

Gnawing Away at our Planetary Boundaries

A sixteenth-century palace in the heart of Vienna hosted a heady debate among a group of world-class intellectuals. At stake: the parlous state of our planet and the urgent need for a transition to a more sustainable economic system.

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A discussion is currently raging among geologists about the geological time period we live in. Are we still in the Holocene epoch (it began 11700 years ago after the last major ice age) or has Planet Earth entered a new one, tentatively named the Anthropocene – a name conveying the fact that humanity is leaving a deep mark on the planet? If so, where are we to draw the start line of our own geological epoch?

Perhaps less in evidence in that debate is another question: how long will this age actually last, given our new-found propensity for upsetting the global balance of natural forces, chief among them the climate? This troubling issue, if never explicitly stated, hovered over a special evening entitled 'Towards a Sustainable Future' on 12 March 2015, organised by IIASA (International Institute for Applied Systems Analysis) and EFA (European Forum Alpbach), who have joined forces since 2013.

From ballroom to crucible of change

Pavel Kabat (Director General of IIASA) opened the event by alluding to the location's turbulent past. The Landtag Hall (Lower Austria legislature) in Palais Niederösterreich may have been a ballroom centuries ago but it played a major role in Austrian history on two occasions: in 1848 it was the starting point of the March revolution in Vienna and in 1918 witnessed the birth of the First Republic.

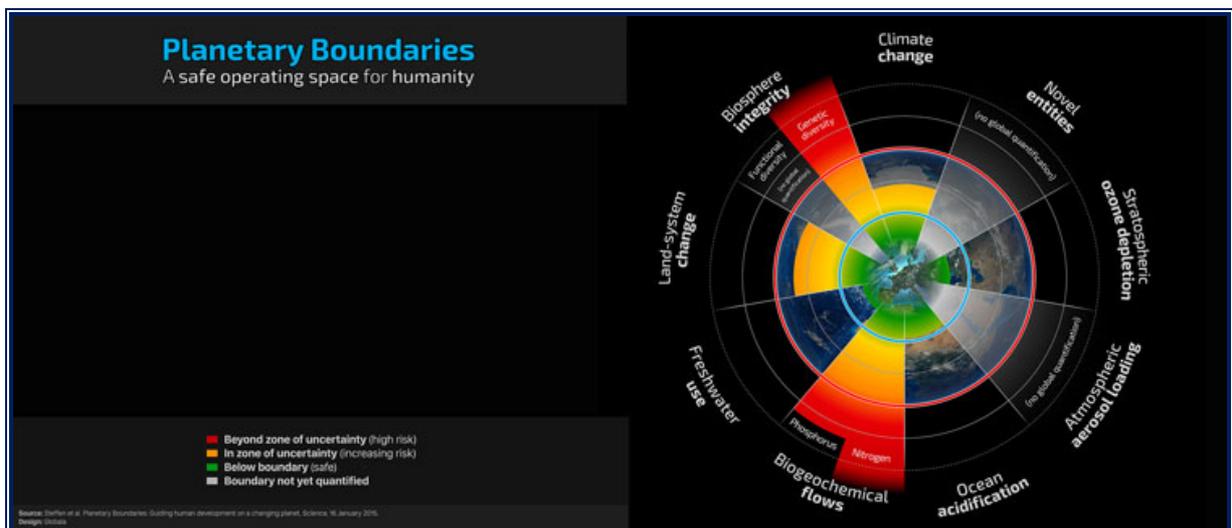
Some 300 were gathered under the vivid fresco by Antonio Beduzzi (1710), the largest continuous ceiling painting in Austria, to hear two great minds on sustainability: Johan Rockström (Executive Director of Stockholm Resilience Centre) and Jeffrey Sachs (Director of Earth Institute).

Our planet is no longer a safe space

Rockström launched into a riveting presentation by asking whether we humans had reached a tipping point where we were now overwhelming the forces of nature.

The Holocene had lasted over 10,000 years and we tended to view this period of relative climate stability, during which civilisations flourished, as a kind of Garden of Eden. But was the Holocene and its deep inequalities really our desired state, or should we rather strive for wealth and development for all?

All indicators of economic activity show that human pressure on the planet has greatly accelerated, often exponentially, since about 1950. Until the late 1980s, natural earth systems were able to dampen this but now we have reached saturation point and have crossed four of nine critical 'planetary boundaries': climate, biosphere integrity, land-system (for example deforestation), and biogeochemical cycles (phosphorus and nitrogen). These planetary boundaries were only defined and quantified in 2009 but the concept has taken off to such an extent that policy-makers are already making use of it.



www.stockholmresilience.org/21/research/research-news/1-15-2015-planetary-boundaries-2.0--new-and-improved.html

More information in the journal *Science*, 16 January 2015

Teetering towards a new balance?

Five planetary boundaries are not (yet) critically affected: stratospheric ozone depletion; ocean acidification; freshwater use; atmospheric aerosol loading (microscopic particles in the atmosphere that affect climate and living organisms); introduction of novel entities (e.g. organic pollutants, radioactive materials, nanomaterials, and micro-plastics).

The challenge we face as a species is to find a new 'safe operating space' for humanity within the planet's boundaries. This is a daunting but not impossible task, as the case of the ozone boundary proves: it was trespassed in the 1980s but thanks to the Montreal Protocol we are back in the green now. To achieve growth and abundance within the safe limits of a stable, resilient planet, Rockström concluded, we must now embark (among other things) on decarbonisation of the world economy.

2015 a key year for humanity

Sachs's address compared today's world economy to an incredibly powerful juggernaut needing to change course. Over the past 200 years the economic system had been a very powerful engine of growth that had withstood dire crises that humanity had gone through, such as wars and financial crashes – but now it was pressing against the earth's boundaries. For the first time in history, it was necessary to steer the economy on a planetary scale.

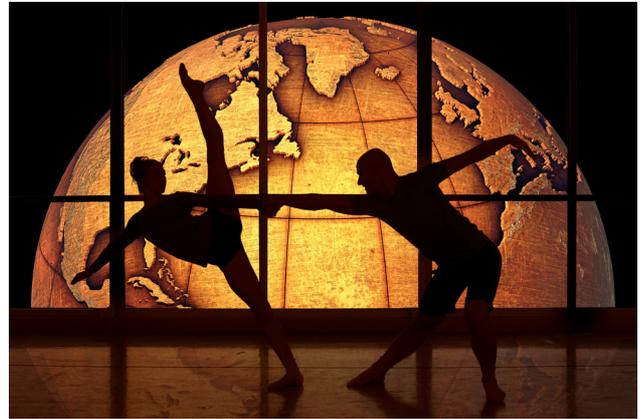
2015 is a key year for international policy-making. Three major summits will deal with finance, development and the environment: IIF North America Summit (New York, June), Third UN Conference on Financing for Development (Addis Ababa, July) and the new global climate change treaty (Paris, December), respectively.

Hence Jeffrey Sachs officially launched the new 'World in 2050 Project' at the end of his address – its purpose being to 'chart a safe path forward'. For the first time, researchers will collaborate with organisations such as the IMF and OECD.

Bridging the arts and economics

The lights dimmed and a cultural intermezzo followed, during which Gloria Benedikt strikingly connected the usually separate worlds of the arts, and global economics. An Austrian dancer and choreographer as well as a student of economics, Benedikt tired of 'ballet tricks' for their own sake and embarked on a search for meaning – a life balancing on the edge between dance and social science. She beautifully illustrated the tensions between the so-called economic rationality that she was taught at Harvard University and the irrationality depicted in great art, in particular that of Egon Schiele, whose paintings she has transposed into modern dance pieces.

Benedikt believes that we got lost in things that have a 'fancy price' i.e., that we do not really need and are, in essence, purposeless, following Kant's analysis of three types of values (the two others being 'market price' for necessities and 'inner value' or dignity).



Gloria Benedikt and Mimmo Miccolis in *GROWTH*
Picture: Morgan Marinoni
www.gloriabenedikt.com

Panel debate: reason vs emotion

The mood in the conference hall was palpably altered after this very moving, thought-provoking intermezzo and it was a tough act to follow. The distinguished panel, unfortunately, had too little time to get into its stride, and there was not much of an exchange of views.

A few ideas are worth mentioning, however. According to Vladimir Šucha (DG of Joint Research Centre of the European Commission and Professor at Comenius University Bratislava) humanity's greatest problem was that rationality had come to dominate and eliminate emotion; he made an impassioned plea for a more holistic approach combining exact sciences and emotion. Jeffrey Sachs concurred that indeed a unified approach was needed. In the same vein, Tomáš Sedláček (Czech Economist and University Lecturer, former Economic Advisor to former President Václav Havel) added that populism in economics, though never mentioned, constituted a huge problem: the economic system caters to the 'libidinal needs of shareholders'; ultimately the West is afflicted by the 'sins of rationality deprived of emotions'.

Franz Fischler (President of European Forum Alpbach and former European Commissioner) concluded the proceedings by stressing that he would like the EFA itself to find new ways to follow a holistic approach; he agreed with the need to integrate the emotional dimension in EFA discussions and its network.