Social media, truth, social forces, democracy, and social research:
The "scientific" manufacture of untruth and desolation … and a possible way forward.

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Abstract

While such things as the production of videos which convincingly convey false information precisely because one has "seen what happened with one's own eyes" and the monitoring of internet posts to generate false news targeted to particular users are deeply disturbing, vast amounts of false information has been manufactured via the application of easy-to-use statistical analysis packages to data collected from "convenience" "samples". Large sectors of this mountain have been discredited through the so-called replication crisis. Yet most of the "explanations" offered for that "crisis" focus on only two or three of the network of social forces involved. The preparation of a causal loop diagram would reveal many more. But these "aberrations" are actually the least of our worries. "Science" – actually reductionist science – which fails to identify the systemic, multiple, and recursive effects of action constitutes the greatest threat to Gaia that has ever existed … worse than the destruction inflicted by largest meteorite. The application of reductionist science has facilitated the release of the CO^2 which had been salted away to facilitate the evolution of life and the plunder of the planet's resources has resulted in endless destruction of the soils, seas, and atmosphere. Understanding the network of social forces which has resulted in this misapplication of science, logic, and authority is therefore of the greatest possible importance. As discussed at previous conferences, rectifying this situation depends, at least in part, on the evolution of forms of public management which will innovate and learn without central direction. Yet the operation of any cybernetic/societal learning and management system which will act in the long term public and planetary interest depends on a climate of respect for diversity and others' rights to lead their lives in their own way combined with a pervasive commitment to truth and public welfare.

KEY WORDS: social force, reductionist science, systems thinking, policy evaluation, Campbell's law, education, hierarchy, abuse of logic, abuse of authority, fascist dispositions

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How does one know what to believe?

Much public discussion has focussed on fake news and other misleading videos which appear to have been filmed in a particular situation but were not – and their manipulation, especially through recursive feedback loops to feed the public what it wants to hear, to influence thoughts, feelings, and behaviour … especially in relation to political and social action.

All of these things are deeply disturbing. But at least they are being discussed and the issues are, to some extent, right there for all to see.

But the implications of this disinformation could well be less serious than those arising from the misconstruction and misuse of science, logic, and authority.

In the course of writing what became a long paper entitled *Problems with Closing the Gap Philosophy and Research[1]* the author became deeply shocked at the widespread misapplication of "science" (eg reporting on one single outcome of an intervention and failing to study and report other important outcomes), the neglect of logic (eg the imputation of causality to a correlation and the subsequent use of this misinterpretation to generate policy), and the gross mis-use of authority to impose on others "evidence-based" practices that the authority in question believed to be good and right without concern for the wishes of those concerned or wider effects on society[2].

A few examples may be used to illustrate these points.

The misuse of "science"

John Hattie[3] has published a meta-analysis of 800 meta-analyses of evaluations of educational policy.

The problem is that virtually all of these studies focus only on academic attainment as the measure of school effectiveness.

Yet knowledge has a half-life of a year (and is thus likely to be forgotten by the time it is needed) and has little chance of relating to the students' actual needs. (Apart from anything else, students rarely go to work in the area of their specialist study).

Yet these assessments perform the vital *sociological* function of allocating social status and, more generally, legitimising a hierarchical, divided, society.

The evaluations do not report the relative merits and demerits of educational programmes from the point of view of recognising and nurturing the huge range of diverse talents pupils possess (which is widely believed[4] to be the *main* goal of the system and is in fact implied by the term itself) … diverse talents which are crucial to creating the climates of innovation on which our future as a species depends[5].

Worse, by not reporting on these things, these evaluations, on the one hand, *discredit* those educational programmes which do nurture them and, on the other, fail to reveal that about one third of pupils are seriously damaged by the current system.

On what basis, therefore, can these studies claim to be offering objective evaluations of educational policy and school effectiveness?

Yet it is on its claim to objectivity that science rests its strongest claim.

Similarly misleading information is generated by many of those who purport to offer guidance on the relative value of alternative fertilisers and pesticides in agriculture. These

studies focus only on short term yield and do not report their destruction of the future fertility of the soils by poisoning the micro-organisms on which the system depends. They fail to report on the poisoning of other plants and animals in the food chain on which we ourselves depend[6].

To satisfy a claim to objectivity, what would be needed in both cases would be *comprehensive* evaluation: Evaluation of *all* the effects, short and long term, desired and desirable, and undesired and undesirable, for the individuals concerned and for society.

What is good for some individuals may be bad for others; what is good for individuals may be bad for society; what is good in the short term may be bad in the long term, what is good for human beings may be bad for the planet.

In reality, what we have here, are examples of the *mis* application of science. They illustrate errors which arise from:
   • failure to study the systems processes involved
  and
   • the blind application of the procedures and assumptions of reductionist science – science in which it is seen as legitimate to ignore multiple and systemic issues.

Going back to the evaluation of educational effectiveness, there was something else of great importance to be noted: *There are no accepted "measures" of the huge range of talents pupils have the capacity to develop*[7].

A general conclusion to be drawn from this is that the seemingly self-evident and laudable requirement that "only reliable and valid measures shall be used in programme evaluation"[8] results in evaluations which are anything but scientific or objective.

Negative outcomes are in this way rendered *in*visible. The programmes could, and do, do enormous damage to most pupils and society without detection. And those teachers and schools which do nurture vitally important qualities cannot get credit for their efforts.

What we have here amounts to an extension of Campbell's law[9] that the introduction of any quantitative measure or standard into the evaluation of any activity (education or health care) has the effect, not only of leading those concerned to focus only on gaining high scores on those measures by whatever (underhand) means possible and to neglect the main goals of the system, but to the corruption of the very measures themselves.

To be clear: what we have here is evidence that the well-intentioned work of the thousands of researchers who contributed to Hattie's meta-analysis has, as Forrester's[10] law would lead one to expect, had counterintuitive, counterproductive, indeed, almost entirely destructive effects[11].

What's worse, the focus on what are, essentially, single-factor attainment tests scores has, as I will discuss more fully shortly, contributed to the brutal imposition of Social Darwinism in the competitive arrangements that have emerged between and within schools and in society more generally[12].

Reductionist Science in Overdrive

Tens of thousands of researchers have reported correlations between aspects of parenting behaviour and other features of home background and children's behaviour – especially so-called "cognitive development".

This has encouraged governments to introduce endless draconian and intrusive home-intervention programmes.

Few have enquired into the interactive processes behind the correlations.

Yet even a preliminary excursion into the field quickly reveals that the relationship is to a large extent the other way round: the children's behaviour provokes that of their parents

But that is only the tip of the iceberg.

A few researchers noted that a recursive cycle … or, better, spiral … was involved. Not only did parents influence their children, the children recursively provoked reciprocating parental behaviour … and so on.

Still fewer (indeed, to the best of my limited knowledge, only one - Sandra Scarr) suggested that children selected themselves into, and created, environments which amplified their pre-existing predispositions.

It was not that the environments had no effect but that those aspects of the environment that did have an effect were somehow "chosen" by the children … and these then amplified their pre-existing predispositions!

The methodological problems such an observation pose for the study of person-environment interactions, indeed for the very distinction between person and environment, are immediately obvious as are the implications for a swathe of authoritarian intervention programmes designed to "remediate" parental child rearing behaviour.

These recursive and interacting interactions cannot meaningfully be studied using conventional "scales" to measure "variables" and then applying multiple regression techniques in the hope of illuminating their interactions.

What one has here is essentially an ecologically-based co-creative process requiring a very different conceptual orientation and form of study.

The abuse of logic

The errors arising from enthrallment with reductionist science were not the only errors embedded in the literature reviewed in the course of preparing the previously mentioned publication.

Almost as serious were the errors arising from failures of logic.

One of the most conspicuous of these was the failure to recognise the systems implications of correlations between norm-referenced variables.

One of these is the illogical conclusion that, because attainment test scores are strongly predictive of whether or not one gets a job, if the educational system pays more attention to raising those scores everyone will get jobs!

The illogical nature of this deduction is immediately apparent, but it has, with horrifying effects, dominated educational policy since World War II.

Expressed as a belief that it is "vital to get those test scores up", it has resulted in:
- horrendous narrowing of the curriculum,
- consignment of many pupils to punitive "remedial" programmes which deprive them of leisure and access to opportunities to develop their other talents,
- gross interference in homes to compel parents to follow procedures prescribed for, and by, schools and believed to promote "cognitive development" and "academic" achievement,
- the introduction of armies of inspectors with extraordinary powers to intervene in homes and schools and punish (even via punitive "remediation" and compulsory re-education programmes) pupils, parents, teachers and head teachers alike,
- academic Olympics within and between schools and countries – Olympics which result in such things as:
  - continuous confirmation of students perceptions of their place in the pecking order – mostly to the effect that they are "failures", scum to be pushed around, assessed, and assigned senseless tasks at the whim of authority,
  - invention of ways of excluding low ability students from testing programmes as schools seek high ratings,
  - geographical migration of parents,
  - cheating on tests, not least by teachers and administrators,
  - falsification of statistics by head teachers, bureaucrats, and politicians.

The process is best characterised as involving the brutal imposition of Social Darwinism

It is the first step in a process whereby
- the favoured few are showered with accolades
while
- the losers are left to rot in backwaters of the educational system and in disadvantaged communities where they are subjected to continual harassment and punitive inquisitions and demands in order to obtain even marginal "benefits" or health care.

Less obvious is the same error in relation to the evaluation of remedial education programmes. Yes. These result in the shifting a number of children from "remedial" to regular classes … but their seats are immediately filled by an equivalent number who move down.

That is the way norm-referenced systems work.

By the same token, decisions to admit a greater proportion of "disadvantaged" youth to universities results in better qualified people from other backgrounds being denied a place.

Note the sociological implications of these particular errors.

All result in massive work-creation programmes: More students spend more and more time striving to advance their position in a norm-referenced "educational" system. More and more professionals get involved in designing, assessing, and administering "remedial" and "counselling" programmes, lecturing, assessing students, publishing (junk) research reports, and reviewing those reports.

It is a wonderful illustration of Bookchin's law[13] that, in any situation in which there is a surplus of labour, society somehow finds ways of creating vast amounts of hierarchically-organised senseless work … senseless in the sense that the products and services it delivers do little to enhance the quality of life[14].

But, hear this: It is this vast amounts of senseless work that is inflicting irreparable damage on Gaia.

Abuse of Authority

But this is not the end of this horrific story.

The next step is to impose what the authorities concerned have chosen to believe are conclusions derived from this deeply flawed "evidence-based" policy "research" on others.

Thus the Scottish government has decreed[15] that the home of every "child" aged minus 8 months to 22 years shall be repeatedly visited by a person named by the government to ensure that the parents are implementing government-decreed child rearing policies and that their children attend school and have "appropriate attitudes toward their sexual orientation". All this against a backdrop of fines, having children taken into (uncaring) care, requirements to attend government-mandated parenting courses, and, in the last resort face imprisonment.

Corruption of insights into their opposites

There is another interesting process at work as social insights get translated into authoritarian prescriptions: well-intentioned social interventions regularly get turned into their opposites[16].

Here are some examples:
  Education (drawing out) becomes teaching (putting in).
  Rights become obligations:
    A right to education becomes compulsory attendance at institutions which often destroy
      talents.
    The right to life becomes compulsory palliative care of persons in a vegetative state.
    The right to happiness becomes mandatory compliance with state-determined and assessed
      criteria of "well-being".
    A right to liberty becomes a requirement to comply with vast networks of legislation if
      one is to avoid incarceration or demeaning and degrading treatment
  The quest for "evidence based policy" becomes a quest for "policy-based evidence".
  The "Free market" becomes central command of prices and trade enforced, in last resort, by
    the army.
  Pursuit of "The enlightenment" (Smith, Hulme, Mill) gets corrupted into the blinkered
    vision of reductionist science.

Implications for Sociocyberneticians.

How has all this come about?

The "explanations" most often proffered for the replication crisis have to do with unethical practices such as trawling data for "significant" results and the unwillingness of journals to publish failed replications.

The "solutions" offered have to do with insisting that post-graduate researchers take courses in ethics and making arrangements to monitor their work more carefully.

Note that the second "solution" raises questions about how to select and monitor hundreds of thousands of post-graduate students working on dissertations? And how to say "no" to the dissertations of the millions of students who have paid vast amounts of money (thus fuelling a dramatic growth in institutions of "higher education") to be allowed to participate in the game of pretending to conduct significant research and write dissertations?

Some authors do venture to suggest that the problem lies deeper – in the pervasive "publish or perish" climate which pervades the Universities with the development of governmental assessments through the "Research Excellence" framework[17] and the Bologna process[18]. And a few note a problem with the, apparently laudable, "peer review" system which somehow discourages research which challenges the conclusions the reviewers themselves have, often on the scantest of evidence, promoted. And a few have gone so far as to note the role played by the customer-contractor principle in limiting the kinds of research which can be conducted with the aid of government funding … research which must be conducted if those concerned are to advance in their careers.

Few have dared to publicise the role played by the conditonalities embedded in government grants: conditionalities which often require the researchers to gain approval of anything they might wish to say and the right of governments to actually alter the figures in those reports[19].

An attempt to prepare a comprehensive causal loop diagram of the factors involved would no doubt bring to light more such factors.

But one wonders if this would really capture the network of social forces driving the seriously unethical and destructive enterprise described above.

I strongly suspect that any attempt to generate a deeper map would quickly draw attention to the roles of government and the network of forces which promote hierarchy already highlighted in our systemogram of the network of social forces driving education out of schools[20].

When discussing the role of current forms of government[21], I emphasised the need to find an alternative answer to Adam Smith's question of how to design self-managing governance systems which would innovate and learn without central direction.

So far as I can judge, Smith's (and other's) critique of "democracy", and hierarchical management more generally, seems largely to have fallen on deaf ears[22]. The position is not merely that no alternative seems to be readily available but the actual need for an alternative does not seem to be recognised.

Obvious flaws such as the imposition of "free market" principles (viz centralised management) on unwilling societies[23], the promotion of the Iraq and other wars, and the rise of dictators are simply treated as aberrations.

How could this have come about?

How come that, so far as I can judge, few sociocyberneticians have applied themselves to the task of mapping the network of social forces which control the *inputs* to the network of physical-economic forces which Meadows, Forrester, and others mapped for *Limits to Growth*[24]. How come that so few have mapped the network of social forces controlling the way "democracy" actually works? How come that so few have focussed on the task of generating a socio-cybernetically based answer to Smith's question?

And how come that, so far as I know, no one has studied the network of social forces which constitute Bookchin's[25] "self-managing" network of social forces promoting hierarchy?

And one more thing. I have mentioned the willingness of authority to impose what they believe to be good on right on others regardless of the wishes of those others or the wider effects on society. I have not mentioned the fact that very many people seem to be not only too willing to participate in the brutal imposition and elaboration of these policies. Nor have I mentioned what seems to be a pervasive willingness of large numbers of people to do exactly the same thing on a lesser scale … as with, for example, the imposition of politically correct behaviour, including the uses of language, on others. Behind all of these things seems to lie a pervasive disposition to fascism involving a profound rejection of diversity and the right of others to lead their lives in their own ways[26].

Our last question here therefore has to be: To what extent are these things the outcome of sociocybernetic processes and to what extent an outcome of individual psychology … assuming the distinction itself makes much sense?

But, in a sense, that misses the most important point.

What has driven reductionist science itself?

Put another way, what has driven the transformation of the insights of the Enlightenment into the codified procedures of reductionist science and destruction of the planet?

Reductionist science is obviously "useful" in helping man to assert his domination over nature.

But what kind of "explanation" is that?

And so, in the end, we are left with the question "What has driven that mindset?"

And so I look for a sociocybernetic, not a reductionist, answer!

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ENDNOTES

[1] Raven (2017).

[2] Raven (2019).

[3] Hattie (2009).

[4] Raven (1994).

[5] Raven (2014).

[6] Shiva (1998).

[7] In fact a *descriptive* framework akin to the biological classification of plants and animals would be required to record them and an ecological framework grounded in such things as symbiosis would be required to discuss their nurturance and functioning. (See Raven (1984/1997) for an outline of such a framework.)

[8] *Standards for evaluations of educational programs, projects and materials* (Stufflebeam, 1981).

[9] Campbell (1979).

[10] Forrester (1971/1995).

[11] I am deeply grateful to Luciano Gallon who, at the previous Urbino conference, insisted on opening my eyes to the whole new world of systems dynamics and its, previously almost invisible, application in *Limits to Growth.*

[12] See Klein (2007) for evidence of the latter.

[13] Bookchin (2005).

[14] Eg Lane (1991).

[15] Scottish government (2014).

[16] Raven (1997).

[17] The *Research Excellence Framework* is the system for assessing the quality of research in UK higher education institutions dependent, among other things on the number of articles published in high status journals.

[18] The Bologna Process is an Agreement between European universities which seeks to standardise the course content and procedures "to facilitate the free movement of students" and the criteria on the basis of which staff are selected and grants awarded.

[19] For a fuller discussion see Raven, J. (2019)

[20] Raven (1994), Raven & Gallon (2010).

[21] Raven (1995).

[22] Although Deming's (eg 1982) work and, especially Beer's (1975) *Viable Systems Model,* are being heavily promoted in some quarters, the level of application has been almost entirely at the level of individual organisations rather than the wider society.

[23] Klein (2007).

[24] See Raven (2018) for an elaboration of this point.

[25] Bookchin, M. (2005).

[26] See Raven (2019) for an elaboration of these points.