

Part A The impossible conclusion: Scientists can't think

Introduction to Part A

Chapter A.1 The Kyoto Premise and the catastrophic failure of rational, logical, and scientific thinking by essentially all scientists

Chapter A.2 Failures in the other massive science issues with high public profile

Chapter A.3 When the wind blows the other way – Observations of the behaviours of Leaders and Scientists when their belief systems crumble

The “Introduction to Part A” is to some extent a repetition of the Introcuccion to this whole paper, but from a more specific perspective.

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I. INTRODUCTION TO PART A

A. A failure of rational, logical and scientific thinking

“There are three kinds of lies: *Lies, damned lies, and statistics*”¹

I can only imagine that this famous saying resulted from increasing frustration with advisors or adversaries who were mis-using the statistical tools and theories of the time. Clearly they weren't convinced that the advisors were using the right tools in the right ways, and perhaps they thought the tools were merely a way of dressing foregone opinions or objectives in a cloak of false legitimacy. In any case, the phrase has resonated through the years.

While the level of science, and the education, training and experience of scientists and policy advisors, have greatly advanced over the intervening 136 years, my general theme is that the same type of problem has persisted, and perhaps even worsened, throughout the scientific community. While Disraeli carefully blamed the problem on the statistical tools, my series of papers is more to the point: it is important that we recognize the persistent limitations and failings of professionals and leaders, from the point of view of rational, logical, and scientific thinking, and their tendency to "blow with the politically correct winds". Ultimately these are problems that we all possess, with the possible exception of very rare individuals whom we consistently fail to pick out. It is also important to recognize our greater strengths in non-rational thinking, and how we really succeed with our tasks and careers. And finally, its important to understand which approaches to decision-making help to avoid falling into an "irrational consensus", and which approaches allow us to break free of "normal thinking".

Solzhenitsen “Gulag Archipelago” quote:

In almost the exact same context & connotation, the theme may be extended to "Lies, damned lies, and [scientists, policy, advisors, me, leadership in the civil service and academia]" (take your pick), and this particular paper focusses on the scientists.

*"Most people are believers.
There are very, very few critical thinkers.
Most scientists are like most people."
[Howell ?2003?]*

¹ http://en.wikiquote.org/wiki/Benjamin_Disraeli: "...This was attributed to Disraeli by Mark Twain, to whom the phrase has also been attributed. The earliest known use of it is actually that of Leonard H. Courtney, whom Twain might have thought to be referring to Disraeli in the essay in which he declared it..."

- Benjamin Disraeli (1804 - 1881), British prime minister from [????-????],
- Mark Twain (), adventurer, journalist, steamboat captain in Upper Mississippi river, author of Huckleberry Finn, Mark Twain, etc

Given how many bright people work in scientific research, to say the least this is a very counter-intuitive statement, perhaps an “impossible conclusion”. But at the end of the day, we must judge [people, organisations, societies, civilizations] by results, and as argued here, on many important issues essentially all professional scientists exhibit catastrophically bad thinking, often at the very first simple steps in analysing problems and situations. So even though we know that to at least some extent they are [smart, competent, diligent, strightforward], the results clearly otherwise.

Although my line of thinking certainly isn't what scientists and policy analysts want to hear, other scientists, small in percentage but important in their modest numbers, feel the same. Books by Bjorn Lomborg, and by Essex & McKitrick, cover the issue of how climate environmental and climate change science can run off track, as well as providing excellent details on failures in scientific consensus over the last decade. These authors have been severely criticised in a manner reminiscent of the situation that early promoters of the Kyoto Premise say that they faced. Of course, the Kyoto Premise is now convention, so the promoters now play the role of the Goliath, rather than of David.

Furthermore, this issue seems to have been a constant through the history of science. In spite of the current high levels of education and scientific progress, and in spite of information availability, the sophistication of scientific institutions, communities and management systems of today, apparently the scientific community will repeat these errors in the future. This has strong implications for public policy and scientific management.

Many, many papers have been written about the failures of scientists and the scientific "consensus", so while these papers are not conventional or normal, they do have strong backing over historical time-frames, cultures, and subject areas. [I need to back this up - references, quotes, etc]

B. D-cubed thinking - what it does & doesn't mean, and why it is defined so

Sometimes you see a line of reasoning that is catastrophically bad either in the logic, in its failure to consider key data, in obvious self-contradictions or gaps, etc. But it might also be due to either inadequate review and consideration of the topic at hand (leading to delinquent work), and it could even be due to dishonesty in deliberately mis-portraying information, analysis, or over-selling ideas. Dishonesty can also result from deliberately pushing a point of view when you know that you have been delinquent or simply lack the competence to make categorical statements about a topic.

*D-cubed thinking (for an individual or small group):
Dysfunctional and./or Dishonest and/or Delinquent*

So we're not sure what the blend is. All we know is that there is a strong component of at least one, and possibly two or three. Moreover, the definition doesn't fully alleviate suspicion of any of the three, nor should it. This is the counter side to the lack of specificity.

But very large project teams or populations that are well resourced, diversified with the proper backgrounds, and who work on an initiative for a reasonable time, then the excuses for dysfunctional and delinquent thinking start to fall away, and we are more sure that likely all three problems exist, but we still won't know specifically who or which groups/ institutions:

D-cubed thinking (for large, well-resourced, longer-term projects):

Dysfunctional AND Dishonest AND Delinquent

As far as I am concerned, none of us can read minds, and its unlikely that our court system can provide judgements in any but the most exceptional cases. Luckily, for our purposes it is irrelevant whether catastrophically bad thinking results from delinquent, dysfunctional or dishonest thinking -> the damage is the same and the remedy is the same. Because we can't manage scientists in other organisations, because for legal reasons we can't make inferences, and

D-cubed thinking still allows for the following:

- Rational thinking is NOT the only way to solve problems, nor is it always the best way. For example, searching for novelties solutions through exploration or trial and error, pattern recognition, etc are really non-logical capabilities that we have that can dominate for some forms of problem solving. (This comment will probably upset some!);
- D-cubed, thinking can still lead to the right answer - There are many ways to get the right answer for all the wrong reasons from the point of rational thinking, or to get the right answer through non-logical means. Furthermore, hunches may pan out over time, and in spite of the data and coherent analysis at hand, and indeed we probably need "believers" in some areas who will work away for a substantial part of their careers in order to find a way to something work.;
- D-cubed thinking is NOT a PROPERTY of an individual, as we all make mistakes from time to time, or get blinded by our enthusiasm. Naturally, if catastrophically bad thinking consistently recurs with the same individual, perhaps they deserve the label of D-cubed thinker?;
- Rational thinking can easily lead to the wrong answer in a variety of ways. Often "false frameworks of analysis" lead to great logic and terrible results.
- Rational thinking may be very inadequate for many classes of problems, in particular complex, poorly understood systems that are not given to complete descriptions, and where many factors variables are either unknown (eg hidden variables) or poorly understood or are not fully measurable. Climate change, for example, has many of these properties.
- D-cubed thinking certainly isn't restricted to scientists - it's all of us. It's just that scientists are one group who claim to approach things in a very rational fashion.

So this paper certainly does not preach that logic is the only way to go. However, if a scientist or scientific community is claiming rational results or if a problem is well suited to strong logic approaches, then we can at least judge them on that, or let it be known that the "mantle of logic", with whatever cloak of comfort and credibility that implies, does not apply to their results.

Most often in science, we like the comfort of strong rational to support our results.

C. The failures of scientists, and yet the triumphs of science (or are we at the end of the Enlightenment?)

Luckily, science as a whole can still progress even if most scientists fail, thanks to: the perseverance and solid thinking of a very small percentage of scientists; a strong measure of randomness and diversity in the overall efforts, beliefs and perspectives of scientists (including their countries, cultures, and professional backgrounds); and shifts in fashionable, politically-correct thinking that eventually allow us to challenge and correct yesterday's fashions. A great way of explaining it is:

You can fool all of the scientists some of the time,

*some of the scientists all of the time,
but scientists can't fool all of the people all of the time.*
[adapted from ?E.P. Barnham?]

Right now, with respect to Climate Change, we are in the "all of the scientists some of the time" phase (or Central challenge - how do we know who is right? - we don't But governments, companies, etc have to make decisions - must do so as always in a climate of uncertainty - that's management and leadership, and you won't always be right

D. The Kyoto Premise example of this paper

Since the mid-to-late 1990's, the vastly dominant global scientific consensus regarding global warming trends has been, and continues to be the "Kyoto Premise" (KP), succinctly defined here as:

Kyoto Premise (KP): *the presumption that anthropogenic GreenHouse Gas (GHG) emissions [have, are, and/or will have] a catastrophic impact on the environment and mankind.* [Howell 2004]

While it is not stated by scientists in quite so narrow a fashion, it is my view that this interpretation properly conveys the message that is perceived by the public and political level, and that this widespread perception is the responsibility of promoters of the Kyoto Premise, and ultimately the majority of scientists, who have failed and perhaps even betrayed the public on this issue.

Only a small percentage of scientists work on Climate Change science, but because of the multi-disciplinary nature of climate science and policy, it is an excellent sampling of the scientific and policy making communities. Furthermore, many if not most (and my guess is that it is most!) scientists not directly involved have been extremely vocal and adamant promoters of the Kyoto Premise, and have often be disrespectful of scientists who dare to question this science fashion-cum science cult-cum science religion.

E. The plan forward for the Chapters of Part A

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