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Inmaculada de Melo-Martín and Kristen Intemann. 2018. *The Fight Against Doubt: How to Bridge the Gap Between Scientists and the Public*. Oxford: Oxford University Press.

The Fight against Doubt provides a useful description, with excellent detail and rigor, of an impressive number of examples of scientific dissent producing (or related to) some socially harmful consequences. Moreover, the authors clearly present a number of arguments to dismantle some deeply entrenched ideas about scientific dissent. This is, surely, the most interesting contribution of de Melo-Martín and Intemann: a critique of the traditional idea that "normatively inappropriate (scientific) dissent" (NID) is relatively easy to identify, both in its elements and in its causes and consequences, and hence, relatively easy to deal with. The authors very convincingly show the opposite.

In the first place, dissent is an absolutely necessary mechanism for the progress of science (in an epistemic sense), and also a symptom of health in democratic societies (in a political sense). Trying to minimize dissent both in science and in the society's response to science, would do more harm than good. Second, there are no necessary and sufficient conditions that clearly identify when a particular example of scientific dissent is "normatively inappropriate". For instance, this is the case of the "bad faith" of the instigators of dissent: no matter how immoral their motives, the dissent they elicit might end having "good" consequences in some cases. These consequences cannot be predicted a priori, since they depend on too many causal factors, so bad faith is not enough to identify NIDs. Another case in point is the scientists' failure to rigidly follow some clearly and consensually established methodological rules. Shared disciplinary standards are often consensual only because they are broadly defined. In most scientific fields we find a certain degree of dissent about the description, interpretation and relevance of their methodological rules and standards. Finally, NIDs cannot be easily identified by external criteria such as the excessive social risks involved in the disagreement. On the one hand, there are NIDs in which the risks cannot be objectively assessed; on the other hand, there are NIDs where dissent is more or less clearly "inappropriate", but there are no risks at stake.

My main criticism to this part of the book is that it seems to depend too much on the assumption that the existence (and evaluation) of "normatively inappropriate dissent" directly depends on our having a set of sufficient and necessary criteria to identify it. Algorithmic disciplinary rules are the exception in science rather than the norm, as de Melo-Martín and Intemann rightly point out, and, if this is the case in the 'hard' sciences, it is much more so in the field of social science, politics and philosophy. Humans in general, and politicians and social scientists in particular, succeed in navigating the ocean of sociality, not thanks to an algorithmic compass or radar that help them describe the coast and the reefs, but thanks to concepts that are learnt and managed on the basis of *family resemblances*. It is not clear that having clear universal rules for identifying NIDs will improve this social navigation, as compared to our conventional appraisal of scientific disagreement, using contextual criteria that may not be generalized across NIDs.

Having identified the NIDs, the authors' address the problem of bridging the gap that these disagreements create between science and the public. On the one hand, the authors suggest that we should improve our control on the known sources of mistrust (scientific malpractices, conflicts of interests, marketization, etc.). On the other hand, they conjecture that appraising the tension between science and the public as a consequence of a disparity of social and moral values will help alleviating the conflict. Here De Melo-Martín and Intemann go contextual: there are no instructions as to how to find the values in conflict at NIDs, or the social mechanisms that link that disagreement on values to NIDs or the alleviating procedures to minimize the tension. The authors start their analysis with a reminder of the inadequacy of the value-free ideal. But if we take seriously the thesis that, not only value free science is impossible, but that the distinction between facts and values has to be superseded, we might end concluding that it is impossible to separate what are value judgments or social attitudes, on the one hand, and factual assumptions about the world. In this scenario, the recommendation of "take values into account" does not contribute much: values are already at work in the conflict between science and the public and the books provide no recipe to disentangle them.

This is a bit paradoxical given that the title promised the opposite: a proposal *to Bridge the Gap Between Scientists and the Public.* I can't help the impression that the authors are implicitly assuming here something like the so-called *deficit model* in science communication. NIDs would cause a gap between the science and the public. If NID could be weeded out of science, trust would reappear. I just simply wonder why.

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