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Institutionalised Science Communication and Epistemic Injustice

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In a recent paper, I argued that science communication, the “umbrella term for the research into and the practice of increasing public understanding of and public engagement with science”, is epistemically unjust (Medvecky, 2017). Matheson and Chock disagree. Or at least, they disagree with enough of the argument to conclude that “while thought provoking and bold, Medvecky’s argument should be resisted” (Matheson & Chock, 2019). This has provided me with an opportunity to revisit some of my claims, and more importantly, to make explicit those claims that I had failed to make clear and present in the original paper. That’s what this note will do.

Matheson and Chock’s concern with the original argument is two-fold. Firstly, they argue that the original argument sinned by overreaching, and secondly, that while there might be credibility excess, such excess should not be viewed as constituting injustice. I’ll begin by outlining my original argument before tackling each of their complaints.

The Original Argument For the Epistemic Injustice of Science Communication

Taking Matheson and Chock’s formal presentation of the original argument, it runs as follows:

1. Science is not a unique and privileged field (this isn’t quite right. See below for clarification)
2. If (1), then science communication creates a credibility excess for science.
3. Science communication creates a credibility excess for science.
4. If (3), then science communication is epistemically unjust.
5. Science communication is epistemically unjust.

The original argument claimed that science was privileged in the way that its communication is institutionalised through policy and practices in a way not granted to other fields, and that fundamentally,

While there are many well-argued reasons for communicating, popularizing, and engaging with science, these are not necessarily reasons for communicating, popularizing, and engaging *only* with science. Focusing and funding only the communication of science as reliable knowledge represents science as a unique and privileged field; as the only reliable field whose knowledge requires such specialized treatment. This uniqueness creates a credibility excess for science as a field. (*italic added*)

Two clarificatory points are important here. Firstly, while Matheson and Chock run with premise 1, they do express some reservation. And so would I if this were the way I’d spelled it out. But I never suggested that there is nothing unique about science. There undoubtedly is, usually expressed in terms of producing especially reliable knowledge (Nowotny, 2003; Rudolph, 2014).

My original argument was that this isn't necessarily enough to warrant special treatment when it comes to communication. As I stated then, "What we need is a reason for *why reliable knowledge ought to be communicated*. Why would some highly reliable information about the reproductive habits of a squid be more important to communicate to the public than (possibly less reliable) information about the structure of interest rates or the cultural habits of Sufis?" (Italic added)

In the original paper, I explicitly claimed, "We might be able to show that science is unique, but that uniqueness does not relate to communicative needs. Conversely, we can provide reasons for communicating science, but these are not unique to science." (Medvecky, 2017)

Secondly, as noted by Matheson and Chock, the concern in the original argument revolves around "institutionalized science communication; institutionalized in government policies on the public understanding of and public engagement with the sciences; in the growing numbers of academic journals and departments committed to further the enterprise through research and teaching; in requirements set by funding bodies; and in the growing numbers of associations clustering under the umbrella of science communication across the globe."

What maybe wasn't made explicit was the role and importance of this institutionalization which is directed by government strategies and associated funding policies. Such policies are designed specifically and uniquely to increase public communication of and public engagement with science (MBIE, 2014).

They may mention that science should be read broadly, such as the UK's *A vision for Science and Society* (DIUS, 2008) which states "By science we mean all-encompassing knowledge based on scholarship and research undertaken in the physical, biological, engineering, medical, natural and social disciplines, including the arts and humanities". Yet the policy also claims that "These activities will deliver a coherent approach to increasing STEM skills, with a focus on improved understanding of the link between labour market needs and business demands for STEM skills and the ability of the education system to deliver flexibly into the 21st century."

STEM (science, technology, engineering and mathematics) is explicitly *not* a broad view of science; it's specifically restricted to the bio-physical science and associated fields. If science was truly meant broadly, there'd be no need to specify STEM. These policies, including their funding and support, are uniquely aimed at science as found in STEM, and it is this form of institutionalized and institutionally sponsored science communication that is the target of my argument.

With these two points in mind, let me turn to Matheson and Chock's objections.

The Problem of Overreaching and the Marketplace of Ideas

Matheson and Chock rightly spell out my view when stating that the "fundamental concern is that science communication represents scientific questions and knowledge as more

valuable than questions and knowledge in other domains.” What they mistake is what I take issue with. Matheson and Chock claim, “When it comes to scientific matters, we should trust the scientists more. So, the claim cannot be that non-scientists should be afforded the same amount of credibility on scientific matters as scientists”. Of course, who wouldn’t agree with that!

For Matheson and Chock, given their assumption that science communication is equivalent to scientists communicating their science, it follows that it is only reasonable to give special attention to the subject or field one is involved in. As they say,

Suppose that a bakery only sells and distributes baked goods. If there is nothing unique and privileged about baked goods – if there are other equally important goods out there (the parallel of premise (1)) – then Medvecky’s reasoning would have it that the bakery is guilty of a kind of injustice by virtue of not being in the business of distributing those other (equally valuable) goods.

But they’re mistakenly equating science communication with communication by scientists about their science. This suggests both a misunderstanding of my argument and a skewed view of what science communication is.

To tackle the latter first, while *some* science communication efforts come from scientists, science communication is much broader. Science communication is equally carried out by (non-scientist) journalists, (non-scientist) PR and communication officers, (non-scientist) policy makers, etc. Indeed, some of the most popular science communicators aren’t scientists at all, such as Bill Bryson. So the concern is not with the bakery privileging baked goods, it’s with baked goods being privileged simpliciter.

As discussed in both my original argument and in Matheson and Chock’s reply, my concern revolves around science communication institutionalized through policies and such like. And that’s where the issue is; there is institutionalised science communication, including policy with significant funding such that there can be specific communication, and that such policies exist *only* for the sciences. Indeed, there are no “humanities communications” governmental policies or funding strategies, for example. Science communication, unlike Matheson and Chock’s idealised bakery, doesn’t operate in anything like a free market.

Let’s take the bakery analogy and its position in a marketplace a little further (indeed, thinking of science communication and where it sits in the market place of knowledge fits well). My argument is not that a bakery is being unjust by selling only baked goods.

My argument is that if bakeries were the only stores to receive government subsidies and tax breaks, and were, through governments and institutional intervention, granted a significantly better position in the street, then yes, this is unfair. Other goods will fail to have the same level of traction as baked goods and would be unable to compete on a just footing. This is not to say that the bakeries need to sell other goods, but rather, by benefiting from the unique subsidies, baked goods gain a marketplace advantage over goods in other domains, in

the same way that scientific knowledge benefits from a credibility excess (ie epistemic marketplace advantage) over knowledge in other domains.

Credibility Excess and Systemic Injustices

The second main objection raised by Matheson and Chock turns on whether any credibility excess science might acquire in this way should be considered an injustice. They rightly point out that “mere epistemic errors in credibility assessments, however, do not create epistemic injustice. While a credibility excess may result in an epistemic harm, whether this is a case of epistemic injustice depends upon the reason *why* that credibility excess is given.”

Specifically, Matheson and Chock argue that for credibility excess to lead to injustice, this must be systemic and carry across contexts. And according to them, science communication is guilty of no such trespass (or, at the very least, my original argument fails to make the case for such).

Again, I think this comes down to how science communication is viewed. Thinking of science communication in institutionalised ways, as I intended, is indeed systemic. What Matheson and Chock have made clear is that in my original argument, I didn't articulate clearly enough just how deeply the institutionalisation of science communication is, and how fundamentally linked with assumptions of the epistemic dominance of science this institutionalisation is. I'll take this opportunity to provide some example of this.

Most obviously, there are nationally funded policies that aim “to develop a culture where the sciences are recognised as relevant to everyday life and where the government, business, and academic and public institutions work together with the sciences to provide a coherent approach to communicating science and its benefits”; policies backed by multi-million dollar investments from governments (DIISRTE, 2009).

Importantly, *there are no equivalent for other fields*. Yes, there are funds for other fields (funds for research, funds for art, etc), but not funds specifically for communicating these or disseminating their findings. And, there are other markers of the systemic advantages science holds over other fields.

On a very practical, pecuniary level, funding for research is rarely on a playing field. In New Zealand, for example, the government's Research Degree Completion Funding allocates funds to departments upon students' successfully completing their thesis. This scheme grants twice as much to the sciences as it does to the social sciences, humanities, and law (Commission, 2016).

In practice, this means a biology department supervising a PhD thesis on citizen science in conservation would, on thesis completion, receive twice the fund that a sociology department supervising the very same thesis would receive. And this simply because one field delivers knowledge under the tag of science, while the other under the banner of the humanities.

At a political level the dominance of scientific knowledge is also evident. While most countries have a Science Advisor to the President or Chief Science Advisor to the Prime Minister, there are no equivalent “Chief Humanities Advisor”. And the list of discrepancies goes on, with institutionalised science communication a key player. Of course, for each of these examples of where science and scientific knowledge benefits over other fields, some argument could be made for why this or that case does indeed require that science be treated differently.

But this is exactly why the credibility excess science benefits from is epistemically unjust; because it’s not simply ‘a case here to be explained’ and ‘a case there to be explained’. It’s systemic and carries across context. And science communication, by being the only institutionalised communication of a specific knowledge field, maintains, amplifies, and reinforces this epistemic injustice.

Conclusion

When I argued that science communication was epistemically unjust, my claim was directed at *institutionalised* science communication, with all its trimmings. I’m grateful to Matheson and Chock for inviting to re-read my original paper and see where I may have failed to be clear, and to think more deeply about what motivated my thinking.

I want to close on one last point Matheson and Chock brought up. They claimed that it would be unreasonable to expect science communicators to communicate other fields. This was partially in response to my original paper where I did suggest that we should move beyond science communication to something like ‘knowledge communication’ (though I’m not sure exactly what that term should be, and I’m not convince ‘knowledge communication’ is ideal either).

Here, I agree with Matheson and Chock that it would be silly to expect those with expertise in science to be obliged to communicate more broadly about fields beyond their expertise (though some of them do). The obvious answer might be to have multiple branches of communication institutionalised and equally supported by government funding, by advisors, etc: science communication; humanities communication; arts communication; etc. And I did consider this in the original paper.

But the stumbling block is scarce resources, both financially and epistemically. Financially, there is a limit to how much governments would be willing to fund for such activities, so having multiple branches of communication would become a deeply political ‘pot-splitting’ issue, and there, the level of injustice might be even more explicit. Epistemically, there is only so much knowledge that we, humans, can process. Simply multiplying the communication of knowledge for the sake of justice (or whatever it is that ‘science communication’ aims to communicate) may not, in the end, be particularly useful without some concerted and coordinate view as to what the purpose of all this communication was.

In light of this, there is an important question for us in social epistemology: as a society funding and participating in knowledge-distribution, which knowledge should we focus our ‘public-making’ and communication efforts on, and why? Institutionalised science communication initiatives assume that scientific knowledge should hold a special, privileged place in public communication. Perhaps this is right, but not simply on the grounds that “science is more reliable”. There needs to be a better reason. Without one, it’s simply unjust.

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