Review of: "Boring Language Is Constraining the Impact of Climate Science"

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The premise of this essay is that the impact of climate science is being hampered by poor communication of its main results to the general public. It is easy to accept the basic truth of this - even if some counter-examples also exist. By itself, it is not a particularly controversial perspective.

The main thrust of this paper, then, is to suggest some techniques and tools that climate scientists might use to remedy the situation. In doing this, however, the authors venture far from the terra firma of the scientific method onto the more treacherous territory of public relations, advertising, and even propaganda.

Reading this, I was reminded of the three basic subjects taught in medieval universities, i.e., grammar, rhetoric, and logic. Modern science developed from the thread of "logic," while literature, politics, and the humanities have their roots in "rhetoric". I can certainly appreciate how the results of "logic" might well be supplemented by the modern-world tools of "rhetoric," but this essay advocates the use of rhetoric in more than just a supporting role. It elevates the rhetorical virtues to the point of deprecating the logical ones. As a climate scientist, I find this attitude quite dangerous and pernicious, and ultimately counter-productive.

The primary purpose of the natural sciences is to understand how the natural world works, and doing scientific research is inherently difficult. The results of climate (or any) science are reported in the first instance to other climate scientists (not the average citizen) in peer-reviewed papers. The language in such papers needs to be mainly concise, clear, rigorous, and unambiguous. If such language is repetitive and lacks creativity, that is not a bug, it's a feature. Scientific language is not intended at all to "change people's awareness, perceptions, and behaviors"; it is simply intended to convince readers that whatever research was done made sense, and that the results reported on are correct, within limits.

In this context, I confess I don't see the point of Table 1, which simply lists the frequency and occurrence of many useful and harmless words like "temperature" and "ocean" in just 5 randomly selected articles. It is not even clear whether "Sea ice" occurred one time in each of the papers, or just one time in total. What is so wrong with the phrase "climate change" occurring frequently in "scientific papers on climate change"? If the word "policy" occurred just 4 times in only one paper, clearly the sample size of 5 was way too small. Of course, this sample size is ridiculously small. Since the authors were using powerful tools like AI Bard, why didn't they use an ensemble of 5,000 papers, or 50,000, or more - or at least a big enough number that had some chance of being representative?

Figure 1 is also rather unfairly and gratuitously included as a straw-man example of the specialized language of

mathematics, with no effort made to explain what the symbols or the terms mean. I expect that whoever wrote the original paper that included Fig. 1 did make such an effort, though I doubt it was ever intended for mass public consumption. Figure 1 simply underlines the point that it is the language of science, and it is not so much boring as simply unintelligible to the uninitiated.

If the authors object to the use of phrases like "statistically significant" as alien to most people's daily lives, what would they suggest to use in its place? How about, e.g., the graduated likelihood scale as defined (quite precisely) by the IPCC (in Table 1 of https://www.ipcc.ch/site/assets/uploads/2017/08/AR5_Uncertainty_Guidance_Note.pdf)?

Another fundamental misunderstanding of the purpose of climate science is revealed by the author's advocacy of "regulating emotions, creating social bonds, stimulating imaginations, and persuading others ", and their desire to "create excitement" and to "acculturate away from climate apathy". These are the goals of "rhetoric" (or the advertising world), not "logic" (or science).

Moreover, as the authors report themselves (in their citation of Spampatti et al., 2023), there is "almost no evidence" that "trust in scientists", "transparent communication", or "moralization of climate action" offers any protection at all against the nefarious impacts of climate disinformation. For sure, scientists should (and do) try to counter the dissemination of climate disinformation, but ultimately, it is the responsibility of each citizen to confront their own biases, to take an appropriately skeptical attitude to all information, and to distinguish truth from propaganda. While there is certainly an onus on scientists to explain themselves, there is a corresponding onus on each citizen to make a good-faith effort to listen and understand, and for such interactions to take place in more sober settings than a stand-up comedy routine where the point is always the comedy, never the science. The authors here might consider treating the general public more as active and discerning rational agents rather than the passive recipients of cheap entertainment and the victims of manipulative propaganda they are assumed to be.

There is a recent trend in climate science to use “storylines” as a more intuitive and humanly accessible way of representing risk. See e.g., Caviedes-Voullieme and Shepherd, 2023, “Climate storylines as a way of bridging the gap between information and decision-making in hydrological risk” (https://doi.org/10.1371/journal.pclm.0000270 and other references therein). The use of such storylines would seem to be very much in the spirit of this paper (i.e., to make climate science less boring). Perhaps the authors here would consider evaluating storylines from their own perspective, maybe even using the Serendipity-Mindsponge-E3D knowledge management framework (whatever that is - I think we should be told more than just the teaser of a mention in the Abstract!).

Asking scientists to do much more than be trustworthy and transparent communicators is like asking a sports star to be a provocative entertainer at an after-match press conference. If certain rare individuals (e.g., Roy Keane) can do both, so much the better, but really it is unfair to expect footballers or tennis players to provide entertainment off the pitch as well as on it. That's the job of sports journalists, just as the job of mass communicating climate science is the job of science journalists, not primarily scientists themselves. Deep down, I suspect that most people (whether scientists or non-scientists) already know this.

In summary, this paper identifies a problem with the dissemination of climate science to the public at large, but by elevating presentation style over scientific substance, the cure recommended by the authors could well end up being worse than the disease.