

***Modelling the Network of Social Forces that have the future of Homo Sapiens
and the Planet in their Grip
and
Designing a Dynamic Public Management System.***

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ABSTRACT

At the 2017 conference, Harbig and Voigt highlighted the dramatic growth in the population of London that can be anticipated over the next 30 years, illustrated the unprecedented growth in infrastructure which would be required to cope with it, and demonstrated that, with appropriate applications of DSM, the necessary developments could indeed be brought into being. What was not said was that, from an ecological point of view, multiplied across the planet, such developments could only result in the destruction of the planet as we know it. This, of course, is the conclusion drawn by the authors of *Limits to Growth* from studies conducted using Forrester's dynamic systems model of the interactions of world biological and economic processes. Yet there is a serious problem with their work: It does not map the network of interacting social forces which control the operation of processes they map. Finding ways of conceptualising, mapping, measuring, and harnessing this network of *social* forces - which have the future of the planet in their grip - thus becomes the most important task facing those concerned with sociocybernetics and dynamic systems modelling. A vital activity to be undertaken along the way will be to devise/evolve a public management system – a *governance* (cybernetic) system – which will innovate and learn in the long term public interest. Earlier work in these areas will be summarised.

Andreas Harbig's and Alex Voigt's paper *Innovating and Inventing for Sustainable Cities* at the 2017 Annual Conference was nothing short of terrifying.

They showed that the combined effect of population growth and flows from rural to urban areas are going to create unprecedented demands for urban infrastructure ... transportation systems, housing, water systems, schools.

I have forgotten the figures, but maybe, among other things, a new cross-rail project would be required every 5 years.

They further argued that, although these require enormous financial investment, most of the investment could be "recovered" from the economic growth so stimulated.

However, given current mindsets re the creation of money by/for the public sector, most of the requisite investment will have to come from the private sector.

Failure to invest in this infrastructure and associated “development” will result in the widely observed increases in social division and decline in general quality of life will accelerate dramatically.

On the other hand, if these seemingly necessary developments in the economy *are* provided for, both the quantity of bio-physical resources required for the developments themselves and the food required to feed the population will increase exponentially.

Multiplied world-wide, these developments can only result in the destruction of the planet.

Thus, although the necessary money could be created via little more than a change in mindset, following the economic development path would simply accelerate our race to extinction as a species.

We thus find ourselves in an unprecedented lose-lose situation.

This can only be avoided through wider system change.

But, as many people, including the authors of *Limits to Growth*, have shown, our current public management arrangements are unwilling and unable to bring about this change.

While many people have become involved in the *Degrowth* movement, few have written about the nature of the public management arrangements that would be required in the very different kind of society that radical degrowth would require.

On the contrary, most degrowthers seem to believe that, with a few tweaks, we can continue to live pretty much as we do now.

Put another way, few realise that, to be sustainable, it will be necessary to create a society which is as different from ours as industrial society was from hunter-gatherer society ... and just as no one in a hunter-gatherer society could envisage what an industrial society would look like, so no one in our society can envisage what the politico-economic arrangements required for a sustainable society will look like.

So what we are saying is that what is missing from *Limits to Growth* is a dynamic system model of how the *social* system which currently controls the bio-physical system they map and model operates ... and how change in that system is to be brought about.

Clearly, the network of social forces to be modelled will have as many interacting feedback loops as does their current map of bio-physical interactions.

It follows that the control – governance – system needed to bring about the requisite change and subsequently manage it will also have to have multiple interacting feedback loops.

Which is to say it will have to be an organic rather than a hierarchical system.

Now here's an interesting observation. Despite their having been involved in systems thinking, and despite their specific observation that single-factor intervention in complex systems usually produces counterintuitive and mostly counterproductive results, the authors of *Limits to Growth* resort to making only a few recommendations as to what governments should do.

That is to say, they have not applied the conclusions they have drawn from their systems thinking to thinking about the nature of the governance (cybernetic) system that is required.

What is required is multiple systems-oriented interventions.

It would seem to follow that a top priority for the Systems Dynamics movement should be to promote systems studies of the social process which govern society *which do not assume from the start that the objective is to come up with a few recommendations for what a small number of "authorities" "should" do.*

In the past, my colleagues and I first attempted to map the (seemingly autopoietic) network of social forces which drive the so-called "educational" system to do the opposite of what most people want it to do.

Core components in this network turned out to be (i) inappropriate governance systems ... ie hierarchical systems based on commands from what Adam Smith and John Stuart Mill called "committees of ignoramuses" rather than the kind of network-based arrangements which would be required to promote pervasive experimentation and learning ... and (ii) the power exerted by the social forces which continually drive the replacement of organic management arrangements by hierarchy.

These two components would seem to represent the two key domains on which those concerned with building alternative models of dynamic governance systems need to focus.

What I am proposing is, therefore, one or two seminars focussing on:

1. Conceptualising, mapping, measuring, and harnessing the network of social forces which have the future of homo-sapiens and the planet in their grip.
2. The development of a systems model of more appropriate (dynamic) societal governance systems.

I would be happy to offer a single session on my own to relate to these issues or, preferably, to try to organise a wider session involving such people as Angela Espinosa, Jon Walker, Bernd Hornung, Aidan Ward, David Pouvreau, Luciano Gallon, and Ockie Bosch.

Background

Our initial work on the educational systemⁱⁱ was built around the systems diagrams included in Gareth Morgan's *Images of Organisation*. These insights were then further developed in *The New Wealth of Nations: The Societal Learning Arrangements needed for a Sustainable Society*ⁱⁱⁱ. Luciano Gallon then prompted a great leap forward by introducing me to the interactive on-line versions of the Forrester/Meadows/Randers *World Model* that were used in *Limits to Growth* and are available through VENSIM. As mentioned above, it would seem that the next step is conceptualise, map, measure, and harness of network of social forces

which have the future of mankind and the planet in their grip in a manner analogous to the way in which the Club of Rome did for the network of physical/economic interactions which they map. And then to move on to the nature of the governance systems required to manage such a system. Currently, the key words needed to help us move forward seem to be “organic” and “embedded”: ie noting that key features of the cybernetic systems which govern the functioning of organisms that are that they depend on multiple interacting feedback loops and are embedded within the organisms in a manner very different from that typically conveyed by the term “governance”.

Papers produced more recently than the major publications cited above include:

A critique of von Weizsäcker, E.U., & Wijkman, A. (with 34 collaborators) *Come On! Capitalism, Short-termism, Population and the Destruction of the Planet – A Report to the Club of Rome*. <http://eyeonsociety.co.uk/resources/REVIEW-Weizsacker.pdf>

The Pervasive and Pernicious Effects of Neglecting Systems Thinking (especially when combined with a disposition toward fascism).
<http://eyeonsociety.co.uk/resources/Unwillingness-to-engage-in-systems-thinking.pdf>

The banks, world management, and sociocybernetics.
<http://eyeonsociety.co.uk/resources/The-Banks-and-World-Management.pdf>

Raven & Gallon: Conceptualising, Mapping, and Measuring Social Forces
http://eyeonsociety.co.uk/resources/scio_unpublished.pdf

Sociocybernetics and Degrowth (Leipzig)
<http://eyeonsociety.co.uk/resources/DegrowthLeipzig.pdf>

Harnessing social processes for the common good
<http://eyeonsociety.co.uk/resources/Harnessing-Social-Processes.pdf>

Follow-through readings

- Raven, J. (1995). *The New Wealth of Nations: A New Enquiry into the Nature and Origins of the Wealth of Nations and the Societal Learning Arrangements Needed for a Sustainable Society*. Unionville, New York: Royal Fireworks Press www.rfwp.com; Edinburgh, Scotland: Competency Motivation Project. http://eyeonsociety.co.uk/resources/fulllist.html#new_wealth
- Bookchin, M. (2005 [1971; 1991]). *The Ecology of Freedom: The Emergence and Dissolution of Hierarchy*. Oakland, CA: AK Press.
- Forrester, J. W. (1971/1995). *Counterintuitive Behavior of Social System: An introduction to the concepts of system dynamics, discussing social policies and their derivation from incomplete understanding of complex systems*. Original text appeared in the January, 1971, issue of the *Technology Review* published by the Alumni Association of the Massachusetts Institute of Technology. All figures are taken from *World Dynamics* by Jay W. Forrester, Pegasus Communications, Waltham MA. <http://clexchange.org/ftp/documents/Roadmaps/RM1/D-4468-2.pdf>
- Meadows, D. H., Meadows, D., & Behrens, W. W. (1972). *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. London: Macmillan.
- Meadows, D. H., Meadows, D., & Randers, J. (2004). *The Limits to Growth: The 30-Year Update*. London: Earthscan Ltd.
- Meadows, D. H., Meadows, D. L., & Randers, J. (2008). www.Vensim\models\sample\WRLD3-003\World3_03_Scenarios.wmfView
- von Weizsäcker, E.U., & Wijkman, A. (2018) *Come On! Capitalism, Short-termism, Population and the Destruction of the Planet – A Report to the Club of Rome*. New York, Springer
- Garnett, P. (2018). Total systemic failure? *Science of the Total Environment*, **626**, 684-688 <https://doi.org/10.1016/j.scitotenv.2018.01.075>
- Raven, J., & Gallon, L. (2010). Conceptualising, mapping, and measuring social forces. *Journal of Sociocybernetics*, 8, 73-110. http://www.unizar.es/sociocybernetics/Journal/journal_1_2_2010_1.pdf (Earlier version also available at <http://eyeonsociety.co.uk/resources/scio.pdf>)
- Raven, J. (2012). *Advances in Mapping, Measuring, and Harnessing the Network of Social Forces which Control the “Educational” System ... and have the Future of Humankind and the Planet in their Grip*. http://www.eyeonsociety.co.uk/resources/SCiO_newsletter_V2.pdf
- Raven, J. (2016) *Harnessing Social Processes for the Common Good*. <http://eyeonsociety.co.uk/resources/Harnessing-Social-Processes.pdf>
- Raven, J. (1994). *Managing Education for Effective Schooling: The Most Important Problem Is to Come to Terms with Values*. Unionville, New York: Trillium Press. www.rfwp.com; Edinburgh, Scotland: Competency Motivation Project, 30, Great King Street, Edinburgh EH3 6QH. http://eyeonsociety.co.uk/resources/fulllist.html#managing_education

ⁱ Raven, J. (1994). *Managing Education for Effective Schooling: The Most Important Problem Is to Come to Terms with Values*. Unionville, New York: Trillium Press. www.rfwp.com; Edinburgh, Scotland: Competency Motivation Project, 30, Great King Street, Edinburgh EH3 6QH. Many chapters available at:

http://eyeonsociety.co.uk/resources/fulllist.html#managing_education

ⁱⁱ Published in *Managing Education* opus. cit.

ⁱⁱⁱ Raven, J. (1995). *The New Wealth of Nations: A New Enquiry into the Nature and Origins of the Wealth of Nations and the Societal Learning Arrangements Needed for a Sustainable Society*. Unionville, New York: Royal Fireworks Press www.rfwp.com; Edinburgh, Scotland: Competency Motivation Project. Many chapters available at http://eyeonsociety.co.uk/resources/fulllist.html#new_wealth