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5th May 2012 | Draft

Scientific Gerrymandering of Boundaries of Overpopulation Debate

Review of The Royal Society report -- *People and the Planet*

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Introduction

The Royal Society has published the results of a study, by a very distinguished group, on the population challenge of humanity (*People and the Planet*, 2012). The approach is introduced as follows:

Given the controversies that surround the issues of population, consumption and the environment, the Royal Society felt that a close look at the debates would be both timely and appropriate. It established an international [Working Group](#), with wide ranging expertise covering natural and social sciences, to provide an overview of the impact of human population and human consumption on the planet, and the subsequent implications for human wellbeing. (p.11)

It is explicitly put forward *not as a definitive statement on these complex topics, but as an overview of the impacts of human population and consumption on the planet*. As noted, the initiative is very significant in its own right because of the many political, religious, cultural and psychological sensitivities associated with any consideration of the matter. Discussion has long been carefully avoided at the highest levels, even though the extensively debated resource "shortages" can be usefully understood as the direct systemic consequence of a **population "longage"**, as argued by [Garrett Hardin](#) (*From Shortage to Longage: forty years in the population vineyards*, *Population and Environment: a journal of interdisciplinary studies*, 1991):

Instead of speaking of a shortage of supply we could just as truly say that there is a longage of demand. As we seek solutions to practical problems why do we never use the word "longage"?

The Royal Society report is very clear and well-written -- a model of excellent presentation. It gathers many facts and trends otherwise disseminated across a variety of often inaccessible reports. The references cited reflect this.

Consistent with such exemplary professionalism, further comment can however be framed by a caricature whose aptness is easily recognized within the world of computer users. This is the fairly well-known tale of a small plane, lost in thick cloud on a dark and stormy night in the vicinity of Seattle -- as a consequence of the failure of the navigation system. Suddenly the top of a skyscraper appears close by, with a man visible on the terrace of a penthouse office. The pilot shouts to the man: *Where am I?* The man responds: *You are in a Cessna 182, flying at 600 feet, in turbulent conditions with extremely low visibility. You are in a plane that is currently unstable and your control system urgently requires an upgrade.* The pilot says to the co-pilot: *Now I know where we are.* The co-pilot asks: *How?* The pilot responds: *The information was absolutely correct and totally useless. That must therefore have been an expert in the Microsoft office tower.*

Similarly, the Royal Society report presents information that is absolutely correct and fundamentally useless. It is an excellent analytical

summary of data pertaining to the demographic situation of the world. It offers well-articulated conclusions and recommendations. In doing so it completely fails to address the question of why the many trends -- known over decades, as the report acknowledges -- have not enabled appropriate institutional responses. Neglecting to attend to this matter, suggests that its worthy recommendations will be similarly ignored in practice. For some, as in other contexts, this may well have been a factor in undertaking the initiative, or in supporting it.

It is in this sense, as with the "office tower", that the professionalism of the report could be seen as an excellent example of "[silo thinking](#)". It is beyond reproach with respect to the mandate by which its preoccupations are implicitly defined. It's relevance to governance of society is merely as a point of reference -- which may be all to which "science" currently aspires. It fails completely to explain the widespread existence of arguments which dispute its perspective -- and which are considered valid by large constituencies to which governance must necessarily attend. In the spirit of silo thinking, such arguments are simply "wrong" and irrelevant. They are not -- from the perspectives of those making them. What then?

The report was released immediately prior to that of [Jorgen Randers](#) (*2052: a Global Forecast for the Next Forty Years*, 2012), as presented to the Club of Rome, and reviewed separately (*Engendering 2052 through Re-imagining the Present*, 2012).

Scientific gerrymandering and conceptual boundary manipulation

The masterful (re)statement of the obvious, carefully based on available data, serves mainly to obscure what is not addressed and what is missing. The report "tip-toes" around controversy of any kind in what might be seen as a highly political exercise in "pussy-footing". The document has been designed to be bland and as such is widely acceptable -- being essentially non-actionable in practice and therefore unthreatening to "business as usual". The recommendations as to what ought to be done -- necessarily by others -- are so obvious as to be effectively insulting.

There has never been any question that poverty and health conditions should be alleviated, or the environment safeguarded. The fact that there is every probability that this matter will not be effectively addressed, as with other [Millennium Development Goals](#), is beyond the scope of the report -- which is not informed by political considerations and dynamics. Within the framework of the above tale, given the very active role that the Catholic Church has played in these dynamics in the past, it might be said that the report is unable to explain the validity of the contrasting "operating systems" of "Apple" (down the coast), or "Linux" (everywhere). It simply avoids such matters.

It dealing only with tangibles, the report effectively defines the initiations of the "science" of which the Royal Society claims to be the most representative body (in addition to being the oldest and most prestigious). This would be less problematic if the report had carefully indicated what factors it considered relevant in any discussion of "people and the planet", rather than creating the impression -- given the eminence of its contributors -- that all the relevant factors had been considered. However, it is readily apparent from the selection of disciplines represented by those contributors that intangible "psychosocial" factors were given little weight in its discussions.

Curiously, if not cynically as a "[motherhood statement](#)", the report delicately frames its consideration of constraints on population increase to remarks concerning what women want and an appropriate technical response to that need. It fails to take more than passing account of the psychological and other factors driving population increase -- and notably undermining "what women want".

Little reference, if any, is made to the domains which merit further study in the light of the insights of other disciplines. The implication is that those insights, if not those disciplines, could not be considered "scientific" -- or otherwise worthy of consideration. Yet the track record of the population debate suggests that it is precisely those factors which merit attention at this time -- if only with respect to issues of belief and the opinions they reinforce regarding the "myth of overpopulation" to which reference is widely made (as to the "myth of climate change"). The report must therefore be subject to the severest criticism as an asystemic exercise in "scientific gerrymandering". The Royal Society has selected the factors on which it has focused in order to reinforce the merits of the expertise it chose to apply to them -- and effectively to deprecate the existence of other ways of apprehending the challenge of "people and the planet".

As a major input to the [United Nations Conference on Sustainable Development](#) (Rio de Janeiro, 2012), the report bodes ill for the outcome of that much-challenged event. Like the report, that Conference may also strive primarily to be above reproach -- despite the challenging times for global governance. It will in all probability seek to avoid any "new thinking" regarding the dynamics of the long-standing controversies undermining strategic initiatives -- irrespective of the irrelevance of the worthy recommendations it then makes, knowing full well that tokenism will be the primary characteristic of any implementation of them.

It can of course be argued that the scope and conclusions of the report were carefully crafted in a highly political exercise to preempt any alternative consideration of the issue. How could it be determined whether the responsible group had been "stacked" to that end? How to know what vested interests helped to frame the report such as to ensure its "acceptability" within the context of the forthcoming conference? Such dynamics are vital to a systemic decision-making perspective -- which might be claimed to exemplify science at its best.

Deniable absence of a systematic perspective

When dealing with the acknowledged complexities of "people and the planet", what are the domains and factors which merit consideration? Where is the checklist of the relevant areas of expertise? How is the "irrelevance" of what is excluded, for whatever reason, to be determined? By whom and in response to the perspective of what constituency? What expertise is brought to that decision-making process?

Should a "scientific" approach not be transparent with respect to such matters -- given their controversial nature in this case? How are the political and related dynamics to be recognized -- whether or not they can be satisfactorily addressed? How is it possible to produce

such a highly political document in which the political dynamics do not figure transparently in any substantial manner?

Of some pertinence to this argument is the point made with regard to the *Kaya identity*, as separately discussed (*Uncritical Strategic Dependence on Little-known Metrics: the Gaussian Copula, the Kaya Identity, and what else?* 2009):

As a contribution to the *Fourth Assessment Report* (Rogner, H.-H., D. Zhou, R. Bradley, P. Crabbé, O. Edenhofer, B.Hare (Australia), L. Kuijpers, M. Yamaguchi, 2007: *Introduction. In Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*) it is stated that:

The Kaya identity (Kaya, 1990) is a decomposition that expresses the level of energy related CO₂ emissions as the product of four indicators: (1) carbon intensity (CO₂ emissions per unit of total primary energy supply (TPES)), (2) energy intensity (TPES per unit of GDP), (3) gross domestic product per capita (GDP/cap) and (4) population. The global average growth rate of CO₂ emissions between 1970 and 2004 of 1.9% per year is the result of the following annual growth rates: population 1.6%, GDP/cap 1.8%, energy-intensity of -1.2% and carbon-intensity -0.2%

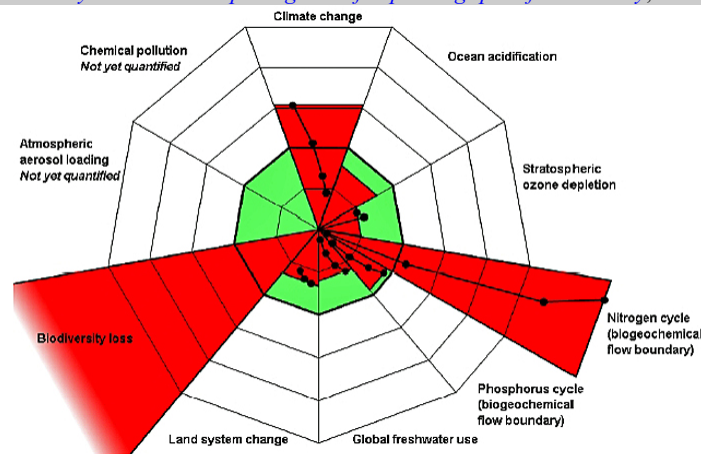
At the global scale, declining carbon and energy intensities have been unable to offset income effects and population growth and, consequently, carbon emissions have risen....

The challenge - an absolute reduction of global GHG emissions - is daunting. It presupposes a reduction of energy and carbon intensities at a faster rate than income and population growth taken together. Admittedly, there are many possible combinations of the four Kaya identity components, **but with the scope and legitimacy of population control subject to ongoing debate, the remaining two technology-oriented factors, energy and carbon intensities, have to bear the main burden....** [emphasis added]

The central argument of this critique is that there are many issues associated with "people and the planet" on which the desired rate of progress is highly problematic. With respect to the tangibles, the report appropriately cites the widely publicised studies of the nine "planetary boundaries" and includes a version of the following diagram which gives focus to that framework.

Fig. 1: Nine Planetary Boundaries

Reproduced from the report by the [Stockholm Resilience Centre](#) and the [Stockholm Environment Institute](#), (*Planetary Boundaries: exploring the safe operating space for humanity*, 2009)

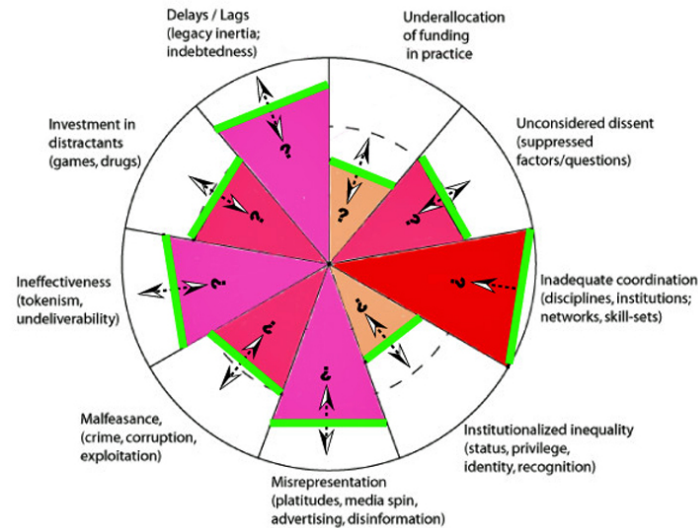


If the rate of progress on strategic initiatives with respect to recognized issues is seemingly so inadequate, a strong argument can be made that it is not further data on the (extreme) gravity of those issues which will engender action -- other than of a token nature. There are many strategic track records in support of this argument. The assumption that extreme threat engenders timely response should be challenged. The case of fatal delays in delivery of emergency relief in response to natural disasters makes the point even more sharply (*Hurricane Katrina, Haiti earthquake*, etc). **Missing from the careful collection and analysis of data, as exemplified by the Royal Society's report, is any collection and analysis of data on the capacity for remedial response**, as previously argued (*Remedial Capacity Indicators versus Performance Indicators*, 1981).

The framework of "nine planetary boundaries" (of Fig. 1) can however be used to frame the question as to whether there are "psychosocial boundaries" that merit consideration with respect to any assumed remedial capacity. This has previously been attempted, and summarized in the diagram reproduced below (*Recognizing the Psychosocial Boundaries of Remedial Action: constraints on ensuring a safe operating space for humanity*, 2009).

Fig. 2: Nine Remedial Capacity Boundaries

(using the representational pattern of the *Planetary Boundaries*)



As author of the rightly-famed text on *The Tragedy of the Commons* (1968), Garrett Hardin's argument for recognition of "longage" (as mentioned above) points to the essence of the missing systemic perspective on the challenge of population increase. With respect to remedial capacity, his systemic argument continues:

Curing shortages produces profits. Manufacturers, transporters and merchandisers all stand to gain by increasing supplies. Longages are another story. If, in our minds, we translate a shortage of energy into a longage of people -- or a longage of demand per person -- we then discover that it is not easy to find competent enterprising agents who stand to gain by reducing a longage. For many centuries philosophers, clergymen, and idealists of many sorts have harangued humanity about the importance of reducing demands, curbing extravagance, and living a simpler life; but no Fortune-400 business has been built on reducing demand. So why mention longage at all if there is no profit in it? (*From Shortage to Longage: forty years in the population vineyards, Population and Environment: a journal of interdisciplinary studies*, 1991)

In this context the complex of associations potentially elicited by the final phrase readily lends itself to a challenging reframing through the skills of professional concept advertising -- whether in the light of the market for aphrodisiacs and related products (with which web content is extensively preoccupied), or, by extension, with respect to the preoccupation with "growth". This could be understood as a very helpful articulation of the systemic dilemma at this time. Concept advertising is all about conflation of core values.

Learning from the historical record on controversial science policy debates

Consideration of the importance of the relationship between between population, resources and environment dates back notably to the 1960s (Paul R. Ehrlich and Anne Ehrlich, *Population, Resources, and Environment*, 1968). The report notes:

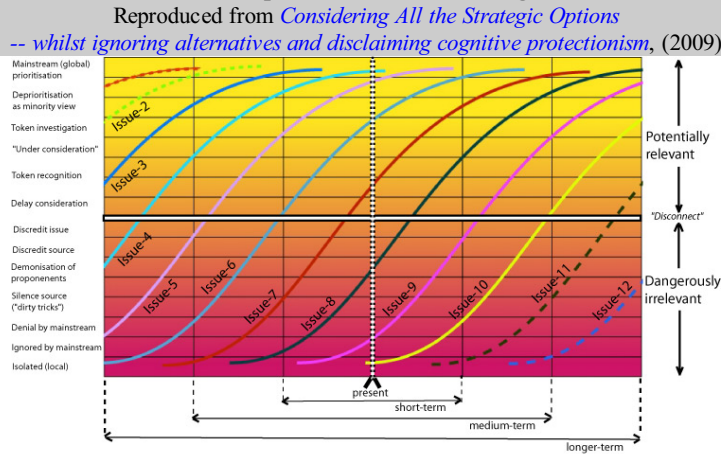
- Detailed consideration of the interrelationships between population, environment and poverty eradication was left to the... 1994 [International Conference on Population and Development](#) (ICPD) meeting in Cairo. In the run-up to the Cairo meeting, the world's scientific academies convened a population summit to explore in greater detail the complex and interrelated issues of population growth, resource consumption, socioeconomic development, and environmental protection (Royal Society 1994). The ICPD reflected a growing awareness of the interconnectedness of population, poverty, consumption, and the environment (UN 1994). However, since the 1994 Cairo Conference the critical links between demography, environment and development have been overlooked in international sustainability debates. (p. 12)
- In 2000 at the Millennium Summit, world leaders came together to adopt the Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out the [Millennium Development Goals](#) (MDGs), a series of time-bound targets with a deadline of 2015. Issues of family planning and population were perceived as too controversial to include in the MDGs and although the [UN Millennium Declaration](#) refers to UNCED and [Agenda 21](#) it did not mention the Cairo [[International Programme of Action](#)]. (p. 13)

It is important to recognize why such matters were not given further consideration in these periods and subsequently. Failure to do so raises the possibility that further consideration of the current report will be similarly shelved. If the identification of vested interests is too sensitive and controversial, ways should be found to handle such recognition as is the case in other social sciences.

The climate change debate offers a multitude of learnings, notably with regard to the inability of "science" to consider such debate in systemic terms -- notably as a consequence of its intense polarization. Valuable insights are evident in a recent well-articulated, and highly polarized, interaction (*In the Climate Casino: an exchange*, *The New York Review of Books*, 26 April 2012; responding to *Why the Global Warming Skeptics Are Wrong*, 22 March 2012). Another valuable case study is offered by engagement with the conclusions of *The Limits to Growth* (1972), as documented by Graham Turner (*A Comparison of the Limits to Growth with Thirty Years of Reality*, 2007).

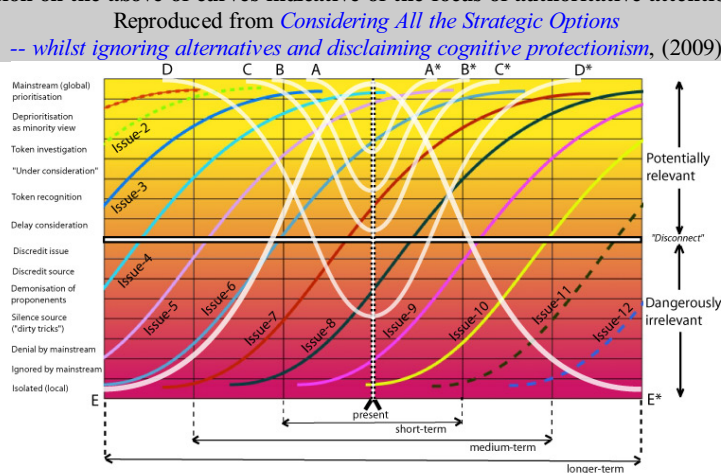
A systemic approach also needs to take account of the manner of emergence and recognition of issues over time, as explored separately and illustrated by the following two figures.

Fig. 3: General framework for representation of issue recognition and denial over time



To the above representation may be added (in Fig. 4) an indication of the manner in which "authority" engages with such issues -- as might be exemplified in the case of the (over)population debate.

Fig. 4: Superposition on the above of curves indicative of the focus of authoritative attention and recognition



Factoring the unknown into strategic initiatives

It is curious that the distinguished "professors" responsible for the Royal Society report are indeed suggestive of the nature of the knowledge "professed" by the report. In the thick of a strategic challenge, and irrespective of whatever the criticism can be usefully made of **Donald Rumsfeld** (former US Secretary of Defense) he has had the unusual merit of highlighting a dimension which professors typically ignore, namely the nature of the "unknown" and the manner of engaging with it. The report offers no sense that the professors are ignorant of anything of relevance with respect to the strategic challenge of "people and the planet".

Notoriously, Rumsfeld articulated his insight in a "poem":

*[T]here are known knowns; there are things we know we know.
 We also know there are known unknowns; that is to say we know there are some things we do not know.
 But there are also unknown unknowns - there are things we do not know we don't know.*

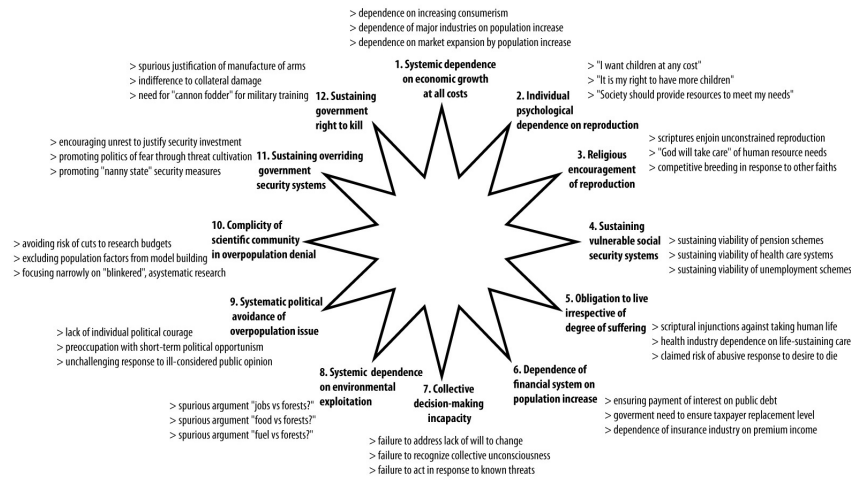
In confessing ignorance in this way, Rumsfeld might ironically be understood to be taking on the complementary role of a "confessor" -- a role which could well have enhanced the the quality of the report and the maturity of its recommendations, especially given the importance of its religious implications for circumventing any "barriers".

Why is it that a "scientific" approach fails to address the strategic issues in systematic terms -- building into that system the intangibles, uncertainties, and controversies of a chaotic system, which are not resolved by the simple consensual assertion of "professors" (cf *Engaging with the Inexplicable, the Incomprehensible and the Unexpected*, 2010) ?

Blithe articulation of consensual recommendations fails to recognize that society is having the utmost difficulty in reaching consensus on the effective implementation in practice of any strategy. Consensus could be fruitfully considered an indication of a lack of **requisite variety** of perspective, characterized by "healthy disagreement", essential in any effort to manage complex systems "Consensus", as implied by the report, does not "travel well" in terms of implementation (*The Consensus Delusion*, 2011). There is even the possibility that, as a system, "people and the planet" are inherently ungovernable in cybernetic terms (*Ungovernability of Sustainable Global Democracy?*, 2011). In this respect, the report limits itself to naive comments on the need for leadership -- effectively a recommendation for dependence on parental guidance of potentially questionable nature.

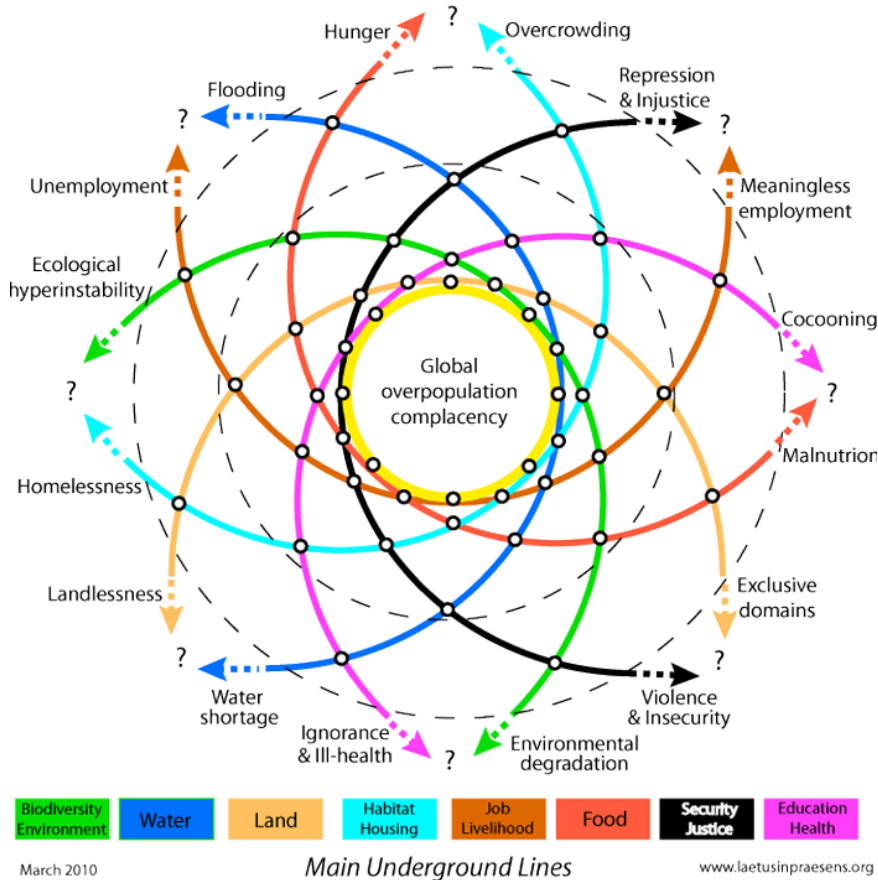
The question is then what factors are likely to be ignored, and for what reason, in assessing the systemic nature of the strategic challenge? How do these exacerbate the "psychosocial boundaries", if not as directly constitutive of them? Attention is drawn to these in the following two figures.

Fig. 5: Map of the Global Underground
 Reproduced from *Map of Systemic Interdependencies None Dares Name: 12-fold challenge of global life and death* (2011)



The complexities of any systemic analysis desperately require that they be rendered widely comprehensible rather than meaningful only to elites, as argued separately (*In Quest of Mnemonic Catalysts -- for comprehension of complex psychosocial dynamics*, 2007). This is presumably the key to informed democratic decision-making. One effort to that end is indicated below -- inspired by the map of the underground "system" in the city where the Royal Society is headquartered.

Fig. 6: Map of the "Global Underground"
 Reproduced from *Mapping the Global Underground: Articulating Insightful Population Constraint Consideration (IPCC)* (2010)
 in relation to *The Unconscious Civilization* (1995) described by John Ralston Saul



In terms of the need to communicate a complex systemic pattern widely, a representation of this kind has the considerable advantage of engaging attention and memorability through the possibility of integrating into its (cybernetic) ring-structure a mnemonic association to the "One Ring" at the centre of the widely-recognized drama by J. R. R. Tolkien (*The Lord of the Rings*, 1954) -- thereby engaging the imagination:

*One Ring to rule them all, One Ring to find them,
One Ring to bring them all and in the darkness bind them*

In the map, the overpopulation-related issues appropriately figure centrally as the "one ring" which (subconsciously) "binds" the other systemic processes. The current relevance of such "myth" to global governance is discussed separately (*Relevance of Mythopoeic Insights to Global Challenges: cognitive integration implied by the Lord of the Rings*, 2009).

Clarification of the focus of the report by word usage

The balance of the above argument can be clarified to a degree by examining the use of certain words (or their roots) in the text of the report. The following (roughly clustered) are merely indicative, with some occurrences omitted where these duplicate similar usage. The words have been selected to explore the contexts in which attention is given to the systemic, the psychosocial, the cognitive and to "sex".

Systemic/Cybernetic: The following relatively simplistic references do not indicate that the relationships between the issues have been understood systemically:

- system*:
 - The relationship between population, consumption and the environment is not straightforward, as the natural environment and human socioeconomic systems are complex in their own right. (p. 7)
- complex*:
 - The relationship between population, consumption and the environment is not straightforward as the natural environment and human socioeconomic systems are complex in their own right. (p. 101)
 - Many of the complex problems that face the world in the coming decades will be ameliorated by slowing rapid population growth in the Least Developed Countries and averting unintended pregnancies everywhere, including the More Developed Countries. (p. 102)
 - But today's market system is distorted by failure to price environmental and social impacts, leading to perverse incentives for unsustainable activities. GDP is a poor measure of social wellbeing and does not account for natural capital. In the past it has proved to be an attractive measure for policy makers because it reduces many complex issues into a single figure that can be compared between countries. It is also a strategic weapon in a world where nations compete for economic and political significance - often at the expense of future well-being. (p. 104)
- feedback*:
 - Population and consumption are both important: the combination of increasing global population and increasing overall material consumption has implications for a finite planet. As both continue to rise, signs of unwanted impacts and feedback (eg climate change reducing crop yields in some areas) and of irreversible changes (eg the increased rate of species extinction) are growing alarmingly. (p. 7)
 - Critics of *Limits* accused the authors of 'Malthusian reasoning', failing to allow for the social and economic feedback mechanisms that could overcome scarcity and environmental constraints. (p. 12)
 - With the increase in global scale environmental problems such as climate change, pollution, stratospheric ozone depletion, and ocean acidification, and as understanding of potential thresholds and feedbacks has grown, the finite nature of Earth is again receiving attention. (p. 63)
 - It enables questions to be asked about the potential for technological change, the relationship between economic growth and population change, and the potential feedback mechanisms between environmental impact and population growth. (p. 69)
 - Both global population and global consumption continue to rise and signs of unwanted impacts, interactions and feedback are growing - for example climate change reducing crop yields in some areas - and of irreversible changes - for example the increased rate of species extinction. (p. 101)
- failure:
 - Progressive and irreversible loss of biodiversity reduces option values for future generations as well as being a failure of stewardship by the human species. (p. 82)
 - But today's market system is distorted by failure to price environmental and social impacts, leading to perverse incentives for unsustainable activities. (p. 104)
 - Over the next 30 - 40 years the confluence of the challenges described in this report provides the opportunity to move towards a sustainable economy and a better world for the majority of humanity, or alternatively the risk of social, economic and environmental failures and catastrophes on a scale never imagined. (p. 105)
- simul*: no mention

Social: As an indication of the claim to have taken adequate account of a social science perspective, the following quotations call for comment by a variety of social sciences, notably those challenging the more conventional understandings of "social":

- socio*:
 - The relationship between population, consumption and the environment is not straightforward, as the natural environment and human socioeconomic systems are complex in their own right. (p. 7)
 - Changes to the current socio-economic model and institutions are needed to allow both people and the planet to flourish by collaboration as well as competition during this and subsequent centuries. (p. 8)
 - However, attention must be paid to the socio-economic dimensions of technological deployment, as barriers will not be overcome solely by technology but in combination with changes in usage and governance. (p. 8)
 - It has been argued that family planning programmes work best when desired fertility has declined because of socioeconomic development, and that they are more effective when integrated into other government policies in areas such

as health, education and rural development. (p. 31)

- Economists, sociologists, anthropologists, environmentalists, philosophers and theologians have different perspectives on consumption (UNDP 1998). This Chapter adopts an environmental approach, which focuses on consumption as it relates to the use of renewable (for example; water, wood and food) and non-renewable natural resources (for example, energy and minerals). (p. 48)
- At present there are no well charted ways for 10 billion people to achieve lifestyles like those enjoyed in the Most Developed Countries, because the only known way forward is economic growth, and that will come into collision with the finite earth. Technology can help, but without socio-political change it cannot solve. There is much work to be done. (p. 98)
- Furthermore attention must be paid to the socio-economic issues associated with technological deployment and growth in population and consumption, otherwise technology will always be catching up. Science has a crucial role to play in improving the understanding of causes and effects, and ways to intervene effectively to limit the most damaging trends. (p. 103)
- Changes to the current socio-economic model and institutions are needed to allow both people and the planet to flourish by collaboration as well as competition during this and subsequent centuries. (p. 106)
- **controversy*:**
 - These impacts raise serious concerns and challenge us to consider the relationship between people and the planet. It is not surprising then, that debates about population have tended to inspire controversy. (p. 4)
- **consensus -- does it purport to be a consensus? as with climate change:**
 - Despite the growing body of work looking at alternative measures of progress, including measures of wellbeing, as yet there is no consensus on a replacement for GDP, or if indeed there should be one. What is clear is that very few alternative measures of progress actually measure sustainability - a key element of development. (p. 90)
- **disagreement/dissent:** no items

Psychosocial: As with the above remark concerning "social sciences", further questions need to be raised from the variety of "psychological" perspectives considered to be relevant, if only in the light of the first quotation below:

- **psycho*:**
 - The psychological and health aspects of being in direct contact with nature must also be properly understood. (p. 65)
 - Security is important for two reasons: both because of the direct negative effects that crime, accidents, natural disasters and climate change have on human lives, and also because of the corrosive psychological and social effects of the awareness of insecurity. (p. 85)
 - The high level of public awareness of climate change in the UK does not always translate into cuts in individuals' greenhouse gas emissions, as behaviour is shaped by many psychological, social and structural factors. (p. 88)
- **doubt:**
 - So long as an excess of competition between nations continues, the future of humanity is in doubt. (p. 106)
- **belie*:**
 - Some demographers believe that all countries in the world are in different but converging stages of this process, others believe that the completion of the transition is not an inevitable end point for all. (p. 18)
 - The sustainable development debate has, over recent years, been typified by those who argue that population growth is the source of current unsustainable trends, and those who believe that consumption is the primary culprit. (p. 60)
 - Many believe that problems arising from the depletion of natural capital can be overcome by the accumulation of knowledge, manufactured capital and human capital. Others believe there are limits to substitution possibilities. (p. 72)
 - And because there are strong reasons to believe that left to themselves, individuals do not have the adequate motivation to act as trustees, something like a collective agreement on husbanding nature is required. (p. 74)
 - Some argue that there should be no controversy, because access to safe abortion secures the good of the mother's autonomy. Others believe that more is at issue: namely, the status of the developing embryo and foetus and what kind of treatment they deserve. (p. 93)
- **opinion:** no mention
- **myth:** no items

Thinking: Irrespective of "psychological" perspectives, it is appropriate to recognize the various calls for "new thinking" and "paradigm shift", notably in relation to expectations from new forms of leadership. Comments on the strategic relevance and nature of these would appear to be significantly lacking in the report:

- **cogn*:**
 - Cultural Services are the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences. (p. 64)
- **radical*:**
 - This will entail scaling back or radical transformation of damaging material consumption and emissions and the adoption of sustainable technologies, and is critical to ensuring a sustainable future for all. (p. 8)
 - Other Earth system processes have been radically altered with almost certainly deleterious consequences that are poorly understood (eg biodiversity loss, ocean acidification), while others may have imminent consequences (eg freshwater availability, fisheries). (p. 72)
 - A more radical solution would be to adopt a model in which people do not work so hard once their primary needs are amply satisfied. This report is not the place to pursue these highly contested strands, but they cannot be ignored. (p. 87)
- **fundament*:**

- On a finite planet there are environmental constraints on human population growth and material and energy consumption. Some limits may already have been reached, and fundamental human needs for food, energy and water are at risk. (p. 82)
- Meeting the need for family planning is a fundamental health issue, and therefore is important in its own right irrespective of arguments about population. (p. 102)
- critic*:
 - Most published estimates of Earth's human carrying capacity uncritically assume answers to these questions, though the answers are not necessarily made explicit. (p. 69)
 - The view that humanity is constrained by environmental limits has been criticised by many on the grounds that absolute resource scarcity does not exist and cannot exist because well functioning markets will stimulate substitution and innovation, and that technological or cultural innovation will provide alternatives. (p. 72)
 - However, new technologies can also have negative impacts on ecosystems and human wellbeing, and their uncritical application can be damaging unless careful assessment is undertaken prior to implementation. (p. 75)
 - In the last few decades, whilst the pursuit of GDP has become one of the primary policy objectives for almost every country in the world, it has also come under sustained criticism. (p. 89)
 - A coherent assessment of challenges to people and the planet, and how they should be addressed, is critical for achieving sustainable development. (p. 101)
 - Humanity is now approaching a crucial time in this ongoing interaction, making this a critical moment for policy makers. (p. 105)
- paradigm*: no mention
- new think*: no mention

Intercourse-related: The following support the arguments made below with respect to the report's aversion to "sex" in any form:

- sex*:
 - The drivers of declines in maternal mortality have been sexual and reproductive health care and nutrition. (p. 29)
 - At the national level, gender differences in schooling, wage employment and political representation are commonly used measures; alternatives include age difference between spouses, preferences for the sex of children and the prevalence of polygamy. (p. 33)
- intercourse: no mention
- coitus: no mention
- procre*: no mention
- instinct*: no mention
- attractor*: no mention

Formally ignoring a fundamental systemic process: the economy vs. the fucking?

Avoidance of debate on overpopulation: Overpopulation is carefully avoided in international debate, as previously documented (*Institutionalized Shunning of Overpopulation Challenge: incommunicability of fundamentally inconvenient truth*, 2008). It is to the very great credit of the Royal Society that it has ventured where other institutions fear to tread.

It is extremely curious, as indicated above, that in a systemic context many of the challenges faced by society could be best understood as engendered and exacerbated by the increase in population -- by population longage. This merits careful attention since it arguably extends to the challenges of the increasing instabilities with which governance is faced. It is however only too evident that **every effort is made to avoid reference to population increase in the analysis of any of the much-cited conventional problems**. Much to its discredit in debating such issues, "science" assumes it to be a "given" about which nothing can be said. The pattern goes further to exclude any reference to whether or not anything should be said. Whether and how it is a factor in exacerbating the crises of the period, it merits being "on the table" as a factor for consideration -- rather than being designed "off the table", by "science".

The current financial "crisis" offers a related phenomenon in that it is of course frequently mentioned -- with the implication that it is beyond human control, even an "Act of God" in insurance terms. It has been "naturalised" in the sense of having been turned into a natural phenomenon -- as with the natural disasters with which it's consequences are compared. There is little question of any systemic analysis to determine how it was engendered. This is of course extremely convenient as an explanation of challenges to governance and its obvious inadequacies in that respect.

"Downstream displacement": It is in this sense that many initiatives to deal with resource crises can be seen as avoidance mechanisms through which the focus is shifted onto "downstream" (consequential) issues. Irrespective of the merits of the argument for [anthropogenic climate change](#), the **"scientific" argument focuses on the activities of humans to the exclusion of any concern with the increase in the population and the forces driving it**. The latter factor is not considered -- as noted above with respect to the Kaya Identity. The [UN Climate Change Conference](#) (Copenhagen, 2009) can then be explored as a caricatural case study in this respect (*United Nations Overpopulation Denial Conference*, 2009). More generally it can be said that governance, as informed by "science", has now adopted the curious posture of analyzing and designing strategic responses by ignoring the phenomenon of population increase and the need to find a means of addressing it. This process lends itself to a case study in its own right (*Lipoproblems: Developing a Strategy Omitting a Key Problem*, 2009).

Sexual intercourse: However it is more than curious that an informed discussion of "people and the planet" should be remarkably free of any reference to sexual intercourse and the degree of instinctual psychological commitment to it -- as the manner by which population increases is "engendered". As widely recognized by the advertising industry -- driving the ever greater consumption the report deplores -- sexual attractors are vital catalysts to that process. The report is remarkably unable to integrate that process into its considerations -- a

process known to all, as with its implications.

Has international discourse not reached a degree of maturity at which the reference to sexual intercourse, variously explicit in most forms of daily entertainment, should be matched by equivalent recognition in a report on population by the most eminent? Put bluntly, **the people of the planet are deeply committed to "fucking" -- and metaphorically it figures widely in strategic discourse.**

Imitation of media censorship: The approach of the report is however consistent with that taken by the media in many instances. It is curious to recognize how any inadvertent reference to "fucking" is subject to suppression, as with [bleep censorship](#) in the broadcast media. There is conflation of commitment to suppress profanity and recognition of the fucking process -- which typically takes other forms variously acceptable (if not a primary attractor) according to audience and to legislative provisions. Curiously it could be said that "science" has its own form of ["content control software"](#) (nanny programs), widely used in response to pressures from research funding bodies.

Recognition of the fucking factor: Consideration of population increase in any form, most notably by "science", merits consideration in the light of such pressures. The challenge is all the greater with respect to "fucking" via any of its euphemisms and synonyms. "Science" -- through a process of "conceptual gerrymandering" -- typically excludes any reference to the psychosocial processes by which population increase is engendered. As noted above, in the case of the report's focus on "consumption", the manner in which this is catalyzed by sexual processes and attractors merits a degree of consideration which is assiduously avoided. It is considered "respectable" for "science" to do so. It is understandable that a group of eminent professors, having gone out on a limb to associate themselves (diffidently) with the issues of population increase, could ill-afford to be associated professionally with a "fucking" report.

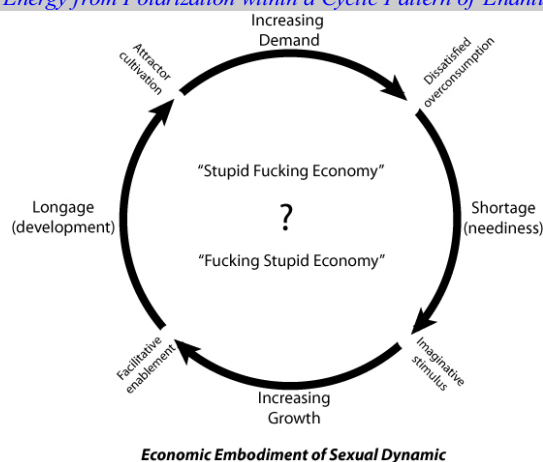
Hazardous debate: Any debate on overpopulation is subject to such considerations, which themselves merit scientific consideration (*Overpopulation Debate as a Psychosocial Hazard: development of safety guidelines from handling other hazardous materials*, 2009). Unfortunately, as illustrated by the [global warming controversy](#), "science" has demonstrated the greatest difficulty in analyzing the debate -- as a psychosocial process -- in order fruitfully to transcend its unproductive dynamics.

Depths of "stupidity": economy or fucking? The argument can be framed otherwise in the light of the intense current strategic focus on "economic" issues, recalling the phrase successfully used in American politics during Bill Clinton's 1992 presidential campaign against George Bush -- given the latter's neglect of the economy. The phrase was (and still is): *It's the economy, stupid*. However, in terms of the above argument, within a systematic framework tortured by increasing shortages, *it's the economy, stupid*, obscures the underlying reality whereby a fundamental "longage" is increased. Rather than *It's the longage, stupid*, a phrase more relevant to the current resource crisis might be: *It's the fucking, stupid*. Consistent with this argument, the urgency recognized by the report has been eloquently and emphatically expressed by some constituencies with phrases to the effect that humanity is "fucking the planet", most especially its ecosystems. Ironically, in a problematic sense the global system might even be said to be based on a **"fucking economy"** -- dependent on ever-increasing population.

"Under the table" dynamics: The lack of attention to the "non-scientific" behavioural process, universally characteristic of the "people" studied by the report, unfortunately tends to suggest the significant probability that most of those participating have forgotten whether and why they may have engaged in uncontrolled sexual activity at some stage in their lives. At the same time, the extent of the dynamics "under the table" is widely recognized and tolerated at the highest level -- notoriously exemplified by Bill Clinton himself. It is admirably highlighted, presumably after "due diligence", by the original selection of [Dominique Strauss-Kahn](#) as managing-director of the IMF (*Pre-Judging an Institution's Implicit Strategy by the Director's Private Behaviour: remarkable parallels in the case of the IMF and Dominique Strauss-Kahn*, 2011).

Fig. 7: Suggestive mirroring of economic and sexual cycles

The schematic is consistent with an earlier exploration of a "2-stroke" cyclic approach (*Psychosocial Energy from Polarization within a Cyclic Pattern of Enantiodromia*, 2007)



Systemic "black boxes": Issues of residual embarrassment, prudery and the like should be appropriately recognized in any systemic analysis -- as with tendencies to promiscuity and hedonism. If, following from the insight of Rumsfeld, some matters are necessarily "unknown" or "unsaid", provision can be made for "black boxes" on a systems diagram -- as with those regarding the disproportionate role of "dark matter" in astrophysics. If "fucking", or some euphemism, is too problematic for a report by "science" or its intended audience, the technique used by the print media could be employed as indicative of a cognitive "black box" process which is too hot to handle, namely "f*****".

Managing cognitive dissonance through humour: The practice of such self-censorship would be regrettable in that the term "coitus" is freely used in one of the most widely distributed (and translated) sitcoms -- especially inspired by science (*The Big Bang Theory*). It notably features as guest stars the renowned physicists [Brian Greene](#), [George Smoot](#), [Neil deGrasse Tyson](#) and [Stephen Hawking](#), most recently (*Stephen Hawking Corrects Sheldon's Math On 'The Big Bang Theory'*, *The Huffington Post*, April 2012).

Delightfully for this argument, Hawking and Greene are Fellows of the Royal Society. How far can "scientific" pretence be usefully taken in a world in crisis? The sitcom is attractive to such physicists, and to many hard scientists, precisely because the main male actors portray scientists of exceptionally high IQ -- but much challenged by normal social interaction of every kind.

It is the dynamics centred on their preoccupation with "fucking possibilities" -- framed as "coitus" -- which renders it extraordinarily successful. The "human interest" of the long-running sitcom, and its comprehensibility to a worldwide audience, is highlighted by the absolute ("inhuman") rejection of this ("meaningless") preoccupation by the arrogant assumptions of the [lead actor](#) -- thereby giving depth to the drama. That humour may be further enhanced by the connotations in slang of "big bang". In the light of the "pneumatic exposure" accorded to the [lead female actor](#) -- the only person with high social intelligence -- there is then a case for exploring the implications of that dynamic attractor in relation to governance, especially in the light of scandals at its highest levels (*Global Governance via a Double-breasted Strange Attractor: cognitive implication in a dynamic sexual metaphor*, 2009). That she lives "across the hallway" from the others, and is "untidy" in their eyes, is suggestive of the nature of cognitive challenge in engaging with a complex system and its attractors.

Humour as an enabling catalyst: As the most prestigious scientific body, the Royal Society -- through the report -- has effectively designed itself into such a leading male role within the global tragicomedy of ongoing debate about the crises of the planet. Unfortunately the report is unable meaningfully to reframe its engagement with "people issues", as the sitcom does through the humour ensuring its evident attractive power. As with the sitcom's lead actor, such dimensions are considered "meaningless" -- whereas, as with the aesthetic attractors notably valued in relation to "fucking possibilities", they may be a key to reframing understanding of the global challenge, as discussed separately (*Humour and Play-Fullness: essential integrative processes in governance, religion and transdisciplinarity*, 2005; *Enacting Transformative Integral Thinking through Playful Elegance*, 2010; *Global Governance via a Double-breasted Strange Attractor: cognitive implication in a dynamic sexual metaphor*, 2009)

Scientific discourse typically restricts its recognition of humour to its deprecation of contrary views -- as being ludicrous. There is no capacity to integrate humour into science itself -- despite its role in social discourse.

Report recommendations and relevant strategic questions

Given the relatively tragic track record of non-technical global strategies, other than as framed by official public relations initiatives, there is a case for challenging any new strategic recommendations in terms of feasibility -- in the light of that record. The much-cited comment of [George Santayana](#) is relevant: *Those who cannot remember the past are condemned to repeat it.*

A useful criterion has been framed by [Edward de Bono](#) in terms of "operacy". This can be used to distinguish between "knowledge" (as articulated by the report) and the potential for implementation -- in the light of the remedial action barriers noted above, for example. For de Bono (*Judgment, recognition and operacy*, 2006):

- the notion that it is enough to "know" is both absurd and dangerous.
- operacy is about action and the skill of thinking for action instead of thinking for description... [It] is the skill of operating, or getting things done. In the real world, that is almost as important as literacy and numeracy.

The review of the report by *The Economist* makes the point otherwise:

The report makes several good and reasonable points. Population and the environment should not be considered as two separate issues, it says. That's true. The links are important and do need to be considered -- though not because the connections are ignored, but rather because they are too often treated in a highly simplified way ("there are too many people on the planet"). As will be seen, the report does not always escape this objection itself... A report by Britain's finest scientific minds explaining how the poorest could rise towards American standards of living without also rising towards American standards of pollution would have been extremely valuable. Alas, this is not that report. (*Population and Growth: but on the whole it stinks*, 30 April 2012).

As illustrated (above) by the IPCC exclusion of the population factor in relation to the Kaya identity, de Bono's point regarding operacy becomes pertinent. For him, without tool-based systemic thinking, there is higher potential for what he terms "drift thinking" -- waiting for things to happen -- as characterized by the IPCC's relegation of the population issue to the "too-hard basket". The question is what insight is required to enable the conversion of knowledge into remedial action.

As stated by Joel E. Cohen (*What Will It Take to Save the Earth?* *The New York Review of Books*, 16 April 2012) in concluding the review two relevant books:

The root problem of decarbonising energy supplies, climate change, and many other aspects of environmental sustainability is **the lack of institutions to reconcile the conflicting incentives of people involved in national democracies and other governments, globalization, and environmental sustainability**... Powerful American politicians still deny climate change, though its reality and causes are clear from many reliable sources... Meanwhile the human population is rising by 75-80 million a year... Since 1700 human numbers have grown elevenfold, soon to be twelvefold, while economic activity per person has grown twelvefold. The result is a collision of these major factors: national democracies and other forms of government with their own parochial perspectives in space and time; the global reach and short-term incentives of economic globalization; and the

long-term integrity of Earth's biological and physical systems that support all humans. *[emphasis added]*

This institutional inadequacy is evident in a critique of the analysis of Jacques Attali, first president of the European Bank for Reconstruction and Development (*Tomorrow, Who Will Govern the World?*, 2011).

For institutions to be capable of reconciling conflictive incentives, however, they need to be enabled by a methodology that can transcend the disempowering mode of debate which has characterized climate change. They also need to circumvent the tendency to design questionable gerrymandering of boundaries into that methodology. The report's recommendations, as reproduced below, merit challenging in this light.

Recommendation 1: The international community must bring the 1.3 billion people living on less than \$1.25 per day out of absolute poverty, and reduce the inequality that persists in the world today. This will require focused efforts in key policy areas including economic development, education, family planning and health.

How? When has the "international community" established a capacity to act coherently in practice, other than through promises subsequently broken?

Recommendation 2: The most developed and the emerging economies must stabilise and then reduce material consumption levels through: dramatic improvements in resource use efficiency including reducing waste; investment in sustainable resources, technologies and infrastructures; and systematically decoupling economic activity from environmental impact.

Is this really to be considered an innovative proposal rather than a strategy variously stressed on many occasions, with very mixed results?

Recommendation 3: Reproductive health and voluntary family planning programmes urgently require political leadership and financial commitment, both nationally and internationally. This is needed to continue the downward trajectory of fertility rates, especially in countries where the unmet need for contraception is high.

How is this to be related to recent cut backs in the funding of UNFPA and other family planning bodies? Where has "leadership" appropriately to the current pattern of crises been evident?

Recommendation 4: Population and the environment should not be considered as two separate issues. Demographic changes, and the influences on them, should be factored into economic and environmental debate and planning at international meetings, such as the Rio+20 Conference on Sustainable Development and subsequent meetings.

Whilst laudable, should this not be compared with similar language (in past decades) seeking to integrate environment with development -- with well-recognized outcomes?

Recommendation 5: Governments should realise the potential of urbanisation to reduce material consumption and environmental impact through efficiency measures. The well planned provision of water supply, waste disposal, power and other services will avoid slum conditions and increase the welfare of inhabitants.

Does this not call for attentive recognition of systemic dependencies and vulnerabilities -- as well as of ulterior motives bearing a systemic resemblance to the industrial arguments for intensive farming?

Recommendation 6: In order to meet previously agreed goals for universal education, policy makers in countries with low school attendance need to work with international funders and organisations, such as UNESCO, UNFPA, UNICEF, IMF, World Bank and Education for All. Financial and nonfinancial barriers must be overcome to achieve high-quality primary and secondary education for all the world's young, ensuring equal opportunities for girls and boys.

The intent has long been admirable. How is it that the marked tendency to engender "third world" conditions, in the slum areas of even the most developed countries, goes unexamined -- with notable implications for basic education and the acquisition of skills?

Recommendation 7: Natural and social scientists need to increase their research efforts on the interactions between consumption, demographic change and environmental impact. They have a unique and vital role in developing a fuller picture of the problems, the uncertainties found in all such analyses, the efficacy of potential solutions, and providing an open, trusted source of information for policy makers and the public.

There is no question regarding the desirability. Is the more fundamental issue the nature of the dynamics which inhibit or prevent such research and transform it into a dangerous career option, as noted above?

Recommendation 8: National Governments should accelerate the development of comprehensive wealth measures. This should include reforms to the system of national accounts and improvement in natural asset accounting.

To what extent is this a characteristic electoral promise, readily made and just as readily ignored in practice? Why? Then what?

Recommendation 9: Collaboration between National Governments is needed to develop socio-economic systems and institutions that are not dependent on continued material consumption growth. This will inform the development and implementation of policies that allow both people and the planet to flourish.

This is a welcome possibility. However as with Recommendation 7, the question is how and why any efforts to explore such alternatives -- as frequently proposed -- are so systematically underfunded and undermined?

It is unclear whether this articulation of nine recommendations was intended to match in some way the "nine planetary boundaries" (Fig. 1) to which the report refers. To the extent that is the case, could the recommendations have been more fruitfully configured as a system of interacting initiatives -- consistent with the systemic insights interactions associated with recognition of those boundaries?

This would have enhanced the coherence of the recommendations as a set. It would also have set a valuable precedent for the forthcoming [United Nations Conference on Sustainable Development](#) (Rio de Janeiro, 2012) to which they will be presented. This could correct the pattern initiated by its precursor in 1992 which elaborated an asystemic "to-do" list in the form of [Agenda 21](#).

Shortsighted formulaic prescriptions

The report is somewhat explicit on what is seen as the role and limitations of what it understands to be "science":

Science is most often thought of as supplying practical solutions - which it does with great success.... However, it is wrong to suppose that technology on its own will solve all problems. (p. 104)

It then goes on to say that:

Barriers must be overcome not only by technology, but also by changes in usage and governance. Furthermore attention must be paid to the socio-economic issues associated with technological deployment and growth in population and consumption, otherwise technology will always be catching up. (p. 104)

What "barriers" are these? The "nine planetary boundaries" (of Fig. 1) or those of the kind identified with respect to remedial action (in Fig. 2) -- about which so little is said in the report? The comment immediately continues with what might be considered a relatively restrictive interpretation of such barriers -- possibly even to be understood as forms of resistance to ill-considered implementation of technology:

Science has a crucial role to play in improving the understanding of causes and effects, and ways to intervene effectively to limit the most damaging trends.... (p. 104)

As argued above, and despite the claimed inclusion of representatives of the social sciences, it is difficult to detect in the report any systemic approach to "causes and effects" -- quite the opposite in fact, as discussed below.

Its subsequent assertion can only be understood as preposterously naive under the circumstances:

Humanity needs to learn to act collectively and constructively in the face of long term and therefore sometimes elusive threats, not just when faced with immediate and tangible ones. In addition to identifying threats attention must be paid to warnings and responses undertaken accordingly. The best technology applied in the context of a thoughtful society increases the chances of the majority of humanity flourishing rather than merely surviving. (p. 104)

There is no sense of how humanity might go about learning when enjoined in this way -- especially in the absence of further insight into what to learn and how to learn it. The situation is exacerbated by various symptoms of the erosion of collective memory and the increasing constraints of information overload and limited attention span ([Emerging Memetic Singularity in the Global Knowledge Society](#), 2009; [Societal Learning and the Erosion of Collective Memory](#), 1980).

Such prescriptions are as typical of the resolutions of international organizations as they are of religions. It is this futile pattern which calls for attention and insights into the possibility of its transcendence ([Transcending Simplistic Binary Contractual Relationships](#), 2012).

Conclusion

New thinking? It should be stressed again that the main significance of the report could well lie in the fact that it exists at all -- and that the Royal Society has had the courage to venture where few institutions dare to go. However its more fundamental significance lies in clarifying what has not yet been achieved or addressed in global strategic thinking -- *to boldly go where no man has gone before*, as

science fiction aficionados would frame it.

Clearly sexual intercourse was "a bridge too far". This offers the provocative question as to whether such a report was expected to "go all the way" -- or the further speculation that intercourse within its Working Group effectively made use of conceptual contraceptives to avoid accidental emergence of the new.

Inadequate engagement with discourse dynamics: As a collective learning exercise, if overpopulation is indeed an "inconvenient truth", how does the report embody the learnings from the earlier framing of global warming as an inconvenient truth? Are there inconvenient truths to the recognition and handling of inconvenient truths, as separately discussed (*An Inconvenient Truth about any Inconvenient Truth*, 2008)? Rather than assuming that conventional debate of the matter was possible and appropriate, could the report have fruitfully clarified a new mode of discourse for handling controversial issues -- which are a threat to the careers of those who engage with them (*Overpopulation Debate as a Psychosocial Hazard: development of safety guidelines from handling other hazardous materials*, 2009)?

The report makes clearer that "science" does not yet have a methodology for discussing such complex controversial issues. This is especially the case where these involve powerful vested interests variously framing the debate and opposed to systemic analysis and clarification -- particularly when their interests are threatened by being rendered explicit. This has been evident to a lesser degree in the inability to analyze fruitfully the climate change debate as a process -- with its pressures for consensus and the active resistance to closure.

Questionable reliance on consensus: The report highlights again the sense in which "science" is not self-reflexive, preferring a framework in which an emergent consensual understanding is "right" and dissident perspectives are "wrong". This is effectively the essence of the challenge of decision-making and governance in complex systems -- as exemplified by various highly divisive national elections at the time of writing (*Transcending Simplistic Binary Contractual Relationships*, 2012). Such self-reflexivity would call for psychosocial skills to which "science" currently attributes little value and in which it seemingly has little expertise -- despite the preoccupations of [metamathematics](#).

Missing systemic links: Unfortunately, if appropriately, it is the psychosocial dimension which is most intimately associated with "fucking processes", their manipulation by the media in order to encourage (over)consumption by a complicit audience, and their significance for dominant belief systems -- whether religious or hedonistic.

How does the process of elaborating such a report come to grips with what might be missing from its analysis? How should it elicit recognition of its blindspots? How might its very perspective be part of the problem -- if only from the perspective of others it might hope to convince? Does failure to do so inhibit recognition of the nature of the solution required?

How to handle what is "unmentionable" -- perhaps necessarily so within the language and methodology used? Does healthy international discourse on population matters need to be informed, controversially, by a Freud or a Jung, in the light of the evidence of a [Kinsey](#) or a [Hite](#)? Rather than demographic bean-counters, would the report have benefitted from input from a "fucking specialist" -- perhaps of the world-renowned eminence of Bill Clinton or Dominique Strauss-Kahn? Significance depends so much on the constraints implied by what is missing, as recently argued by [Terrence W. Deacon](#) (*Incomplete Nature: how mind emerged from matter*, 2011; *The importance of what is missing*, *New Scientist*, 26 November 2011).

Terrestrial "extras" defined by "overpopulation": There is a delightful irony to this report of the Royal Society, in its historic focus on the challenge of what might be termed "extra terrestrials" -- or perhaps as "terrestrial extras" (in drama parlance). A year previously it had produced a themed issue of its *Transactions* focusing on the *The detection of extra-terrestrial life and the consequences for science and society* (*Philosophical Transactions of the Royal Society*, February 2011). Given the concern with excess population, *People and the Planet* could well have been entitled: *Extra terrestrial life and the consequences for science and society*.

Less delightful with respect to understandings of "extra" is the question of whether the Royal Society's methodology actually enables detection of the "life" of those "extra" terrestrials, and to what degree they could be considered to "have a life" under the present conditions of global civilization. What might it take to be defined as an "extra terrestrial"? As in some cultures of the past, is this likely to be the fate of the elderly -- surplus to requirement -- in a future aging society faced with resource crises?

Even more problematic, as evident from recent history, the "extra terrestrials" could be those defined as [subhuman](#) or the subject of [eugenic](#) triage. Such forms of unchecked scientific gerrymandering have of course enabled official strategies for their termination.

Exploration of psychosocial alternatives: The report is very explicit in concluding that:

- There is a need to measure what matters to people's lives, in addition to GDP. Measures of wellbeing can improve our understanding of the factors driving societal progress. (p. 99) *How are people to contribute to this clarification?*
- Despite the many flaws of using GDP as a measure, it is still attractive because it is a fully systematised body of knowledge - possibly the first such system to have a truly global reach - which allows for a relatively comprehensive understanding of the performance of the economy over time. GDP is also a strategic tool, in a world where nations compete against one another for economic and political significance. (p. 89) *Where are the challenges to this argument collected for all to see?*
- Despite the growing body of work looking at alternative measures of progress, including measures of wellbeing, as yet there is no consensus on a replacement for GDP, or if indeed there should be one. What is clear is that very few alternative measures of progress actually measure sustainability - a key element of development. (p. 90) *In the light of the debate on "climate change", what form is this "consensus" expected to take and how can it be enabled?*

As noted with respect to Recommendation 9 (above), it is absolutely unclear that adequate attention is given to the exploration of alternatives, to their simulation, or to experimentation in practice. The extent to which efforts in this direction are underfunded, deprecated and undermined is however very clear. Winston Churchill famously asserted: *Democracy is the worst form of government*

except all those other forms that have been tried from time to time (11 November 1947). The question is whether psychosocial "alternatives" are effectively tried and appropriately evaluated -- as is so systematically (and scientifically) done with technology. The report makes no suggestions in this respect.

Ensuring requisite variety: open-source vs silo thinking: As an illustration of the challenge of governance, the introduction offered the tale of a pilot lost in a storm. It made the point that any particular form of silo thinking necessarily elaborates systemic arguments to challenge the legitimacy and appropriateness of other forms of silo thinking -- as in the case of those offering competing advice on governance. In that case "Microsoft" was contrasted with "Apple" and "Linux" as competing forms of silo thinking. In the case of overpopulation debate, the contrasting views include those of religion (most notably the Abrahamic religions), business in need of expanding markets, and government itself (in need of increasing tax revenue).

The "Linux" of the tale points to a possibility to which the report could usefully have drawn attention. Linux is an instance of the [open-source methodology](#) now receiving increasing attention with respect to [open source intelligence](#) and the [crowd-sourcing](#) of insight (Eric S. Raymond, *The Cathedral and the Bazaar: musings on Linux and open source by an accidental revolutionary*, 1999).

An "open source" approach could be understood as a corrective to the gerrymandering practiced by science with respect to overpopulation debate and its surrogates -- as argued above. It reinforces the argument that in order to explore the many dimensions of that debate effectively -- as with the complex of people-planet strategic dilemmas acknowledged by the report -- a new mode of insight gathering is required.

This is currently fruitfully illustrated by [Wikipedia](#) in contrast with the style of the *Encyclopaedia Britannica*, with which that of the Royal Society could be usefully compared. Wikipedia enables an engagement "of people" with "the planet" in ways foreign to the closed traditions of "science". In this respect, it is appropriate to note the copyright constraints on use of the contents of that report. Open-source is the antithesis of scientific gerrymandering. It enables the kind of discourse which has been designed out of the report on *People and the Planet*. -- notably with respect to emergencies (*Enabling Collective Intelligence in Response to Emergencies*, 2010).

Responsibility for action: As with many reports of this kind, it includes vague appeals for by action by an essentially non-existent "international community". The nature of its existence is as problematic as that of other ghostly entities central to current strategic formulation, as separately discussed (*Cultivating Global Strategic Fantasies of Choice*, 2010). This essentially non-scientific approach constitutes a form of abdication of analytical responsibility when science variously claims to be "responsible" in relation to the dramatic issues of the times. The issue of deniable responsibility can be caricatured by adapting a classical "poem" (*Responsibility for Global Governance: Who? Where? When? How? Why? Which? What?*, 2008).

Media presentation: Appropriate to its descriptive content and to the above argument, the report title could be said to be missing any sense of the active dynamic which constitutes the challenge of governance of a [complex dynamic system](#) -- especially one readily recognized to be a [chaotic system](#).

There is significant probability that the collective learning required by the emerging crises calls for recognition of the distinction made in an early report to the Club of Rome (James W Botkin, et al., *No Limits to Learning; bridging the human gap*, 1979). As discussed separately, this distinguished between "[maintenance learning](#)" and "[shock learning](#)". The question to be asked is whether, as presented, the admirable conclusions of the Royal Society report exemplify "maintenance learning" and its limitations.

Would the report have ensured greater engagement with its arguments had it been possible to entitle it: *Fucking People -- Fucking the Planet*? Or perhaps better still, in a media savvy world: *F***** People -- F***** the Planet*?

Statement on Population and Consumption (14 June 2012) of the InterAcademy Panel: the Global Network of Science Academies (IAP)
Subsequent to publication to the Royal Society report (as reviewed above), and to the review itself, the world's 105 science academies through the IAP highlighted the global challenges of population and consumption and called upon world leaders to take decisive action. " <i>We are delighted that the world's science academies have chosen to come together to highlight two of the most profound challenges to humanity - population and consumption - and to call for urgent and coordinated international action to address them</i> " said IAP Co-Chairs. The statement emphasizes the relevance of population and consumption to the future of both developed and developing countries and reminds policy makers preparing for Rio+20 of the need to consider a number of issues. [Text of Statement]

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