Opinion Page: Why trust the experts?

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[The editor: The subject matter of this essay connects with a number of previously published Opinion Page essays:

Chris Enke, Chemistry, University of New Mexico, 'The Science We Trust', HERE

Bettina Bussmann, Philosophy Department, University of Salzburg, Austria & Mario Kötter, Center for Biology Education at the WWU, Muenster, Germany, 'Between Scientism and Relativism: Epistemic Competence as an Important Aim in Science and Philosophy Education', HERE

Hugh Lacey, Swarthmore College & University of São Paulo, 'Appropriate Roles for Ethical and Social Values in Scientific Activity', HERE

Mario Bunge, Philosophy Department, McGill University, Montreal 'In Defense of Scientism', HERE]

Introduction

Scientific expertise, and indeed the definition of who counts as an expert at all, in any field, has become increasingly controversial in recent years. Perhaps the most significant reason for this is that the question of expertise and the issue of trust are closely connected: no one wants to listen to, or to follow recommendations given by, any "expert" that they do not trust. And this is understandable: we have to be able to trust our experts in order to know that we are getting accurate information from them. On the one hand, some people tend to "under-

trust" experts, while on the other hand, others tend to "over-trust" them. As we will see in what follows, neither situation is ultimately helpful.

Perhaps all of this seems obvious to you, but it is not obvious to everyone. Consider, for example, that it is common to hear people say that members of the public should simply trust the "experts," particularly scientific experts, when it comes to public policy decision-making. And this is done without any appeal to who counts as an expert, or instructions on how to go about identifying one. The idea seems to be that an expert, in any given domain, is qualified not only to convey accurate information to the general public, but also to prescribe, or recommend, actions to that public.

In particular, this kind of appeal to scientific expertise was recently made in many countries around the world during the ongoing COVID-19 pandemic. The sometimes implicit, sometimes explicit, message is that scientific experts represent "the science" and thus are qualified to tell the public not only what is the case, but also what to do with this information.

There are all sorts of problems with this claim, not the least of which is that science is a method that, albeit reliable, is certainly not infallible. Neither does science have an unlimited domain. In short, this kind of increasingly common and widespread appeal to and promotion of the purported epistemic and normative authority of the scientific expert raises several interesting philosophical questions, which I will examine here. First, it begs the question of who counts as a scientific expert. Next, it also raises the issue of whether there is a connection between scientific expertise and epistemic authority, as well as the question of what, if any, connection there is between scientific expertise and normative, or moral, authority, particularly in the domain of public policy.

Here I will make the case that while we do have reason to trust scientific experts to give us accurate scientific information, this (alone) does not qualify these experts to prescribe actions to the general public. Instead, it takes more than scientific expertise to undergird the moral authority to prescribe action outside of the scientific domain.

Scientific expertise and epistemic authority

Before addressing the question of whether or not scientific experts have either epistemic or normative authority (in virtue of being experts) we first need to know, at least roughly, what an expert is - and this question is far from being a settled one. Here I will adopt a simplified view, building on Goldman (2001), Croce (2019), and Bennett (2020) of what it means to be an expert in a given domain, and then extend this view in order to propose a definition of what it means to be an expert in the public domain in particular.

According to Goldman, we can understand an "expert" to be someone who possesses more accurate information (that is has, someone who has more true beliefs) than most people do in a given domain. On this definition, then, there is a situation of epistemic asymmetry between someone who is an expert and someone who is a non-expert, a distinction which is sometimes known as the novice-expert dichotomy. Thus, a scientific expert on this definition is someone who knows more (or at least has more true beliefs) about some scientific subfield than most people do.

However, some have argued against this view that merely having more true beliefs in a domain is not enough to constitute

expertise, suggesting, instead, that we need to add (Croce 2019) to this the requirement that an expert must also understand, and be able to explain, his or her beliefs to others, while citing evidence in their given field that supports these beliefs (Walton 1989). In other words, this added requirement is that the expert must have reasons for their beliefs *and* be capable of explicating these reasons to non-experts. This seems to be a reasonable requirement to add when we are talking about *public* experts specifically - that is, when we are talking about experts who are displaying or employing their expertise in the public domain, to an audience of non-experts. On this enhanced definition, then, an expert is someone who is *competent* in their field, in that they both possess more true beliefs in the area of expertise *and* are capable of relaying accurate information about their beliefs in that field to others.

However, as some have pointed out, even competency, as described above, is alone not enough for expertise: just because someone is competent, that does not mean that they are reliable, and it is certainly the case that we want this, too, to be true of our experts - or at least of our public experts. Another way of saying this is that we want our public experts to not only be competent but also to be sincere (Bennett 2020). And we want them to be sincere, not simply because sincerity is a nice way for people to be, but because insincerity and unreliability often go hand-in-hand. If someone isn't sincere, the information that they relay is not likely to be reliable.

Given this concern, it seems reasonable to define a public expert as someone who is "epistemically trustworthy" in that they are both competent (that is, they have more true beliefs than a non-expert, and are capable of explaining these beliefs to others) and sincere. This in turn means, to put it simply, that an insincere "expert" really isn't an expert at all.

Having now defined (at least roughly) what it means to be an expert, we can turn to the question of why we ought to care in the first place about who counts as an expert. This is generally agreed to be because we think that there is a relationship between expertise and what is known as *epistemic authority*, where an epistemic authority can be understood to be someone who "can help their interlocutors achieve some epistemic goal in a given domain through their superior knowledge and/or understanding" (Croce 2019). Thus, the idea is that we should care about who the experts are if we have the goal of wanting to improve our own epistemic positions regarding some domain or some given set of particular questions within a domain, and experts are able to give us the information needed to do this – information that we cannot get on our own (in virtue of being non-experts).

In other words, we care about who the experts are because experts are people that we can learn from. If an expert then is someone who is both competent and sincere, and we are interested in identifying who these people are in order to gain more knowledge, then we (obviously) need to know how to identify people who are competent in their fields and also sincere.

While this is not always easy to do, generally speaking, most people agree that indirect criteria such as degrees, track records, consensus statements, etc. are reasonable (but not infallible) as proxy for assessing this criterion. For the most part, these indirect criteria are determined by the peers of the potential expert. That is, for instance, in the case of scientific expertise, we necessarily rely on other scientists to assess the standing of their peers as experts. And although it is imperfect (as are all forms of peer review), this system is generally

agreed to be better than alternatives (Gallo et. al. 2016). After assessing (as well as possible) the competence of a potential expert, it is then of equal importance to assess their sincerity, given that it is well known that some "experts" can be disingenuous, or worse.

For example, early in the COVID-19 pandemic "many health experts, including the surgeon general of the United States, told the public simultaneously that masks weren't necessary for protecting the health of the general public *and* that health care workers needed the dwindling supply" of masks in order to stay safe (Tufecki 2020). Then, just a few months later, and in the absence of any new data, the same health officials announced that masks were essential for everyone to wear in public settings in order to decrease the transmission rate of the SARS-CoV-2 virus. This change in policy did not reflect any change in the science – there was no new data or new experimental information of any kind that became available in the interim between the time that the two messages were conveyed. Instead, the two messages were simply contradictory– either masks work (to some degree of efficacy) to protect people from the virus or they do not.

And yet, this contradictory messaging was clearly and regularly conveyed to the American public during the early days of the pandemic. What happened subsequently, when the non-expert public saw straight through the (ridiculously) contradictory messaging, was that there was a public outcry from a subsection of the population who used it as proof that the "experts" – across the board- were not to be trusted. Or, perhaps worse, that there really is no such thing as an expert at all.

But these kinds of views are, ultimately, untenable- no one can be competent in every domain, and thus it is imperative that we both be able to identify, and rely upon, genuine experts to inform us about topics and issues that we do not ourselves have expertise in. This does not mean, of course, that we ought to put "blind" trust in anyone, experts included, instead, what it means is that we need to be able to identify experts who are both competent and sincere, and thereby likely to be reliable. And this is the reason why only competent, trustworthy individuals should be counted as experts.

Scientific expertise and epistemic uncertainty

We have now defined a genuine expert as someone who is both knowledgeable in their field and credible, but this of course does not mean that they are thereby infallible. This is due to the fact that, in addition to all humans always being fallible, all scientific inquiry and all scientific data is also uncertain as well. In other words, as we have already seen, this means that some level of uncertainty is always present in every area of scientific inquiry from epidemiology to climate science to physics. And while no one really likes this fact – and we all wish that we could do away with scientific uncertainty entirely, this does not mean that science is a flawed method or that we cannot, eventually, aptly apply its results to our policies.

But of course, scientific uncertainty is neither easy to deal with, nor likely to ever be completely removed, even with continued advancements in knowledge and instrumentation. It seems that the best thing that we can do, then, is learn how to deal with, and how to communicate, this uncertainty. The first step in this process, after recognizing that uncertainty exists, is to ensure that the uncertainty in question isn't hidden by researchers, but instead is acknowledged, and communicated, both to other scientists, as well as to the public, to policy makers and to other stakeholders

more generally. Communicating scientific results to the public, especially when there is a high level of uncertainty, however, is often easier said than done.

Yet, open acknowledgement and communication of scientific uncertainty is the best way to handle it, because when uncertainty is *not* acknowledged and/or is improperly communicated, this can backfire: hiding the truth from "the public" serves to eventually only foster distrust of the "the experts." So, as Tufecki (2020) argues, it's better to simply tell people the "full painful truth," because trust is more likely to be fostered (and policies to be followed) when people recognize that they are being treated with respect. Of course, scientists are often aware of uncertainty in their research results, but are yet not able to quantify this uncertainty precisely – that is, the probability estimates of the level of uncertainty in any given data set are themselves often uncertain (Hansson 2007). This too can create problems when communicating scientific results to the public – particularly when the public might demand to know how "certain we are about being uncertain."

Scientific uncertainty, then, should not be understood as an epistemic state of complete lack of knowledge, but instead as a state in which the knower possesses knowledge to a certain degree. Indeed, this epistemic position applies not only to scientific knowledge specifically, but to all knowledge derived from inductive reasoning. Logically speaking, there are two main types of reasoning: deductive and inductive. All scientific knowledge is derived from this latter type of reasoning, which means that, even *in principle*, scientific reasoning does not ever give us 100 percent certainty, because it is not deductive in nature.

But, of course, this does not mean that scientific reasoning is unreliable (as history shows us, quite the contrary is the case!) or that scientific uncertainty is inherently controversial. Instead, it simply means that we need to be aware of the fact that scientific reasoning always yields results with some level of uncertainty and that this should be openly acknowledged and communicated by scientists, to the public and to stakeholders generally.

Scientific expertise and moral authority

Once we are able to identify who counts as a scientific expert (keeping in mind that no expert is ever infallible and that scientific results are never 100 percent certain) then we can be reasonably assured that they will be able to inform us about what is the case, given some domain or some domain-specific set of questions. In other words, we can be reasonably certain that they will provide us with accurate information. However, scientific experts are not able, simply in virtue of being experts, to tell us *what to do* with the information that they provide. The reason for this is because moral action lies outside of the domain of science, by design, and therefore must always be supplemented with and informed by extra-scientific information and/or values.

This is not to say that these sorts of extra-scientific values do not factor into the methodology of science in the first place; they certainly do. It is also not to say that science itself, even before it is applied, either is, or should be, value free. Further, this intertwining of fact and value in science has practical application for citizens in a liberal democracy: so, while we can trust expert testimony to be helpful in forming reliable beliefs, more is needed in order to prescribe actions – particularly those actions which fall outside of the domain of science. This is because science cannot dictate policy, it can only inform it.

However, it should be noted that this *informing* of public policy is an incredibly

important role for science, and should not be down-played in any way. In fact, the collective actions that we take (or don't take) based on scientific findings have, in many cases, real and lasting impact on both local and global communities. Thus, science plays a vital and indispensable role in policy formation, in that it can tell us what *is* the case, however, in order to *apply* science we must appeal to concepts that lie outside of it. As Cowley (2012) puts the point, "All scientists are answerable to a singular realm of discoverable facts. But the same facts may well have different moral significance for different individuals." This is an especially important point to understand in the context of a liberal democracy in which a multiplicity of values is often represented, and it should encourage us to adopt a pluralistic framework for the weighing of these values.

The important point, though, is that the application of social and ethical concepts and values is always going to be necessary when using science to inform public policy. While this might be disconcerting to some who hope for an entirely dispassionate way to decide policy, in the end this is neither desirable nor possible. Because there is no such thing as value-free science (in either methodology or application), many have argued that scientific experts who act in the role of policy advisors should make the extra-scientific concepts and values on which they base their judgments transparent to the public (Douglas 2009, Elliott 2019). Doing this, according to Douglas and Elliott, will help to maintain the integrity of science while also allowing for democratic accountability in policy making.

Of course, making values explicit will increase public trust in science *only if* those values are *democratically decided* ones, rather than ones simply held personally by the scientists conducting the research (in which case these "values" would look, to the public, much more like preferences or biases, rather than anything more helpful).

But given this caveat, making extra-scientific values explicit allows them to be publicly discussed and evaluated and this can in turn both help agency officials make better informed decisions and help to foster public trust in those decisions. It can also help to keep scientific experts accountable, and allow for the public to weigh in on the application of values to policy recommendations.

However, there are also some potential dangers in making these extra-scientific values transparent. Yet, proponents of transparency have argued that these kinds of difficulties can be alleviated by clear and careful communication (Elliott and Resnik 2014, Stanev, 2017, Pinto and Hicks 2019).

What all of this means is that it is vital first, for experts to make their value judgments explicit, as well as available to public examination and second, that it is important for the public to ask the question of when, and how, we ought to supplement scientific information with other, non-scientific considerations and values when applying scientific results to public policy. This is because when "public policy claims to follow the science, citizens are asked not just to believe what they are told, but to follow expert recommendations" (Bennett 2020) - and the only way to evaluate the rightness/wrongness or aptness/inaptness of a prescribed action is to appeal to human values.

This in turn means that if "we are to ask the public to trust the recommendations of scientists, we must acknowledge that this is different from asking novices to accept facts" (Bennett 2020). When we are asking the public to accept a recommendation from an expert, we are asking those persons to "believe that the expert bases their recommendation on values that are held by

the recipient of the recommendation," because recommendations do not simply "fall out" of the data alone. In other words, when are asking the public to accept an expert's recommendation regarding an action, we are asking for a particular kind of trust in the expert – not simply trust that the expert is competent and sincere, but "also that their recommendations are in our interest" (Bennett 2020).

Consider an analogy from clinical medicine that helps to illustrate this point. Imagine that a physician (whom we might reasonably describe as a medical expert, assuming that they are both competent and sincere) advises their patient to have a certain surgery. In order to weigh whether or not to have the surgery, it is likely not enough for the patient to know that the physician is an expert (that is, that the physician is competent in their field and sincere). Instead, the patient will very likely also want to weigh whether or not, all things considered, the surgery is in *their own* personal best interest. And this is something that only the patient can decide (perhaps with the help of the physician's input), because it depends upon the patient's personal values and goals, etc.

This situation is similar to that of expert-informed policy decisions in the context of a liberal democracy. While we certainly do want to have the input of experts, we also want to avoid an erosion of democratic decision-making by allowing experts to make our decisions for us. In other words, some have argued regarding this concern that "there appears to be a tension between two demands – that public policies be empirically responsible and that they be democratically legitimate." The worry arises in part because a "decision that follows or is based on science does not entail a good decision or one that is better than what could be decided using something other than science" (Anderson 2011).

Further, because scientific experts are not elected (as policy makers generally are) they are not held accountable to the population they inform or to the values that that population holds. Thus, policy (in a democracy) must be informed by democratically held values – because there simply is no such thing as either science or policy that is void of value judgment. And this is not a bad thing. Instead, what this means is that appeals to science can and should be made when making policy decisions. However, it should also be recognized (and publicly admitted) that scientific data alone cannot dictate policy – human values, and in a democratic society, democratically decided ones – must also inform these decisions.

Conclusion

The question of scientific expertise, and, in particular, that of who counts as an "expert" is closely connected to the issue of science communication. Here I have attempted to show that determining what it means to be an "expert," and in particular a scientific expert, in the public arena, matters in another way, because there is a relationship between scientific expertise and what is known as epistemic authority. What this means is that scientific experts, even though they are not infallible, nor are they immune to the constraints of scientific uncertainty, are able, in virtue of their expertise, to convey information that allows non-experts, including members of the general public as well as other stakeholders, to improve their epistemic understanding in a given domain, and thereby to inform public policy decisions in relevant ways. I have also proposed that a scientific expert is someone who is both competent in their field *and* is trustworthy, or sincere, regarding the information they convey. This means that any "expert" who is not sincere is not, on this view, an expert at all.

Finally, I have also argued that although we ought to trust scientific experts because we can learn from them what *is* the case, and thereby increase our knowledge base by consulting them, scientific expertise alone is not enough to tell us how we *ought* to act. In order to know how to act on scientific information – even accurate information that is derived from experts- we must appeal to social, political and moral values: there is no way around this (nor would we want there to be), and thus there is no such thing as simply "following the science." Science is a method, albeit a reliable one, but it is neither a tour guide, nor a simple prescription for action. In order to decide how to act we must appeal to human values, and these necessarily lie outside of the domain of science*.

*The arguments in this article are further developed in my 2023 Routledge book *Science and Public Policy: A Philosophical Introduction*

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