My Powerpoint Presentations
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Harnessing Social Processes for the Common Good.

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In the abstract he prepared for me, Bernd eloquently summarises my conclusions.

But he has left me with the task of explaining them!

Unfortunately, my experience has been that, if I start with the conclusions and try to unpack them I get into a terrible mess.

So it is necessary to explain how we got there.
It is actually most unfortunate that I cannot easily summarise our conclusions.

This is because one of the key things we need if we are to move forward is some kind of shared feel for – “image of” is perhaps too strong – the necessary processes to guide activities directed toward the evolution of the kind of public management – governance – socio-cybernetic – arrangements we will need if we are to evolve a society which will have any chance of enabling our species to survive.
Let me back up a bit.
When the G8 met in Scotland we set about organising an “Alternative G8”
What happened was that we got hundreds of articulate speakers highlighting things that were wrong.

Most implied that “the government/G8” should fix them.

The implication was that, if they were fixed, we could carry on pretty much as we do.
No-one addressed the question of what “An alternative G8” – ie an alternative world management system – which would be better able to act in the long term public interest would look like.
That is clearly a question for socio-cyberneticians.
And there are two things that can be said right away about the image we need to help us move forward.

One is that it must incorporate recognition of the need to promote a dynamic, self-monitoring, *evolutionary*, process. (There cannot be any kind of blueprint of the society we need to evolve.)

The other – and it is even more important from our point of view as socio-cyberneticians – is that it must incorporate an image of the multiple, non-hierarchically organised, network of feedback processes that control the operation of the body.
What do I mean by that?

Internal functioning of organisms. Multiple feedback loops ... many not in the nervous system, still less hierarchically, through the brain.

There is often direct communication between distal cells. Quite how this works is still a mystery.
Actually, thinking about these things in this way may prompt us to reconsider what we mean by *Sociocybernetics*.

*Cybernetics* is the study of the guidance and control mechanisms of *animals* and machines.

Couple of things to be said about the animals.

Most people would not even recognise a society managed by – incorporating – a socio-cybernetic system paralleling the organic cybernetic (guidance and control) systems of animals as having a *governance* system at all.

They would not even think that such a system was *possible*. 
Yet that, paradoxically, is just what we do have.

The formal governance system we have is some kind of epiphenomenon – it is *not* what governs the way our society operates!

We are at the mercy of a network of social forces we do not understand.

Our problem is that we pick out bits of the system, conceptualise them in inappropriate ways, and force them into our hierarchical model.

All our discussions are couched in terms of individuated, encapsulated, sub-systems captured by such terms as “decision takers”, “leaders”, “stake holders”, “capitalists”, “public servants”, “bankers”.
Yet we are not the first to have studied the question of how to design a more organic public management system.

Very many people have noted the inadequacies of centralised governance ... Adam Smith and John Stuart Mill described them as “committees of ignoramuses”.
Adam Smith proposed to overcome this problem via “The market mechanism”. Note that this was not a mechanism for making money. Money merely performed the function of nerve pulses within what was intended to be an organic, self-managing, system with multiple feedback loops that were responsive to a continuously changing situation.
Discuss the mechanism whereby good ideas were to be sifted out from less sensible ones.

See NWN p51

Can be no such thing as wise man or woman.
This is in dramatic contrast to the power of ill-considered mass opinion that one finds in internet discussions such of those of Linkedin and Twitter.

These provide dramatic illustrations of some of the limitations to which those who have inveighed against “democracy” have drawn attention.

(By the way, the US founding fathers were dead against it.)
What Smith was proposing was, in effect, a *World Brain*.
The brain somehow, through a series of mental and physical “experimental interactions with the environment”, distinguishes between more and less intelligent ways of thinking about and doing things.
The problem is that many of the feedback loops are too short: they do not pick up as yet unforeseen consequences or effects our sensory systems fail to pick up.

Adam Smith’s market process suffers from the same problems.
So let us turn to the studies which led us to the design of the governance system we propose.

Our work began in our studies of the “educational” system.

See *Managing Education for Effective Schooling* for discussion of the slides.
Importance of Objectives: Adolescent Pupils

% Rating "Very Important"

- Confidence and initiative to introduce change: 82%
- Develop generic high-level transferable skills: 80%
- Independence: 79%
- Outside speakers: Careers, other topics: 78%
- Apply knowledge to new problems: 76%
- Nurture diversity: Help Identify particular talents: 76%
- Characters/Personalities: 76%
- Careers information: 73%
- External examinations: 72%
- Express self articulately: 71%
- Masters of destinies: 66%
- Introduce to new subjects, eg sociology, psychology: 44%
- Introduce to wide range of cultures/philosophies: 38%
- Non examined aspects of subjects: 28%
- Rules for behaviour out of school: 9%
Many things which merit discussion in this list.
Objectives Receiving Attention
% of Teachers saying tried Very Hard to achieve with "more academic" pupils

- External examinations: 76%
- Express self articulately: 55%
- Independence: 53%
- Characters/Personalities: 50%
- Develop generic high-level transferable...: 45%
- Apply knowledge to new problems: 39%
- Confidence and initiative to introduce change: 31%
- Nurture diversity: Help Identify particular talents: 30%
- Careers information: 27%
- Masters of destinies: 26%
- Non examined aspects of subjects: 26%
- Introduce to wide range of cultures/philosophies: 16%
- Introduce to new subjects, eg sociology, psychology: 5%
Note the neglect of main goals ... and *which* goals.
Note that the examinations, which were not even a top priority, and the content of which was regarded as relatively unimportant, but which are believed to control allocation to jobs and life chances have largely driven education out of schools.
Why Are the Main Goals Neglected?

1. Little understanding of how to achieve.
2. Teachers will not come to terms with social functions of education - incompatible with self-image.
3. No means of assessing – so can not:
   (i) See progress.
   (ii) Monitor own effectiveness.
   (iii) Get credit in certification process.
   (iv) Get credit in accountability and evaluation.
4. Value-Laden:
   Brief Example: Thinking Classroom
   One group or other opposes. Incompatible in same class. Need to individualise in relation to pupil's values so pupils can practice components of competence, but teachers don not know pupils' values and do not respect "working class" values.
   Assessments value-laden.
   Can only observe if classroom elicits:
   Observers’ perceptions influenced by his/her values and competencies: Lack ability to manage independent, thoughtful, people.
   Need to influence values - fear of brainwashing.
   Handle by choice. But prevented by lack of respect and worries about perpetuating status quo. Compare private schools.

\cont
Why Main Goals Neglected (Cont.)

5. Transformational. Can't specify outcome in advance.


7. No agreed conceptual framework to help parents, teachers, managers to think about multiple talents. No tools to help teachers administer individualised, CBE programmes. Too much to expect.

8. Variety and choice in conflict with equality: Worries about reinforcing social divisions.

9. Conflict with beliefs about behaviour to be expected of public servant. Requires teachers to attend to pupils’ needs and invent ways of meeting them. Requires teachers and pupils to be doing things they do not know how to do and the outcomes of which they cannot specify in advance. Public servants not expected to be innovators and adventurers: expected to do bidding of elected representatives. Criteria and tools of accountability. Creation and management of innovative climates in schools/public service.

Won't call for research because do not think it can help them with such problems.
Discuss especially value conflicts and diversity.
A huge amount of fundamental, adventurous, but problem-driven rather than literature-driven, research is needed in all these areas.
But our most important insight was that the constraints listed in the earlier slide do not operate independently but form a mutually reinforcing, self-perpetuating, and self-elaborating system.
Figure 1: Feedback loops driving down quality of education

A prosperous, engaged, but non-sustainable society. Highly functional for some in the short term. Creates jobs and meaning for most. Prosperity bought by externalising costs to future, biosphere, Third World.

Failure to develop the talents to understand and change society.

Narrow educational activity
- Generates incompetence
- Produces qualities that are personally and sociologically useful in the short term but dysfunctional in the longer term.

Inappropriate criteria for teacher and school appraisal.

Inability to design competency-oriented educational programs.

Inappropriate beliefs about society and how it is to be run
- Wealth/Out: comes from the market.
- Public servants are parasitic on society.
- Elected assemblies can adequately supervise the public service.
- Governments should tell public servants what to do.
- Hierarchical management is effective.
- Hierarchical management promotes the most able leaders.
- Public provision should be uniform.
- Competition at tasks having single criteria of success is the most important driving force in society.

Lack of understanding of Nature, Development and assessment of competence, and, especially, its basis in values.

Dissatisfaction with the educational system.

Sociological imperatives
- Legitimise rationing of privilege.
- Neutralise demand for change in the social order.
- Promote "comfortable package" people.
- Promote gullible, unthinking people.
- Create differentials which complicate participation.
- Mis-allocate blame for social ills - lay blame at door of poor parents, teachers – not managers of society.

Calls for change.

Demand for and acceptance of narrow, misleading and invisible assessments.

Failure to call for research.

* Intervention in these cells would help change the nature of the qualities nurtured and rewarded in the system. Motives which could be harnessed to do this are marked.

† These need to be replaced by acceptance of the need to make managed economies work – to find way of giving effect to information concerning the public long-term interest, the need to explicitly create variety and information on the personal and social consequences of the options, and to find ways of holding public servants accountable for, and getting them to act in, the long-term public interest. This means systematic, broadly based, evaluation and participative democracy.
There are many things to be learned from this diagram.
One is that the “causes” of the problems are pervasive, inter-related, and far removed from the symptoms ... as are the possible points of intervention.
Single-factor intervention in complex systems has multiple, counter-intuitive, and usually counterproductive effects.

Note implications for “evidence based policy”.

Meaningful assessment of the probable effects of a proposed policy intervention involves study of all the personal and social, short and long term, desired and undesired outcomes of the policy.

Note the implications for reductionist science and “science” education.
More importantly, the system is not merely “self-organising”, but also self-reproducing and self-extending.

It is, in a word, autopoietic - having the properties of life itself.
Attempts to change any one contributory process on its own will usually be negated by the reactions of the rest of the system and have counterintuitive, and usually counterproductive, effects elsewhere.
An important corollary of this is that the intuitively “obvious”, common sense, idea that the way to fix things is to set “targets” or “standards” almost always has counterintuitive and counter productive effects ... of which “cheating” to meet the targets is the least important.

(And the worst cheats are governments, administrators, and researchers.)
Setting standards promotes *uniformity* thereby inhibiting:

1. *experimentation* to find better ways of achieving the overall goals of the system
2. *evolution* itself.
Another vital insight illustrated by this discussion is that the behaviour of the people and institutions in the system is not mainly determined by the people themselves—i.e. teachers, pupils, parents, ministers of education or anyone else but by the system itself.
This observation is commonly expressed by saying that 94% of the variance in behaviour in organizations is determined by the system and only 6% by the individuals themselves. (although I would not be able to produce the evidence used to arrive at these figures here!)
Whatever about the exact figure, it is clear that there is little to be gained from shouting at teachers (or politicians).
Pervasive innovation in every nook and cranny is required.
The huge variety of developments that are required cannot possibly be envisaged, let alone decreed, by some central authority.
What is needed is:

- a pervasive climate of experimentation,
- *comprehensive* evaluation and learning (especially about the systems causes of failure),
  and
- further experimentation.
Explain “comprehensive”

And links to reductionist science.
It follows from our work on the “educational” system that many of our biggest problems stem from inappropriate public management arrangements.

i.e. from our present forms of democracy and bureaucracy.
In an effort to gain some more insights into what this might mean, let me expand on a few things.
One of the things which follow from research I have not summarised here is that teachers have a great deal to contribute to the process of advancing understanding.

Also that it is necessary to arrange to experiment with a range of schools pursuing very different objectives in order to cater for the diversity of values and talents among pupils and parents.
The implications are that teachers and head teachers need to create, and document the consequences of, a number of options and feed this information outward to pupils and parents so that they can make informed choices between them.

How are teachers, head teachers, and public service managers to contribute to this process?

Let me summarise what has been learned about the process of Innovation in the workplace.
Many researchers have demonstrated that, by and large, innovation emerges, not from separate cadres of researchers and innovators, but from the activities of numerous people dispersed throughout organisations.
But Kanter noticed something else.

She noticed that the most effective organisations retained their hierarchical structures for their day-to-day operations.

But they also set aside time and resources for everyone in the organisation to participate in what she called *Parallel Organisation Activity*. 
PARALLEL ORGANISATION ACTIVITY

1 *Time and resources* earmarked for innovation and improvement.

2 *Non-hierarchical relationships*. Innovation involves:
   a. Transient, purpose-specific, networks of working groups.
   b. Bringing together different people with different talents for different purposes.
   c. Seeking out, encouraging, and recognising different types of contribution to group processes.
   d. Channeling resources to those who are capable of initiating, undertaking, and capitalising upon, new activities instead of to those who are only capable of generating paper plans.

All of these are encouraged by flat structures.

e. Flat structures are also required because:
   (i) communication in hierarchical structures filters out novel and risky ideas.
   (ii) they make it possible to build on the insights of "coal face" workers (instead of assuming that it is the task of "management" or "research" to initiate new developments).\cont. 265
PARALLEL ORGANISATION ACTIVITY (Cont.)

3 There are opportunities to visit, and work with, people who are working on similar problems - both within the organisation and outside it. (Such visits and collaboration confer a number of benefits, they facilitate contact with new ideas, strengthen resolve to do new things in new ways, and establish and maintain networks which provide help and support when difficulties arise.)

4 Encouragement to tackle constraints arising outside the employing organisation through the formation of inter-organisational "political" coalitions.

5 Access to R&D laboratories (together with new ways of commissioning, undertaking, and utilising research).

6 A deliberate attempt to identify and develop all talents.

7 Recognition and reward for a wide range of different types of contribution.
So, what is the new role of our teachers, head teachers, and public service managers in this system to be?
We need to change in the way we think about the role of public servants.

It is their job to:

- Create variety.
- Arrange for comprehensive evaluation of the short and long-term, personal and social, desired and undesirable consequences of each of the options (expand each).
- Feed that information to the public so that they can make informed choices between them.
- Make arrangements to involve many more people (especially marginalised groups) in generating the options.
- Create a climate of innovation and systems learning and action.
Put another way, we need to expect public servants to:

a. Initiate information-collection (especially on operation of systems processes).
b. Co-ordinate and sift all available information for good ideas.
c. Act on that information, in an innovative way (i.e. via comprehensively evaluated experiments followed by further experiments based on that learning), in the long-term public interest.
To Get Public Servants to do These Things it Will Be Necessary to Introduce: (1-4 of 6)

1 - A New Staff-Appraisal System: To give credit for innovatory activity in the long-term public interest.

2 - Network-Based Working Arrangements: To draw public servants' attention to what is happening in areas which impinge on their own work.

3 - “Parallel Organisation” Activity: To create a pervasive climate of innovation within the public service.

4 – Better arrangements to undertake more Systematic Evaluations of Policy and especially the (systemic) reasons for failure ...and then initiate a further cycle of experimentation.
5 - A New Interface Between Public Servants and the Public: To make it easier for the public to obtain provision suited to their particular needs and make it easier for them to influence provision.

6 - A New Supervisory Structure: To help to ensure that public servants seek out, and act on, information, in an innovatory way, in the long-term public interest.

_The last two requirements amount to new forms of democracy and demand new concepts of citizenship._
I bring these things together in the next diagram.
Way forward: main components

Pervasive Climate of Innovation & Experiment + Comprehensive Evaluation

Ways of giving teeth to information

Parallel Organisation Activity

Media Debate & Funding Mavericks

Policy Research and Development

Revised Expectations of Public Servants

Exposure of the behaviour of public servants to the public gaze

Clarification of Public Interest

Performance Appraisal

Network based Supervision of Public Servants

Diagram 25.1
How to hold people accountable for doing these things?
John Stuart Mill

“The function of a representative assembly is not to govern, a task for which it is eminently unsuited, but to make visible to everyone who did everything and by whose default anything was left undone”.
And there we have it.

The key function of public participation in public management is to oversee what is going on.
This cannot be done by any form of centralised, multi-purpose, assembly.

It *can* be done via networks of open supervisory groups having overlapping membership.
And so we have a new definition of “Democracy”.
So, let us go back to our systemogram of the network of forces driving education out of schools and look at the central box which summarised current beliefs about public management.
Figure 1: Feedback loops driving down quality of education

- A prosperous, engaged, but non-sustainable society. Highly functional for some in the short term. Creates jobs and meaning for most. Prosperity bought by externalising costs to future, biosphere, Third World.

- Awareness of non-sustainable nature of society.

- Dissatisfaction with the educational system.

- Calls for change.

- Failure to develop the talents to understand and change society.

- Creation of society in which nothing is what it seems to be.

- Inappropriate beliefs about the nature of the changes needed in education and how to be introduced.

- Narrow educational activity
  - Generates incompetence
  - Produces qualities that are personally and sociologically useful in the short term but dysfunctional in the longer term.

- Inappropriate beliefs about society and how it is to be run
  - Wealth/DoL comes from the market.
  - Public servants are parasitic on society.
  - Elected assemblies can adequately supervise the public service.
  - Governments should tell public servants what to do.
  - Hierarchical management is effective.
  - Hierarchical management promotes the most able leaders.
  - Public provision should be uniform.
  - Competition at tasks having single criteria of success is the most important driving force in society.

- Inability to design competency-oriented educational programs.

- Failure to create variety in schools.

- Failure to understand need for variety in public provision.

- Lack of understanding of Nature, Development and assessment of competence, and, especially, its basis in values.

- Sociological imperatives
  - Legitimize retention of privilege.
  - Neutralize demand for change in the social order.
  - Promote "comfakale package" people.
  - Promote gaullists, unofficial people.
  - Create differentials which compel participation.
  - Mis-allocate blame for social ills - lay blame at door of poor parents, teachers - not managers of society.

- Demand for and acceptance of narrow, misleading and invisible assessments.

- Failure to call for research.

- Failure to create appropriate structure and "parallel organisation" activity.

*Intervention in these calls would help change the nature of the qualities nurtured and rewarded in the system. Motives which could be harnessed to do this are marked.

†These need to be replaced by acceptance of the need to make managed economies work – to find way of giving effect to information concerning the public long-term interest, the need to explain how to create variety and information on the personal and social consequences of the options, and to find ways of holding public servants accountable for, and getting them to act in, the long-term public interest. This means systematic, broadly based, evaluation and participative democracy.
What we need to do is substitute something like the design sketched in the next diagram for this whole central box.
Diagram 20.5
New societal management arrangements

- Creation of a sustainable society
  - More efficient energy consuming, less energy consuming work
  - More direct, productive, at lower costs
  - More sustainable management of natural resources

- Promotion of more competent and more socially connected people
  - Increased participation in society
  - More influential positions in society

- Development of competence
  - Enhanced communication and cooperation

- Creation of developmental environments in schools
  - Schools where children will be able to develop their talents and personality, where they can become more competent and develop a non-self-centered concept of humanity and society into a non-self-centered role model of learning and management.

- Creation of innovative climates in schools and school systems
  - A climate where mutual respect and knowledge sharing are valued
  - A climate where learning and personal development are encouraged

- New forms of democracy and bureaucracy
  - More effective and democratic decision-making processes
  - More effective and democratic distribution of resources

- New beliefs about how society should work
  - Recognition of the main role of public participation in the management of society, their right to know and be heard
  - More open and transparent decision-making processes

- Non-ideological understanding of the research is needed
  - A better understanding of the need for cooperation and collaboration
  - A better understanding of the need for evidence-based decision-making

- Research to develop
  - A better understanding of the complexity of societal systems
  - A better understanding of the complex interactions between different societal systems

- Motives for the development of societal systems
  - Recognition of the complexity and the future
  - Recognition of the importance of sustainability
  - Recognition of the importance of intergenerational equity
  - Recognition of the importance of accountability and transparency

- Water awareness of non-sustainable risks on modern society and what needs to be done to change it
- Loss need to legitation and on a hierarchically distributed society.
I do not have time to talk you through this diagram today, but, in effect, it just summarises what we have said about the need to develop a public management system which focusses on:

- *pervasive* experimentation, *comprehensive* evaluation, and information-based further experimentation,
- the criteria against with public servants need to be held accountable,
- the extensive research needed to generate a more effective educational system, but, most importantly, research into the *systemic* causes of “failure”,
- an appropriate network-based, non-hierarchical, supervisory structure.
But, before I conclude this part of my talk, I would like to re-summarise what we, in effect, did in terms that were not available to us at the time.
First we sought to clarify the aims of the system. Some of these were contradictory.

Second, we mapped the network of social forces which controlled the operation of the system as a whole ... complete with links showing the multiple feedback loops between components of the system.

Then we attempted to map the networks of social forces controlling how some of the key sub-systems operated.

Finally, we sought to identify key points of intervention both within each of those sub-systems and in the system as a whole.
This brings me to two of the most important things I would like to say today:

Development of a new, socio-cybernetically based, image of governance – an organic image of governance – is vital to the survival of our species.

So I would, above all, like to hear from anyone who is interested in joining me in this quest.

A link to an outline of what needs to be done is available in the “further reading” handout.
Unfortunately, there is something else I would like to say before I conclude this section of my talk. There seems to me recently to have been a very interesting move toward the development of more organic public management arrangements. These developments have been prompted by the so-called “financial crisis” and have occurred in several countries, although most noticeably here in Spain.
Over endless millennia, very many people have drawn attention to the huge personal and environmental costs of hierarchical management arrangements and generated alternatives both within individual organisations and whole communities and shown them to be operationalisable, extremely beneficial, and viable.
The *Occupy* movements seem to be set to have yet another go at this.
According to Graeber, there was initially an attempt to challenge current structures via demonstrations and protests organised along traditional hierarchical lines. But memories of previous experiences seemed to show that these don’t work. So, alongside them, there grew up alternative movements based on what Graeber and others have characterised as horizontal principles.
So far as I can see, the most hopeful of these has been the “15M”, “Indignatus” movement right here in Spain.
As I understand it, these involve multiple developments which include an emphasis on a form of consensus-based (in contrast to majority-vote) “decision taking” and multiple semi-coordinated developments including:

- The creation of alternative “money” systems;
- Local Exchange and Trading (LETS) schemes;
- Community-organised law and other systems for the maintenance of order;
- Community-based management of the social fabric of whole communities, factories, and occupations of various buildings including unoccupied housing.
Interestingly, in the course of discussing the difficulties that are encountered, Mason comments that while, in some sense, the hierarcicals know what they want the horizontals do not know what they want.

Thus, although they might be seen as relying on unguided evolution to take them to some, as yet unknown, destination, they could do with some image of organic organisational arrangements and at least a vague image of what degrowth might yield: not just less of what we have now but social arrangements offering high quality of life without the frenetic senseless work that characterises modern society.
But Graeber has something else to say which is very important for our work here.
In Chapter 1 of his *Democracy Project*, Graeber describes the amazing organisational achievements of the horizontally-organised *Occupy* movement in the USA.

But, in Chapter 2 he terrifies us with an account of the extraordinary, almost unbelievable, pervasive institutional reaction. This does not seem to have been, and, indeed could not have been, centrally organised. Still less by a network of “capitalists”.

It was a *systemic* reaction to the challenge: a reaction *of the system itself*. 
Actually, Graeber does not seem to have quite recognised the significance of this.
He notes that, prior to their involvement in this, massive, protest activity, very few people believed that the behaviour they then observed among American police, officials, and politicians was even remotely possible in America ... and would have dismissed any account of such behaviour as reached their ears as hearsay had they not experienced it for themselves.
He therefore takes comfort from the fact that, although things have not changed as much as had been hoped, people have, as a result of their direct involvement in these activities learned a great deal about the workings of their society.
But this is to miss what I see as being the most important point for us.
As I see it, the problem is that this learning is couched in conventional, non-systemic, economic/political/sociological language.
As Bernd implied, it is all too easy to attribute dysfunctional activities in society to the doings of the capitalists, the bankers, the TNCs, ISIS, religious fanatics and so on and think one has explained them. That is, after all, what virtually all social commentators do.
But one of the most important conclusions that emerges from studies in the domain of systems thinking is that it does little good to shout at those who are thought to have “power” in the system: teachers, politicians, bankers, and so on and so on.

Their behaviour is largely controlled by the system within which they work.

Indeed, my colleagues claim that 94% of the variance in behaviour in organisations is systems-determined and only 6% by the individuals concerned.
Our task, as socio-cyberneticians, therefor has to be to conceptualise, map, measure, and find ways of intervening in, the network of social forces which constitute the equivalent of the network of physical forces which act on sailing boats.
I need to elaborate on that.
If, prior to Newton, you wanted safer sailing boats, it did no good to blame the capitalists or to shout at ships’ captains or politicians or to follow priests’ recommendations to sacrifice your children to the gods.
It was necessary, first, to conceptualise physical “force” and show that it could be measured. Then you had to show that its components could be mapped, measured, and harnessed. There was no point in trying to “fight” the wind.
Then you had to consider the design of sailing boats *as a system*:
To work out how best to redesign the sails to harness the wind, what is the relationship to the keel and the rudder?
So, what were the requisite job descriptions for designers, the helmsperson, the crew?
If I have run out of time, instead of proceeding with PART II of my talk, I would like to introduce the next session by showing a video of a speech about the current financial/world management context by the Greek president, Soe Konstantopoulou.

http://www.bbc.co.uk/news/world-europe-33179593
PART II
If I have time to continue, I would like now to change gear.
If we go back to our original systemogram of the so-called “educational” system, we see that a huge, but generally neglected, set of problems stem from the control which the sociological functions performed for society have over the way the educational system itself operates.

These are indicated in the box half way down the right hand column.
Figure 1: Feedback loops driving down quality of education

- Inappropriate beliefs about society and how it is to be run
  - Wealth/Debt comes from the market.
  - Public servants are parasites on society.
  - Hierarchical management is effective.
  - Hierarchical management promotes the most able leaders.
  - Public provision should be uniform.
  - Competition at tasks having single criteria of success is the most important driving force in society.

- Failure to create variety in school appraisal.
- Inability to design competency-oriented educational programs.

- Sociological imperatives
  - Legitimize retarding of privilege.
  - Neutralize demand for change in the social order.
  - Promote "complains package" people.
  - Promote gullible, non-critical people.
  - Create differentials which complicate participation.
  - Mis-allocate blame for social ills - lay blame at door of poor parents, teachers – not managers of society.

- Narrow educational activity
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- Lack of understanding of Nature, Development and assessment of competence, and, especially its basis in values.

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†These need to be replaced by acceptance of the need to make managed economies work – to find ways of giving effect to information concerning the public long-term interest, the need to explicitly create variety and information on the personal and social consequences of the options, and to find ways of holding public servants accountable for, and getting them to act in, the long-term public interest. This means systematic, broadly based, evaluation and participative democracy.
It the past, I consistently underestimated the power of these social forces although it is obvious from the diagram that it is these which primarily determine what happens in the so-called “educational” system.

In fact, what we are looking at is not so much an educational system at all as a social device for orchestrating and legitimising hierarchy and allocating position and status.
As we have seen, there have, over many millennia, been repeated demonstrations of the benefits and viability of alternative, more organic, forms of social organisation at workplace, community, and societal levels. All have been eliminated by a seemingly irrevocable drift toward centralisation and hierarchy.
Murray Bookchin has made a particular contribution to our understanding of this process.
Bookchin has argued that the drift from organic to command-and-control structures has been grounded in, indeed is largely constituted by, the manufacture of endless senseless work and the myths and processes required to support it.

Such hierarchies compel participation in themselves ... in part by creating a bottom rung made up of disenfranchised, often criminalised, but always humiliated, people living in conditions most wish to avoid.
The senseless work in which those higher in the hierarchy are engaged adds little to quality of life. Least of all does it contribute much to the production of food and other requisites for life. But the whole network of senseless work contributes enormously to the destruction of our habitat and thus our chances of surviving as a species.
All This Senseless Work
Huge swaths of people spend their entire working lives performing tasks they secretly believe do not really need to be performed.
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The moral and spiritual damage that comes from this situation is profound. It is a scar across our collective soul. Yet virtually no one talks about it.
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OK. If we don’t believe this, how else are we to explain it?
And, more importantly, how can we use that explanation to do something about it?
As we have seen, it is the forces which promote and perpetuate this hierarchy which mainly determine what the (non) “educational” system does.
What all this is saying is that the “economic imperative” which so many of us believe to be basic to human nature is nothing of the sort.

It has been *created through* the sociological process of manufacturing the senseless work in which we engage in in order to secure a non degrading position society.
So I need to say a little more about the study of social systems via socio-cybernetics.
In reality, our systemogram of the “educational” systems has serious limitations.

In particular it does not enable us to assess the relative importance of the various feedback loops or identify the nodes at which one could most effectively intervene.
What we need to do is to convert that systemogram into a Dynamic Systems Model.
To illustrate what it is possible to do - and the importance of doing it - let us look briefly at the work of Forrester which formed the basis of the *Limits to Growth* report.

... and I have to thank Luciano Gallon for his intervention at this point in my talk and insisting on leading me deeper and deeper into this field.
Here is Forrester’s map, or “world model”, of the bio-physical, economic, processes involved and how they interact.
Fig. 1 This world model is a beginning basis for analyzing the effect of changing population and economic growth over the next 50 years. The model includes interrelationships of population, capital investment, natural resources, pollution, and agriculture.
That diagram is not entirely clear, so here is a clearer one.
Emerging Convention of Components in Dynamic Systems Models

(cf diagrammatic representation of electronic circuitry)

A circle is a representation of an amplifier/signal damper (AKA “Converter”) [I am not entirely sure how this differs from a valve] but in some cases seems to be used as a representation of a dial; a meter, a measure of current rate of flow/strength of signal.

A rectangle is a representation of a cumulative level (often referred to as “stock”) that has been built up over time: eg extent of environmental degradation or innovative capacity of a workforce or society. Such stocks or cumulative levels may be increased or diminished via an inflow or outflow.

A double sided triangle >> is a flow (signal) control mechanism (AKA a “valve”). The flow in question should have a name and the exogenous and endogenous variables which determine the setting of the control mechanism are indicated by the arrows entering the triangles from either side. (Actually, I am not sure why the arrows can enter from either side.)

Endogenous variables are those entering from other parts of the system map and determined by whatever happens in the system … which may itself be influenced by exogenous variables at some other control valve indicated in the system.

Exogenous variables are those not documented in the system diagram … and may include such things as legal arrangements.

A cloud or turbine represents some kind of exogenous input not documented on the diagram or some kind of output with which those drawing the map are not concerned at the present time.
Here is what will happen (and actually has happened) if we fail to intervene in the network of feedback processes shown in the Forrester model.
Fig. 2. Natural Resources; Population; Quality of Life; Capital Investment; Pollution.
But here are a couple of (actually only one!) figures which show the surprising effects of a couple of common-sense based interventions in this bio-economic system.
It shows what would happen if we were to pursue the “obvious” solution of using resources more efficiently.

It turns out that this produces a pollution crisis which exterminates us even more quickly than just leaving things to evolve of their own accord!
Fig. 3. A pollution crisis is precipitated by lower usage of natural resources. In 1970, natural resource usage is reduced 75 per cent by more effective technology without affecting material standard of living. The Pollution crisis produces a dramatic drop in population.
A serious problem with the Forrester/Limits to Growth *World Model* is that it does not show the network of *societal* forces which interact with, and to some extent regulate, the flows within the eco/bio/physical system.
In short, it does not really help us to deal with the problem!

And, insofar as it does so, it relies on decisions by “decision takers” ... in short on a conventional hierarchical image of governance and single-factor, non systems-based, interventions!
One of the conclusions which has already emerged from our discussion is that it would, indeed, be extremely valuable to convert our systemogram of the operation of the “educational” system into a genuine socio cybernetic diagram or, even better, a Dynamic System Model.
And it would be even more valuable to convert our sketch of an alternative public management system into a genuine sociocybernetic diagram ... particularly a Dynamic System Model.
But it would be at least equally valuable to map the network of socio cybernetic forces which have the future of humankind and the planet in their grip ... that is to say, a more detailed version of our map of the network of social forces perpetuating a hierarchical, non-sustainable, society.
As I mentioned, I had not fully appreciated the importance of developing a better understanding of these processes when I was working on my *New Wealth of Nations* book. But we did produce the diagram of the network of social forces promoting work creation that is shown in the next slide ... although, from our present standpoint, it is amazingly incomplete and in many ways just plain wrong.
So, to conclude, the outcome I would most like to emerge from our discussion today would be a series of contacts with anyone who can see a way of progressing work on:

1. Alternative Governance Systems and/or

2. Mapping the social forces which have the future of mankind and the planet in their grip.
An outline of the work involved in doing these things is available via the link given in the list of possible follow-up readings, namely:

http://eyeonsociety.co.uk/resources/quest_for_contributions.pdf
The most important outline of the projects to be undertaken to follow through on the suggestions made in the paper is [http://eyeonsociety.co.uk/resources/quest_for_contributions.pdf](http://eyeonsociety.co.uk/resources/quest_for_contributions.pdf).

However a paper covering much the same ground as the current talk will be found at [http://eyeonsociety.co.uk/resources/DegrowthLeipzig.pdf](http://eyeonsociety.co.uk/resources/DegrowthLeipzig.pdf).
Other Follow-up Readings

It is possible to browse PDFs of a range of articles at www.eyeonsociety.co.uk/resources/fulllist.html

Some of the main books cited were:


Fresnillo, S. (2013). Spain: We don’t owe, we won’t pay. Red Pepper www.redpepper.org.uk/spain-we-dont-owe-we-wont-pay/


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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 conceptualising, mapping, measuring and harnessing the Social Forces which have the future of Mankind and the Planet in their grip
http://www.eyeonsociety.co.uk/resources/SCiO_newsletter_V2.pdf
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