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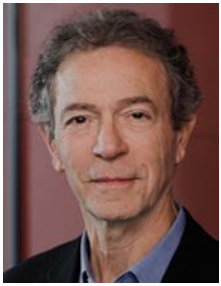

Ilan Chabay is Head of Strategic Research Initiatives and International Fellowships at the Institute for Advanced Sustainability Studies (iass-potsdam.de), where he has been since 2012. He is Chair of the KLASICA international knowledge, learning, and societal change research alliance (www.KLASICA.org) based at IASS and associated with Future Earth's Knowledge Action Networks. He works with colleagues in Italy, Austria, and Denmark on multi-modal games for understanding social mediation of creativity and how it influences innovation for societal needs.

Ilan authored or co-authored over 60 peer-reviewed articles in major journals in both social science and natural science, as well as reports, book chapters, and three patents. He was Professor in the Helmholtz Alliance Energy Trans program at Institute for Social Science (2012-2014) and Alcatel/Lucent Fellow (2014) in Communications Research, University of Stuttgart, Germany. He was elected Honorary Member of the Swiss Academy of Humanities and Social Sciences in May 2012, "in recognition of his manifold contributions to innovative forms for public understanding of science, as well as teaching and learning." He was Erna and Victor Hasselblad Professor in the sociology and applied IT departments in Gothenburg and Chalmers Universities, Sweden (2006-2011). Ilan founded and directed the New Curiosity Shop, a workshop in Silicon Valley (1984-2001), where he led the design and production of interactive exhibitions and learning experiences for more than 230 museums, science centres, and corporations worldwide, including Disney Imagineering, and led educational projects for NASA. He was Associate Director of the Exploratorium Science Museum in San Francisco (1982-83), consulting professor of chemistry at Stanford (1984-88), and after receiving his Ph.D. in chemical physics from the Univ. of Chicago, he led research on non-linear optical spectroscopy at the National Institutes of Standards and Technology (1974-82), and has been a visiting professor in academic institutions in the US, Japan, India, and UK.

Behavioral causality - Anthropocene reality

Humans, among many species, face existential challenges due to rapidly changing current and future conditions on Earth. These are conditions that humanity collectively has played a crucial role in shaping. Thus, the "Anthropocene Era" was coined in recognition of profound, accumulating impacts of human activity on our planet's physical, chemical, and biological condition on the scale of geological epochs. The reality of our condition in the Anthropocene Era raises fundamental questions about what we can do to establish conditions sufficient for human society to sustain itself with justice and equity for all through generations into the future.

Limits of critical natural resources and bio-geo-chemical conditions on Earth pose enormous, growing challenges (e.g., climate change, fresh water supply, biodiversity). The UN Sustainability Development Goals (SDGs) set 17 ambitious targets for moving to sustainable futures (e.g., energy access, poverty reduction, food security). Meeting these challenges requires human actions to mitigate adverse impacts or adapt with changes in the complex, fundamentally-inseparable system consisting of the bio-geo-chemical environment, ecological systems, and human societies. How are we to understand, enable, and foster collective behaviour changes that can address these complex challenges?

I will discuss this fundamental question using models and narratives as analytical and affective tools to help us understand and catalyse change in complex social-ecological systems. I will use examples of case studies undertaken by the KLASICA alliance on collective behaviour change toward sustainable futures in Asian and Pacific Island communities. These cases illustrate how understanding of behavioural causes of the Anthropocene reality are useful for enabling and fostering constructive actions toward sustainable futures. This view of behavioural causality will also require new educational trajectories and new narratives of the nature of science. These are urgently needed to improve capacity for continual learning in diverse communities essential for enabling humanity to respond effectively to ever-changing local and global challenges.