

Introductory Notes
for lecture by
John Raven
on
From ABC
to
Democracy, Entrepreneurship, and Freedom
in Education.

If we are to think about the developments that are needed in the educational process and the educational system itself if we are to nurture the qualities required to promote the development of innovative societies which act in the long term public interest (instead of in the interests of dominators) and which offer greater freedom for individuals to choose their way of life and enact their values, we first need to think a bit more about what we *mean* by terms like Democracy, Entrepreneurship, and Freedom.

I propose to do this by taking the educational system itself as a case study.

We will find that we need dramatic developments in the way the educational system is *managed* ... in job descriptions for teachers and head teachers ... job descriptions that require them to be innovators ... to seek out information and find ways of acting on that information in the long term public interest ... to create a wide variety of different options between which parents and pupils can be invited to choose and to document the short and long term, personal and social, consequences of those options ... to intervene in the selection processes which take place between schools and society ..

It is *not* the job of teachers and administrators to do the bidding of distant elected representatives – committees of ignoramuses – who seek to decide what is good for all and set up arrangements to compel teachers and pupils to pursue those goals.

We will need to replace our current dysfunctional hierarchical command-and-control oriented public management arrangements by network based, non hierarchical, arrangements to release a ferment of innovation throughout society.

If we are to do these things it will be necessary to study and find ways of intervening in in the social processes ... social forces ... which time after time undermine the operation of well intentioned developments in public policy and corrupt them back into doing the very things they were intended to avoid.

Thus it will unexpectedly involve research of a most fundamental kind.

It will involve trusting pupils and parents to take their own decisions ... once the information required to make informed decisions has been provided.

In short, it will involve concepts of democracy, entrepreneurship, and freedom going far beyond those currently in vogue.

I will start by reviewing the espoused, or manifest, goals of the system.

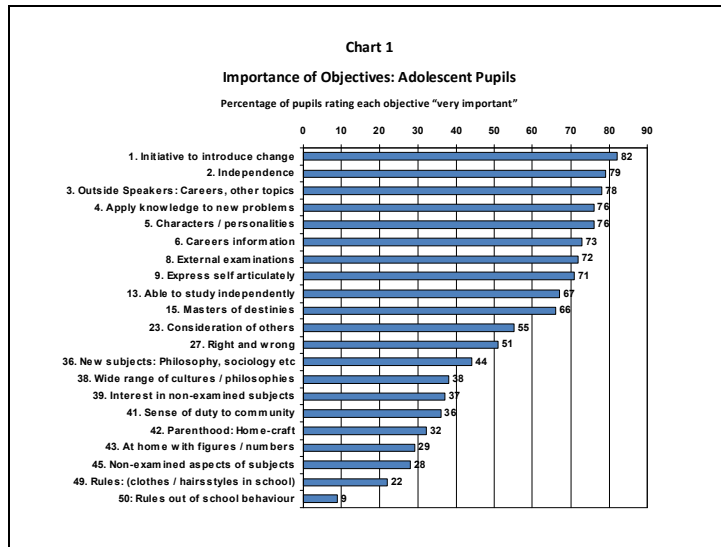
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From ABC
to
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in Education

John Raven

Slide 2



Slide 3

Diversity

How nurture "confidence and initiative to introduce change?"

*Competence to build up **own** understanding.*

*Like "culture of enterprise" a **group** characteristic requiring diversity.*

*Exams: not top priority but gets attention: **sociological** function.*

Latent and Manifest goals

*Teachers' job: intervene **outside** the system.*

*Understand **social** forces.*

Unless they do these things they cannot do their job effectively.

New definition of teacher competence ... appraisal. (cf item 1)

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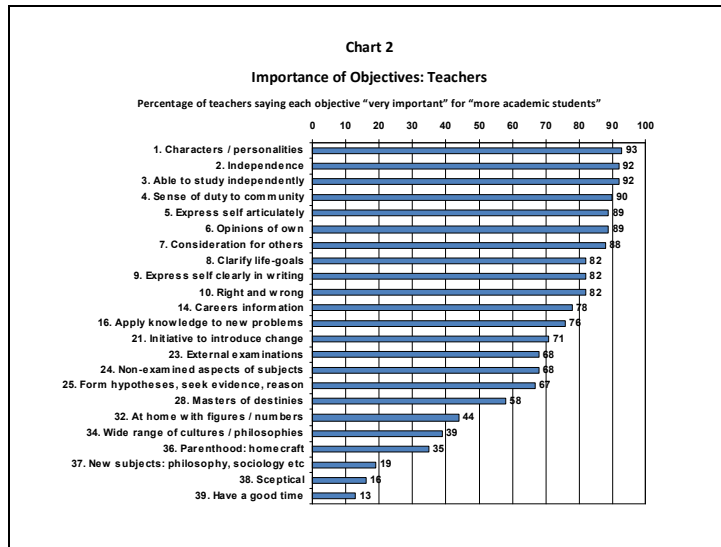
The word **educate** comes from **educere** which *means* to draw out .

To draw out diverse talents.

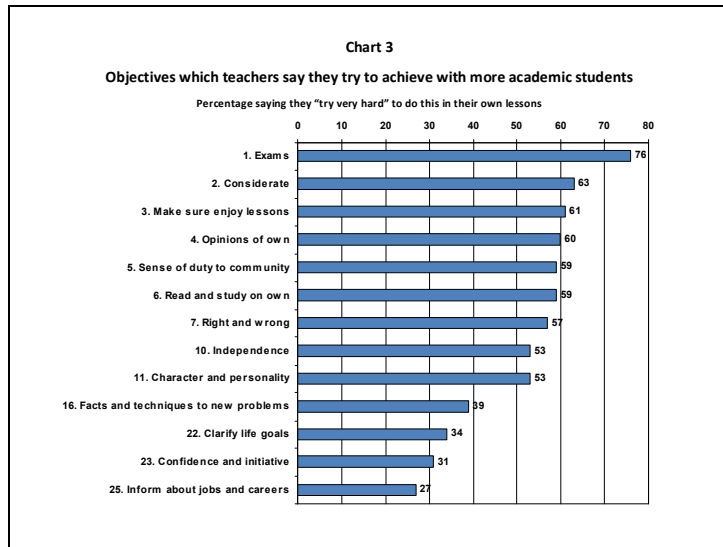
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Do they do it?

Slide 6



Slide 7



Slide 8

**Classroom Observation studies
confirm teachers' self-assessments:
little *is* done.**

Sources: Classroom Observation studies: Galton & Simon, Goodlad, HMI (Scotland),
HMI (school reports), DeLandsheere, Fraley (recommendations not implemented)
CES: replication of our own work; Bill et al in N Ireland.

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Outcome Assessments

In the course of repeated studies in *Sweden*,

Andersson found that, in round figures:

One third of the pupils liked school.

One third found it just about tolerable.

**One third found it an intolerable and
destructive experience.**

**In a study conducted by the *Northern Ireland
Council for Educational Research*, 98% of a random
sample of secondary school pupils said that they
felt that they had been failures at school.**

In the US, after one of the largest studies tracking pupils through their education and beyond, (Project Talent) 30-year-olds were interviewed about the connection between their education and their subsequent lives. The interviewers asked open-ended questions and the interviews were tape-recorded, and a printed version produced.

Reading them, one gets an overwhelming impression of people floundering around in the job market until they find a niche which suits them.

Most said that the educational system had failed to help them think about and develop their talents.

They developed the competencies they needed on the job.

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The investigators gave batches of the interview transcripts to a range of well-established researchers and asked them what conclusions they drew.

A remarkable number said that the only conclusion one could draw was that the schools should be closed. But this was not sociologically realistic. Given the constraints all that could be done was ask how the schools could be made happier, more developmental, places.

John Goodlad found that:

- **Most of what happens in most schools does not deserve the name "academic" or "intellectual" because it involves little analysis, judgment, critical thinking, or reconciliation of different points of view.**
- **Most of the work is boring, routine, and repetitive.**

Insert into "notes" section of PPT slide:

Sources: Goodlad, Johnston & Bachman, Flanagan, (looking back), HMI, CES (Tell Them From Me), Raven

In *Elementary Schools* even the competency-oriented components - the teaching of reading, writing, and counting - are badly done because teachers do not know:

- **Students' motives.**
- **How to diagnose problems.**
- **How to invent remedial strategies.**

(All of which is why most children are actually taught to read by their parents.)

***Johnston and Bachman and Raven* found that:**

- **Many primary school classrooms are soul destroying environments.**
- **A significant number have teachers who are destructive of pupils' characters and personalities.**
- **There is little attempt to vary teaching methods and content so as to engage the motives, and foster some of the talents, of all of the pupils for at least some of the time.**

Percentage of Adults Saying That Their Own Education had Been "Useful"		
	HSES	LSES
To help them get a job	58	18
To do their job well	50	18
To run their homes well	13	9
To help them use their leisure	18	5
To help the develop useful skills	13	10

The role models teachers present are inappropriate and lacking in diversity.

Most teachers self-images are of down-trodden, ineffectual, people who are unable to get control over the constraints on their own lives.

*Knowledge Based Education is Largely a Waste of
Time*

- **Formal Knowledge has a half-life of a year. So what has been taught is forgotten by the time when it is needed.**
- ***Is out-of-date* when it is taught.**
- **And *does not relate to the problems* which will be met.**
- **A knowledge-based curriculum fails to come to terms with the “*information explosion*” ... it is impossible to teach more than a tiny fraction of both what is known and up-to-date information.**

Conventional attainment tests

- **Lack construct validity: science**
- **Have *no* predictive validity outside the school system.**
- **Have no place in schools because they *prevent* teachers offering genuine education. (Spearman).**
- **Result in qualification inflation because used as a flow control.**

(Years of education do have predictive validity but staying on at school does pupils little good if they do not already possess the characteristics of those who stay on.)

CONCLUSION

Some two thirds of the money spent on "Education" is wasted so far as the development of human resources is concerned.

Thoughtful people are right to be concerned: the problem is that the most widely recommended solution - prescription of content and testing - is misguided, indeed counterproductive.

Pupils are RIGHT to be turned off, de-motivated, and to protest.

*But, Actually,
The Situation is Worse Than That*

... because most schools actually have negative effects.

... Not only from the point of view of damaging personal development but also because they actively contribute to a sociological process which is contributing to the extinction of our species.

The system CREATES endless useless “WORK” for:

- Pupils and students
- Teachers and lecturers
- Advisors
- Inspectors
- Administrators
- Examiners
- Counsellors
- Educational Researchers
- Accountants
- Tax Inspectors
- Politicians

Our largest single industry.

The money created and released through this process in turn creates endless work for others producing the junk cars, junk defence systems, junk foods etc. that are destroying our habitat by consuming resources and producing pollutants.

2. SCHOOLS LEGITIMISE THE RATIONING OF PRIVILEGE

They create illusion that economic differentials are legitimate by:

- a) **Appearing to demonstrate that the “most able” people (as determined by a single-factor model of some generalised notion of “ability” [which actually involves a preoccupation with personal advancement]) get to the top.**
- b) **Rendering most talents invisible and failing to develop them, thus creating and confirming a “general factor” of ability. (One effect of this process is to obscure the fact that many people contribute in essential, but very different, ways to their organisations and society.)**

3. THEY CONTRIBUTE TO THE CREATION AND PERPETUATION OF A DIVIDED SOCIETY

which, in turn, has the effect of inducing people to do all sorts of things they do not want to do

(in order to avoid to fate meted out to those who don't join in)

and, as a result, to the perpetuation of a destructive society.

They do this by (a) *teaching* things through the “informal curriculum” and (b) *directly*. (See next slides).

*This Network of Interlocking
Processes Has Many Direct and
Indirect Effects*

1. *They contribute to the production and legitimisation of a divided society which induces many people, against their will, to:*

- a) Participate in the manufacture and marketing of junk foods, junk toys, junk insurance, junk health care products, junk education, junk research.
- b) Be willing to engage in 100 unethical acts every day: to drive cars, eat bananas, wear clothes sporting fashionable brand names produced in sweatshops, treat others in demeaning ways, pay taxes to support a war machine, etc.

In order to avoid the demeaning and degrading treatment heaped on those who are deemed to lack the necessary abilities.

There is *one more generalisation* we can draw out of this discussion - a generalisation which may help us to find a way forward.

This is that the most pervasive and least remarked feature of modern society is that *we live in an Orwellian (or "Alice in the Looking Glass") world in which nothing is what it seems to be* - and is usually its opposite.

**Some other examples of nothing being
what it seems to be.**

Cornflakes and other goods do not deliver the benefits they directly or indirectly proclaim.

The Marketplace is not about efficiency, but about creating the maximum number of senseless jobs - witness insurance - which are differentiated in such a way as to legitimise the position of the elite and induce participation.

Democracy is a façade for management by the TNCs.

"Loans" of money are entirely fraudulent. The money "lent" did not previously exist and has not been withdrawn from any other possibly productive process.

"Defence" systems offer no defence at all but are recipes for certain death.

Centralised production and distribution arrangements are not, in fact, efficient. The illusion is created by spreading major costs over the whole community instead of loading them onto producers and distributors.

Prices are mainly determined by public servants not through a market process

IT EMERGES THAT *SOCIETY IS HELD TOGETHER BY MYTHS* WHICH ARE EVERY BIT AS IMPORTANT AS THOSE THAT ARE SO OBVIOUS IN SO-CALLED "PRIMITIVE" SOCIETIES.

If we are to find a way forward it will be necessary to make such myths explicit and examine their functions.

We cannot expect to make much progress if we take things at their face value.

b

Next Question: Are pupils, parents, teachers, and employers views correct?

**Are the qualities they speak about really important in workplaces and society?
Or is it just window dressing?**

In an attempt to answer these questions, I will:

- 1. Review some studies of the competencies that make a difference in the workplace;**
- 2. Review some material relating to wider societal functioning.**

Let us first look at teacher
competence.

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We have seen that many, if not most, teachers, by not getting control over the wider social forces that control their behaviour, are

Not merely behaving in an *incompetent* manner

But are actually behaving in *unethical* ways because they

- Damage the development of most of their pupils.
- Fail to nurture the qualities the pupils will require if they are to behave in ways which might stem our plunge to extinction as a species, carrying the planet as we know it with us.
- Behave in ways which reinforce a divided and destructive society.

They fail to *educate* – ie to draw out the diverse talents of their pupils.

They should thus be liable to prosecution under the trades descriptions act for making false claims.

**So, as we found in *Opening the Primary Classroom*,
one needs teachers who:**

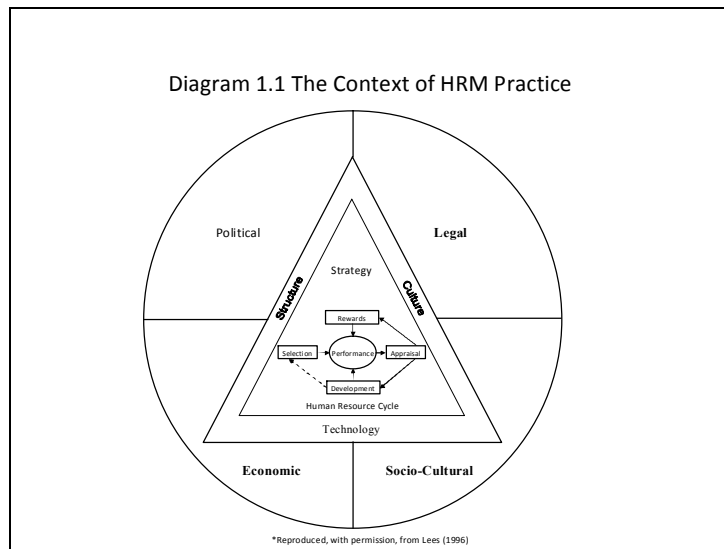
- **Spend a lot of time *outside* their classroom
influencing parents, officials etc.**

- **Are *inventive, creative people* who find ways of doing
things.**

- **Contribute in very different ways to the system .. ie
have very different, idiosyncratic, competencies, very
different collections of tacit knowledge.**

Cannot be put on a single scale of "competence".

**So their job, as managers of
learning and development, becomes
very similar to that of other
managers
as summarised in the next slide.**



*Now summarise some results from
the appx. 350 studies which now exist
of competence in the workplace.*

These studies conducted using
Critical Incident
Methodology

(Describe)

Flanagan and Burns

Qualities which critically distinguished more and less effective operatives:

- Dependability.
- Accuracy of reporting.
- Tendency to respond to the needs of the situation without having to be given instructions.
- Ability to get on with others.
- Initiative.
- Responsibility.

Competencies of More Effective Officers (KJemp)

1. ***Initiative***: Initiates new activities, communications, proposals; Exhibits resourcefulness, persistence in the face of obstacles.
2. ***Set goals*** and reconsiders and redefines them.
3. ***Coaches***, by setting example and sharing information and thought processes.
4. ***Influences***: By persuasion, mustering arguments, building political coalitions, making others feel strong.
5. ***Conceptualises***, analyses, and finds new ways of thinking about things.
6. ***Builds teams***, acts to promote co-operation and team work.
7. ***Provides feedback*** to enable others to monitor their own performance. Helps them analyse problems and develop strategies for tackling them.
8. ***Provides rewards*** and official recognition for contributions.

Competencies of More Effective Officers (Klemp) cont.

9. Controls impulses, especially annoyance. Avoids snap decisions based on incomplete evidence.
10. Plans and organises, including "domain planning".
11. Delegates.
12. Optimises: Analyses the capacity of individuals and resources and requirements of job, matches the two and fully utilises the resources available.
13. Monitors own behaviour and that of others.
14. Resolves conflicts.
15. Listens actively and initiates opportunities to give others a chance to talk.
16. Accurate empathy: Makes explicit unexpressed thoughts and feelings of others.
17. Helps.
18. Positive expectations of others' competence.

Some Points to Highlight

1. Get together with others to influence those *above* them: not part of job descriptions.
2. Work *outside* organisations. *All* jobs inc teachers.
3. Develop others .. No useful concepts or tools. Have to build up *own* framework. Developmental Environments. (cf central component in next slide.)
4. "Teams" made up of very different people. Importance of *Emergent Properties of Groups*. Property of whole cannot be determined by summing up parts. CuSO_4 . No equivalent concepts or tools.
5. Individual assessment a trap: what people *can* do is determined by what others do.
6. "Intelligence" and "Enterprise" emergent properties of groups.

Incompetence (?)

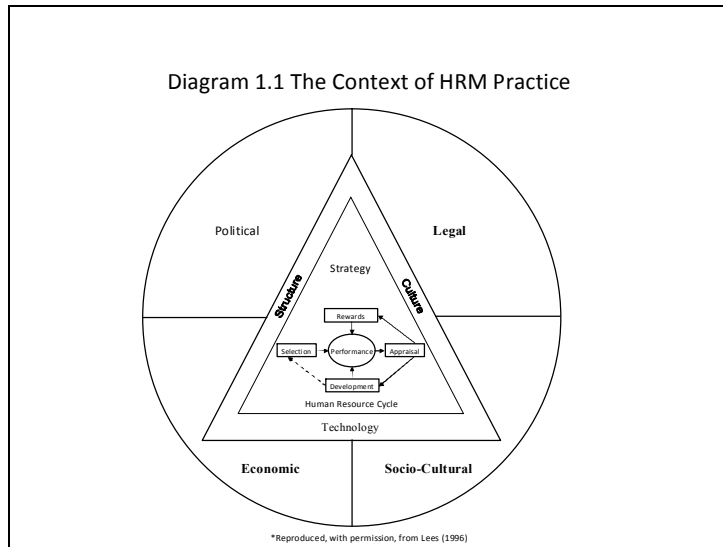
- **Hogan** shows that base rate for American managers is 50%

- *Destroy* the competencies of their colleagues.
- Drive their organisations into the ground for the sake of personal gain.

Hope, Raven & Dolphin, Day & Klein: Public servants are preoccupied with personal advancement and not the societal problems assigned to them.

Raven: *Only* young people *both* from Hi status backgrounds *and* bound for Hi status positions were concerned with wider managerial and societal problems.

Diagram 1.1 The Context of HRM Practice



Price, Taylor et al., Doctors

- **25 different types of excellent doctor ... different types of patient care, ability to work with and through nurses, contributions to medical organisations, academic output, contributions to non-medical organisations.**
- **None were positively correlated with assessments made when those concerned were students.**
- **Patients wanted very different kinds of doctor. LSES patients particularly wanted their doctors to be decisive and authoritative; HSES wanted attention to emotional and psychosomatic disorders and to discuss treatment.**

***Taylor, Smith, & Ghiselin,
Creative Scientists***

- Fifteen different types of outstandingly creative scientist. None predicted from academic grades.
- Successful *teams* needed a balance of *different types* of people: Some ideas men, some backroom boys to generate ideas, some front men to publicise the work of the group and obtain funding ...

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PRIORITIES IN CHILD REARING
TABLE 1
TOP PRIORITIES IN CHILD REARING FOR LSES, HSES AND EHV PARENTS
(% rating each item "Very Important")

	EHV Group	LSES Group	HSES Group			
1	That your children need you	90%	That your child develops respect for his parents	81%	For your child to be read to	93%
2	For your child to be read to	86%	That your children need you	75%	For you to talk to your child a lot	80%
3	For you to ask him about pictures in books and things he has seen	75%	For you to teach him to respect property	63%	For your child to have books at home	88%
4	To teach your child to respect property	75%	For your child to learn to stick up for himself	55%	For you to ask him about pictures in books and things he has seen	73%
5	That your child develops respect for his parents	75%	For your child to be read to	54%	To encourage your child to be willing to use books to find information for himself	73%
6	To teach your child to think for himself	72%	For your child to develop the ability to work with others	53%	For your child to know how you feel when he does something well	70%
7	To encourage your child to talk to you about what he is doing	70%	For your child to have plenty of time to play with other children	50%	To encourage your child to talk to you about what he is doing	68%
8	For your child to have books at home	67%	To talk to your child a lot	50%	To teach your child to think for himself	68%
9	For you to talk to your child a lot	67%	For you to ask him about pictures in books and things he has seen	49%	For you to treat him with respect as an individual in his own right, who is entitled to pursue his own interests and ideas	62%
10	For your child to be given educational toys	62%	To teach your child to respect figures in authority	49%	For you to encourage him to be independent	60%
11	To encourage your child to ask questions	57%	For your child to develop the ability to mix easily with others	47%	To encourage your child to ask questions	60%
12	To encourage him to work and read on his own a lot when he's older	55%	To teach your child you don't get anything you want without working for it	46%	That your child develops respect for his parents	60%
13	For you to continue the work of the school at home	55%	For your child to know how you feel when he does something well	46%	For you to encourage your child to question and seek reasons for things he is told	58%
	For your child to do well at school	55%				
	To encourage your child to question and seek reasons for things he is told	55%				64%
	That you child develops the ability to work with others	55%				

Process and Outcome of ESRI Exploratory work
and Surveys.

(Summarise)

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Initial ESRI study designed to reveal importance of high level competencies in jobs and life. Open ended interviews:

"Please tell me something about your job and life"

- "problem"
- "What could you do about that?"
 - "Nothing: the Government must do it".
 - "Furthermore its not my job to try to influence the government".
- studies of political culture.
- documentation: Some 80%
- lecture in Institute
- comment in form of question: Did I realize 45% of all money in all countries of EC spent by central government?
- If add local govt. and state run activities > 65%
- Still doesn't include legislation requiring car insurance, pension provision, safety provision etc. ^ 75% of all money in some sense under govt. control.

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Has major implications:

- The people were right: if you want anything done about your problems you need to influence govt.

•But then "not my job to influence govt." dysfunctional.

But then if you look at that in more detail ... who does that and how ... they are right about that too!

- Don't live in a market economy. Live in a managed economy.

• Most important actors are public servants. Public servants determine organizational arrangements and prices. Customers are not individuals spending their own money but purchasing on behalf of vast public sector activities: defence systems, health care systems, educational systems.

- Small representative assemblies totally inadequate to supervise.

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How and why has this come about?

Pressure from two ends.

1. Transnational corporations getting appropriate legislation passed, e.g. to undermine community commitments of limited liability on the one hand and build transportation infrastructure on the other.
2. Vague realisation that wealth and wealth-production are outside the market:

Quality of life depends on things like security, quality of built environment, quality of atmosphere, freedom from plague, water systems, security of income over life cycle, transportation systems, and safety at work.

Agricultural production depends on consolidation of landholdings, price stabilisation, research and development.

It emerges that public servants are the most important creators of wealth the world has ever known.

By understanding and manipulating social and economic forces they create more wealth than any blacksmith or chemist.

They give us control over social and economic forces which were previously beyond our control.

Farmers are said to be more productive if they get their hens to lay more eggs.

But public servants are strangely not said to be productive if they develop arrangements which enable farmers to get their hens to lay more eggs!

The importance of high-level competencies in these areas becomes even more apparent if one considers the future.

Consider the importance of:

- . Global warming.
- . The collapse of the ecological system.
- . The collapse of our food base.
- . The imminent collapse of our financial system due to the fact that there is 80 times as much money in circulation as total annual production.
- . The dangers of a nuclear winter.

We need people who can both think in systems terms and effectively intervene in those systems to orchestrate a climate of innovation and learning.

These qualities are required by both:

- Public servants as managers.**
- All citizens.**

Implications:

1. The willingness and the ability to intervene in the wider social and economic processes which control what happens in society is one of the most important determinants of one's competence.
2. That this is heavily dependent on one's understanding of how society works and one's place in it.
i.e. It is dependent on one's understanding of terms like:
 - Democracy
 - Bureaucracy
 - Citizenship
 - Wealth
 - Wealth Creation
 - Money
 - Participation
 - Management
3. That it is the ability to evolve *new* understandings of these topics that we need to foster. We specifically do *not* need to inculcate the views of Marx, Smith, or neo-classical economics.
4. That the innovations we most need are in this area and *not* in ways of producing material goods or delivering financial services.

**THE GREATEST SOURCE OF *INCOMPETENCE* IN
MODERN SOCIETY IS THE INABILITY AND
UNWILLINGNESS TO ENGAGE WITH THE WIDER
SOCIAL AND ECONOMIC PROCESSES WHICH
PRIMARILY DETERMINE WHAT ONE CAN DO IN
ONE'S JOB**

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However

1. The **unwillingness** to do these things stems in part from an inarticulate awareness that one is dealing with a *system* which negates or transforms the effects of individual action. Common-sense based actions rarely add up and usually have counterintuitive and counterproductive consequences.
2. Current forms of public management, whether grounded in democratic/bureaucratic ideology or market mechanisms, are inadequate to the task.
3. Although widely advocated, the discipline of systems thinking is insufficiently advanced to offer much guidance. (As we shall see later, there is a particular need to advance socio-cybernetics.)

For these reasons the **inability** to engage effectively the social processes which control the operation of modern society has a very deep basis in lack of scientific understanding.

Thus, paradoxically, one important place to begin to intervene is via greater investment in certain types of academic research organised along Kanter-type lines.

Summary of What Said About Competence

Competence unexpectedly depends on:

1. Value-laden motivational dispositions like initiative and the ability to influence other people.
2. Perceptions of society and one's role in it.
3. Understandings of terms like:
 - Participation
 - Wealth Creation
 - Management
 - Democracy
4. Recognising the importance of, and planning to create, working groups that have *emergent properties* which depend on a wide variety of people contributing in very different ways.
5. Systems Thinking: recognising and taking account of multiple and recursive feedback loops.

There are so many things that people need to do and can do well that no one person could possibly develop more than a fraction of them.

And society requires a wide variety of people who possess very different talents.

**SO NOW WE MAY BRING TOGETHER WHAT
WE HAVE LEARNED ABOUT WHY THE
EDUCATIONAL SYSTEM NEGLECTS ITS
MANIFEST (BUT CORRECT) GOALS AND
ATTEMPT TO DISCERN A WAY FORWARD**

Why Main Goals Neglected

1. Do not know how to achieve.
 2. 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:
 - 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't 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.
 6. Requires sensitive monitoring and facilitation of growth. Conflicts with "teaching as telling" and satisfactions wanted from job: centre of attention, source of information.
 7. 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.

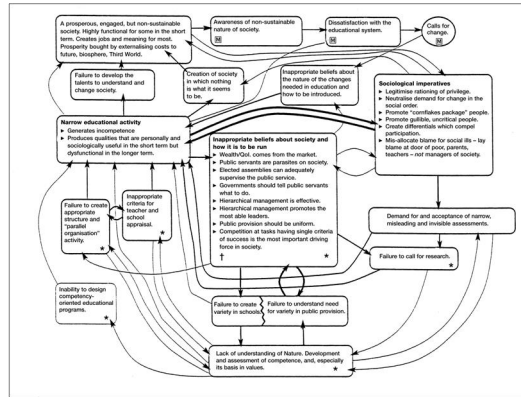
Many of the reasons why these goals are neglected are extremely important on their own.

But the most important from the point of view of today's discussion is that

they form an autopoietic, self-reinforcing, self-extending system

which is sketched in the next slide.

Figure 1: Feedback loops driving down quality of education



*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 with an asterisk.
 †These need to be replaced by acceptance of the need to make managed economic work - as first 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.

Looking at the diagram as a whole, what we now see is:

- 1. That what happens is not determined by the wishes of parents, teachers, ministers of education, or anyone else but, both directly and indirectly, by the sociological functions the system performs for society. One needs to take these sociological forces seriously and ask how they can be harnessed.**
- 2. That one effect of these sociological forces is to *create* inappropriate beliefs – and these reinforce existing inappropriate beliefs about society and how it is to be managed. On the one hand, the educational system teaches these beliefs. On the other, what can be done to improve it is very much constrained by them.**
- 3. That what happens is determined by a *system*, or *network*, of forces. There is no single, “most important” cause that can be tackled.**

cont.

Looking at the Diagram as a whole we see: (Cont.)

- That, as a result, any attempt to change any one part without considering the system as a whole will be negated by the rest of the system.
- That pervasive, *systems-oriented*, change is required. But that change, although system-wide, cannot be centrally mandated because there are too many new things to be done. What is needed is a pervasive ferment of experimentation and learning.
- How 2, 4, and 5, both individually and collectively, both (a) drive attempts to reform the system ever more narrowly around the top triangle and (b) divert attention from the necessary developments that are listed in the bottom part of the diagram.

cont.

Looking at the diagram as a whole we see that: (Cont.)

7. The *causes* of the symptoms (and thus the appropriate places to start reform) are far removed from those symptoms.

8. The most important developments have to do with

(a) finding ways of harnessing those sociological forces (i.e. it is a classic academic task calling for fundamental developments grounded in genuine action research) and

(b) generating new beliefs about how public policy is to be managed.

The most important developments are therefore anything but obvious. "Common sense" alone will not work. Indeed it usually has counter-intuitive and counter-productive effects.

The diagram again underlines the need for pervasive innovation in every nook and cranny of the system.

The changes that are needed cannot be even envisaged by a small group of people.

They cannot be centrally decreed.

What Kanter terms "Parallel Organisation" activity is required.

This has two main components:

1. *Time for all concerned* (teachers, system managers, pupils) to *experiment* with:
 - Ways of catering for different types of pupil.
 - Ways of nurturing different competencies.
 - Ways of giving pupils credit for different outcomes.
 - Interfaces between the educational system and parents and employers.
 - Ways of giving teachers and managers credit for having contributed in very different ways to the system.
 - Ways of ensuring that all act on information in an innovative way in the long-term public interest.
2. *Recognition* of a wide variety of different types of (usually invisible) contribution (fund raiser, publicist, prototype maker, and so on) to any one of these efforts.

This conclusion is precisely the opposite of that which lies behind current government policy and widely held beliefs about how public management – and centralised, hierarchical, command-and-control oriented management more generally – should work.

Again, particular attention should be drawn to the need for pervasive experimentation designed to influence and help us to understand the *systems* processes which determine what happens.

We do *not* need system-wide, centrally decreed, change based on common sense and mere opinion.

Note the need for change in the way in which we think about the role of *public servants*:

It is their job to:

- Create variety.
- Arrange for the short and long-term, personal and social, desired and desirable and undesired and undesirable consequences of each to be monitored in a comprehensive way (*expand each*).
- To create a climate of innovation and *systems* learning and action.

If we are going to get them to do these things we need to change:

- Their job descriptions.
- The organisational arrangements in which they work and the procedures used to find out whether they are behaving in appropriate ways.

By now we have seen that *systems thinking* is crucial to finding a way forward.

In this context it is useful to introduce a couple of new terms

SOCIO-CYBERNETICS

Expand the word "cybernetics".

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AUTOPOIETIC

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I could now go on to say more about how to think about and harness the forces depicted in our diagram and about the kind of public management arrangements that are required.

But, before doing these things, let me draw attention to some other evidence that it is vital to attend to these things.

Imminent Disasters

Collapse of Biosphere
(Due to CO₂, CFCs, destruction of rain forests)

Collapse of Food Base
(Due to destruction of soils, seas, atmosphere)

Collapse of World Order
(Due to treatment of Third World)

Collapse of Financial System
(Due to the fact that prices no longer mean anything, usurious lending of non-money, inequity in incomes, and irresponsibility of bankers)

Collapse of everything
(Due to nuclear winter)

Bill Rees and others concerned with “ecological footprints” have shown that

for everyone alive today to live as we do in the West, it would be necessary to have five back-up planets engaged in nothing but agriculture.

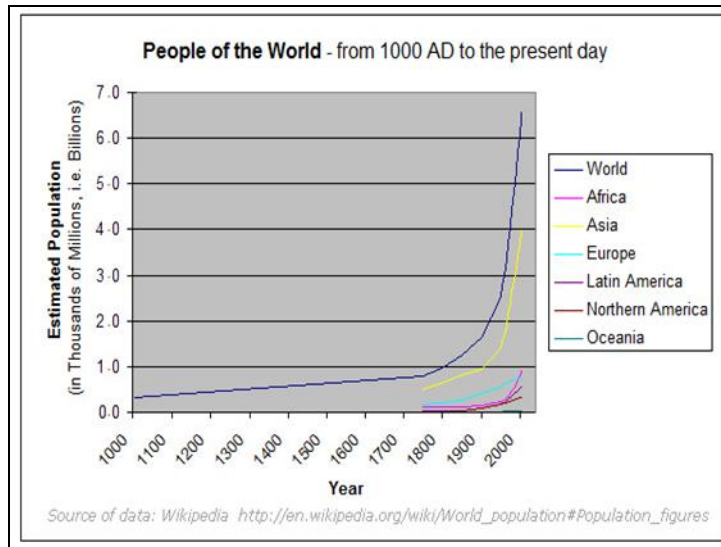
(They are required to both provide the direct agricultural products that would be needed and to rectify the continuous destruction we wreak on the soils, the seas, and the atmosphere.)

THERE IS THEREFORE NO WAY IN WHICH "*THE AMERICAN DREAM*" CAN BE REALISED IN OTHER COUNTRIES (SUCH AS CHINA) THAT ARE TRYING TO EMBRACE IT WITHOUT DESTROYING THE PLANET.

Virtually all graphs of the consumption of resources, the destruction of life, and the destruction of the soils, the seas, and the atmosphere, show exponential increases, mostly growing much faster than the “population explosion”.

It is worth dwelling on the
population explosion
because its significance is
not always fully
appreciated.

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It took slightly more than 200 years – from 1600 to 1804 – for world population to double from 0.25 to 0.50 billion.

But then less than 125 years – to 1927 – for it to double again
– this time to 1 billion.

But then less than 50 years – to 1974 – for it to double again
– to 2 billion.

And then less than 30 years – to 2005 – for it to double again
- to 4 billion.

Even if the *acceleration* in the rate of increase declines, how can we possibly expect the planet to support the *further* 4 billion people who will be added* over the next 50 years? (Actually, half of them are already here with world population currently standing at 6 billion.)

Even if the birth rate falls the population will increase as a result of increasing longevity.

Returning to the general picture.

Figure 2 (prepared in 1961) shows what is likely to happen if we continue to consume increasing quantities of the planet's natural resources.

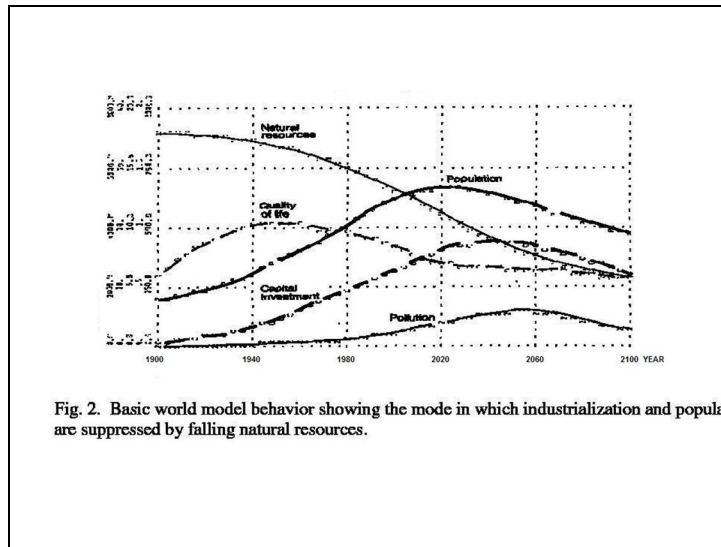


Fig. 2. Basic world model behavior showing the mode in which industrialization and population are suppressed by falling natural resources.

A collapse of our food supply is inevitable.

When this is combined with the effects of the population explosion and “rising expectations”, mass starvation will follow.

Even now, 40 million die from hunger and hunger-related diseases each year – equivalent to 300 jumbo jets crashing without survivors every day.

In all probability, the collapse of trade as we know it – and therefore our current economic system – will precede mass starvation.

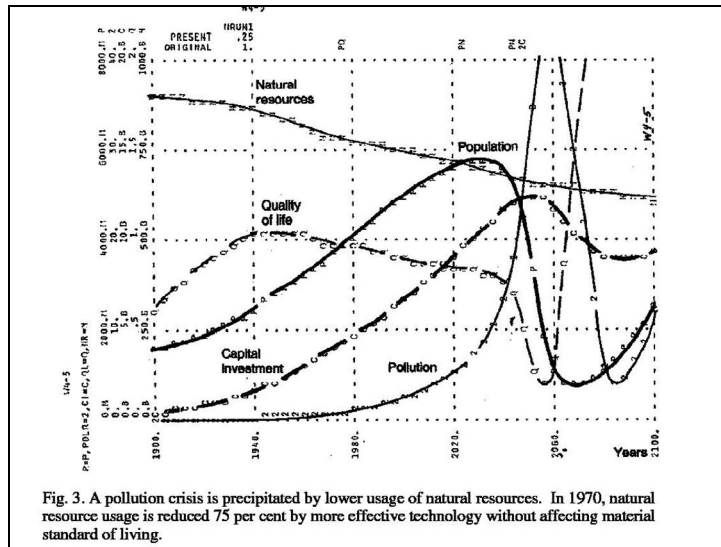
Nations will fight, are fighting, to secure supplies of diminishing resources.

Starvation, absence of trade, and control of population movements will lead to increasing terrorism by both governments themselves and other “terrorist” organisations.

Available knowledge of viruses diseases and recombinant DNA – a product capable of permanently destroying the operation of cells at the most basic level – will be deployed by both groups.

Armaments manufacturers will continue, in one way or another, selling to both groups – but more biological weapons will become more generally available.

But figure 3 shows what happens if, through technological change, the resource shortage is avoided.



The results are,
counter-intuitively,
dramatically
worse!

By not running out of resources, population and capital investment are able to rise until a pollution crisis is created.

Pollution then acts directly to reduce birth rate, increase death rate, and depress food production.

The combined effect of these processes is to reduce population by no less than 80% in the course of 20 years.

This would be a world-wide catastrophe on a scale never before experienced.

This is but one example of a very consistent finding:

**well-intentioned societal intervention
directed at single variables**

- assumed causes –

**tends to produce exactly the opposite
results to those intended.**

**To avoid this paradox *systems* understanding is
crucial.**

Interestingly, Deming has demonstrated that setting **targets**, again counter-intuitively, ***always*** has this effect because people devote their energy to “beating the system” instead of inventing ways of reaching the system’s goals.

The true objectives are always too diverse and complex to be encompassed in measurable “targets”.

**Systems understanding and
intervention
is *essential*.**

But note what I mean by *systems understanding*

I mean understanding the hidden, multiple and mutually interactive, recursive, socio-cybernetic forces which determine what happens in society.

The example that led us here is, of course, identification of some of the multiple, mutually supportive, forces which determine what happens in the “educational” system - and lead to its reproduction and, more importantly, continuous elaboration and extension.

Even more importantly,
**I mean understanding, mapping, and finding
ways of intervening in,
the hidden socio-cybernetic forces which,**
as Bookchin has shown,
**have, since time immemorial, been destroying
“organic” public management and replacing it by
the hierarchical processes which depend on the
creation of endless useless work to legitimise,
even constitute, hierarchy.**

This is no mean requirement.

It is this endless senseless work producing little more than materialistic symbols of status that give some people the apparent right to command others and trap others into demeaning roles in the process that is destroying our habitat.

Make no mistake about it:

If we are to survive as a species we urgently need to find ways of intervening in this network of social forces.

We need to evolve a non-hierarchical, organic, public management system.

We need to nurture the competencies and understandings required to contribute to this evolution.

In a moment I will return to our study of the educational system for some insights into how this is to be done.

But before doing so let me draw attention to one more vitally important consideration.

So many changes are required to create a sustainable society that the change will have to be as great as from a hunter-gatherer society to an agricultural society.

And, just as no one in a hunter-gatherer society could envisage what an agricultural society would look like, it is unlikely that anyone in our society can envisage what a sustainable society will look like.

There can therefore be no blueprint.

This means that we need to create a society which will innovate and learn – evolve – without central direction.

That is, in a sense, precisely what the word “evolution” means.

And it is what Adam Smith set out to design.

**Such a society would be a genuine
learning society.**

But one very different from what most commonly springs to mind when the term is used..

*SO WHAT DEVELOPMENTS
ARE NECESSARY
IF WE ARE TO MOVE
FORWARD?*

Here are some of the things we need to do.

(Most of them reiterate things that have already been said.)

We need to:

1. Acknowledge the Importance of Public Servants. (They are crucially important personnel in enhancing quality of life; the greatest wealth-creators ever.) cont.

2 Change our Expectations of Public Servants.

They need to:

- a. Study, and find ways of intervening in, opaque social systems, including interconnections between policy domains).
- b. Be inventors.
- c. Create alternatives and document the personal and social, short and long-term, desired and desirable and undesired and undesirable consequences of the options.
- d. Feed that information outward to the public and not upward in a bureaucratic hierarchy to distant committees of ignoramuses.
- e. Initiate forward-looking research of non-traditional nature.
- f. Create a ferment of innovation, dedication, and enthusiasm in their own organisations and in society more generally.
- g. Encourage multiple definitions of problems and the conduct of small-scale, but carefully monitored, experiments grounded in an understanding of systems processes.
- h. Monitor the results of those experiments to see what is to be learned from them, taking corrective action as necessary.

cont

Most importantly, 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, in the long-term public interest.**

***To Get Public Servants to do These Things
it Will Be Necessary to Introduce:***

- 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. Arrange for more systematic evaluation of policy and more experimentation.

The requisite R&D involves:

- . Re-definition of problems.
- . Fundamental research to find new ways of thinking about and doing things.
- . Adventurous experimentation to find new ways of doing things and advancing understanding.
- . Systemic research to discern the "hidden reality" which determines what happens and identify what needs to be done.
- . A specific focus on developing new management arrangements.

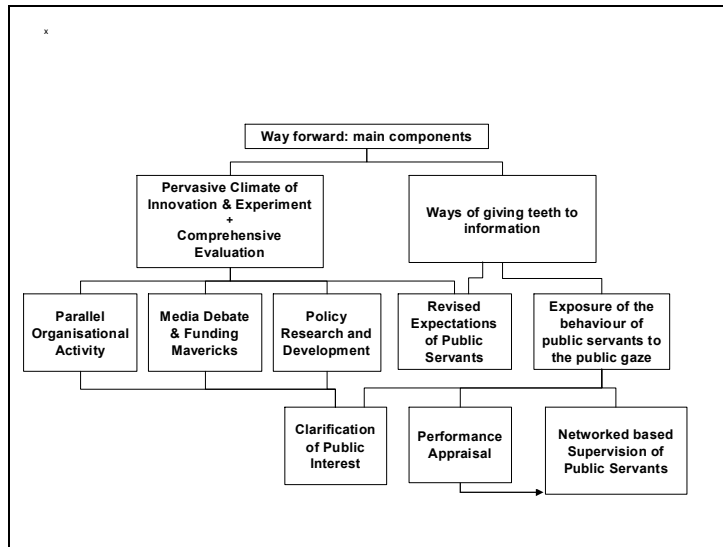
cont.

5 – Introduce 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 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.

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**We have now, to some extent, discussed the forms of
democracy
- as summarised in the central box –
that are required.**

**But I must now say a little more about the
“Research” box
in the bottom right hand corner.**

Research is required to Develop:

- A better understanding of the necessary organisational /managerial arrangements.
- The tools required to hold public servants and other managers accountable for exercising high-level talents and especially for doing such things as creating hives of innovation, initiating systems-oriented experiments and monitoring the effects of, and learning from, the effects of their actions.
- A better understanding of the hidden sociological systems processes which determine the direction in which society moves.
- The information public servants need to decide how to act in the long-term public interest.
- The tools that are required to take stock of organisational/ community climate from the point of view of its conduciveness to innovation and decide what to do.
- The tools required to assess costs and benefits.
- Create a variety of different forms of provision and document, their short and long-term benefits and costs.

This is, indeed, a distinctive research agenda.

But even more important are the requisite changes in our beliefs about how such research is to be managed - for the research that is needed is:

**adventurous
problem-driven, but
*fundamental***

Action research!

What a set of contradictions in terms!

(In saying that it needs to be problem-driven, I am challenging the common assumption that research topics should be derived from the "research literature" - that is to say from topics which have proved to be non-threatening to authority.)

The science we need also needs to be non-reductionist.

That is, it needs to document *all* the outcomes and interactions in the processes studied.

In other words, the key concern in assessing the “quality” of research needs to be its *comprehensiveness* – not its ability to get an accurate fix on one or two variables or “test” some theoretical hypothesis”

Research which does not do this is likely to be, not only “unscientific”, but also unethical.

WE ARE ONLY LIKELY TO GET SUCH RESEARCH IF:

- o Citizens understand what is involved and press for it.**
- o The changes in the public service (which we need to press for as citizens) result in new expectations of, and ways of commissioning, research.**

MORE THAN THAT, we are only likely to get it if the whole concept of parallel organisation activity gets more widely implemented.

So it emerges that ideas about the management of research, which must at first appear peripheral, are central to finding a way forward.

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Well, now I have said a great deal about

**Democracy
Entrepreneurship
and
Freedom**

in the educational system.

As far as Democracy is concerned.

We need new forms of public management:

New Expectations of Public Servants

and

**New, network-based, non-hierarchical, Supervisory
Structures.**

As far as Entrepreneurship is concerned,

we need a ferment of experimentation, evaluation, and learning in the public sector.

To get this, we need much more acceptance of diversity and to pay much more attention to comprehensive evaluation of experiments – followed by appropriate action.

To do these things we need much more adventurous research, setting out to find ways of investigating the unknown and thus not pre-specifiable.

As far as Freedom is concerned

We need much wider acceptance of people's right to lead their lives as they choose.

This implies greater willingness to restrain the authoritarian urge to prescribe the ways in which other people will live and not live.

But much more than this is required.

If people are going to be able to lead their lives as they would like to lead them, it will be necessary for society to explicitly set out to create environments which will enable them to do so ... to generate much more variety and choice ... and accompany it by much better information on the actual consequences of each of the options.

**But, perhaps most surprisingly,
we have seen that amplifying people's
freedom to enact their values
unexpectedly depends on finding ways
of understanding and intervening in
the network of socio-cybernetic forces
which has, apparently since time
immemorial, been driving us toward
the hierarchical, command and control,
arrangements which, because they depend
for their legitimation on the production and
disposal of senseless materialistic goods,
are heading us an exponentially
accelerating rate toward our extinction as a
species, carrying the planet as we know it
with us.**

**Bookchin has characterised the
collection of issues we have
been trying to grapple with here
as having to do with**

the ecology of freedom

All of these observations have major implications, not only for the management of the “educational” system,

but also for the competencies to be nurtured in schools.

Such competencies depend, above all, on engaging the profusion of diverse motivational predispositions possessed by different pupils

and on the beliefs about hierarchy, democracy, management, entrepreneurship, and freedom the pupils imbibe.