Socio-Cultural Construction of Reality and Ecological Overshoot
Proposal for a Short Paper Presentation
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As as species, we currently use far more ecological resources than what can be considered sustainable. Scholars have termed the condition "ecological overshoot", as it entails resource use at rates higher than their regeneration or substitution rates. Demand on nature exceeds what Rockström et al. call the "planetary boundaries." – In other words, growth has been carried out at the expense of ecosystems, their resources and future generations.

Cultural and social constructions of reality play an important role in the processes of "overshooting" the earth's boundaries. How we learned to think and perceive the world, our social and cultural *Ways of Worldmaking* (Goodman, Nünning) are an important contributing factor of ecological overshoot.

In my presentation I will argue for (the acceptance of) this hypothesis. I start with an idea that is common sense in environmental and political sciences but has to be developed further through a socio-cultural understanding:

(1) Resources are much more likely to be overused when no meaningful information regarding their status exists.

The example of a bank account can illustrate this notion. If people are unable to check their bank accounts regularly to access information on their financial status and their "monetary boundaries," the chance that the account will be overdrawn is much higher. This makes clear that a regular flow of information about resources and their status is crucial to not exceed their limits. It is necessary to be able to operate sustainably.

However, the general consensus in the study of culture and also in most of the social sciences is that "meaningful information" (in a very general sense) is not just simply *there* but has to be *created* through the actions of someone or something. The agents creating information can be as diverse as an individual, a system or a discourse. But the idea that information has to be created or constructed is common to the majority of approaches. The initial formulation above can thus be transformed into a "constructivist information" idea:

1*) Resources are much more likely to be overused when no meaningful information on their status is <u>created</u>.

In the context of current ecological overshoot, where resources are overused by humans, this idea can be transformed a second time into a "socio-cultural constructivist information" idea: Human beings create meaningful information mostly through interaction with others, and in so doing continue cultural traditions. They learn from each other, and from people long gone how to generate information and how to assign meaning. In this way they participate in the co-creation of structures in which information is generated. These structures can be relatively stable for long periods of times and over huge distances. The simple starting idea can thus be transformed a second time:

1**) Resources are much more likely to be overused by humans when no meaningful information on their status is <u>created in the dynamic and interdependent structures</u> that are co-created by humans.

It is exactly these co-created structures that are often identified with culture in the broad sense of the term (e.g. Richerson and Boyd, Assmann). As culture can be an elusive and vague concept I specify these co-created structures as "**order parameters of distinction**". – What is meant by this?

In various constructivist epistemologies *distinctions* play a crucial, maybe *the* crucial role in the processes of worldmaking or of constructing a reality, i.e in the creation of meaningful information (cf. Spencer Brown, Luhmann, Goodman, Bateson, Glasersfeld, Varela, Maturana, Schmidt, Jacke, Nünning). Gregory Bateson's famous definition of information as "a difference that makes a difference" summarises the basic idea very well: only if a difference in the environment of a system triggers another difference within the system or in its behaviour, can one speak of information. *Order parameter* is a systems thinking term popularised by physicist Hermann Haken. It describes the emergence of global patterns from numerous interacting subsystems. Subsystems interact mostly on a local level and thereby produce global patterns. These global patterns then feed back onto the subsystems and "prompt" them to create the global pattern again. A self-referential feedback loop is created and often stabilised.

Hence, *order parameters of distinctions* are the global patterns of worldmaking, of "differences that make a difference," that emerge from the interactions of humans. As with other order parameters, they can form stabilised feedback loops as well. Operational closure, and the dynamic interdependence of agents' operations and structural patterns form the core idea of this concept.

While this core is similar to a number of established *"non-systems-thinking" social theories* – e.g. Bourdieu's concepts of *field* and *habitus*, various *institutional theories* (e.g. Berger and Luckmann, North), Giddens' *Theory of Structuration*, or Foucault's *discourse* concept – these theories have difficulties to build bridges to the natural sciences. This again is important as the problem of creating a sustainable society is situated at the interface of non-human, "natural" and human, socio-cultural systems. The order parameter concept, however, has the potential to fill this gap as it has its origins in the natural sciences but can be applied to social and cultural phenomena as well.

From the above perspective, **building an ecological economy** requires different ways of worldmaking. At the moment ecological limits to growth are "differences that make **no** difference," growth society is unable to perceive these limits because they lie within the "blind spots" of its order parameters of disctinctions. In other words, there is no flow of meaningful information from the resources to the growth society because these resources are beyond the horizon of its worldmaking. Current ways of worldmaking are thus a major obstacle for a more ecological economy. An ecological economy on the other hand must stay within the boundaries that are set by our planet. Hence, building such an economy also depends on reflecting, modifying and reworking the socio-cultural structures of worldmaking:

*A **postgrowth society** would have to make "different differences". It would have to establish different order parameters of distinction, different structures of worldmaking in which meaningful information on crucial ecologial resources and their limits play a central role.*

My central hypothesis – that order parameters of distinction are part of the overshoot problem *and* part of its solution – is an attempt to translate existing positions and debates into a more general social and cultural constructivist framework. Amongst others, it draws heavily from:

- The *Limits to Growth debate* (Meadows et al., Randers, Turner). According to Meadows et al. not overshooting the limits of the planet requires functioning flows of information directed to the overshooting system. This is very plausible and forms the basis of my argument. Yet, as argued above, it needs to be further developed through an understanding of how humans create information socio-culturally.

- *Ecological Economics*, especially the works of Georgescu-Roegen and Daly, Cobb and Cobb who – by going back to Whitehead's "fallacy of misplaced concreteness," – criticise current developments as disastrous processes of "runaway abstraction". This criticism can be regarded as a special case of the above argument as abstraction is an operation based on distinction.

- The *Indicator Debate* (e.g. Enquete Kommission; Stiglitz-Sen-Fitoussi-Commission, Diefenbacher). There is broad agreement that an ecological economy needs new indicators of wealth. Current ones like the GDP abstract from too many phenomena that are relevant for an ecological economy. Indicators can be regarded as socio-cultural ways of worldmaking in which meaningful information on economic activity is created.

- *Buddhist Philosophy*, however "New Age" it might sound, also constitutes a source of inspiration for the above hypothesis. It argues that "suffering" takes place when one becomes too fixated on a specific set of abstractions (e.g. von Brück, Byung-Chul Han, Shunryu Suzuki, Brad Warner). – In this sense the growth society suffers as it is "locked" into a specific set of abstractions. Overcoming these abstractions means overcoming current structures of worldmaking.