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THE BLURRED BOUNDARIES BETWEEN SCIENCE AND ACTIVISM

Scientists who become activists: are they crossing a line?

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Abstract

This commentary explores a traditionally supposed boundary between science and politics, with particular attention to activist scientists who engage in public communication. Work in fields like science and technology studies shows that framing this boundary in terms of epistemological rules fails. Boundaries dictating proper scientific activities are at best pragmatic, context-dependent, and fluid. Certainly, certain kinds of politics can undermine the integrity of scientific knowledge, but it is imperative to recognize that all science is political. As we see with activist climate scientists, certain scientific knowledge carries far-reaching political consequences. It is thus problematic to call for the "de-politicization" of science or science communication. A turn from epistemic to ethical concerns perhaps offers a more constructive way forward.

The title question is a provocative one. The conception of a boundary between activism and proper scientific work is commonplace. But to understand the consequences and importance of this boundary requires a reflection upon what it is supposed to represent and effectively accomplish, its rhetorical appeal, the tangible effects of its enforcement, and how different groups interpret, imagine, and navigate this boundary.

So, the more generative questions are not whether there is a line between science and activism, or science and society more broadly, but why that line lies in different places for different actors, with greater or lesser fluidity, with more or less rhetorical might, and more or less epistemological and ethical consequences.

It might be heuristically useful to turn to a conventional notion of what such a boundary is to represent. Scientific knowledge, traditionally viewed, obtains its legitimacy precisely because it is derived from procedures that are meant to filter out subjective interference, for example, the social, political, cultural assumptions, ideologies, and values of scientists. In short, science, properly construed, is meant to be value-free. Activism, by its very nature, is a realm of social, political, and cultural values.

From a perspective informed by science and technology studies and related fields, it is clearly problematic to think of this boundary as representing a fundamental separation between science and politics, or knowledge and values, either in actual

practice or normative ideals. At most, it represents a pragmatic distinction between different social worlds, different activities, and different sets of practices. The realms of science communication and scientific research represent different jurisdictions, each of them with their own politics, epistemologies, and ethics. However, the boundaries between different spheres can become more or less fluid depending on the situation and strategies involved. Science and activism can and do (and arguably should) have reciprocal influence.

But however epistemologically and sociologically problematic pretences of value-free science are, it is not wholly naïve to wish that scientists, or any knowledge brokers, represent their research and evidence faithfully, without collusion, corruption, outside influence, motivated reasoning, or ulterior motives. Scientific knowledge is expected to be free of distortion and misrepresentation due to political motives or ideological influence. Of the most egregious transgressions, scientists should not fake their evidence, misrepresent data, or make unsubstantiated conclusions [McGarity and Wagner., 2008].

When it is suggested that science should be value-free or without political motivation, this is often what is meant. But at a meta-level, we understand that all science is political. This is the lasting influence of Bloor's symmetry principle: when analysing the creation and communication of scientific knowledge and the unfolding of scientific controversies, we must recognize that both true and false knowledge, and good and bad science, are socially constructed [Bloor, 1991]. So when arguments are made about scientific integrity, what is really being argued is that science should reflect *certain kinds of politics and values*, and eschew others [Douglas, 2015].

In sum, what is at issue here is how to manage epistemic concerns, methodological reflexivity, and effective strategies.

Symmetrical analysis was profound in that it was to be applied to a single case-study of a controversy. It allowed us to understand how all knowledge — even that which we hold to be legitimate — was shaped by social factors and context. Thus, the history and sociology of science became more rigorous than a body of research that merely championed the progression of objective science and that explained away scientific failures as corrupted by subjective values. But appropriated more strategically, it allows either side of a controversy to wield the insights of social, political, and cultural determinants of scientific knowledge as a critique against the other. Ironically, recognizing that all knowledge is socially constructed has led to more polarized asymmetrical analysis.

For example, Oreskes and Conway [2010] produced a compelling account of scientific controversies involving scientists who intentionally manufactured doubt about a range of issues from acid rain to climate change at the behest of corporations and according to their own neoliberal ideologies. This analysis is almost entirely asymmetrical in that it does not concern itself with the social and political contexts that affect the scientists on the other sides of these controversies. Conversely, there is no shortage of works that argue asymmetrically from the opposite perspective: concerns about climate change are being overblown because of shoddy science conducted by environmentalist ideologues or ego-driven scientists [e.g. Solomon, 2008].

Thus, denunciations of activist and politically-engaged scientists stem from the same general concern regarding scientists who collude with industry for financial gain. They are both being influenced by "external" factors, so to speak. Certainly one can debate the scholarly merit of these different analyses, but what one finds to be the more legitimate account depends partly on where one's interests lie. In scientific controversies, an accusation that a scientist has transgressed scientific norms becomes largely strategic.

From an epistemological point of view, whether one should accept a specific knowledge-claim ultimately depends on how robustly that claim meets the standards of scientific evidence. And since sociological explanations are not sufficient in themselves to accept or reject specific knowledge claims and must always be post-hoc, we are returned to the very question of the epistemological rectitude of science that sociological analysis sought to challenge. Hence, traditional questions of the effect of ideologies on factual accuracy and bias in science communication are never fully displaced [Roll-Hansen, 1994; Zia and Todd, 2010]. But sociological analysis, especially symmetrical analysis, is not moot. It allows us to adjudicate on the plausibility of different accounts of scientific controversies. This is crucial to understand the ways in which science becomes politicized, how rhetoric of "objectivity" becomes strategized, whose values are being represented, and ultimately, who to trust.

Why do scientists become activists or public communicators in the first place? In the case of climate change activism, it is typically not an attempt to bolster dubious scientific knowledge-claims by bypassing standard channels of scientific knowledge production and communication. It is perplexingly the opposite: to foster public and political acceptance of knowledge-claims that are well-founded according to the standards of scientific knowledge [Isopp, 2014]. And indeed, this work is often carried out by highly-respected researchers. Here activism supplements science, it doesn't circumvent it. It aims for political consequences. Activism is meant to engender action.

Thus, the call by some science communications analysts for the avoidance of ideological framings and a push for balance, depolarization, and de-politicization in debates remains problematic [Nisbet and Fahy, 2015]. Beyond tautologies that all science (and all science communication) is necessarily imbued with values and politics, science is politicized in particular ways because of the consequences of specific knowledge claims. Not all science is as politicized in the same manner as climate change, because not all science has as far reaching political implications. If one takes the potential effects of climate change seriously, then this enrolls legions of political actors, not least of which are overtly political institutions, namely governments. What could it possibly mean to "de-politicize" an inescapably political issue?

Here we meet the limits of questions of epistemic rectitude. Politicization is not something that necessarily jeopardizes knowledge production. It can mean that perfectly upstanding scientific knowledge has political implications. The contestability of climate science is a reflection of political context, not epistemic characteristics, for what this distinction is worth. Thus, science and science communication can meet epistemic standards and be overtly activist. So the general answer is no: there is no line that scientists cross by becoming activists that necessarily undermines the credibility or quality of scientific knowledge.

Certainly, epistemic questions are important and engender deep ethical concerns. We become preoccupied with whether or not science communication approaches some ideal of objectivity. A tension emerges. As prospects for political action become more dire, what are the strategic consequences of prioritizing epistemic ideals over other priorities? Public understanding of science research reveals that questions of trust matter much more than rational understanding, and political contexts matter most of all for effective action [Bolsen, Druckman and Cook, 2015]. Indeed, the very notion of "communications strategies" undermines the primacy of self-contained normative epistemology [Nerlich and Koteyko, 2009].

As analysts, we cannot escape politicization either, but levels of nuance and reflexivity can vary. As scholars who are concerned with the sociological dynamics of activist science, we are often engaged in our projects. The selection of a particular research topic is itself a political act, whether we are reflexive or not [Woodhouse et al., 2002]. We often choose our subject matter in order to promote it. Thus, if we study communication of climate change, or GMOs, or alternative energy systems, this has political consequences. Simply to bring certain discourses and knowledge projects to light has an effect. Even projects that call for de-politicization are politicized!

So while sociological analysis undermines the grounds of the epistemological superiority of science in some sense, it opens more reflexive possibilities for engagement; recognizing that values are latent in science and technology opens the door for action guided by ethical concerns - for activism. Since value-free science was just a pretence, no one needs to fear that activism in itself will undermine scientific integrity.

To reiterate, it is not entirely helpful to try and identify general rules of boundary-making. Should scientists be activists? This question is normative, and thus how one responds to it depends on their own ethics. For what purposes should scientists be activists? To what ends and according to which values should we align scientific knowledge? These are the compelling questions we should ask, as ultimately what will move us to act on issues like climate change is ethics, not objectivity.

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