When Two Crises Meet – The COVID-19 Pandemic and Science Denialism

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1.

Before the COVID-19 pandemic, the world was facing another challenge of a different kind, also very harmful, science denialism. In this essay, I sketch a broad framework explaining the conflict leading to science denialism. I then argue that the pandemic alters both components of this conflict. This diagnosis has consequences to our dealings with science denial in a post-pandemic world.

2.

Epistemic normativity enjoins us to adjust our beliefs to the available evidence. However, for any subject about which one is not an expert, the evidential basis cannot be assessed directly, and one has to defer to experts. Expert knowledge is also built cooperatively – in the case of the COVID-19 pandemic, an epidemiologist might not have the competence of an immunologist, who might lack clinical expertise, and so on. And the general public counts on others to have information about the pandemic – its spread, its mortality rate, and its very existence. It is not only a matter of interpersonal trust, but also of trust in institutions, from the WHO and universities to governments and the media. All this goes a long way to show how much our knowledge is built on trust. It also shows a kind of vulnerability of science – many think that science denialism has its origin in a lack of trust in experts. This vulnerability has deep roots in human evolution.

The asymmetric division of knowledge is part of the very fabric of human culture. We have evolved to learn from others, quite often things that we do not understand, and to track who is trustworthy on what matters (Csibra and Gergely 2011; Sperber *et al.* 2010). Evolution follows the benefits of the division of cognitive labour: a group as whole knows much more if epistemic competence is distributed, even if much of the resulting knowledge remains opaque to most of its members. Science takes to an extremely high level the asymmetric epistemic dependence and the benefits of knowledge, but both have always been features of our species. Epistemic asymmetric dependence has a long evolutionary history, and so does what enters in conflict with it.

Large scale coordination requires the identification of groups, for which cues are required. Displaying beliefs is a way to show that one belongs to a group, and beliefs themselves are sensitive to coordination functions, being selected with the behavioural patterns they produce (Funkhouser 2017). The refusal of evolution theory is a case in point. Some think that for most people there are no practical consequences of accepting the theory of evolution or refusing it, and espousing creationism "can have significant social benefits, depending on whom one wishes to conform with." (O'Connor and Wheaterall 2018: 90) However, as Dobzhansky famously said, "nothing in biology makes sense except in the light of evolution." There is no epistemic reason whatsoever to accept creationism, nor its pseudo-scientific counterpart, intelligent design theory. Such views are accepted as a way to signal the alignment with a group. Coordination pressures are so strong that some think that they always trump epistemic values. Harari, for instance, says that "we have always lived in the age of post-truth," because we create fictions that "served to unite human collectives" in large-scale cooperation (Harari 2018: 195).

But besides solving coordination problems, such as cheating and free-riding, cooperation also has to generate benefits, "the *other* cooperation problem" (Calcott 2008). The benefit of the division of cognitive labour is knowledge. While the generation of knowledge favours diversity, coordination prefers homogeneity. This dilemma translates into a tension between coordination values and epistemic values. One of the sources of science denialism is the functioning of beliefs as identity markers. In subjects with political significance, such as anthropogenic global warming, the distribution of views patterns with political and cultural lines, and not with the epistemic competence of subjects (see, e.g., Kahan, 2016). For many such subjects, an anti-science stance has been actively promoted by right-wing think tanks, financed by industries having specific economic interests, such as scepticism about global warming promoted by the oil industry (Oreskes and

Conway 2010). This strategy taps into the identitary function of beliefs: those unwilling to accept scientific results will find pseudo-scientific theories that are much more congenial to their worldviews, at the cost of losing knowledge. There is a trade-off between the epistemic benefits of cooperation and group identification. At this juncture, the COVID-19 pandemic enters our story.

3.

The first, maybe obvious way in which the pandemic alters the balance between epistemic benefits and group identification is by making more salient the importance of science: we need science to understand the pandemic, to face the challenges it presents, to project the future. As the benefits of cooperation become more salient, the value of science is reinforced. Uncertainties do not change the evidential requirements for any given theory; the fact that there are doubts about a certain subject does not make everyone an expert. More than ever, we need experts from different fields, we need institutions that embody such expertise, and we need the media to give correct information about such a complex challenge. That is why the balance seems to be shifting towards a more widespread acceptance of science (e.g., *Edelman* 2020; Matthews 2020). But the other side of the balance is also reinforced by the pandemic. To see why this so, we have to take a step back.

One reason for what seems to be an increase in science denialism is a change in the information landscape created by the Internet. In this new information environment, financial and reputational costs are very low, giving much more power to fringe groups (Mounk 2018). The more obvious effect is the increase of hate-fuelled speech. Hatred did not spring up with the Internet, but hate-fuelled groups gained an unprecedented power in this morally unconstrained world. This environment also favours epistemically unconstrained speech, to a large extent, by the same groups. As Kahn-Harris says about far-right denialists, their "concept of truth is one in which the individual is the arbiter of what is truthful." (Kahn-Harris 2018: 139) It is a world unhindered by any moral or epistemic filter, in which it is much easier for science denialists to find their likes and to build a network around their unjustified views.

But this is not the only issue. Increasing inequality in societies leads to higher levels of status anxiety and to the reduction of trust (Wilkinson and Pickett 2018). As Lewandowsky suggested, science denialism may be fuelled by the rise of inequality, reinforcing the appeal of identitary beliefs and weakening overall trusting relations (Lewandowsky *et al*. 2017). Pandemic increases inequality, taking a much heavier toll on the poorer, and has by itself the same deleterious effects on the social environment (the effects of pandemic are not univocal; Cohn 2012). Worldwide, the far-right plays the identity card against every institution representing knowledge, resulting in all sorts of anti- or pseudo-scientific claims (Stanley 2018). The pandemic raises the value of this strategy, increasing the appeal of identitary calls, including those leading to science denialism.

4.

This momentous crisis is a crucial occasion to renew public trust in science (Fearon *et al.* 2020). But it also contains the seeds of deep distrust. Inequalities are an important factor in promoting identitary politics and diminishing trust, creating a favourable environment for anti-science movements. Nudges and well framed messages won't suffice to create stable public trust in science, nor to give a proper response to the pandemic, contrary to what seems to be suggested by van Bavel *et al.* 2020. In order to create a more trusting environment, we need to build less unequal societies.

References

Calcott, B 2008. The Other Cooperation Problem: Generating Benefit. *Biol Philos* : 179–203

Cohn, S 2012. Pandemics: Waves of Disease, Waves of Hate From the Plague of Athens to A.I.D.S. *Hist J.* **85**: 535-555.

Csibra, G and G Gergely. 2011. Natural Pedagogy as Evolutionary Adaptation. *Phil. Trans. R. Soc. B* **366** : 1149-1157.

Edelman Trust Barometer 2020. https://www.edelman.com/sites/g/files/aatuss191/files/2020-05/2020%20Edelman%20Trust%20Barometer%20Spring%20Update.pdf

Fearon, P A *at al.* 2020. Pivotal Moment for Trust in Science – Don´t Wast it. *Nature* **580**, 456.
Funkhouser, E 2017. Beliefs as Signals: A New Function For Belief. *Phil Psychology* **30**: 809-831.
Harari, Y 2018. *21 Lessons for the 21st Century*. Jonathan Cape.
Kahn-Harris, K 2018. *Denial – The Unspeakable Truth*. Notting Hill Editions.
Kahan, D 2016. The Politically Motivated Reasoning Paradigm, Part 1: What Politically Motivated Reasoning Is and How to Measure It. In *Emerging Trends in the Social and Behavioral Sciences*. 1-16.
Matthews, D 2020. Public trust in science 'soars following pandemic', *Times Higher Education*, May 7, 2020.
Lewandowsky, S *et al.* 2017. Beyond Misinformation: Understanding and Coping with the "Post-Truth" Era. *J. Appl. Res. Mem*. **6**: 353–369
Mounk, Y 2018. *The People vs. Democracy – Why Your Freedom is in Danger and How to Save It.* Harvard University Press.
O´Connor, C and J Weatherall 2019. *The Misinformation Age*. Yale University Press.
Oreskes, N and E Conway 2010. *Merchants of Doubt*. Bloomsbury Press.
Sperber, D *et al.* 2010. Epistemic Vigilance. *Mind and Language* **25** : 359-393.
Wilkinson, R and K Pickett 2018. *The Inner Level*. Penguin.
Van Bavel, J J *et al*. 2020. Using Social and Behavioural Science to Support COVID-19 Pandemic Response. *Nature Human Behaviour*.