

## Chapter 5 The Transition to a Biosensitive Society

16 May 2014

Barry Newell

**Human Ecology Forum, Forum Theme:** Transforming Culture

**Abstract:** The transition to a biosensitive society requires major cultural reforms. I will outline some of the insights that have come from an attempt to develop a conceptually coherent view of this challenge. The work involved the blending of two sets of ideas—ideas about biosensitive societies developed by Stephen Boyden, and ideas about the behaviour of social-ecological systems developed by myself, Katrina Proust, and our colleagues. This work has produced a systems version of Boyden's Transition Framework. The new version of the framework underlies a practical way to look at the interplay between culture, community, human health and wellbeing, and ecosystem health. I anticipate a robust discussion.

This talk is based on Chapter 7 of the book, *Understanding Human Ecology*, by Rob Dyball and Barry Newell (2014).

Taking Stephen Boyden's model for health as the start point, and Stephen's now 20 year old call for a theoretical framework and a methodology for human ecology to assist understanding of and improve communication about this field, Barry described briefly a systems dynamic approach and then outlined an application remodelling the biosensitivity triangle into a systems diagram.

The premise is that to permit change in the dynamics of a situation one needs to have a general approach to that situation.

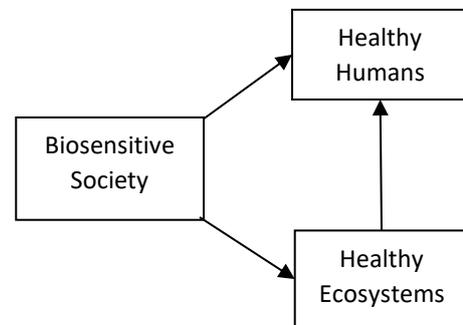
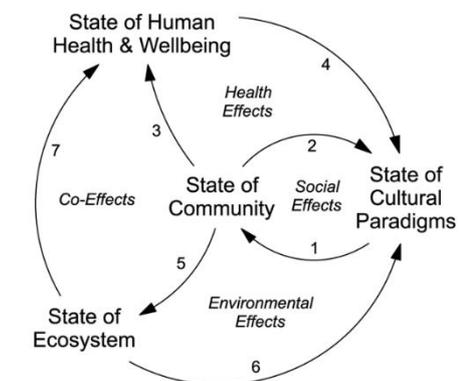


Figure 1 Biosensitivity triangle

The overall description of the conceptual modelling approach and systems thinking is outlined in the article links her and on the Human Ecology Forum website. In brief, understanding the operation of reinforcing and balancing feedbacks in systems terms is core to planning change in any system.

Secondly the outputs of a system are a function of the parts of that system, their interrelationships and the feedbacks. In analysing a complex system, the methodology has a series of steps to work through that enables the macro level system and the interrelationships and feedbacks to be maintained at more detailed scales. This involves feedback guided analysis (or holistic reduction). First an overview of the system is made in which the components or variables to be analysed are chosen, then a problem space diagram is created of that part of the system to be studied and finally from that the specific system of interest is isolated and mapped for analysis. At each stage there is increasing specificity of the variables and their links.

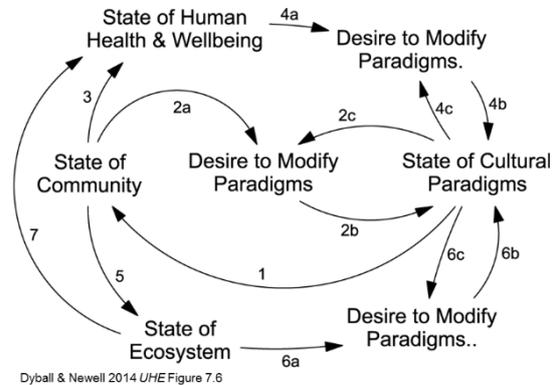
The figure 7.5 gives an example of this systems diagram. Arrows show influence which is either an action or a feedback. Notice there are two kinds of links: action links (numbered 1, 3, 5 and 7) and



Dyball & Newell 2014 UHE Figure 7.5

learning links (2, 4 and 6), by whereby the 'culture' finds out about the state of its environments.

This system model is adapted from Stephen Boyden's Transitions Framework (not shown: see <http://www.fennerfoundation.org.au/our-projects/biosensitivefutures/part-3-our-place-in-nature/7.-a-transition-framework>). In it the State of Cultural Paradigms is the focus variable; it is the one we wish to influence. The process of change is of course more complicated and so in the Figure 7.6 one can see the added variables 'desire to modify paradigm'.



### Commentary

The discussion following the presentation focused on understanding the system modelling better, and did not progress to looking into how using these system diagrams might help with the process of designing a social change.

Building on the ideas presented however, and looking at the focus variable State of Cultural Paradigms one can begin to consider how to approach a change process. The processes (arrows labelled 2c, 4c and 6c) provide balancing feedbacks from the dominant paradigm into the system that usually serves to protect the paradigm by resisting change.

At this scale of modelling, strengthening pressure for change would need to come from one of the other State variables (Health and Wellbeing, Community or the Ecosystem) via influence along 2a, 4a or 6a to increase the desire to modify paradigms.

Not attempted at this seminar was an exercise in scaling into more details to help develop deeper dialogue about this system and how to bring influence to bear to change it.

However, in part 3 of *Understanding Human Ecology*, there is discussion about the need for the cultural transformation which Boyden prescribes in his work that lead to these presentations. While no plan and timetable are laid out, I will quote and summarise some relevant portions here:

“In the Anthropocene, humans have emerged as a new Earth-system force, exerting strong evolutionary selection pressure on the biosphere and significantly affecting energy and material flows at a global scale. Having developed such capacity, humans [as sentient and moral beings] must assume moral responsibility for the consequences of their actions” (p. 197).

“Human ecologists interested in understanding how people and communities might change the way they see the world around them and imagine its future, so that what currently seems impossible is perceived as plausible and, indeed, desirable” (p. 199).

Cultural Transformation: “will occur only if the dominant paradigm changes, and this will require political engagement from an active concerned citizenry” whose values and the convenience of expressing them are aligned (p. 176).

The drive to support a transformation rests on two grounds:

- Self interest – an individual’s own wellbeing is linked to the wellbeing of very other species and the good functioning of the biophysical ecosystem processes

- Ethical considerations – what impact is each individual having on others given the others' right to pursue their own wellbeing; that is consciously balancing one's own entitlements (factoring in values, convenience, desires, comfort) with the entitlements of others.

So, the desire to modify paradigms is influenced by recognition of the human place as a force of nature in the Anthropocene mediated by both self-interest and values, and the resulting change in the State of Cultural Paradigms “this will require political engagement from an active concerned citizenry”.

Peter Tait

Further information:

Further information about systems analyses and conceptual modelling are available in Dyball R, Newell B. *Understanding Human Ecology: A systems approach to sustainability*. London, New York: Routledge; 2014.