e pedagogia*, Torino: Loescher.
30. Canguilhem G. (1966), *Il normale e il patologico*, Torino: Einaudi 1998.
31. Holland J.H. (1975), *Adaptation in Natural and Artificial Systems*, University of Michigan Press, Michican: Ann Arbor.
32. Mead G.H. (1934). *Mind, Self and Society*, It.trans., *Mente, Sè e Società*, Firenze: Barbera 1966.
33. Le Moigne J.-L. (1977), *La théorie du système général. Théorie de la modelisation*, Paris: Presses Universitaires.
34. Haken H. (1977), *Synergetics: An Introduction. Nonequilibrium Phase-transitions and Self-organization in Physics, Chemistry, and Biology*, Heidelberg: Springer (new ed. 1983).
35. Lovelock J. (1979), *Gaia. A New Look at Life on Earth*, It.trans., *Gaia. Nuove idee sull'ecologia*, Torino: Bollati Boringhieri 1981.
36. Foerster von H. (1981), *Observing Systems*, It.trans., *Sistemi che osservano*, Roma: Astrolabio 1987.
37. Maturana H.R., Varela F.J. (1980). *Autopoiesis and Cognition. The Realization of the Living*, It.trans., *Autopoiesi e cognizione. La realizzazione del vivente*, Venezia: Marsilio 1985.
38. Maturana H.R., Varela F.J. (1985), *The Tree of Knowledge*, It.trans., *L'albero della conoscenza*, Milano: Garzanti 1987.
39. Luhmann N. (1984). *Soziale Systeme*, Suhrkamp, Frankfurt 1984, It.trans. *Sistemi sociali. Fondamenti di una teoria generale,* Bologna: Il Mulino 1990.
40. Luhmann N. (1990). *The Autopoiesis of Social Systems,* in N.Luhmann, *Essays on Self-Reference*, New York: Colombia University Press.
41. Gleick, J. *Chaos: Making a New Science*, NY, Viking Press, 1987
42. Gell-Mann M. (1995), *Complexity*, New York: Wiley.
43. Morin E. (1973), *Le paradigme perdu: la nature humaine*, It.trans., *Il paradigma perduto. Che cos'è la natura umana?*, Milano: Feltrinelli 1974.
44. Morin E. (1977-2004), *La Méthode*, trad. it. vol I-VI. *Il Metodo,* Raffaello Cortina Editore, Milano 2001, 2002, 2004, 2005, 2007, 2008.
45. Morin E. (1990), *Introduction à la pensèe complexe*, It.trans., *Introduzione al pensiero complesso*, Milano: Sperling & Kupfer 1993.
46. Morin E. (1999a), *Les sept savoirs nécessaires à l'éducation du futur*, It.trans., *I sette saperi necessari all'educazione del futuro*, Milano: Raffaello Cortina 2001.
47. Morin E. (1999b). *La tête bien faite*, It.trans., *La testa ben fatta. Riforma dell'insegnamento e riforma del pensiero*, Milano: Raffaello Cortina 2000.
48. Morin E. (2015), *Penser global. L'homme et son univers*, It.trans., *7 lezioni sul Pensiero globale*, Milano: Raffaello Cortina Editore 2016.
49. Morin, E., Ciurana, É.-R., Motta, D.R. (2003), *Educare per l'era planetaria*, Armando, Roma 2004.
50. Krugman P. (1996), *The Self-organizing Economy*, Oxford: Blaclwell, it.trans., *Economia e auto-organizzazione*, Milano: Giuffrè 2000.
51. Prigogine I., Stengers I., *The End of Certainty: Time, Chaos, and the New Laws of Nature*, New York: New York Free Press, 1997.

52. Prigogine I. – Stengers I. (1979), *La Nouvelle Alliance. Métamorphose de la science*, It.trans., *La nuova alleanza. Metamorfosi della scienza*, Torino: Einaudi 1981.
53. Prigogine I. – Stengers I. (1984), *Order out of Caos*, New York: Bentham Books,
54. Israel, G., *The Science of Complexity. Epistemological Problems and Perspectives*, in *"*Science in Context*"*, 18, Anno 2005, pp.1-31.
55. Nicolis G.- Nicolis C. (2007), *Foundations of Complex Systems*, Singapore: World Scientific.
56. Dominici P., *Oltre la libertà ...di "essere sudditi"*, in F.Varanini (a cura di), *Corpi, menti, macchine per pensare*, Casa della Cultura, Anno 2, numero 4, Milano 2017.
57. Dominici P. *The Hypercomplex Society and the Development of a New Global Public Sphere: Elements for a Critical Analysis*, in, RAZÓN Y PALABRA, Vol. 21, No.2_97, Abril-junio 2017 - ISSN: 1605-4806, pp.380-405
58. Dominici P. (2015). *Communication and Social Production of Knowledge. A new contract for the Society of Individuals*, in "Comunicazioni Sociali", n°1/2015, Milano: Vita & Pensiero.

Notes

1. Bozesan M. (2020). Integral Investing: From Profit to Prosperity. Springer: Cham, Switzerland.
2. K. Wilber, A theory of everything: An integral vision for business, politics, science, and spirituality. (Boston, Shambhala, 2000)
3. McCoy, J., Rahman, T., Somer, M. (2018), Polarization and the Global Crisis of Democracy: Common Patterns, Dynamics, and Pernicious Consequences for Democratic Polities. In American Behavioral Scientist 2018, Vol. 62(1) 16–42 © 2018 SAGE Publications
4. P. Diamandis, & S. Kotler, The Future is Faster than you Think (New York, Simon & Schuster, 2020)
5. Crowdfunding in Emerging Markets: Lessons from East African Startups. 2015. Washington DC: The World Bank Group. License: Creative Commons Attributions
6. Arbib, J. & Seba, T. (June 2020). Rethinking Humanity: Five Foundational Sector Disruptions, the lifecycle of Civilizations, and the Coming of Age of Freedom. Viewed 5 February 2021 at https://www.rethinkx.com/humanity
7. J. Randers et al. (2018) Transformation is feasible. How to achieve Sustainable Development Goals within Planetary Boundaries. A report to the Club of Rome (Stockholm Resilience Center, 17 October 2018) https://tinyurl.com/y9epzlmk
8. W. Steffen, et al. "Planetary Boundaries: Guiding human development on a changing planet." In Science. Vol. 347 no. 6223, (13 Feb 2015)
9. The World Bank SMES Finance, 2020, https://www.worldbank.org/en/topic/smefinance
10. Bozesan, M. (2020). Integral Investing: From Profit to Prosperity. Cham, Switzerland: Springer Nature.
11. Snowden E (2019). Permanent record. Macmillan, London, UK

Transformations to Sustainability:
Why integrated social change requires a political process based on inclusive communication

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1. Introduction: Ecological and Social Dimensions of Sustainability

Contemporary societies and their economies must undergo a transformation to sustainability without further delay if we are to avoid an ecological and socio-political disaster. To achieve a rapid transformation, principles consistent with sustainable ecosystems and social systems need to be identified, and then applied systematically across all sectors. What are these principles in their most fundamental form, and how can they be applied?

To answer this question, we can draw on the insights of anthropology, a bridging science dedicated to the holistic study of humanity across the entire span of its evolutionary development (physical anthropology) and across the full breadth of its cross-cultural diversity (cultural anthropology).

The professional practice of ethnographic fieldwork in anthropology is designed to produce a high level of self-critical, meta-cultural awareness, revealing that our taken-for-granted way of life is just one cultural option. Meta-cultural awareness lays bare the extent to which the social behaviour of human beings is culturally learnt and hence adjustable if need be. As a side effect of globalisation, furthermore, exposure to other cultures is now also experienced at a popular level, opening up the possibility to utilise meta-cultural awareness for the purpose of societal change. This new awareness can make us feel dis-embedded, enhancing the appeal of fear-based populist identity politics, but it also can boost self-reflection and thus liberate us from blind adherence to destructive cultural practices, potentially producing an 'anthropological moment' in the history of human consciousness.

Anthropological study of human societies has revealed that the health of human societies and ecosystems rests on the same two key elements: a high degree of diversification and a dense web of cooperative interdependence relationships that capitalise on this diversity. These system requirements are not recognized within prevailing economic narratives, whose proponents have instead promoted a naïve Darwinism to legitimize and promote self-serving and monopolistic behaviour. The false premises of this cultural narrative need to be challenged and its negative consequences charted. A new narrative is needed, promoting human wellbeing and responsible environmental stewardship.

Social and ecological sustainability are both based on diversification and interdependence, and hence we have a dual crisis with a common cause and similar solutions. The same strategy of unrestrained profit maximisation that drives escalating inequality also drives ecological destruction. Once the torch of reflexive, meta-cultural awareness is pointed at this destructive cultural practice and its supporting cultural narratives, particularly in economics, an opening is created for real change.

2. Unsustainability: The demand end of transformation

The current social crisis is caused by escalating disparities between rich and poor nations, as well as rich and poor citizens of particular nations. An Oxfam report notes that "eight men possess the same wealth as half the world's people." Middle-class people in affluent nations are also disadvantaged by these developments, as the research of Senator Elizabeth Warren has revealed. At the extremes of disadvantage, we find that some 795 million people went hungry in 2014, and more today in the wake of the COVID-19 pandemic. At the extremes of affluence, the meaning of wealth is disconnected from individual consumption and becomes primarily a quest for power. Such concentration of power works to perpetuate and institutionalise inequality through lobbyist influence on national and international policies.

> *"Effective solutions often stem from the imaginations of people at the social margins who are not so invested in the prevailing order as to be blind to its failings. Unfortunately, they tend also to be the most ignored and excluded from important conversations and decision-making processes."*

The current ecological crisis has been much discussed in academic literature, including anthropology, but even experts struggle to picture the full extent of the challenge. Non-renewable resources are peaking, and renewable resources are extracted above their renewal rate. Biodiversity loss occurred at a rate of 52% between 1970 and 2010, according to the WWF 2014 Living Planet Report. A less well-known ecological threat is the fact that half of the life-supporting and irreplaceable topsoil of the planet has been lost in the last 150 years.

3. Transformation: The supply end of sustainability

There is now a widespread academic consensus that deciding exactly what to do, locally, regionally, and globally to achieve the Sustainable Development Goals (SDGs) will be a complex task requiring a multidisciplinary and cross-sector approach. The scientific community can contribute factual analyses, but policies involve values and interests and are thus political. The lack of a process for achieving commitment to mutually agreed multi-scalar crisis action plans remains a major political obstacle to a rapid and integrated response.

Transformation to sustainability plans must first of all acknowledge the depth of cultural change that will be required. Increasing product life, repair, reuse, upgrading, closed loop recycling, resource (rather than labour) taxes, and a major redirection of investment flows and reallocation of labour are some of the key measures needed. Excessive per-capita consumption needs to be curbed, while the supply of essential items must be secure. For investors and consumers alike, modesty and restraint will be more palatable when there is a guarantee that reasonable profit expectations and basic needs will be satisfied. This will be the message of the new cultural narrative.

The prevailing assumption has been that technological innovation will solve all problems, notwithstanding the fact that the entire dilemma we now face is due to the inappropriate use of modern technologies. A sixth Kondratiev wave of innovation may well be sustainability-driven and delivered in part by the spontaneous efforts of inventors, entrepreneurs and investors, but there is a risk of further unintended environmental and social consequences. The high-tech, big industry perspective must thus be tempered by looking at what is already sustainable right now, or what was traditionally sustainable. We may rediscover that very often 'small is beautiful,' as Ernst Schumacher pointed out in the 1970s. A stunning contemporary example of this principle is the fisheries industry, which is heavily subsidised to destroy biodiversity, create enormous waste, consume large quantities of fuel and threaten the livelihoods of 12 million small fishermen, even though the latter are more efficient, have less impact on biodiversity, use less fuel and produce less waste. Similarly, local traditional agriculture tends to be more organic, diversified, sustainable, and socially responsible than the industrial variant. A fusion of sixth wave technology and small-scale diversified local solutions may be our best hope, based on a cultural critique of the modernist, science-based technological problem solving from a perspective of sustainability and social inclusion, along with a greater appreciation for local knowledge of sustainable living and on a cultural critique of the modernist, science-based technological approach that has been the source of all unsustainability.

"Unity must not be thought of as synonymous with sameness. Respect for the value of diversity and commitment to open information flows are the psychological and social foundation for reaching a shared and truly rational understanding of how we can build a socially and ecologically sustainable future together."

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4. Toward a Plan of Action: The Power of Diversity and Open Dialogue

Transformations to ecological sustainability require us first to change the way we deal with one other, our 'social ecology.' A political process is needed to generate the necessary shared commitment to sustainability. The key 'social ecology' principles of diversity and cooperative interdependence teach us how such a political consensus can be achieved: we need to enact values that reflect these principles.

Some of these foundational values include: Presence, Acceptance, Openness, Courage, Compassion, Imagination, and a Collective Sense of Responsibility. The value most evident from an anthropological perspective, however, is: Respect for Cultural Diversity. Unique personal and social histories and the associated diversity of personal and cultural knowledge are the greatest resources the world possesses. Ideally, if one person or culture was to discover an effective solution in a crisis, all would recognize and adopt it. In reality, we do not yet appreciate and respect diversity fully, despite much lipservice. What is needed is a dialogical

process that will free conversations about a shared future vision and action plan from the blinding effects of exclusion and domination.

Effective solutions often stem from the imaginations of people at the social margins who are not so invested in the prevailing order as to be blind to its failings. Unfortunately, they tend also to be the most ignored and excluded from important conversations and decision-making processes. Even in relatively open societies, marginal voices often are mistrusted and silenced. Knowledge and imagination are distorted or colonised by power. Quite apart from the injustice of it all, such colonisation of knowledge and imagination leads directly to an impoverishment of public discourse and practice.

On the other hand, humans also have shown a tremendous capacity to share knowledge and values and to engage in the collective imagination and joint action. We are endowed with a unique ability for language-based communication, which has enabled unprecedented social cooperation. Communication helps us unite, but unity must not be thought of as synonymous with sameness. Communication is only meaningful between those who are diverse and hence have different things to say. Respect for the value of diversity and commitment to open information flows are thus the psychological and social foundation for reaching a shared and truly rational (free knowledge exchange-based) understanding of how we can build a socially and ecologically sustainable future together.

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Transversalism and Transformative Praxes:
Globalization from Below

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Viewed in a world-historical perspective, social change, or social transformation, is not an "event" but rather a constant, a perpetual historical process. Human social organisation is perpetually in motion but within certain parameters of continuity. For over five millennia, since the origins of cities, the state, and class society, human social order has continued to evolve through a number of recognisable patterns of social change, including the historical formation of an ever-larger system of mutual interactions, or "World System" (Frank and Gills 1993). The historical trajectory of that world system has reflected and expressed the fundamental structural aspects of urban-class and state-based civilisation itself, including material, ideational, technological, and ecological sources, and dimensions of social change. These patterns have also reflected the particular social ecology of this form of civilisation, and its modes of human relations with the ecological systems upon which humans depend.

"The most important aspect of social change in this century involves how humanity must realise a relationship with the web of life based upon recognition of the unity and the sacred value of all life forms and living within the objective "planetary boundaries" of earth system dynamics."

Over the course of these past five millennia of the history of this form of civilisation and world system, fundamental patterns emerged constituting extractivist relations with the "environment" or "nature", culminating in the present global patterns. There have been certain continuities in the global history of this world civilisation and World System, including some secular trends, cycles, and rhythms, as well as alternating phases or periods of relative systemic stability and systemic crisis or instability. In periods of world systemic crisis, far-reaching social change and systemic reorganisation is a prominent feature (Gills and Frank 1992). These changes not only include such large-scale structural changes as "centre-shift" within the World System, but may also entail very significant ideational, technological, and other "material" changes in the social order.

Today we live in a "globalised" World System, but one which has significant continuities with the past, both structurally and ideationally, and in terms of some of the fundamental patterns and practices of human relations with the "natural" or "non-human" world and

web of life. We now live in a globalised civilisation, though one which entails proximity and encounters with many still existing alternative cultures, especially those of the world's remaining "indigenous peoples". This globalised and globally dominant world civilisation has now however entered a period of acute multiple and inter-acting crises. At present, these can be summarised under the triple conjuncture of the global crises of capital, climate, and COVID (Gills 2020).

The modern phase in the history of the world civilization system is characterized by its foundational dependence on 5Cs: (1) *Capital* replacing labour as the ultimate source of value; (2) *Carbon*—fossil fuels or more generally speaking, *extractivism*; (3) *Compulsive* economic *growth* through relentless commodification of socio-ecological relations and a multi-century mass appropriation of the commons, sustained through the constant promotion of consumerist cultures across the world; (4) *Coloniality*, i.e. the ongoing stratifying power relations and epistemes necessary for maintaining the integrity of intersectional hierarchies; and finally (5) *Corruptive politics*, energized by the rise of monopoly-finance capital, corporate-state interest-driven advances in surveillance, datafication, bio-, and neuro-technology, and robotic warfare (Hosseini 2020). The system is inherently crisis-prone since the 5Cs require an endless expansion of the planet's capacity. Since we have already passed the earth's biocapacity, and with no present technological solutions on the horizon that can retain this capacity, the same characteristics behind the ascendency of modern civilization are now contributors to its demise.

The present trajectory of this globalised world civilisation and world system is rapidly approaching or already crossing several vital planetary boundaries and thresholds, and crossing key tipping points in earth system dynamics, which threaten to accelerate one another and deepen and amplify their negative effects (Steffen and Morgan 2021). Together, these patterns indicate the onset of what Gills has elsewhere referred to as the "great implosion" in the present form of civilisation (Gills 2020), implying a critical turning point in human history bringing the future of human civilisation into question. What we (i.e., humanity as a whole) do in the coming decade of the 2020s to change our collective trajectory and establish a profoundly harmonious relation with the natural or non-human world will determine the future of humanity for several centuries to come. The most important aspect of social change in this century involves how humanity must realise a relationship with the web of life based upon recognition of the unity and the sacred value of all life forms and living within the objective "planetary boundaries" of earth system dynamics (Henry, Rockström, and Stern, 2020; Rockström et al 2009; Rockström and Gaffney 2021).

The urgent imperative question of our times is how to organise sufficient social, structural, and systemic transformation to resolve the multiple crises now facing humanity, and how to bridge the "local" with the "global" dimensions of this transformation. It is clear that to date, the responses of the dominant actors, including governments, corporations, leading financial entities, and many prominent international organisations, have been largely a failure, incapable of making the necessary dramatic radical transformations required in this era of global crises (Hosseini, Goodman, Motta, and Gills, 2020). In many respects, a culture,

and a discourse, of delay and deferral has been the dominant trend (Gills and Morgan 2019; Gills and Morgan 2020), both reflecting and perpetuating systemic complacency in the face of what is objectively a planetary emergency. The severity and the urgency of the present multiple global crises demand far-reaching mass social mobilisations, a "globalization from below" capable of realising the scale of social change and systemic transformation required to resolve the present global crises. This era requires radical transformative praxes (Hosseini and Gills, 2020). The concept of "transversalism" (short for "transversal cosmopolitanism") speaks to this situation and offers us a way of understanding a modality of social change through actively creating new forms of global solidarity and collective action across local and global dimensions (Hosseini, Gills, and Goodman, 2017; Salleh, Goodman and Hosseini, 2015; Goodman, 2007; Jung 2009).

Transversalism (transversal cosmopolitanism) is identified by its being founded on the *aspirations for an evolutionary move into a post-capitalist network of democratically governed and sufficiently autonomous alternative systems, and by the strong aspiration to build meaningful common ideological and political action orientations that transcend existing or potentially counterproductive divisions among diverse transformative movements*. It seeks an "accommodative mode of social consciousness" (Hosseini, 2011), centred on establishing common ground for dialogue, collective learning, and concrete action among multiple transformative identities and visions within the field of transformative praxes (Gills, Hosseini, and Goodman, 2017; Hosseini, 2015b; Hosseini, 2015a, 2013).

Transversalism aims at consolidating political coalitions and achieving ideational accommodation between social groups on both a class and a non-class basis. Therefore, it does not imply uniformity or a general theory of social emancipation and the collapse of all differences, autonomies, and local identities. It requires an attitude of openness, and the intention of exchanging mutual experiences (via engagement of Self with Others), and the intentional active sharing of ideas for social transformation across a variety of local fields of movements of social change and of "resistance" (Hosseini, 2006, 2011).

Transversalism grounds cosmopolitanist values on the foundations of local, grassroots, and communal particularities. This is a process of forming solidarities that requires "critical openness" (Hosseini and Saha, 2018) and systematic attempts to co-create common(ing) platforms for transformative perspectives, plans, and praxes. Transversalism thus consists of the following elements: (1) recognition of diversity and difference, (2) dialogue (deliberation across differences), (3) systemic self-reflection, (4) intentional openness (intention to explore the reality of the Other), (5) critical awareness of the intersectional nature of power relations that affects interconnections, and finally (6) strong commitment to creating alterity through hybridization and creolization of ideas and actions. On these premises, forms of transversal cosmopolitanism can emerge and develop, bridging the local and the global dimensions of social change. Human capacities of reflexivity, communication, and collective learning are vitally important aspects of the process of forming transversalist cosmopolitan movements for social transformation during this era of crises. It is upon these modes and sources of social change and "globalization-from-below" that much of the hope of humanity now rests.

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References

1. Buckley, K. M. (2013) *Global Civil Society and Transversal Hegemony: The Globalization-Contestation Nexus,* New York: Routledge.
2. Cockburn, C. & Hunter, L. (1999) Transversal Politics and Translating Practices, *Soundings: A Journal of Politics and Culture* Summer (12), 88-93,
3. Frank, A. G., & Gills, B. K. (1993). *The world system: Five hundred years or five thousand?* London: Routledge.
4. Gills, B. K. (2020). Deep restoration: From the great implosion to the great awakening. *Globalizations*, 1-3. doi: 10.1080/14747731.2020.1748364 Retrieved from https://doi.org/10.1080/14747731.2020.1748364
5. Gills, B. K., & Frank, A. G. (1992). World system cycles, crises, and hegemonial shifts, 1700 BC to 1700 ad. *Review - Fernand Braudel Center for the Study of Economies, Historical Systems, and Civilizations, 15*(4), 621-687.
6. Gills, B. K., & Gray, K. (2012). People power in the era of global crisis: Rebellion, resistance, and liberation. *Third World Quarterly, 33*(2), 205-224. doi: 10.1080/01436597.2012.664897
7. Gills, B., & Morgan, J. (2019). Economics and climate emergency. *Globalizations*, 1-16. doi: 10.1080/14747731.2020.1841527 Retrieved from https://doi.org/10.1080/14747731.2020.1841527
8. Gills, B., & Morgan, J. (2020). Global climate emergency: After cop24, climate science, urgency, and the threat to humanity. *Globalizations, 17*(6), 885-902. doi: 10.1080/14747731.2019.1669915
9. Gills, B. K., & Chase-Dunn, C. (eds.). (2021). *Unity on the global left critical reflections on Samir Amin's call for a new international*. New York; London: Routledge.
10. Gills, B. K., Hosseini, S. A. H. & Goodman, J. (2017) Theorizing Alternatives to Capital: Towards a Critical Cosmopolitanist Framework, *European Journal of Social Theory*, 20(4), 437-54.
11. Goodman, J. (2007) Reordering Globalism? Feminist and Women's Movements in the Semi-Periphery, in M. Griffin-Cohen & J. M. Brodie (eds.), *Remapping Gender in the New Global Order* (pp. 187-204), London; New York: Routledge.
12. Henry, C., Rockström, J., & Stern, N. (2020). *Standing up for a sustainable world: Voices of change.* Cheltenham, UK; Northampton, MA: Edward Elgar Publishing.
13. Hosseini, S. A. (2006) Beyond Practical Dilemmas and Conceptual Reductionism: The Emergence of an Accommodative Consciousness in the Alternative Globalization Movement, *Portal: Journal of Multidisciplinary International Studies*, 3(1), 1-27. https://epress.lib.uts.edu.au/index.php/portal/article/view/102.
14. Hosseini, S. A. H. (2011) *Alternative Globalizations: An Integrative Approach to Studying Dissident Knowledge in the Global Justice Movement* Milton Park; New York: Routledge.
15. Hosseini, S. A. H. (2013) Occupy Cosmopolitanism: Ideological Transversalization in the Age of Global Economic Uncertainties, *Globalizations*, 10(3), 425-38.
16. Hosseini, S. A. H. (2015a) A Transversalist Justice: Responses to the Corporate Globalization, in S. Litz (ed.) *Globalization and Responsibility* (pp. 71-101), Champaign, IL: Common Ground Publishing.
17. Hosseini, S. A. H. (2015b) Transversality in Diversity: Experiencing Networks of Confusion and Convergence in the World Social Forum, *International and Multidisciplinary Journal of Social Sciences-Rimcis*, 4(1), 54-87.
18. Hosseini, S. A. H. (2020). On the urgency of (re)integrating with the radical. *Global Dialogue: Magazine of the International Sociological Association, 10*(3). Retrieved 10 Nov 2020, from https://globaldialogue.isa-sociology.org/on-the-urgency-of-reintegrating-with-the-radical/.
19. Hosseini, S. A. H. & Saha, L. J. (2018) How 'Critically Open-Minded' Are We? An Australian Perspective Through the World Values Survey, Social Indicators Research, 136), 1211–36. https://dx.doi.org/10.1007/s11205-017-1608-2
20. Hosseini, S. A. H., Gills, B. K. & Goodman, J. (2017) Toward Transversal Cosmopolitanism: Understanding Alternative Praxes in the Global Field of Transformative Movements, *Globalizations*, 14(5), 667-84. http://dx.doi.org/10.1080/14747731.2016.1217619.
21. Hosseini, S. A. H., & Gills, B. K. (2020). Beyond the critical: Reinventing the radical imagination in transformative development and global(ization) studies. *Globalizations, 17*(8), 1350-1366. doi: 10.1080/14747731.2020.1736852 Retrieved from https://doi.org/10.1080/14747731.2020.1736852
22. Hosseini, S. A. H., Goodman, J., Motta, S. C., & Gills, B. K. (Eds.). (2020). *The Routledge handbook of transformative global studies*. London: Routledge.

23. James, P. (2013) Engaged cosmopolitanism: Reconciling local grounding and distance, *Arena Journal*, 41/42, 146–73. https://search-informit-org.ezproxy.newcastle.edu.au/doi/10.3316/informit.860554960728913.

24. Jung, H. Y. (2009) Transversality and the Philosophical Politics of Multiculturalism in the Age of Globalization, *Research in Phenomenology*, 39 (3), 416-37.

25. Salleh, A., Goodman, J. & Hosseini, S. A. H. (2015) From Sociological to 'Ecological Imagination': Another Future is Possible, in J. P. Marshal & L. H. Connor (eds.) *Environmental Change and the World's Futures: Ecologies, Ontologies, and Mythologies* (pp. 96-109), New York; London: Routledge.

26. Schrag, C. O. (2007) Transcendence and Transversality, in J. D. Caputo & M. J. Scanlon (eds.) *Transcendence and Beyond: A Postmodern Inquiry* (pp. 204-18), Bloomington: Indiana University Press.

27. Steffen, W., & Morgan, J. (2021). From the Paris agreement to the anthropocene and planetary boundaries framework: An interview with Will Steffen. *Globalizations*, 1-13. doi: 10.1080/14747731.2021.1940070

28. Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., III, Lambin, E., et al. (2009). Planetary boundaries: Exploring the safe operating space for humanity. *Ecology and Society, 14*(2), 32. doi: 10.5751/ES-03180-140232

29. Rockström, J., & Gaffney, O. (2021). *Breaking boundaries: The science behind our planet.* London: Dorling Kindersley Limited.

Effective Tools for promoting change in Complex and Interrelated Realities

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In order to find effective ways to manage the complex realities of our world, we need effective systemic tools to diagnose the problems, assess societies' readiness for change, design the solutions, implement the plans, monitor and evaluate the results.

There are many major and mounting emergencies facing us. For lack of space here, I will make some examples mentioning Goals 3 and 4 of the U.N. Sustainable Development Goals. We have scientifically known for long that in our planet and beyond that everything is interrelated and interacting with the other systems in a continuous process of mutual interrelationships. Here I will mention only some change-promoting approaches that are people-centered and which promote the quality of the relationships with oneself, others, and the planet by fostering empowerment and the resilience of all stakeholders.

There is ample and mounting scientific evidence that our present relationship with ourselves, others, and the planet we live in is the main variable influencing all life forms and the planet itself, a dramatic epochal change referred to by scientists as the Anthropocene (Crutzen and Stoermer, 2000).

The human population's exponential increase in numbers and consumption behaviour has produced such dramatic and exorbitant costs. Our present way of life has negatively impacted many of the ecosystems of our planet and a mounting number of scientists warn us that we are fast reaching a tipping point where mitigation and/or reversal of trends will not be within our reach if we do not act promptly and effectively (IPCC, 2007, 2012, 2019).

Notwithstanding the seriousness of the threat, many obstacles remain in the way of effective, community, national and international sustainable governance. The lack of awareness of the magnitude of the problems and the changes needed in the behaviour of all the stakeholders to manage the serious challenges facing humanity are in part due to barriers of a sociological and psychological nature and impede effective coordinated actions of various stakeholders. The underlying mechanism at work in the resistance to change varies from culture to culture: how reality is socially construed and how individuals and organizations construe their experiences and narratives is relevant also for the understanding of the adaption of change needed to promote sustainable governance and for understanding some of the barriers to change.

The human population has drastically increased in the last century with billions of people adopting consumption behaviour that has negatively impacted and polluted the earth at levels that our ancestors were never capable of.

The anthropogenic impact has largely surpassed the planet's metabolic capacities: It now takes the Earth one year and six months to regenerate what we use in a year. At present, humanity with its destruction of natural resources, pollution of air, land, and water is altering

the climate 5,000 times faster than the pace of the most rapid natural warming episode in our planet's past (Caldeira, 2012).

Ban Ki-moon, the former UN Secretary-General in his message to the Planet Under Pressure Conference, stated: "Climate change, the financial crisis, and food, water and energy insecurity threaten human well-being and civilization as we know it."

The scientific community can help us make sense of these complex and interconnected challenges, including by strengthening our understanding of "planetary boundaries" and "critical thresholds…. But policymakers often fail to turn to scientists for advice, or discount it too easily owing to electoral or other political considerations…."

Population multiplication is not the only variable, consumption patterns—how people live and how much planetary resources they consume—are of equally great relevance. If not resolved the inequities of resource access, distribution, consumption, and levels of pollution will become formidable obstacles to an effective, equal, and sustainable governance of our planet.

The ineffective or dysfunctional ways in which we may see things, the way in which we construe the experience of reality are at the root of many barriers to effective sustainability.

The pervasive mechanistic reductionist approach of the past has led to disastrous results nevertheless, and we largely continue to offer obsolete knowledge in the field of education recreating sequential boomerang effects.

The world in the past was focused on diagnosing problems or seeing reality on a mechanistic and unrealistic simplification, creating policies, services and products focused on fixing a specific part of the system, ignoring reality and the obvious impact that any single action has on the whole. For example, the development of pesticides and chemical fertilizers was seen as a scientific breakthrough for feeding humanity and building a better and more prosperous world. Unfortunately, this mechanistic, reductionist view did not take into account the complex interrelationships of the world in which we live. The massive use of pesticides and chemical fertilizers initially expanded the production of food; success encouraged one-crop cultivation that soon impoverished the soil, necessitating an ever-greater use of chemicals. This created a downward spiral of increasing chemical usage and decreasing soil vitality. After boosting crop production and killing unwanted pests and weeds, it became apparent that the pesticides had a long period of continued action on the environment affecting the food chain, water quality, and the health and survival of living organisms (Zucconi, 2008).

Systems theory is based on the awareness of the essential interrelatedness of all phenomena—physical, biological, psychological, social, and cultural. It is a total ecology model wherein the common denominator is the relationship. Systems theory sees all the structures of our universe as comprised of extensive subsystems that are in constant interaction and impact each other. The ecological, systemic view has relevant implications for the understanding of the health and wellbeing of all the forms of life, people, and society.

What is perceived as real varies from society to society and is produced, transmitted, and conserved through social processes. Our perception of reality is largely modelled on beliefs

and assumptions of the society and culture to which we belong. What we know, what we consider true and right, the behaviour we adopt, all are influenced profoundly by the social and cultural and schooling environment in which we grow and live. This process happens through the internalization of a "reality" that occurs during the socialization process (Berger & Luckmann, 1966).

The social construction of reality is not perceived as socially constructed by the majority. Therefore, it is not easily criticized or modified when aspects of it are dysfunctional. A consequence is a recurring persistence on the human history of dysfunctional attitudes and behaviour—both in individuals and society (Zucconi, 2008).

Our relationship with ourselves, others and the world is an important determinant of our mental, physical, and social health. People and societies that are alienated from parts of themselves relate to others and the planet in alienated and distorted ways.

At present, the way profit is calculated in a mechanistic reductionist way, the so-called "bottom line", at the national level is based on the GNP but those standards completely ignore the eventual destruction of human and natural capital. With a more realistic and sustainable approach, there are at least 3 variables that account for the so-called Triple Bottom Line (TBL) that measures economic, ecological, and social results. The Quadruple Bottom Line (QBL) also takes into consideration cultural aspects, including governance.

The Inclusive Wealth Index (IWI) has a broader way of measuring natural capital, such as forests, produced capital, such as roads and factories; and human capital, including levels of education, knowledge, and creativity. The findings indicate that it is possible to trace the changes in the components of wealth by country and link these to economic growth, taking into account the impact of decline and increase in natural capital as an economic productive base (UNU-IHDP, 2012).

Real economic growth can be attained only through ecologically conscious *green* or *blue* economies (Pauli, 2010).

When change generates a new threat, one-way in which individuals, communities, and cultures can cope with it is by experiencing fear, which in turn generates actions (fight or flight) to deal with the threat.

However, another less functional way of coping can be activated: anxiety. When anxiety is the response to the new threat (fear without awareness of the source of the threat), cognitive dissonance is the result.

Instead of self-regulation and taking actions to deal effectively with the threat, denial, a sort of self-inflicted blindness, takes over.

Denial is a well-known defense mechanism, used in situations in which people feel unable to face reality.

The defense mechanisms of a person or a society can be functional or dysfunctional: they are dysfunctional when the defense becomes chronic, limiting the coping capabilities.

Denial functions to protect the image of the self from awareness of things that the individual feels unable to cope with. But it is also the biggest barrier to coping with reality.

Similar mechanisms are operating in the denial mode about climate change or the destruction of human and natural capital experienced by individuals, institutions, and society.

Awareness of having created the Anthropocene Era and its many black holes of self-destruction not only generates fears and feelings of impotence but shatters one of our strongest held mythologies: our identity. We, the self-appointed intelligent species of the planet, are all deeply invested in the narrative that we are all-powerful, surrounded by unlimited resources, the planet. All animal and plant life forms are created to be at our disposal, industrialization and the consumerist lifestyles to which we have become addicted are a clear sign of our success and are synonymous with our civilization and a measure of our progress. Thus, the confrontation with the realities of the Anthropocene Era throws us into a nightmare.

Norgaard (2009), a sociologist, studied climate change denial in Norway, offering insights into the social construction occurring in that nation.

Norway is a country that has a national identity rich with positive narratives about nature and its nature-loving citizens. Some Norwegians were offered more information about pollution and man-made climate change, including the fact that Norway is one of the European countries with the highest per capita ecological footprint. To avoid the unpleasant truth, many Norwegians disconnect with the facts, they are doing something that they and their culture consider wrong. With this cognitive dissonance, they try to preserve their national identity and their positive mythologies of being a nature-loving nation.

Communicating these issues to society effectively can be quite a challenging task, complicated by several variables among which: Lack of a systemic and interdisciplinary understanding of how the barriers to change are created and how to effectively deal with their abatement or mitigation. Most of the proposed road maps for the governance of the anthropogenic impact and climate mitigation are mainly focused on financial, technological variables, giving little attention to the psychological, social, political, cultural, organizational, and institutional variables (Ekstrom, Moser and Torn, 2011).

Let us take a couple of examples mentioning two of the Sustainable Development Goals, Education and Mental health.

1. Mental Health

People are the greatest natural resource of a nation and consequently, mental health has a significant social and strategic role for the individual, social health, and well-being and is an important variable for achieving the Sustainable Development Goals (Izutsu et al. 2015; Marquez et al. 2016; Black et al. 2017).

Protecting and promoting mental health also protects and promotes physical health, social health, and prosperity. According to the WHO, mental illness is the largest cause of disability (YLD) in developed countries than any other group of diseases, including cancer and heart disease.

Mental illnesses exacerbate morbidity from chronic diseases with which they are associated: cardiovascular disease, diabetes, obesity, asthma, epilepsy, and cancer. Furthermore, the rates for intentional injuries (homicides and suicides) and unintentional deaths (e.g., from workplace accidents etc.) are two to six times higher among people with a mental illness.

"We need to retool and upgrade all levels of our education and use more effective pedagogies."

The Lancet Commission report on mental health (Lancet, 2018) states that mental disorders are on the rise in every country in the world and will cost the global economy $16 trillion by 2030. The economic cost is primarily due to the early onset of mental illness and lost productivity, with an estimated 12 billion working days lost due to mental illness every year. Mental illnesses generate economic costs of more than 4% of European Gross Domestic Product, some of which are direct costs of treatment, while more than a third are instead linked to lower employment rates and reduced productivity (OECD Report 2018).

Across the 28 EU countries in 2015, the overall costs related to mental ill-health are estimated to have exceeded 4% of GDP. This equates to more than EUR 600 billion. This break down approximately to an equivalent of 1.3% of GDP (or EUR 190 billion) in direct spending on health systems, 1.2% of GDP (or EUR 170 billion) on social security programmes, and a further 1.6% of GDP (or EUR 240 billion) in indirect costs related to labour market impacts (lower employment and lower productivity). Despite these staggering costs, they are still under-estimate, as several additional costs have not been taken into account.

These include social spending related to mental health problems, such as higher social assistance benefits and higher work-injury benefits, and the higher cost of treating a physical illness if the patient also has a mental illness. In addition, some of the indirect impacts of mental health problems on labour market participation such as reduced employment rates or working hours for informal caregivers taking care of people with mental health problems or the impact on co-workers, have not been taken into account.

Some researchers affirm that the magnitude of the mental illness burden is significantly underestimated and affirm that "we estimate the disease burden for mental illness to show that the global burden of mental illness accounts for 32.4% of years lived with disability (YLDs) and 13.0% of disability-adjusted life-years (DALYs), instead of the earlier estimates suggesting 21.2% of YLDs and 7.1% of DALYs. Currently used approaches underestimate the burden of mental illness by more than a third." (Vigo et al.2016).

The COVID-19 pandemic has increased significantly the burden of mental health and disrupted mental health services offerings (WHO, 2020).

The World Health Organization (WHO, 2018) underlines that the effective way to protect and promote mental health and wellbeing are interdisciplinary and intersectoral actions: "*A comprehensive and coordinated response for mental health requires partnership.*" Sectors

such as health, education, employment, judiciary, housing, social welfare, and other relevant sectors, including the private sector as appropriate to the country situation, should work in partnership to support the interruption of negative cycles of poverty, violence, environmental degradation, and mental disorders, with opportunities for action in the demographic, economic, neighborhood, environmental events, and social domains.

For example, an economic crisis can produce mental health effects that may increase suicide and alcohol-related death rates. However, those effects can be offset by social welfare and other policy measures, such as:

- active labour market programmes aimed at helping people to retain or regain jobs;
- enhanced family support programmes;
- available debt relief programmes;
- accessible and responsive primary care services to support people at risk and prevent mental health

In order to provide quality services to protect and promote mental health and well-being, we need to update and upgrade the training of mental health professionals who have been trained with approaches centered on diseases and teaching their patients to be passive, we need to retrain the heath sector professionals to become more effective and creating more sustainable approaches to health, learning and implementing people-centered and health and well-being approaches that defend and promote health by empowering and partnering with their service users. We need to educate the public about their rights and the relevance of their power to protect and promote their health and wellbeing assuming a proactive role as citizens of their polis, empowering themselves, and promoting the creation of services that are person-centered and promote recovery and agency. The World Health Organization has been stressing the importance of retraining health professionals and transforming the health care sector with people-centered care that is more effective and also cost-effective (WHO, 2010, 2012, 2018a).

2. Person-centered and People-centered Education for a Sustainable Change

The vision of the UN 2030 Agenda states, "…a world with equitable and universal access to quality education at all levels, to health care and social protection, where physical, mental and social wellbeing are assured." (United Nations, 2015)

Education is one of the most powerful drivers in shaping our future. It is during the educational process that much of the social construction of reality occurs.

Education is the process by which the minds of the new generation are shaped about what is real (Rogers, 1969, 1983); (Freire, 1970); (Morin, 2007a, 2007b); (Zucconi, 2013, 2015).

It is often said that knowledge is power, but we need a quick consciousness-raising eye-opener and realize that faulty knowledge is poisonous and debilitating, robbing people and communities of the power to cope with reality.

Teaching obsolete knowledge for a society is a lethally effective form of self-sabotage. All life forms' survival depends on effective and rapid learning as to how to adapt their behaviors to environmental changes.

We also know from research that traditional pedagogies do not facilitate learning and that student, person-centered pedagogy is much more effective (Zucconi, 2015).

We need to retool and upgrade all levels of our education and use more effective pedagogies. Formal and informal education at any point of our lifespan needs to offer us the knowledge, skills and attitudes that will enable us to survive and even prosper in the present period of change by learning the needed skills for coping and governing in peaceful and sustainable ways through the turbulent scenarios of the present Anthropocene Era.

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Bibliography

1. Black, M., Walker, S., Fernald, C, Andersen, C., DiGirolamo A. et al. (2017) Early childhood development coming of age: science through the life course. *The* Lancet 389: 77-90.
2. Berger, P.L. and Luckmann, T. 1966. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. New York: Anchor Books, Doubleday & Company, Inc.
3. Caldeira, K. The Great Climate Experiment, Sci Am 307 (3), S. 78-83. (2012).
4. Crutzen, P. and Stoermer, E. F. The "Anthropocene", IGBP *Newsletter* 41, 12. (2000).
5. Ehrlich R. P. and. Ehrlich, H. A. The Population Bomb Revisited The Electronic Journal of Sustainable Development 1 (3) pp. 63-71. (2009).
6. Ekstrom, Julia A., Susanne C. Moser, and Margaret Torn. 2011. *Barriers* to Climate Change Adaptation: A Diagnostic Framework. California Energy Commission. Publication Number: CEC-500-2011-004.
7. IPCC. 2007. Climate Change 2007: Synthesis Report. Valencia: International Panel on Climate Change.
8. IPCC. 2012. Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.). Cambridge University Press, Cambridge, UK, and New York, USA.
9. IPCC. 2019. Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems [P.R. Shukla, J. Skea, E. Calvo Buendia, V. Masson-Delmotte, H.-O. Pörtner, D. C. Roberts, P. Zhai, R. Slade, S. Connors, R. van Diemen, M. Ferrat, E. Haughey, S. Luz, S. Neogi, M. Pathak, J. Petzold, J. Portugal Pereira, P. Vyas, E. Huntley, K. Kissick, M. Belkacemi, J. Malley, (eds.) Cambridge University Press, Cambridge, UK, and New York, USA.
10. Izutsu T, Tsutsumi A, Minas H, Thornicroft G, Patel V, et al. (2015) Mental health and wellbeing in the Sustainable Development Goals. *Lancet Psychiatry* 2: 1052-1054.
11. Marquez PV, Saxena S (2016). Making Mental Health a Global Priority. *Cerebrum* 10-16.
12. Morin, E. (2007a). *On Complexity*. Cresskill, NJ: Hampton Press.
13. Morin, E. (2007b). Restricted complexity, general complexity. In C. Gershenson, D. Aerts & B. Edmonds (Eds.), *Worldviews, science, and us: Philosophy and complexity.* New York: World Scientific Publishing Company.
14. Norgaard, K. M. 2011. Living in Denial: Climate Change, Emotions and Everyday Life. Cambridge, MA: MIT Press.
15. Patel, V., Saxena, V. et al (2018). The Lancet Commission on global mental health and sustainable development. *Lancet 2018; 392: 1553–98 Published Online October 9, 2018 http://dx.doi.org/10.1016/*
16. Pauli, A. G. 2010. The blue economy: 10 years, 100 innovations, 100 million jobs /Paradigm Publications, Taos, New Mexico, USA.
17. Rogers, C. R. (1967). The Facilitation of Significant Learning. In: *Contemporary Theories of Instruction*. Ed. L. Siegel. San Francisco: Chandler.

18. Rogers, C. R. (1969). *Freedom to learn: a view of what education might become.* Columbus, OH, Charles E. Merrill.
19. Rogers, C. R. (1977). *Carl Rogers on personal power.* N.Y. Delacorte Press.
20. Rogers, C. R. (1980). Do we need "a" reality? In*: A way of Being*. Boston: Houghton Mifflin
21. Rogers, C. R. (1983). *Freedom to learn for the 80s*. Columbus, Charles E. Merrill.
22. Weimer, (2002). *Learner-centered teaching: Five key changes to practice*. San Francisco, CA: Jossey-Bass.
23. United Nations. (2015). *Transforming our world:The 2030 Agenda for sustainable development*(A/RES/70/1). New York: UN General Assembly. Retrieved from https://sdgs.un.org/2030agenda
24. UNU-IHDP and UNEP (2012). Inclusive Wealth Report 2012.Measuring progress toward sustainability. Cambridge: Cambridge University Press.
25. (WHO, 2010). People-centred Care in Low- and Middle-income Countries Geneva: The World Health Organization.
26. (WHO,2012). Towards People-centred Health Systems: An Innovative Approach for Better Health Outcomes. Geneva. World Health Organization.
27. (WHO, 2016). Preventing disease through healthy environments: a global assessment of the burden of disease from environmental risks / Annette Prüss-Üstün … [et al]. *World Health Organization, Geneva, Switzerland.*
28. (WHO, 2018a). *Health 2020: the European policy for health and wellbeing.* Geneva. The World Health Organization.
29. WHO (2018b). Mental Health Fact Sheet 2020: strengthening our response. Geneva: World Health Organization; 2016 (Fact sheet 220; http://www.who.int/ mediacentre/factsheets/fs220/en/ accessed 19 June 2021).
30. WHO (2020), *The impact of COVID-19 on mental, neurological and substance use services: results of a rapid assessment*, World Health Organization, Geneva, https://www.who.int/publications/i/item/978924012455.
31. United Nations. (2015). *Transforming our world: The 2030 Agenda for sustainable development* (A/RES/70/1). New York: UN General Assembly. Retrieved from https://sdgs.un.org/2030agenda
32. (Vigo, D., Thornicroft, G., Atun., R. 2016). Estimating the true global burden of mental illness. The Lancet Lancet Psychiatry 2016; 3: 171–78.
33. Zucconi, A. (2008). Effective Helping Relationships: Focus on illness or on health and well being? In B. Lewitt (Ed.).
34. *Reflections of Human Potential: The Person-Centered Approach as a positive psychology.* PCC Books, U.K.
35. Zucconi, A. (2015). Person-Centered Education. *Cadmus,* Journal. Volume 2 - Issue 5, October 2015. pp. 59-61.

Systemic Change through a New Paradigm in Global Education

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Education is positively correlated with every metric of human welfare and wellbeing. Higher levels of employment, productivity, income, equity, health, environmental awareness, cultural integration, civic consciousness, and societal participation go with higher levels of education. Education is one of the greatest organisations humanity has developed. It encapsulates all the knowledge we possess and presents it to our children so they can acquire in a period of 12-15 years what has been gathered by humanity over millennia. Education is a tool for conscious social evolution. Meeting SDG4 is fundamental to meeting the other 16 SDGs.

The present system of education the world over has great scope for improvement, but education, in any form, particularly at higher levels, is itself a critical, unmet need in large parts of the world. There is an enormous qualitative gap between the exclusive group of world-class institutions and the tens of thousands of other institutions with shortages of faculty members, underfunded and inadequate facilities, and high student-instructor ratios. The focus of this note however, is another gap, that of quantity. Global tertiary enrollment is projected to rise from 216 million in 2016 to 380m by 2030 and nearly 600m by 2040, and this will still leave hundreds of millions of youth without access to higher education. College acceptance rates are already as low as 2% in some countries. If the future demand for higher education is to be met through the currently prevailing approach, it will require the founding of four new universities with 40,000 students every week for the next 15 years. Where will global society find the qualified instructors, facilities, and financial resources to achieve such phenomenal growth?

The quantitative gap between educational aspirations in society and the incapacity of the current system to meet the demand can be bridged only by a radically new global system that uses advancements in Information and Communications Technology to complement the existing system. The COVID-19 pandemic has made us conscious of how critical a viable and resilient system of education is to society. It has also demonstrated that alternative and complementary models can be quickly harnessed to reduce vulnerability and enhance accessibility, affordability, and quality of the global delivery system. Major elements of this new model are already being implemented, but they have not yet been shaped into a coherent, coordinated universal system that will multiply the benefits and dramatically reduce the barriers to education for all. A hybrid model of education that combines the value of face-to-face interaction with the power of digital learning can be used to design a global, world-class system of higher education that is affordable, accessible, and relevant to everyone everywhere.

A major feature of such a model will be a global delivery system for lectures by the world's leading experts and the best quality Open Educational Resources, delivered digitally in all major languages through low-cost digital devices. The lecture system ensures universal

access to high-quality content at the lowest possible cost. It draws on both existing formal educational resources in the present system as well as non-traditional sources. In April 2020, colleges and universities closed down due to the pandemic, disrupting the studies of 220 million college students in 170 countries. A global digital delivery system that provides quality lessons directly to a digital device is a reliable method that will be a proof against such disruptions in the future.

"We need new credentialing systems based on the premise that learning involves much more than merely the acquisition of specific course content."

Developing countries face a critical shortage of teachers. For instance in India, 38% of the faculty positions in the well-financed premier universities are vacant for want of funds and qualified teachers. The vacancy rate is even higher in private and state-run universities. The Indian government aims to increase the national Gross Enrolment Ratio from its current 27% to 50% by 2035. To achieve this target, the government needs 3.3 million more teachers, a 235% increase from the current availability. Even if the country were to find the resources to build these new institutions and equip its classrooms, laboratories, and libraries, where can it find the 3.3 million teachers? The use of recorded lectures from the world's best institutions can partially meet the need, at least of knowledge dissemination. Even where such a critical shortage does not exist, when teachers need no longer deliver lectures, they can become more productive as facilitators of learning. Precious classroom time can be spent in more interactive, collaborative, and mentoring activities.

In a world where the cost of education is rising rapidly beyond the reach of many students, online learning represents a way to deliver education at a fraction of the cost of traditional classroom education. In the US, over 60% of all college students take on debt to pay for their education, with the average loan debt per student being over $37,000. The total student loan debt outstanding in 2020 was $1.6 trillion. More than 60% of Chinese parents and 70% of Indian parents spend over a third of their income on their children's education. ICT can reduce the cost of the delivery of knowledge. When students listen to one-way lectures online instead of in the classroom, the hybrid model reduces the time students spend in campus and opens up possibilities such as completing a four-year degree in less time. This has the potential to make college education accessible for more people.

Digitisation broadens the concept of the textbook to encompass reservoirs of quality content offered by digital archives, online libraries, online publications, and multimedia content that can meet all types of learning needs. Digital learning content can be replicated and distributed at a fraction of the speed and cost of printed material. It can be updated constantly and translated readily into regional languages. While the expansion of traditional educational facilities is time-consuming, bureaucratic, and expensive, online education can

be rapidly and exponentially expanded to disseminate knowledge and raise the average level of education.

"A hybrid global model of education where technology complements rather than replaces person-to-person interaction can dramatically strengthen the capacity of the global delivery system to achieve UN SDG No.4 of "inclusive and equitable quality education" and "lifelong learning opportunities for all"."

Online education can be paced to adapt to the speed and capacity of each individual student. It can be customized and specialized to meet varied interests and needs. Those who need to drop out of college because of personal, social, or financial constraints need no longer compromise on their education because of competing priorities. Digital education, once the digital gap is bridged, can make education far more inclusive and accessible than it is today.

Separating certification from instruction can liberate the delivery of knowledge from accreditation. Breaking the monopoly which existing institutions have for certifying knowledge acquisition opens the field for a wide range of non-traditional educational sources and resources to supplement the formal system. It also facilitates the customization of massified, standardized courses and programs so that students can acquire knowledge customized to meet their interests and applications from any source, formal or informal, and have it validated through accredited third-party agencies.

We need new credentialing systems based on the premise that learning involves much more than merely the acquisition of specific course content. Measures need to be refined to assess the acquisition of a much wider range of competencies than mere courseware. These can shift the focus from certification of courses taken by students to validation of the actual competencies a person has acquired, regardless of whether they were obtained through traditional classroom instruction, online learning, on-the-job learning, or other forms of life experience. Such new models can decouple the educational and certification processes, and in the process make both more effective.

The proven technology needed to support such a system worldwide already exists. Low-cost devices and the internet require only political will to make them available to all. The costs of illiteracy, low-quality education, and unemployment far outweigh the costs of investment needed in the infrastructure required.

When the world switched to the online model in 2020, we did not have the luxury of debating the pros and cons of digital education, we had little choice. But as we gradually move towards normalcy, we can study the system we adopted objectively. We are still trying to improve centuries-old classroom education; online education that is merely a few years old will clearly need much planning and improvement. It may be a poor substitute for an

education at elite, research-oriented, well-funded, progressive institutions that constantly push the boundaries of knowledge and introduce innovations in every aspect of education for millions of youngsters. But a hybrid model will make the difference between receiving an education, any education, and remaining uneducated for hundreds of millions of people.

The possibilities of ICT in education have not yet been fully explored. Once we learn to do that, train our teachers, and offer to our students the best of a blended model, using face to face setting where possible, complemented by online learning, we have the opportunity, for the first time ever, to provide every human being with the means to acquire an education that is personalized, self-paced, person-centered, relevant, integrated, affordable and of high quality.

Interpersonal interaction has a value that digital meetings cannot replace, and technology offers possibilities that traditional methods cannot match. Together, they can offer us the solution we have been looking for. A hybrid global model of education where technology complements rather than replaces person-to-person interaction can dramatically strengthen the capacity of the global delivery system to achieve UN SDG No.4 of "inclusive and equitable quality education" and "lifelong learning opportunities for all".

The World Academy of Art and Science can bring stakeholders together and facilitate the creation of a global system designed from the beginning with the future needs of all humanity in mind and tailored to deliver world-class education to many students who seek it wherever they are in the world. The creation of such a system of education is one of the most potent and effective means for ensuring global human security.

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What Constitutes Societal Transformation?

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It is widely acknowledged that the pressing global crises today are societal rather than purely environmental issues. Challenges such as climate change and global warming, the loss of biodiversity, or the global water crisis call for deep societal transformations. Even the most adamant natural scientists or advocates of technological solutions concede that addressing the current challenges requires *societal* efforts since environmental, social, cultural, and economic issues are inextricably interlinked in today's crises.

"The pressing global crises today are societal rather than purely environmental issues."

Despite a high level of consensus on the diagnosis, there is great dispute about how to initiate the necessary change towards a more sustainable society. Political top-down strategies have undeniably had some degree of success in the past. International climate agreements, for example, set boundaries for greenhouse gas emissions and stimulated change in energy supply in many countries of the world. Global education programs, on the other hand, brought questions of sustainable development to the classroom and broadened curricula worldwide.

Yet it has become obvious in recent years that top-down approaches often face significant obstacles to implementation and are not sufficient to increase the speed and depth of the needed societal transformations. First, because they tend to impose "one size fits all" solutions that discount the need for culturally and regionally differentiated pathways towards global sustainability. Second, top-down approaches often disregard the knowledge and expertise of everyday actors and ignore their desire for making their own choices instead of executing imposed strategies. Transformations towards living sustainably are much more likely to be accepted if they are developed jointly by everyday people, specific stakeholders, and policy-makers at all levels working together with academic experts and scientists.

Promoting societal change requires efforts in many domains and at all levels. There are three pillars I would like to emphasize in particular.

1. Creating Laboratories of Change

A first pillar for pushing forward social transformations is to create (more) laboratories of change in the public sphere. Municipalities and universities are best suited to exemplarily lead this change. Local and regional governments, for e.g., can serve as a model for how to spark, develop and implement technological and social innovations at the very scale at which global change becomes tangible. Local authorities can explore new ways of engaging communities in collaborative decision-making processes and develop cross-sectoral networks with local businesses, civil society organizations, and other stakeholders to promote sustainability. Municipalities and regions can thus also counteract problematic or irresolute national policies. Universities, on the other hand, are not only arenas of academic

knowledge production and education of future decision-makers, but also shape their local contexts in ecological, economic, social, and cultural regard. As operators of buildings and other infrastructures, as major consumers of energy and materials, as employers and training providers, universities themselves create "real-world problems" and can thus also contribute to their solution. Turning campuses into "living labs" can both help enhance sustainability at the local level and contribute to strengthening the authenticity of scientific institutions, thus helping to (re-)build public trust in science.

"The arts in all their forms can provide novel perspectives on the relationships of humans to the natural world and to each other, and help envision and catalyze societal change."

2. Education as Key

Education is another key factor to facilitate change and shape societal transformations. Educational institutions and organizations like schools and universities, and also centers for adult education, public libraries, or museums promote understanding of the world and help build capacities for transformative action. Given the complex nature of today's "wicked" problems, however, traditional ways of organizing knowledge must be called into question and new forms of teaching and learning need to be developed. Despite the inclusion of sustainability-related topics in many curricula today, it is necessary to push teaching and learning beyond the boundaries of fragmented canonical knowledge and strongly promote the capacity to analyze across disciplines and school subjects. In schools, for instance, greater weight should be given to theme- or project-based approaches, in order to mobilize knowledge in a more integrated way. Learning by the example of locally embedded "real-world problems" will better enable learners to understand connections that remain undiscovered from a purely disciplinary standpoint. Education for sustainable development thus also entails fundamental questions about the organization of knowledge production and mobilization.

3. The Role of the Arts

A third pillar of societal transformation is the development of a new aesthetic for dealing with the natural and the social world. Un-/sustainable development is deeply linked to culturally embedded mindsets and resulting daily routines and habits. How we do things depends very much on what they signify to us, and how we see the world and our place in it. The arts in all their forms can provide novel perspectives on the relationships of humans to the natural world and to each other, and help envision and catalyze societal change. Works of art can create emotional impacts and empathy that can hardly be achieved by mere knowledge transfer, thus helping to mobilize everyday actors to engage for bottom-up social transformations. Art can give a voice to marginalized communities and raise awareness of their concerns. It can spark creativity and thinking-outside-the-box to explore new ways of living sustainably in all cultural and regional varieties. Ultimately, artistic practices are

also embedded in local communities and can help drive transformations. Individual artists and cultural facilities, for instance, can lead the sustainability shift by consistently adopting principles of sustainability in their operations.

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Reference

1. Werlen, Benno; Kauffman, Joanne; Gäbler, Karsten (2020): Future Knowledge Mobilization for deep societal transformations. In: Canadian Commission for UNESCO (Ed.): Imagining the future of Knowledge Mobilization. Perspectives from UNESCO Chairs, pp. 113-126.

The Emerging Economic Renaissance

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A new political-economic paradigm is emerging in northern Europe and parts of the Asia-Pacific region that could signal a major turning point in human history. Like the time when humanity awakened to the fact that the world was round, rather than flat, this new paradigm radically challenges our perceptions of reality and the systems we have created to guide our lives.

"Instead of perceiving economies as bottom-line, capital-driven contrivances for growing GDP and profit (increasingly at the expense of people and Nature), the new paradigm sees economies as they really are: as sub-systems of life."

The impetus for this emerging shift is the increasingly catastrophic failure of humanity's conventional GDP-focused political-economic system. What started in the industrial age as regional and global competitions for hegemony and resources eventually developed into two world wars, expensive military arms races, ecological overstep, climate change, species extinctions and a surge of borrowing as those in power sought to solidify their hold on authority. Over the past few months, the fragile structure of this debt-driven competition has been exposed by the coronavirus pandemic, causing widespread panic in global markets.

So what is it about the emerging new paradigm that could reverse this self-destructive trend and alter the course of history? The answer is deceptively simple.

Instead of perceiving economies as bottom-line, capital-driven contrivances for growing GDP and profit (increasingly at the expense of people and Nature), the new paradigm sees economies as they really are: as sub-systems of life, whose primary assets are people and Nature and whose goals are to preserve the continuous wellbeing of humanity and the ecosphere in which we live. By such means, it resolves into a reinforcing loop, where means and ends serve one another rather than conflict. Simple. Logical. And remarkably effective.

1. Economies That Mimic Life

The wonderful thing about this living system archetype is how it generates economic success even as it reduces humanity's ecological footprint. In doing so, it overcomes the increasing frictions between means and ends that have plagued the mainstream "neoclassical" model and driven it to the edge of ruin. This is not to say that transitioning to the life-mimicking model will be easy. But in the final analysis, it comes down to whether the citizens and leaders of a country want to go down with a sinking ship or whether they want to find a more secure way forward.

Because the two models are so fundamentally opposite (incommensurable), attempts to find a compromise solution will almost certainly fail. That is because their foundational assumptions conflict and clash as can be seen in the following table. Consequently, the most promising (and profitable) way forward is to abandon the neoclassical model and adopt the life mimicking one.

That said, it is important to understand that the life-mimicking model is not a set destination, but an adaptable pathway forward—one that can (and must) be amended by continuous observation and learning as political-economic conditions change.

2. Comparison of Working Assumptions and Practices

	Living System Model	**Neoclassical Model**
Economies are:	Sub-systems of biosphere, society	The dominant system
Governance:	Egalitarian, networked, decentralized	Hierarchical, centralized
Mission:	Maintain healthy living systems	Maintain authority, control
Values:	Primacy of living assets (people, Nature)	Primacy of non-living capital
Vision:	Optimize living assets (circular economy)	Optimize GDP, profit
Leverage:	Living asset stewardship (inspiration)	Financial gearing (debt)
Mind-set:	Holistic, qualitative (non-linear)	Reductionist, quantitative (linear)
Metrics:	Focus on learning, adaptation (means)	Focus on results (ends)
Learning:	Multiple loop (open-ended)	Single loop (follow the rules)
Risk:	Being only generally right (Lack of precision)	Being precisely wrong (Climate change)

As one can easily see, the foregoing assumptions and practices reflect radically different worldviews/paradigms. Historically, each evolved to remediate the failures of a prior system. Therefore, just as the living systems model emerged to redress the failures of the neoclassical (industrial era) model, the neoclassical model emerged in Europe from the 17th Century Enlightenment as Europe sought to break free from the constrictive norms of the feudal system. Over the ensuing four centuries, it has become the dominant model for the world, displacing older native views that economies had to be in harmony with nature, which also had considerable influence in the much older Indian and Confucian wisdom traditions of Asia.

To leading Enlightenment thinkers of that era, humanity had a right to govern itself by virtue of its capacities for reason. There was, however, a darker side to this mindset: that

humanity also had a "divine right" to dominion over Nature (Sir Francis Bacon); and that we were entitled to be "masters and possessors of Nature" by virtue of our rational thinking and scientific knowledge (Rene Descartes). These latter thoughts, sadly, became embedded in the ego-driven norms of the industrial age, which taken to extremes, have evolved into their own self-destructive tendencies.

> *"As the US and other large industrial economies try to protect their regional and global hegemonies, they have exploited the very sources of their strength (people and Nature) and borrowed far more than their weakening economies can afford."*

In each such pendulum swing of humanity's learning journey, we have developed new insights and governance systems as we seek to break free from the past and move forward. Although we periodically regress, in some cases catastrophically, there is also some encouraging truth to this progression as we are now discovering.

The power of the living system paradigm is embedded in what we have absorbed from biology, physics, neuroscience, systems theory, and the history of human civilization. With such knowledge, we now have a capacity to observe, reflect and learn from the living world as it changes. As Donella (Dana) Meadows said in her famous essay, "Dancing with Systems," we cannot impose our will upon a system as our reductionist science has led us to believe. (That is why we now have climate change.) However, "We can listen to what the system tells us, and discover how its properties and our values can work together to bring forth something much better than could ever be produced by our will alone."

Interestingly, as Dana was writing these very words in the late 1990s, a group of Nordic countries was showing how this ideal could work in practice. The secret of their success was a life-centered culture that enabled them to work with each other and the larger living world—not as supreme conqueror or controller, but as mindful, caring partners.

3. The Nordic Model

The Nordic Model as we know it today evolved from a philosophy of education that emerged in the mid-19th century. Called widely by its German root, Bildung, its goal was to cultivate in people, regardless of economic status, an inner desire for learning and self-development. Starting with primary school and continuing through adult education, it aims to expand people's sense of belonging (connection)—from family to town to nation and ultimately to the larger world. In doing so, it instills in citizens a capacity to understand complex systems and a propensity to take personal responsibility for the wellbeing of fellow citizens, humanity, Nature, and future generations.

On the strength of this philosophy, the Nordic region evolved from one of the poorest in Europe during the mid-19th century to one of the most prosperous over the space of several

generations. Today the countries of Denmark, Finland, Sweden, Norway, and Iceland are regularly placed at the top of global surveys on prosperity, quality of life, health, democracy, freedom, innovation, productivity, and sustainability. As bastions of open, free markets, they have also become global innovation powerhouses in spite of holding less than half of one percent of the world's population.

In the course of becoming more prosperous, Nordic countries have developed a system of robust universal safety nets. Although supported by high individual tax rates, these have strengthened their economies by providing an abundance of healthy, educated, secure, and motivated citizens. Because of this, Nordic countries today have some of the industrial world's highest labor participation rates and per capita GDPs—advantages that in turn support their capacities to fund their safety nets. Compared to the lose-lose outcomes of the neoclassical model, this interaction creates a dynamic win-win reinforcing loop.

As evidence of this loop, Iceland today ranks higher than the US on the annual Legatum Prosperity Index. During 2019 this was supported by its higher labor participation rate (82% vs. 63%) and stronger per capita GDP ($67,037 vs. $65,112). Iceland's economic advantage is even greater when debt is taken into account. That is because its sovereign debt ratio is less than a third that of the US, its safety nets are fully funded and its gross domestic savings rate is higher.

This brings us back to the earlier mentioned vulnerabilities of the neoclassical model. As the US and other large industrial economies try to protect their regional and global hegemonies, they have exploited the very sources of their strength (people and Nature) and borrowed far more than their weakening economies can afford. Consequently, while Nordic economies go from strength to strength by partnering with Nature and nourishing their people, the US and others operating on the neoclassical model are falling further and further behind.

Looking back on history, such conditions characteristically precede paradigm shifts. As countries across the world learn more about the Nordic Model and emulate its features, we could be in the midst of the greatest shift yet—one where humanity discovers where our real creativity and strength reside.

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Conclusions

From a whole system perspective, societal transformation is the meta issue. All aspects of human society are sub-elements of it. Around the world, many experts have developed well thought out societal transformation theories and processes. The above essays reflect the rich diversity of ideas in this area.

The authors highlighted a number of key themes related to the arts, humanities, system sciences and economics. A main theme is that current societal narratives perpetuate system failure. There is a profound need for new narratives. Several authors suggested that they should be created through dialogic social processes (Reuter) as well as processes that facilitate reconstruction of societal ideas and systems (Werlen).

There also was a broad recognition of unsustainable values. Through the lenses of different fields, the authors discuss how the values and narratives of consumerism, growth and industrialization are unsustainable and driving system failure. The creation and cultivation of more sustainable values is an essential part of societal transformation. This goes hand in hand with a new worldview, one that recognizes the diverse aspects of society as interconnected parts of one dynamic whole system. Gills and Hammad discuss this through their 'globalisations' and recognition of interconnected local and global systems. Several of the authors discuss the need for grassroots, local and communal processes and how these facilitate the development of new values and worldviews that support societal transformation.

The requirement for structural change is another theme emphasized by the authors. A consensus emerged around the need to recognize how fundamentally flawed systems perpetuate socio-economic inequality and ecological decline. To address this, several authors suggested different strategies for resolving systemic flaws in education, economics and the arts. There was widespread recognition that institutional and systemic change is essential for achieving societal transformation.

Combining the suggested new narratives, worldviews and system change strategies provides an overall framework for societal transformation. The framework recognizes the interconnectedness of local and global challenges, and shows that re-alignment with the laws of nature is essential. New narratives and societal transformation strategies must operate within planetary boundaries and abide by the laws of nature. Humanity cannot survive and thrive without these adaptations.

Many challenges and opportunities remain in areas including the arts, culture, education, and systemic change (economic, political, institutional). The above essays illuminate the need for cross-disciplinary, whole system approaches. Combining local and global, top-down and bottom-up approaches also is essential for successful societal transformation. These essays provide a foundation for the ongoing work of the WAAS Societal Transformation Working Group. Going forward, a primary emphasis will be on highlighting, developing and implementing practical, specific societal transformation strategies. Given the rapidly growing environmental, social and economic challenges facing humanity, there is an urgent need to engage in creative thinking together to develop real transformative alternatives and redesign civilization. Bozesan M. (2020). Integral Investing: From Profit to Prosperity. Springer: Cham, Switzerland.

References

1. Bozesan M. (2020). Integral Investing: From Profit to Prosperity. Springer: Cham, Switzerland.
2. K. Wilber, A theory of everything: An integral vision for business, politics, science, and spirituality. (Boston, Shambhala, 2000)
3. McCoy, J., Rahman, T., Somer, M. (2018), Polarization and the Global Crisis of Democracy: Common Patterns, Dynamics, and Pernicious Consequences for Democratic Polities. In American Behavioral Scientist 2018, Vol. 62(1) 16–42 © 2018 SAGE Publications
4. P. Diamandis, & S. Kotler, The Future is Faster than you Think (New York, Simon & Schuster, 2020)
5. Crowdfunding in Emerging Markets: Lessons from East African Startups. 2015. Washington DC: The World Bank Group. License: Creative Commons Attributions
6. Arbib, J. & Seba, T. (June 2020). Rethinking Humanity: Five Foundational Sector Disruptions, the lifecycle of Civilizations, and the Coming of Age of Freedom. Viewed 5 February 2021 at https://www.rethinkx.com/humanity
7. J. Randers et al. (2018) Transformation is feasible. How to achieve Sustainable Development Goals within Planetary Boundaries. A report to the Club of Rome (Stockholm Resilience Center, 17 October 2018) https://tinyurl.com/y9epzlmk
8. W. Steffen, et al. "Planetary Boundaries: Guiding human development on a changing planet." In Science. Vol. 347 no. 6223, (13 Feb 2015)
9. The World Bank SMES Finance, 2020, https://www.worldbank.org/en/topic/smefinance
10. Bozesan, M. (2020). Integral Investing: From Profit to Prosperity. Cham, Switzerland: Springer Nature.
11. Snowden E (2019). Permanent record. Macmillan, London, UK

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Art + Science + Policy:
Info-Murals Help Make Sense of Wicked Problems

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Abstract

To manage complexity in the modern world requires large-scale visual language diagrams that are called "information murals." These murals present the science involved in major global and local issues; describe the policies that may respond to these challenges; and integrate the communication using the arts of diagramming and illustration on a wall-size scale. This article presents numerous examples from business, international task force and government projects. It also describes how information murals can help analytic and decision-making groups accomplish their missions. The author suggests that information murals are the best way to address the difficult, messy and massively wicked problems that decision-makers face every day. He shows some education and training possibilities of the murals and also suggests that the information murals can emerge at times as a new aesthetic genre for the world of fine art.

1. The Problems we Face

Managing meaning in the modern world is difficult. Context is unwieldy. Complexity is growing harder. Uncertainty is more uncertain. Inability to trust incoming information is very difficult with more and more disinformation. Analyzing large systems is deep and highly time-consuming. Comprehending wholeness, interactions and relationships will always be difficult if not close to impossible. Integrating art, science, and policy is overwhelming. Analyzing and synthesizing social messes is, well, messy. Wicked problems are indeed wicked.

2. The Challenge of our Information Environment

Finding a shared sense of meaning has grown exponentially challenging. Despite the benefits of the internet, our information environment has become more overloaded and fragmented. Our thought bubbles grow tighter around us. We search for ways to "see" the bigger picture without losing sight of the details. We increasingly want multiple views of the issues and situations we face. Our academic silos are getting thicker walls. Our cognitive abilities crumble before these rapidly changing challenges.

3. One New Resource: The Information Mural

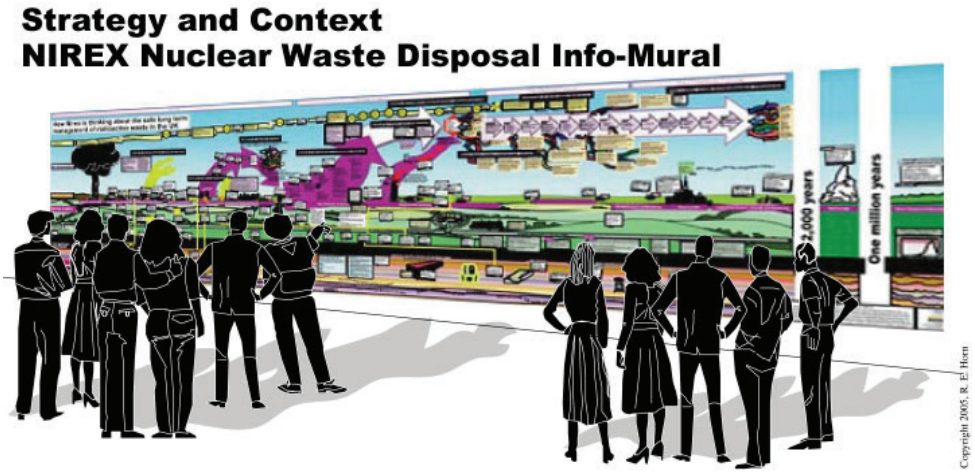
In this article, I want to describe an evolving human capability that is beginning to help us address some of these issues.

I have been one of a loose collection of scientists-artists who have been using "information murals" to address the messy policy complexity of the modern world. We make use of the tools and ideas of art to explicate and make accessible the dynamics of where science and policy meet. Our info-murals are increasing humanity's ability to help our minds handle the scale and scope of these daunting issues.

These information murals are, of course, related to the immense creativity of a visual language and information design of recent years. What singles out the information murals as a separate movement is the tackling of huge phenomena with extraordinary research and representation of both the big picture and detail.

4. Example of an Information Mural

First, an example. Our info-murals are often 5 feet by 15 feet in size. Here is an example of an info-mural done for the UK agency in charge of nuclear waste disposal in 2004.



When giving us the task of analyzing and displaying the UK's radioactive waste policy, the managing director said: "I have a group of 60 scientists and administrators all over the county drilling holes and trying to figure out the chemistry and geology. And we have a blue-ribbon commission coming to evaluate us next year. We are not aligned as an organization. I want you to do your thing and show us how you think we think."

5. What is going on in the NIREX Mural?

The NIREX info-mural timeline is organized left to right in three large sections:

- The history of the nuclear age from the standpoint of radioactive waste
- The current decision-making environment of the UK agency

- The future plans and consequences of the plans for managing the radioactive waste, *stretching out one million years* into the future when a high-level radioactive waste gets back to background levels

It contains approximately 400 text elements and approximately 100 major visual elements and many more minor ones.

Along the timeline, we also used a physical metaphor of the sky, ground level for events, and a series of deeper "below the ground" levels that included:

- The waste and its dangers
- The science and technology about the waste
- The events in the social climate about radioactivity and the waste
- The UK's governance plans and actions about the waste
- The ethics of dealing with the waste
- The mythosphere, that is the fears, concerns, and feelings—conscious and unconscious—that people have about radioactivity and radioactive waste.

6. Different Ways of Viewing and Using Info-murals

One of the major settings for the use of information murals is in committee and group meetings that are addressing the kinds of problems mentioned in the first paragraph of this article. Sometimes the walls of the meeting room/conference room surrounded the group with different information murals representing different views of the issue being discussed or decided upon.

Part of the design put into some of our info-murals is a challenge (and opportunity) for the viewer or user (actually a "viewser") to connect elements and patterns into new relationships, new ideas, new understandings. The mural design is, thus, an invitation to participate, rather than to passively accept.

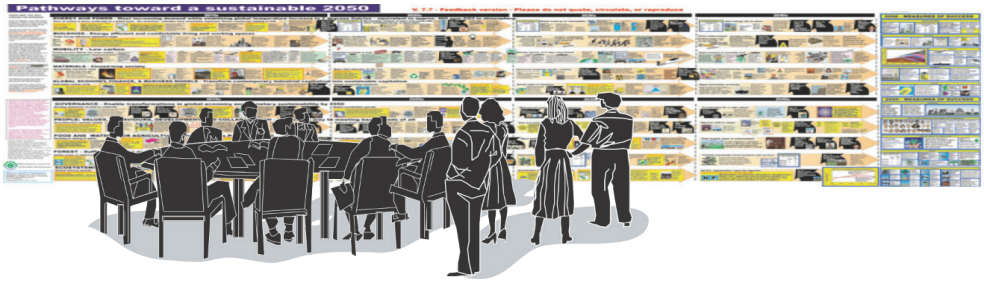
7. The Vision 2050 Challenge

In 2008, the World Business Council for Sustainable Development (WBCSD) organized a task force composed of senior strategists from 29 major companies that spent 18 months developing the *70 measures of success* for global sustainability and backcasting the more than *350 milestones* needed to get us there. These milestones were focused on 10 tracks (energy, transportation, buildings, materials, economy, governance, forests, agriculture, people, and ecosystems) decade by decade over the next 40 years. The pathways include 40 or so "big risks" to the achievement of the measures of success.

8. The Must-haves in a Nobody-in-charge World

Most importantly, the task force identified more than 40 "must-haves"—milestones that are "required to be on track in the first decade" for a sustainable 2050—and which must be accomplished within very tight time frames. Each of these "must-haves" was roughly

equivalent in scale and scope to a project to go to the moon and come back, and they must be accomplished in a nobody-in-charge world.



The Vision 2050 info-mural is approximately 4 x 15 feet in size.

While the individual pathways are organized along a time scale, you can easily make connections between events on different pathways. This mural has been displayed in the atrium lobby of the World Trade Center in Amsterdam as well as in the board room at the Weyerhaeuser company, to give just two examples of its widespread use.

9. Built for Learning, not usual Museum and Gallery Behavior

It has been the habit of many of us visiting a museum to glance briefly at a painting or a photo—and expect to comprehend it instantly. Just the opposite is expected with info-murals. Often, art is seen as a concentrated simplification of emotion and opinion, and expression. To portray the complexity of meaning in today's world, our work is just the opposite. When we tightly integrate a multitude of words and visual elements at different levels of detail and pattern, we have to change your expectations for interacting with these patterns. "Viewsing" is much more like reading a special analytic report rather than glancing at artworks.

10. Pioneers of Info-murals

The modern history of information murals began in the 1970s with the experiments and explorations described in Bob McKim's book *Experiences in Visual Thinking*. The approach of information murals has evolved over the past 40 years by a group of artists—led by David Sibbet, Jim Channon, Steve Harrold, and others. Usually working within organizations, we have developed a variety of ways of integrating vital institutional knowledge by means of new styles and new compositional methods.

11. Experience at Boeing

In the 1980s and 90s, Boeing employed Steve Harrold, a full-time muralist for 20-plus years. Why would a huge US corporation hire a full-time muralist?

In the last few decades, Boeing has had as many as 180,000-230,000 employees. If you consider the complexities of companies' relationship between their past, present, and future and the large size of the group of employees they must communicate with, it is really not

surprising that Boeing got itself an info-muralist. What is surprising, though, is that they felt that info-muraling was an important and distinct communicative device, enough so that they hired someone to do it full time.

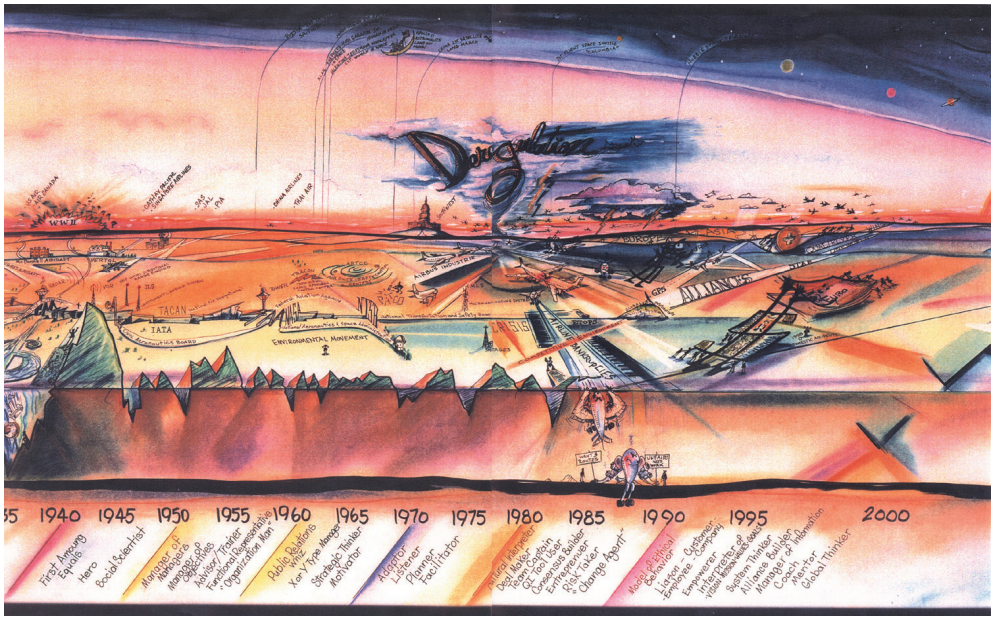
But, then, compare this situation with Renaissance Florence that had perhaps 100,000 inhabitants, and quite a few full-time muralists. You probably know the names of a few of them.

12. History of Muralists

It is not surprising that the murals have arisen to meet this demand in the corporate setting. Powerful organizations in many historical periods have sponsored muralists. Medici, Inc. and Vatican, Inc. sponsored Michelangelo and Leonardo; In the 1920s the newly socialist Mexican government gave Rivera his early employment as a muralist.

And it was relevant and important to some of the most important actions the Boeing company took. The CEO of Boeing once told Harrold that they would not have been able to complete a merger with another aircraft company without Steve's info-murals showing the complexity of integrating the two companies.

Here is part one of Steve Harrold's murals showing the history of aviation.



One of the striking aspects of this mural is the vividness that Harrold portrays: the impact of deregulation of that industry on Boeing with a massive purple tornado incorporating the word "deregulation" as part of the timeline structure of the mural. It shows how powerful government actions were on the airline industry in a way that was rarely conveyed in the many articles and books on the topic.

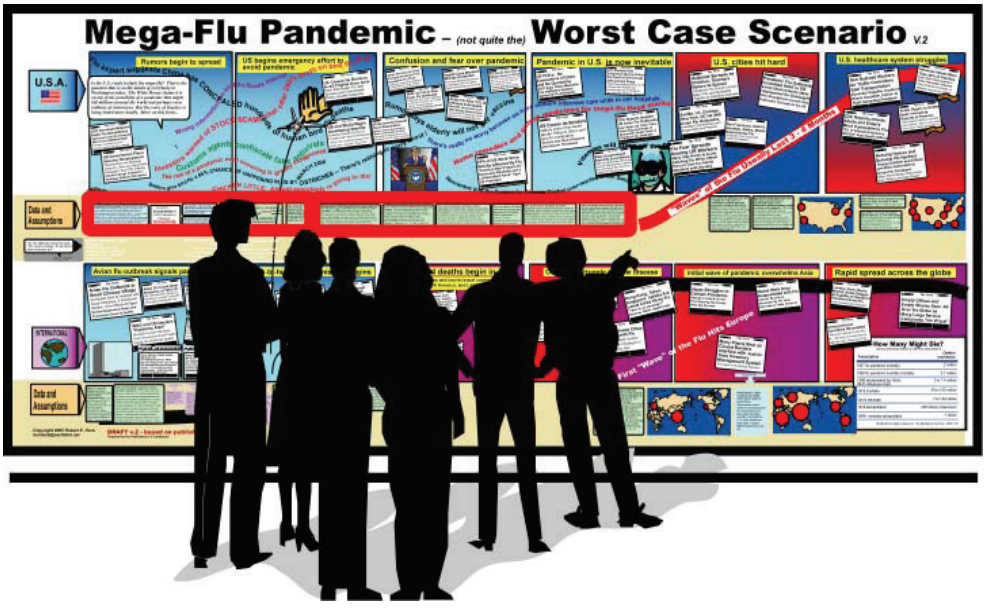
13. Largest Commissions by International Task Forces & Corporations

Most of the commissions for the info-muralists have come from large multinational companies, NGO taskforces, and government agencies. Many of the murals are displayed in public places around an organization to help provide alignment of focus, implementation of strategy, and continuous recognition of organizational goals and requirements.

The common theme of all these works, and many others, is to bring function, impact, pooled knowledge, and beauty at the level that decision-makers in organizations around the world need to "see" what is in front of them.

14. Avian Flu Example

Not only business problems but also portraying the interaction of science+art in the public sphere has become an important subject for info-muralists. When the Avian Flu (H5N1) was emerging a decade and a half ago, epidemiologists got an emergency conference together with 40 invited experts to identify the gaps for addressing the urgent threat. I had the opportunity to provide an info-mural scenario that integrated the complexity of the issues that might be anticipated in the first year of a "Not Quite the Worst Pandemic." It integrated a future scenario with data from the 1918 epidemic. The mural could be used to track and compare the current COVID-19 pandemic with the 1918 flu. That would create a somewhat different structure for such a new mural but would be potentially useful to epidemiologists. No one is working on that (to my knowledge). Here is about one-half of the Avian Flu mural.

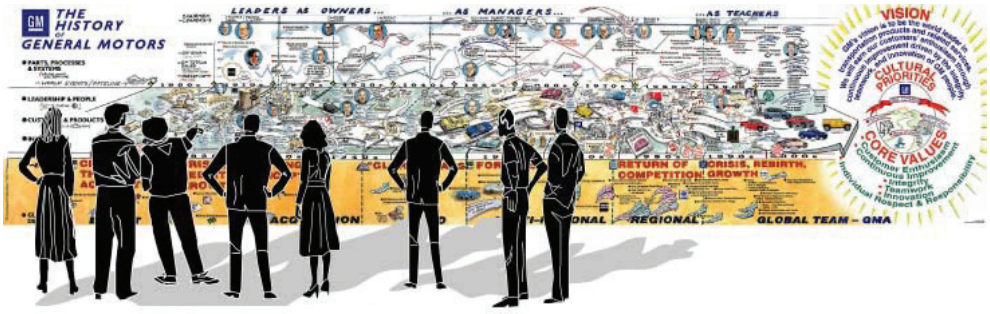


15. Sibbet and Rivera: Contrasting Views of Corporate History

In the 1930s, the chairman of Ford Motor Company commissioned Diego Rivera to create a magnificent group of murals for the Detroit Art Museum. In the 1930s times were simpler and issues were simpler. Work in factories was paramount. One sees the muscles and tremendous coordinated effort of the worker.

> *"Info-murals are not just another kind of "painting" but the next step beyond that category in the world of art."*

To contrast with the well-known Diego Rivera murals for Ford, David Sibbet was commissioned, seven decades later, to create an info-mural of the history of General Motors by its then Chairman. Today, our info-murals are radically different stylistically from those of Rivera. They require more words and sentences, because of the complexity and systems dynamics, and of globalization and technology. The principal difference between Rivera and Sibbet addressing some of the same issues is the incorporation of many more concepts and nuances in Sibbet's contemporary info-mural. This is necessary because of the abstractness, complexity, and need to show intricate multi-level dynamics and interconnections in the systems of the modern world.



16. Rather Expensive and Research-intensive

The information murals have emerged in part because of the immense size of the problems and phenomena they represent. For individual artists or groups of scientists, policymakers, strategists, and artists to create them takes quite a bit of time. All this coming together makes their commissions relatively expensive and difficult. It involves putting together a committee, the project.

17. Too large for Zoom and Laptop Screens

In an era of Zoom meetings, the information murals must be layered for smaller screen

sizes and, thus, lose some of their effectiveness when their sizes are reduced. I believe, however, we will emerge from this pandemic and the use of murals in decision rooms will become routine. Participation by groups in person is more effective for these mega-masses.

18. Computer-based Murals Necessary for Revisions

As one might expect nearly all of the scientists-artists do their murals work on the computer. Indeed the computer is essential for updating because, in the activity of researching and creating them, many successive drafts are required. Some of the projects described in this article took months to research and coordinate committee work. One took over a year as part of a larger strategic process.

19. What is the Future of Computer Housed Info-murals?

We can look forward to decision rooms and seminar rooms that might look like the one that is pictured below at the University of Illinois, Chicago, where I gave a lecture in 2013 to a group using a computer-driven screen that was 26 feet long and 6 feet high. I stored 20 or more of my murals as small-size icons on the left side of the screen and clicked to enlarge them instantaneously across the entire screen. And the students could modify the murals on the screen from their laptops.

20. The Future of bringing Art, Policy, and Science Together

Where is this headed? The use of info-murals will continue to grow as we try to address the messes and wicked problems I alluded to at the beginning of this article.

And they are beginning to reach into the larger art world. Hans Ulrich Obrist, Director of the Serpentine Galleries, a major London museum for contemporary art, says we need artists to: "develop radical new strategies… to address … the most important issues of our time… such as the "disappearances of species, languages, whole cultures."" Obrist calls these issues as "urgent."

Artists have been doing this for a long time. Egyptian murals depict the geopolitical battles of the era. Picasso's magnificent Guernica portrays the horror of the Spanish civil war. "Painting has always served as a kind of laboratory for innovative ways of looking at the

world, from the perspectival experiments of Alberti all the way to Impressionism, cubism, Surrealism, abstraction, Minimalism, et cetera. Painters often saw themselves as an advance guard, pushing a kind of investigation forward in new terrain," says Obrist. As we have seen, info-murals are not just another kind of "painting" but the next step beyond that category in the world of art.

"We need artists to "develop radical new strategies" for knowledge pooling. Info-murals are a step in that direction, combining as they do, complex image and text integrations within new aesthetic sensibilities."

21. Will these Info-murals reach Museum Status?

Obrist has stated, "Art is also a means of pooling knowledge, and it is, like literature, news that stays news…If we are to develop new strategies to address one of the most important issues of our time, then it is urgent now that we go beyond the fear of pooling knowledge between disciplines. If we do not pool knowledge, then the news is just news: each new year will bring reports of another dead language, another species lost." In many ways, info-murals meet these criteria.

22. Info-mural in the Museum of Contemporary Art in New York

Info-murals do not replace any of the many delightful neighborhoods of the art world. Rather, different times demand different innovations from art if it is to continue to provide immense energy and impact to the contemporary art lover.

The first major commission of the new info-murals genre came in 2007 when architect Jeffrey Inaba was asked to transform a long hallway in the New Museum of Contemporary Art in New York City. The museum website described his use of "a radical approach to research and design to make opaque information come alive… a graphic environment that identifies and quantifies public and private philanthropy around the world. The presentation is based on research on dozens of organizations—from sports, media, politics, education, religion, finance, paramilitary, and non-governmental organizations—and tracks the amounts of money various organizations donate to culture."

23. Art must Engage with the World

Neal Benezra, director of the San Francisco Museum of Modern Art, when asked by a local media, if museums were to provide a respite from the uncertainty and anxiety associated with today's world, replied: "It is a fraught time, there's no question about it. On the one hand, we want to provide a respite. But on the other hand, we also want to be engaged in the world. If we are just a respite, then we're absenting ourselves from the debate out there. I

think when we're really good, we've got to engage with the issues that are concerning people today. If we can achieve that, I think we have done something pretty special."

Already there are many different approaches and styles to the creation of information murals. As Obrist says, we need artists to "develop radical new strategies" for knowledge pooling. Info-murals are a step in that direction, combining as they do, complex image and text integrations within new aesthetic sensibilities.

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Notes

1. I want to emphasize that I think of information murals as just one of the many kinds of artistic expression. They have specific purposes that are quite different from many of the kinds of artistic expression we find in museum galleries and shows that it will not replace.
2. **Graphic notes in real-time**. I also note that there are several hundred artists who will create visual recordings on the wall that have the same large dimensions information murals. They do it in real-time as groups are discussing problems. This "graphic recording" (or scribing) is a different kind of use of visual tools in mural-like size. These graphic notes done on-the-fly in real-time help groups see the patterns that they are discussing and preserve the meaning in ways that are different from normal note-taking with words on paper. These graphic notes usually do not contain the depth of data or careful patterning that appear in the info-murals based on offline research and analysis but are a clearly related artistic activity.
3. **History of sources and influences.** The sources and influences of previous visual, graphic, and information design art upon the individual info-muralists are a bit murky, but each of these fields undoubtedly contributed to the context in which these information murals developed. I do not have sufficient detailed information about many of the information muralists to attribute direct influence. I was certainly influenced by the information design field (McKim, 1972; Wurman 1997; Horn, 1999; Jacobson, 1999) and most strongly by Sibbet (Sibbet. 1980).
4. **Acknowledgements.** I thank Michael Marien for important suggestions for this article and David Sibbet and Floor Kist for our many discussions over the years.
5. **PDFs available.** Nearly all of the info-murals presented in this article and others are available as PDFs from www.bobhorn.us

References

1. Horn, R.E. (1999), "Information Design: Emergence of a New Profession," in Jacobson (1999)
2. Inaba, J. https://archinect.com/news/article/68078/jeffrey-inaba-s-donor-hall-on-exhibit-at-sanaa-s-new-new-museum-of-contemporary-art
3. Jacobson, R. (1999) *Information Design*, MIT Press
4. McKim, R (1972) *Experiences in Visual Thinking*. Brooks/Cole
5. Obrist, H. U. https://www.edge.org/memberbio/hans_ulrich_obrist
6. Sibbet, D. (1980) *I See What You Mean: A Workbook Guide to Group* Graphics (www.thegrove.com)
7. Wurman, R.S. (1997) *Information Architects*, Graphis Press

Youth movements are one of the strongest catalysts of social evolution and future change. To accomplish a much-needed system transformation, it will be necessary to continually assess the most effective forms of action in dealing with security and sustainability issues.

– *M. Nešković & I. Lazarovski,* Youth Groups: A Quick Look at International Organizations

Regulatory approaches such as constitutions, laws, standards and regulations are important, but only work if norms and values for economic activities are anchored in narratives of life-enhancement.

– *Petra Kuenkel,* Repurposing Economies Towards Life

The environmental crisis can only be efficiently addressed and solved when each and every one of the deep-rooted social, economic, and political issues around the world are addressed and solved.

– *Ash Pachauri et al.,* Environmental Justice and Equity

The new paradigm must create a workable framework to ensure future peace and security for all of humanity and the perpetuation of the ecosystems and myriad other species upon which human life depends.

– *Barry Gills & Jamie Morgan,*
Climate & Ecological Emergencies Demand a New Paradigm

Democracy is not about perfection: it is as fallible as the human beings who choose it as their political system and as the humans they put in place to guide it. These leaders must know that while their constituencies do not expect perfection, they do expect accountability, legitimacy and truth.

– *Rama Mani,* Terrorism, Security and Democracy

Peace is not only a political problem defined by the absence of violence and war but is also characterized by the liberation from fear and includes political, cultural, economic, environmental, social and educational issues.

– *Shoshana Bekerman,* A Global Culture of Peace

The pandemic and the results of climate change are catalysts for the silent revolution that is increasingly dependent on values.

– *Robert van Harten,* The Present Silent Revolution

The formed individual provides the vision, aspiration, inspiration, originality, creativity, innovation, entrepreneurship and catalytic impetus for the growth and development of the collective. Both owe their greatest virtues to the contributions of the other. Neither can arrive at fullness and fulfilment without fully recognizing the value of the other.

– *Ashok Natarajan,* Reconciling Individualism and Collectivism

The interconnected nature of global crises demands a new kind of thinking and action. To provide this, the authors discuss many aspects of whole system thinking and holistic worldviews, including aligning human systems and society with the laws of nature.

– *WAAS Societal Transformation Working Group,* 11 Essays on Societal Transformation

We need artists to “develop radical new strategies” for knowledge pooling. Info-murals are a step in that direction, combining as they do, complex image and text integrations within new aesthetic sensibilities.

– *Robert Horn,* Art + Science + Policy

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For the first time ever, it is possible to provide every human being with the means to acquire an education that is personalized, self-paced, person-centred, relevant, integrated, affordable and of high quality.

– Garry Jacobs et al.
A New Paradigm in Global Higher Education

The problems related to climate change cannot be solved without involving knowledge from physics, chemistry, ecology, biology, economics, and human values.

– Jüri Engelbrecht & Robert Kitt
Knowledge Generation and Interdisciplinarity

We urgently need to reimagine a socio-economic development model aligned to our reclaiming our indigenous value system that promotes interconnectedness and interdependence within a single web of life.

– Mamphela Ramphele
Global Governance for the 21st century

The COVID-19 crisis is generating tremendous and unprecedented pressure for humanity to awaken. We humans are now called upon to turn this crisis into an opportunity by becoming conscious creators of our collective future.

– Thomas Reuter
Achieving Global Justice, Security and Sustainability

The Jena Declaration points toward necessary changes in human behaviour on a massive scale, and the necessity of redistribution of power so that the world's future is not determined by companies, governments and institutions which favor their own agendas over the needs of sustainable life on earth.

– Thomas Reuter
The Jena Declaration

COVID-19 is upending our world, threatening our health, destroying livelihoods, and deepening inequality. Several action areas are described—a Global Vaccination Plan, a New Agenda for Peace, a UN Youth Office, a Special Envoy for Future Generations, a Summit on the Future, a Futures Laboratory, and a United Nations 2.0 with an expanded Security Council.

– Michael Marien
Our Common Agenda

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