Challenges of Science Upheld as an Exclusive Mode of Inquiry

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Introduction

This document is effectively an annex to the separate discussion of Problematic Sexual Paradoxes of Pandemic Response: denial and unconscious cover-up in the light of Jung, Freud, and Sabina Spielrein (2021).

For the purpose of this argument, the following challenges are best indicated briefly since there tends to be extensive commentary on each. References are given in the main document. Other items could of course be added.

The main document generalizes the argument to consider the Vulnerability of collective initiatives to memetic diseases (2021). The questions raised follow from an earlier exploration (Knowledge Processes Neglected by Science: insights from the crisis of science and belief, 2012).

Existence of "science"?

It is appropriate to ask, within its own terms, whether and how science can be held to "exist". A major contribution to this question is the argument in the light of quantum insights, as extensively developed and clarified with respect to international relations by Alexander Wendt (Quantum Mind and Social Science: unifying physical and social ontology, 2015; The mind-body problem and social science: motivating a quantum social theory, Journal for the Theory of Social Behaviour, 48, 2018, 2).

Wendt notes that constructs like nation states (as with "USA" or "Russia") are effectively legal fictions -- especially from any hypothetical extraterrestrial perspective. The argument can be readily extended to science and religion. As a particular mode of inquiry, to what extent is science a figment of the collective imagination -- a collective construct?

From such a perspective, it is curious to note the degree to which hypothesis is promoted as certainty to the exclusion of any other perspective which may later prove to be of relevance -- if only in millennia to come. This ensures premature closure on understanding which the future will undoubtedly call into question. An aspect of the argument lends itself to caricature (Beyond Harassment of Reality and Grasping Future Possibilities: learnings from sexual harassment as a metaphor, 1996).

Scientism

A case has been made against scientism by critics -- as the promotion of science as the best or only objective means by which society should determine normative and epistemological values. Scientism is engendered by the manner in which science is misleadingly cultivated and promoted by some scientists and those uncritically persuaded of its merits.

Curiously "science" is unable to disassociate itself objectively from scientism, nor to engage in the condemnation of it which is reserved for what is deemed to be pseudoscience. Scientism is not held to be a pseudoscience, nor can it be handled objectively as a phenomenon.
Science tends to be complicit in uncritical promotion of science.

**Questionable quality of evidence-based science**

The dubious quality of evidence on which science is based, and for which it is cited with uncritical admiration, has been notably cited in relation to medical research. Such criticism has been most specific in relation to the efficacy of vaccines -- acknowledged to be "experimental" (Malcolm Kendrick, *Covid19 – the final nail in coffin of medical research*, OffGuardian, 7 July 2021).

Especially confusing, as demonstrated with respect to authoritative reports by scientific health experts in the course of the evolution of the pandemic, is the manner in which the conclusions of that research are either reversed -- or vacillate between one asserted conclusion and the contrary (Jon Rappoport, *FDA reverses itself: rejects COVID antibody test results; insanity reigns*, OffGuardian, 6 July 2021; *Fauci falters on consistent coronavirus message*, Boston Herald, 27 December 2020).


**Complicity of science in its politicisation and misuse**

There is widespread recognition of the politicisation of science -- with much institutional science is uncritically complicit. Like religions, science has developed processes to frame what is most dubious as isolated and exceptional, and therefore irrelevant in being unrelated to "science" (Naomi Oreskes and Erik M. Conway (*Merchants of Doubt: how a handful of scientists obscured the truth on issues from tobacco smoke to global warming*, 2010). To an even lesser degree than religion, "science" has little possibility of constraining or condemning such behaviour -- as might well be cited with respect to cooptation of Nazi scientists by *Operation Paperclip*.

The lack of rigour is manifest to different degrees in the following, variously acknowledged by bodies such as the *Union of Concerned Scientists* and the earlier *Society for Social Responsibility in Science*:

- agricultural sciences, and their production of environmentally problematic pesticides
- defence research, as with the development of weapons of mass destruction
- pharmaceutical research, and the production of products with questionable side effects
- invasive information and control systems, recognized as enabled by the uncritical application of the best of systems thinking,
- (mis)information, as it may come to be defined, may well substantiate the extent to which scientific authorities have been complicit in its dissemination

Ironically, just as institutional religion is being demonstrated to have a "paedophilia problem", characterized by "paedophile networks", it could be argued that institutional science is faced with what might be termed as a "pseudophilia problem" -- characterized by "pseudophilic networks". This could be variously understood:

- complicity in modes of research which can be construed as incompatible with the essential principles of science as a mode of inquiry
- compromised by subjecting research to contextual political and funding constraints with little ability to consider these in terms of its principles
- characterized by complicity in research harmful to individuals and the environment (torture, experimentation on humans, pollution of human chains, etc)

Curiously in relation to the sexual thread of this argument, institutional science is well-documented with respect to its bias against women in science. In this sense, and more generally, science can be understood as exacerbating rather than mitigating the challenges faced by society. Institutional science is indeed complicit in the initiatives of government to suppress misinformation -- as a means of controlling the infodemic. It could then be asked why science does not actively eradicate from its many databases any reference to research and evidence which is now held to be obsolete and therefore misleading to any who come across it, by chance or otherwise.

Why is the accumulation in the scientific literature of problematic results tolerated -- when the eradication of that from alternative research and evidence which is now held to be obsolete and therefore misleading to any who come across it, by chance or otherwise.

**Constrained capacity to deal with diversity**

Although subscribing to the merits of biodiversity and the requisite diversity of any gene pool (to avoid the consequences of incest), a rational response to the emergence of alternative perspectives within science itself has proven to be highly problematic:

- arguably each emergent discipline and paradigm is a challenge to those adhering to the conventions of older disciplines and paradigms
- the validity of new disciplines and modes of inquiry is accepted only with reluctance -- as highlighted by the well-recognized "pecking order" among sciences
• criticism by scientists of each other may well exceed the conventions of rational discourse and degrade in a manner which does little to honour the principles of scientific inquiry
• many disciplines of science cultivate their depreciation of what they qualify as “rubbish” -- potentially including the research of related disciplines, that emanating from academic institutions held to be of lesser quality, or that deemed outdated
• science has been unable to develop a methodology capable of handling rationally a diversity of perspectives, as exemplified by the minimal relevance of interdisciplinary and transdisciplinary initiatives -- and their depreciation other than for token public relations purposes
• whilst extolling the ultimate goal of the “unity of science”, existing methodologies avoid the cognitive challenge which this might imply. However, for science, as with many religions, there can be only one right way -- any alternatives are necessarily a hindrance to its pursuit (ironically including those framed in terms of “unified science”). This attitude unfortunately reinforces the political equivalent which featured in the slogan There Is No Alternative (TINA).

There is therefore considerable irony to the absence of the perspectives articulated by poets, such as:

• Wallace Stevens: *Thirteen Ways of Looking at a Blackbird* (1917). How many ways does science enable the engagement with reality and where are they presented together in the spirit of the unity of science? The argument has been developed separately (*Anticipating When Blackbirds Sing Chinese*, 2014).
• John Keats: *Negative capability* (1817), namely the ability to perceive and recognize truths beyond the reach of consecutive reasoning. What capacity does science have in that respect? The argument has been developed separately (*Being Positive Avoiding Negativity: management challenge of positive vs negative*, 2005)

**Human factor?**

It is curious to note how the human dimension is taken into account by a "science" which has long prided itself on its focus on the "natural sciences". This is exemplified institutionally by the formal recognition by UNESCO of the International Science Council, until very recently the International Council of Scientific Unions, notably grouping bodies representing 31 international disciplinary unions. Seemingly as a result of budgetary constraints rather than any quest for interdisciplinarity, the new body was merged in 2018 with the International Social Science Council. The latter had grouped a range of disciplinary bodies best characterized as representative of the behavioural sciences -- and notably excluding those psychosciences so readily held to be pseudosciences.

Arguments are however made to distinguish the behavioural sciences from the social sciences -- although both are significantly employed in the analysis and persuasive manipulation of public opinion. An indication of their questionable framing of the human factor is the seemingly unrelated body recognized by UNESCO, namely the International Council for Philosophy and Humanistic Studies. Allegedly grouping hundreds of hundreds of learned societies in the field of philosophy, human sciences and related subjects, their modes of inquiry are presumably to be deprecated according to the criteria of science. Curiously it could be said that science has arrogated all responsibility for interdisciplinarity (if not transdisciplinarity) to an intergovernmental body whose budget it has been effectively complicit in constraining.

Given the very constrained framing of the human condition cultivated by science, however "social" or "behavioural", there is considerable relevance to any question relating to the experiential disorders from which scientists may personally suffer, claim to suffer, or be perceived as suffering. The theme is addressed by Paul Knoepfler (*Scientists and Suicide, The Niche, 26 July 2015*), noting that many scientists over the centuries have committed suicide. It offers a link to a partial list in *Wikipedia*, which does not exist (or has been deleted without reason as a result of the edit wars). Also noted there is the earlier research reported (*Famous Researchers' Ultimate Stress: when doing science leads to suicide, The Scientist, November 1990*).

Comments on Knoepfler's framing extend the question to depression, of which suicide may be a consequence. The "deleted" *Wikipedia* list would seem to have been absorbed into a more comprehensive List of suicides, thereby obscuring an inconvenient question. As queried by M. Imtiaz Khan, given that most icons of statistical physics committed suicide: *Is statistical physics really a killer subject?* (20 October 2020).

Is there a case for exploring the incidence of depression and suicide by scientific discipline -- among the member bodies of the International Science Council? Information is fragmented and cover-up is an evident tendency, as noted in one comment (Pamela Wible, *What I’ve learned from my tally of 757 doctor suicides, The Washington Post*, 13 January 2018, including 164 responses). So framed *Wikipedia* offers a List of deaths from drug overdose and intoxication, but without specifying the cognitive modality which may have required medication or a dependency on non-prescription drugs.

There is extensive research by the "social" and "behavioural" sciences regarding the global incidence of suicide and depression, although the question of the extent to which this affects practitioners of those disciplines is seemingly of little relevance. One counter-argument is that any focus on scientists is misleading, if not irrelevant, because scientists are indeed human and therefore as vulnerable to human disorders as are non-scientists.

In this pandemic period there is increasing concern by science at the impact on mental health of COVID-19 (*Alison Abbott, COVID's mental-health toll: how scientists are tracking a surge in depression, Nature*, February 2021). That of scientists has also been recognized (Christine Chan, et al, *Mental health of scientists in the time of COVID-19, Brain, Behavior, and Immunity*, 88, August 2020). More generally, however, it is then appropriate to note a report on *Science careers and mental health (Nature*, 23 August 2019):

Science’s hyper-competitive environment and its ‘publish or perish’ culture can breed anxiety and depression. *Nature*’s latest global graduate survey, published in October 2017, showed 12% of all respondents had sought help for anxiety or depression caused by their PhD studies. And an international study published in *Nature Biotechnology* in March 2018 provided compelling
Missing from that is any indication of the discipline from which "respondents had sought help" -- potentially distinguishing between the medication offered by the "natural sciences" and that offered by those framed as "pseudosciences" (Marie Miguel, *Counseling Resources for Stressed Scientists*, BioEnergy Consult, 8 May 2021). This would help to clarify the degree of pseudorelevance of science faced with the experiential challenges of scientists -- and of other human beings.

Concern with the "human factor" is framed otherwise by the rapid rise of artificial intelligence and the extent to which science assumes it will render irrelevant any such preoccupation (*Humans as agents empowered by an AI with agency?* 2021; Svetlana Radtchenko-Draillard, *The Fates of the Human Factor in Science and Contemporary Society at the Era of Digitization*).

**Gender bias in science**

As noted above, little needs to be said regarding the gender bias in science. Of particular relevance however is the manner in which its cultivation reinforces both the gender bias in wider society and the more fundamental challenge of engagement with difference and otherness. As with the challenges noted above, science as currently practiced exacerbates the problems of science rather than mitigating them.

Like widespread representation of statues of Lady Justice (Justitia), it is a remarkable irony that Science should be represented in statue form as a woman -- in front of the Boston Public Library -- in a city renowned for its association with science. This could be interpreted as a form of hypocrisy equivalent to that aroused by slave owners honoured in statue form.

**Questionable priorities**

Given the challenges for science indicated above, it could be asked (from a pseudoscientific perspective?) the extent to which the focus of science constitutes an historically unprecedented act of avoidance of its own problematic condition and cognitive biases (*Question Avoidance, Evasion, Aversion and Phobia: why we are unable to escape from traps*, 2006).

The preference is evident for the avoidance of inconvenient problems in favour of challenges in which the human factor is minimized (*Challenges More Difficult for Science than Going to Mars*, 2014). Science would appear to indulge in "cherry-picking" the "low-hanging fruit" -- with extremely limited capacity to address the "human problems" so evident in society and within the practice of science, as discussed separately (*Knowledge Processes Neglected by Science: insights from the crisis of science and belief*, 2012).

**Lack of self-reflexivity**

The challenges above suggest that science is remarkable for the inadequacy of its methodology in the study of the processes of science and the relationships between disciplines and scientists. As with most human beings, science is much constrained in its capacity to "see itself in a mirror" -- a process promoted by some disciplines it labels as pseudosciences. The considerable insight into self-reference of relevance to cybernetics is not adapted to science itself (Hilary Lawson, *Reflexivity: The Post-Modern Predicament*, 1985).

What attention does science give to the disorders ("diseases") to which it may be especially vulnerable -- of which the most obvious, and least controversial, are cognitive biases (*Memetic and Information Diseases in a Knowledge Society: speculations towards the development of cures and preventive measures*, 2008). Whilst attentive to the diseases of others, little is said of its own vulnerability -- especially when constrained by an infodemic and a pandemic in which others are to be condemned as unbelievers and a primary source of misinformation. Attentive as it is to the study of games and their simulation, there is no enthusiasm for any study of "games scientists play" -- within disciplines, between disciplines, or in their exclusive relation to other disciplines (Carl J. Sindermann, *Winning the Games Scientists Play*, 1982).

Clues to the scope of the challenge are evident in understandings of the anthropology or archaeology of knowledge:

- Fredrik Barth *An Anthropology of Knowledge*. Current Anthropology, 43, 2000, 1
- Michele Avis Feder-Nadoff *Bodies of Knowledge: towards an anthropology of making*. *Entanglements*, 2, 2019, 1
- Mark Harris (Ed.). *Ways of Knowing: new approaches in the anthropology of experience and learning*, 2007
- Søren Harnow Klausen *Challenges for An Anthropology of Knowledge* (*Ethno-Epistemology: New Directions for Global Epistemology*, 2020)
- Michel Foucault: *The Archaeology of Knowledge* (2002); *The Order of Things: an archaeology of the human sciences* (2001)

**Pseudorelevance to the pandemic**

Despite being constrained as it is by the above factors, it is "science" (as such) that is cited as the authoritative justification for the strategic responses to the pandemic -- discussed in the main document from a psychoscientific perspective. Although "science" (like religion) could variously (if not vigorously) claim to have little, if anything, to do with how it is applied, "science" makes little effort to question its misuse -- and may well be highly critical of any scientists who do so.

Questions might fruitfully include:

- which topics are not pursued and why
• who does not cite whom and why
• what is the role of ignorance given the degree to which it is evident and any perception of present-day science by the future

Arguably it is not a question of what is thought or asserted, but from what perspective it is asserted.