‘Politik’ in and for the Anthropocene:

Obstacles, Challenges, Opportunities and Tasks for the Social Sciences in the 21st Century

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Concluding Remark: ‘Politik’ in and for the Anthropocene: Obstacles, Challenges, Opportunities and Tasks for the Social Sciences in the 21st Century

In 2011, Ursula and I wrote in the concluding chapter of the third volume of our Security Handbook on *Coping with Global Environmental Change* entitled “Coping with Global Environmental Change – Sustainability Revolution and Sustainable Peace”:

> In the Anthropocene we are confronted with opposite ideal type visions of the future:
> - *Business-as-usual* in a Hobbesian world where economic and strategic interests and behaviour prevail leading to a major crisis of humankind, in inter-state relations and destroying the Earth as the habitat for humans and ecosystems putting the survival of the vulnerable at risk.
> - The need for a *transformation* of global cultural, environmental, economic (productive and consumptive patterns) and political (with regard to human and interstate) relations.
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> Both visions refer to totally different coping strategies with GEC:
> - In the first vision of business-as-usual *cornucopian perspectives* prevail that suggest primarily technical fixes, defence of economic, strategic and national interests with adaptation strategies that are in the interest of and affordable for the ‘top billion’ of OECD countries.
> - In the alternative vision of a comprehensive transformation a *sustainable perspective* has to be developed and implemented into effective new strategies and policies with different goals and means based on global equity and social justice.
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> The consequences of both opposite scientific visions and competitive policy perspectives are:
> - The vision of *business-as-usual* with minimal reactive adaptation and mitigation strategies will most likely increase the probability of a ‘dangerous climate change’ or catastrophic GEC with both linear and chaotic changes in the climate system and their socio-political consequences that represent a high-risk approach.
> - To avoid these consequences the alternative vision and sustainability perspective requires a change in *culture* (thinking on the human-nature interface), *worldviews* (thinking on the systems of rule, e.g. democracy vs. autocracy and on domestic priorities and policies as well as on interstate relations in the world), *mindsets* (strategic perspectives of policy-makers) and new forms of national and global *governance*.
>
> This alternative vision refers to the need for a “new paradigm for global sustainability”, for a “transition to [a] much more sustainable global society”, aimed at peace, freedom, material well-being and environmental health. Changes in technology and management systems alone will not be sufficient, but “significant changes in governance, institutions and value systems” are needed, resulting in a fourth major transformation after “the stone age, early civilization and the modern era”. These alternative strategies should be “more integrated, more long-term in outlook, more attuned to the natural dynamics of the Earth System and more visionary”.

Since 2016 with the election of Donald Trump as the 45th President of the United States of America and since he was sworn in in January 2017 these alternative strategies are on the defensive and the challenges and obstacles have clearly increased. Today we face besides both perspectives of *Business-as-usual* and *sustainability transition* a third position of

- a *fundamental scepticism, questioning, rejection and denial of the peer reviewed scientific evidence* produced by natural and social scientists during the past 50 years that is ideologically and economically driven and often justified by national economic interests and "alternative facts".

This third position of the Trump Administration may delay, undermine and boycott the Paris Agreement on Climate Change of December 2015 and try to derail US policies towards renewable energy sources and result as a consequence of the announced increasing reliance on coal in an increase in greenhouse gases in the US and in several other countries as well.

Such policies may miss the goal to aim at a stabilisation of CO_2 in the atmosphere and to achieve a goal of a stabilisation of the average increase in global average temperature to 2°C or even 1.5°C above the preindustrial level by end of this century. More likely, this will contribute to a major increase of GHG in the atmosphere and make an increase of global average temperature between 2-6°C more likely as was projected in several scenarios of the IPCC's AR5 (2013/2014) resulting in increases in the four major physical effects: a) increase of global average temperature; b) increase in the projected sea-level rise; c) changes in precipitations patterns that my result in d) an increase in the number and intensity of extreme weather events (droughts, forest fires, tropical storms and floods).

The societal outcome of such physical effects my lead to rising climate-induced migration, to violent domestic, regional and international conflicts and in the worst case even to wars. It may also increase the probability of tipping points due to the chaotic interactions within the climate system.

Facing Challenges on the Anthropocene in the Social Sciences

Paul Crutzen's concept of the 'Anthropocene' as a new epoch of earth but also of human history is gradually being perceived by historians, international lawyers and in the social sciences by political scientists, geographers, anthropologists, sociologists and psychologists. It addresses the interface between humankind and the earth system and the direct human interference through the anthropogenic global climate change.

- Most social science dictionaries and introductory textbooks have so far not systematically addressed the Anthropocene as a key issue and theme for the social and political sciences.
- Environmental specialists in sociology and political science as well as human, political, social and peace ecologists have addressed the human-nature interface in the Anthropocene and a few institutions are developing specialised curricula for teaching and research areas.
- Specialists in peace and security studies have addressed the impact of the Anthropocene for research agendas in these specialised social science research and teaching programmes.
- The Anthropocene concept has been relatively peripheral in mainstream political science and it has not yet become a key issue in political theory, in comparative government, in policy studies (except in environmental studies) and in international relations.

One goal of the planned peer-reviewed publication to emerge from this brainstorming is to put the 'Anthropocene' on the research and teaching agenda in the social sciences to start a process of 'reflection' and 'debate' on what Crutzen's concept implies for our respective social science disciplines, such as political sciences, its sub-discipline of international relations and the key research programmes on peace, security, development and environmental studies.

With regard to the Anthropocene concept, the social and political sciences face two sets of challenges:

- from within by ideologues who try to redefine the concept for their narrow political ends;
- from outside by policymakers, social fringe groups and the conservative media in the US.

Addressing Obstacles on the Anthropocene in the Political Realm

Both the consensus among most researchers that global environmental change and climate change has been human-induced (being anthropogenic) as well as the Anthropocene concept itself have become an object of political attacks by propaganda institutions of the climate change deniers that have been well fuelled by specialised and ideology focused economic and political interest groups primarily in the US that have succeeded since 2008 to fundamentally change the domestic attitude on climate change, most particularly within the Republican Party that was totally ignoring that two Republican presidents had promoted and supported US political leadership on political efforts to counter climate change:

- President Reagan had put climate change on the agenda of the G-7 meeting in September 1998 in Toronto and he was also a supporter of taking the lead in countering the ozone layer depletion (Montreal Protocol);
- President George Bush had signed and ratified the UNFCCC in 1992 in the aftermath of the Rio summit on Environment and Development in June 1992.

However, in the late 1990s during the Republican control of both houses of Congress, the Clinton Administration had failed to ratify the Kyoto Protocol (1997) and during the Administration of George W. Bush, climate change research were politically rewritten and the scientific consensus was ideologically challenged. While Barack Obama ran on a pro-climate change agenda for the presidency in 2008 he avoided to address this issue during his re-election campaign in 2012 for purely domestic political reasons.

On 6 November 2016, The Republican presidential, Donald Trump twittered: "The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive." His EPA Administrator Scott Pruitt suggested in April 2017 that the US should withdraw from the Paris Agreement (2015). Both the Ministry of Interior and EPA removed and partly archived their previous climate change websites. Trump' Secretary of Energy, Rick Perry told the US Congress in January 2017 "that global warming caused by humans is real, but that efforts to combat it should not cost American jobs".

On 28 March 2017, President Trump signed an executive order that announced to dismantle much of the work on climate change enacted by the Obama administration, to downplay the future costs of carbon and to rescind a 2016 moratorium on coal leases on federal lands, and it strikes down Obama-era executive orders and memoranda helping the US prepare for climate change's worst impacts, including threats to national security.

The Anthropocene concept has been challenged by some social scientists and it has been fiercely attacked by ideology-driven propaganda institutes in the USA. On 24 January Ian Angus wrote that "a new conservative campaign aims to discredit efforts to define the new and dangerous stage of planetary history, by driving a wedge between social scientists and the Anthropocene Working Group". This was partly inspired by "anti-green, pro-nuclear and pro-capitalist ideologues at the Breakthrough Institute (BTI)" that was founded by Ted Nordhaus and Michael Shellenberger who deny any environmental crisis, call for more technology, expand capitalism, and give up trying to harmonise society with nature. They partly rely on Erle Ellis, the sole dissenter within the Anthopocene Working Group. Angus argued that

> Erle Ellis and the Breakthrough Institute [reject] Anthropocene science, because it poses a profound challenge to their pro-capitalist, anti-environmental views [as part of a campaign] … to undermine actual Anthropocene science, while hijacking and redefining the word to fit their political perspective. … Groups like Breakthrough recognize its radical social and economic implications, and are determined to undermine it, as part of their broader goal of protecting business as usual. Exposing and countering their anti-science propaganda will continue to be an important part of building effective movements against capitalist ecocide.

Trump administration agenda on weakening climate change policies, cutting the support for renewables and supporting coal has been a setback for strategies aiming at a decarbonisation of the economy, the German chancellor Angela Merkel had called for during the past two meetings of the G-8 in June 2007 in Heiligendamm and of the G-7 in June 2015 in castle Elmau in the final policy conclusions.

Thus, social scientists face a dual challenge in putting the Anthropocene on the research agendas of their disciplines:

- from within by the so-called 'ecomodernists' who praised the death of environmentalism (Shellenberger 2004);
- from the political realm by the Trump Administration and its climate sceptical allies and partners in different parts of the world.

Opportunities for Social Science Research on the Anthropocene

Social scientists must be careful to avoid falling into the trap of those social scientists who have tried to discredit the natural science basis of the Anthropocene Working Group, such as Erle Ellis and ideologues of the *Breakthrough Institute* in the USA have been doing.

The Anthopocene concept and the work of the natural scientists in the Anthropocene Working Group (AWG) offer many new analytical frameworks and conceptual opportunities for the social and policy sciences:

- For *political philosophy* and *political theory*;
- For *policy studies* focusing on the economy, on energy, the environment, transportation, housing, urban planning, production and consumption issues;
- For *comparative government*;
- For international relations including four key research programmes focusing on:
  - *Development* issues and on strategies, policies and measures of sustainable development, including the specialised research on sustainability transition in the framework of the STRN;
  - *Environment* addressing also transgressing issues of environmental security and peace with nature, e.g. from a *peace ecology* perspective. Several studies (e.g. Stern 2007, 2014) have argued that the lack of or delayed action on the challenges resulting from the physical and societal consequences of global environmental and climate change issues may pose new and severe security challenges, why addressing linkages between environmental and global change issues offers new research fields for security and peace studies.
  - *On Security* a previous handbook co-edited by Jürgen Scheffran et al. on *Climate Change, Human Security and Violent Conflict: Challenges for Societal Stability* has examined possible consequences of delayed action and
  - *On Peace* our most recent second handbook on *Sustainability Transition and Sustainable Peace* has tabled on the agenda of the social and natural sciences but also of engineering empirical studies, e.g. on energy transitions in different countries.

Tasks for the Social and Political Sciences in the Anthropocene

- Build social science research on the peer-reviewed results in the natural sciences as it is presently reflected in the work of the *Anthropocene Working Group* (AWG).
- Address the specific human-nature interface or the linkages between human economic, societal, political, military and scientific activities and their impact on the earth and human systems.

- Examine how the projected dangerous impacts of global environmental and climate change can be avoided by *reactive* and *proactive* political strategies, policies and measures.

Conclusions

The conceptual efforts may be based on several previously suggested approaches as well as on many other and new scientific initiatives, such as:

- *sustainability transition research* (Grin/ 2010);
- *political geoecology for the Anthropocene* (Brauch/Dalby/Oswald Spring 2011) linking efforts and approaches in the natural and social sciences;
- *peace ecology* (Oswald Spring/Brauch/Tidball 2014) that tries to develop conceptual and theoretical bridges between peace and environmental studies;
- debate on *transformative science* (Schneidewind et al. 2016; Brauch 2018) that proposes to move beyond the mono-, multi- and interdisciplinary approaches taking E.O. Wilson's suggestions into account who noted a growing *consilience* (interlocking of causal explanations across disciplines) in which the "interfaces between disciplines become as important as the disciplines themselves" that would "touch the borders of the social sciences and humanities."