



EGUsphere, referee comment RC3
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Comment on egusphere-2022-577

Anonymous Referee #3

Referee comment on "Brief communication: Climate science as a social process – history, climatic determinism, Mertonian norms and post-normality" by Hans von Storch, EGU sphere, <https://doi.org/10.5194/egusphere-2022-577-RC3>, 2022

Review of "Brief communication: Climate science as a social process -- history, climatic determinism, CUDOS and post-normality".

Climate science is not straightforward to define. The author traces its history, mentioning its use at the service of racial ideologies, its entry in the scope of physics where, according to the author, it has been transformed and policed by the adoption of modern scientific norms. Climate science is then touched by the post-normal revolution, with, using the author's terms: science being "de-scientized" and politicized, while policymaking being "de-politicized" and "scientized".

These four pages touch thus on many, many issues: history of science, climate determinism, science-policy interface, science public interface, scientific norms, social construction of sciences, dilemmas. With so many subjects, each of which the object of specific research involving scientists in STEM and human sciences, the tone is necessarily editorial, and, arguably, a bit forced at places. The cautionary advice about the risks of scientific research drifting from "mathematical rigor" to "political utility" is legitimate. However, with only three of the articles listed in the bibliography (excluding self-citations) postdating 2000, the reader might be left to think that research about values (and their management) in climate science (Winsberg, Lloyd, Jebeile), climate change communication (Russill, Dahan, Guillemot, Hulme), emergence and influence of earth system sciences and their political imprint (Dutreuil) --- to cite only but a very few actors active in these domains -- has not taken place over the last 20 years. The COVID pandemics has also boosted research and forums about the policy-expert interface. It results that many claims in this editorial may appear reasonable at first, but fail being fully convincing or useful, lacking a more solid bibliographic basis and specific concluding recommendations.

Among problematic points:

- according to the author, climate science inherited modern scientific norms when it entered the domain of physics. This statement seem to ignore that geography, as a discipline, also evolved and adopted modern scientific norms. As a general rule, I found geographical sciences to be connoted pretty negatively in this essay. Why, for example, would the "re-entry" of geographical sciences (l. 54) imply a tacit determinism ?

- who "climate scientists" are is not defined, so that the sentence "climate scientists transgress regularly into policy-prescribing" is not given much substance. Several high-impact articles about climate change, Earth governance, mitigation, and "tipping points" have been first-authored by scientists who would not describe themselves as "climate scientists", but perhaps rather as "Earth system scientists". In any case, the generalisation seems dangerous, not complying with good practice in history of sciences, and perhaps counterproductive.

- It is claimed that the output of science "is considered determining political needs" (l. 55). Which science, and which needs are we talking about ?

- Of course climate science is embedded in a social construction, and the norm of "disinterestedness" is unavoidably challenged by the fact experts in climate change are likely to feel personally concerned about climate change. They would be concerned in a different and more intimate way than, perhaps, a cosmologist is concerned by the fate of a black hole. Many climate scientists are concerned and "interested" in their research by the very fact that they live on Earth and may feel anger, fear, empathy when studying the causes, mechanisms and consequences of climate change. Put differently, the Mertonian norm of disinterestedness is challenged by a morale imperative imposed on climate scientists, which emerges from the responsibility of detaining useful knowledge in a changing world. Again, the author is making a valid point by stressing the risks generated by this "post-normal" context. Yes, non-epistemic values enter the production and communication of climate science. However, it is not clear here what is the author proposal to cope with this situation. Non-epistemic values cannot be suppressed and therefore not ignored. Constructive proposal should provide mechanisms to manage them, which may require innovative practices.

As noted by other reviewers, the paper needs some editorial work (misprints, citations, unclear sentences) but these will be more effectively addressed after the main comments.