Expanding epistemic public trust. What role for expert-lay communication?

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Abstract: This paper examines how communication between experts and lay citizens influences the development of criteria for epistemic public trust, building upon the detailed framework proposed by Irzik and Kurtulmus (2019). We first analyse the epistemic significance of trust and its implications in the public sphere. Our focus is twofold: identifying what attributes make experts trustworthy and exploring the reasons and second-order evidence that lay people can utilize to justify their trust in experts. We argue that the way experts engage in argumentation plays a crucial role: it is essential for their epistemic responsibility towards lay citizens and serves as a key indicator of their trustworthiness. Based on these considerations, we suggest an additional criterion for experts – facilitating rather than hindering the public discussion. Using an example from expert and layperson discussions during the COVID-19 pandemic, we demonstrate how this criterion can be practically applied.

Keywords: Feyerabend, Trust, Epistemic trust, Scientific communication, Argumentation theory.

1. *Introduction*

The advice in all cases is to use experts, but never to trust them and certainly never to rely on them entirely (Feyerabend 1978: 97).

What did Feyerabend intend to say with this footnote included in *Science in a Free Society*? He certainly had in mind a difference between use, trust, and reliance. Why, though, does he advise not to trust experts? Is there anything that experts can do in order to demonstrate their trustworthiness to someone who is inclined to listen to the advice of the Austrian philosopher?

In our article, we intend to elaborate a proposal in line with the spirit, if not the letter, of Feyerabend's ideas. We aim to analyse the relationship between experts and laypeople when the flow of information is involved, expanding on Irzik and Kurtulmus' recent proposal (2019) of a set of criteria to be followed to foster epistemic public trust in science.

We propose a new criterion focused on the need for experts to facilitate

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rather than hinder further inquiry from laypersons. To justify this addition, we proceed as follows.

In Section 2, we draw on existing social epistemology literature to clarify the concept of trust, defining its boundaries and characteristics as an epistemological notion. In Section 3, we present Irzik and Kurtulmus' (2019) criteria for warranted epistemic public trust. In Section 4, we introduce various "tools" that have been suggested for laypeople to assess conflicting expert testimonies. In Section 5, we present the core of our proposal, suggesting that Irzik and Kurtulmus' (2019) criteria are adequate but incomplete, in that they do not fully account for a crucial dimension of epistemic trustworthiness, namely *epistemic responsibility* (Anderson 2011). In particular, we hold that useful indicators of experts' epistemic responsibility come from their argumentative conduct in public communication. Therefore, we propose that another criterion should be added, one that takes into account the necessity, when public interests are at stake, that an expert testimony does not hamper the public discussion of the relevant topics in the affected community of inquirers.

We cannot know what Feyerabend would make of our proposal. However, in line with him, we think that from epistemic asymmetry need not follow a hierarchy of power, and that citizens have an important role in treading the path that leads to the creation of knowledge and the resolution of public problems. We aim to demonstrate a viable pathway.

2. *Trust and its epistemic side*

2.1 *The epistemic side of trust*

Our proposal is the addition of a new criterion necessary to the construction of public epistemic trust. But in order to do so we have first to clarify what we mean with public epistemic trust. We will briefly consider the notion of *trust*, subsequently expanding to the literature concerning *epistemic* trust, and finally considering the notion of *public* epistemic trust.

First of all, we have to canvass a brief description of the salient features of *trust.* In line with an ample philosophical tradition (Baier 1995; Zagzebski 1996, 2012) we structure trust as a triadic relation.[1] The three elements of that relation are the trustor, the trustee, and what is entrusted by the trustor to the trustee. The actual nature of this third element is as broad as possible: it could be an action, a statement, an attitude, etc. For what regards the structural fea-

[1] For an overview of the most recent developments in the discussion over trust and trustworthiness, see Lalumera (2024).

tures of trust, four main aspects of trust can be identified: reliance, vulnerability, confidence, and expectation (McCraw 2015).[2] Reliance, or dependence, is often taken as the most important aspect of trust: trusting someone means relying on that someone. Reliance leads to the possibility of being let down, an aspect where vulnerability emerges: trusting means voluntarily leaving oneself exposed to risk. This feature, in turn, paves the way to confidence, which is a "distinctive, and affectively loaded, way of seeing the one trusted" (Jones 1996).[3] Finally, confidence expresses itself in the possibility of formulating a prediction regarding the behaviour of the trustee.

These elements are all required to obtain a definition of trust, but none of them is sufficient on its own. Consider some examples. In a case, we see Joe, a gambler with a huge debt from shady sources, betting everything he owns on the underdog, hoping to repay his debt and avoid a gruesome retaliation (McCraw 2015). Here we can say that Joe relies on his bet, but we cannot say that he trusts the underdog to win, due to a lack of confidence. In another instance, the alarm fails to ring in the morning, and Jane arrives late at work. Jane relied on the alarm to ring, but did not exert emotional affection on the clock. Therefore, she might be upset by the malfunctioning, but she does not feel her trust betrayed.

From trust in general, we shall now narrow our gaze to a more specific kind of trust: trust in someone *as a provider of information*. This type of trust is often called *epistemic trust* (Wilholt 2013). Epistemologists have not always given the dignity of consideration to the concept of trust. Nowadays, however, trust is increasingly granted attention as an epistemic notion (Origgi 2004). In the contemporary world, the cumulative and ever-expanding body of knowledge and the multiplication of actors capable of its production and dissemination (universities, public and private-funded research groups, governments, media) means that it is impossible for a given individual to obtain first-hand, direct knowledge for every piece of information needed. Thus, trust has been increasingly considered as playing a fundamental role in the construction of knowledge. As John Hardwig notices in a seminal paper, the epistemic stance that "trusting and knowing are deeply antithetical" cannot be kept in a world

[2] It is important to notice that for McCraw (2015) the two main features of trust are reliance and confidence, whereas vulnerability and expectations are secondary features that emerge from, respectively, reliance and confidence. An extended discussion about the relative weight of each component, however, falls outside the scope of this work.

[3] Following the literature, we use the term "confidence" to identify a specific feature of trust. However, it has to be noticed that the word "confidence" comes from the Latin *confidentia*, which means "trust", a relationship that remained in the modern French cognate *confiance*, which again means "trust". Therefore, it might as well be just a truism that "trust involves confidence" (Smolkin 2008).

where greater specialization requires scientific perspectives to be narrower in order to be more acute, and therefore, "those who do not trust cannot know" (1991: 639). According to Hardwig, trust is justified when there is a particular class of reasons that grounds the acquisition of knowledge through testimony. These reasons refer to the assessment of moral and epistemic qualities of the testimony, which in this case is the trustee. While the assessment of the moral side is already addressed in the general account of trust, competence (related to a specific task or domain) is the distinctive feature of epistemic trust. "Epistemic trust is trust, on the one hand, in the goodwill of others, and, on the other hand, in their competence" (Origgi 2004: 64).

How the presence of the element of competence distinguishes epistemic trust from general trust can be elucidated with an example. Consider how I trust my mother implicitly and I am sure of her goodwill toward me; at the same time, I would not ask her to change the oil of my motorcycle, a task that relies on being sufficiently competent not to incur costly mistakes. Conversely, the relevance of the competence requirement does not mean that the goodwill element becomes secondary. I would not ask to perform an oil change to a mechanic I know to be competent, but also fishy and prone to scam customers. Epistemic trust is given to an agent that we consider capable and competent, and that we also judge to act on that competence with benevolence.

Epistemic trust plays a particularly important role in science, and its role in scientific research within and across scientific communities has been of central interest in social epistemology. Its mediating role becomes evident when considering how the division of epistemic labour (Kitcher 1990; Brennan 2010) underpins the specialization and the disciplinary divisions of the scientific community. No chemist would obtain much without the knowledge produced by physics, no neuroscientist would be able to work without the foundation laid down by physiology and electromechanics. But at the same time, no scientist can have specialized expertise in those disciplines that fall outside their focus and background preparation. In that context, other non-epistemic factors come into play when grounding epistemic trust.

2.2. *Inductive risk and epistemic trust*

In particular, the level of trade-off between the benefit of correct results versus the cost of incorrect ones is a value judgment, one that differs from discipline to discipline and even from scientist to scientist (Douglas 2000; 2009). In philosophy of science, this trade-off is often referred to as the question of inductive risk. To paraphrase Rudner (1953), no scientific hypothesis is ever permanently verified; therefore, in deciding to accept a hypothesis a scientist *qua*

scientist must make value judgments. The reason is that accepting a hypothesis requires at the same time having established a threshold for its acceptance. This level of acceptance changes depending on the gravity of the consequences that result from accepting a false hypothesis or rejecting a true one. For example, imagine a quality control manager who has to test the hypothesis that their products are safe. The evidential standards for testing their hypothesis will sensibly change whether the products in question are life-saving medicines or buckles. The result of this weighting, however, depends on non-epistemic values (such as the importance one attaches to saving lives) that are therefore inextricably tied to the very production of scientific knowledge (Elliott *et al.* 2014).

Understanding that non-epistemic values such as moral, personal, social, political and cultural values can influence and shape scientific research is intuitively easy. However, this influence can weaken the universality and applicability of scientific results. Therefore, a normative requirement has been proposed: science should strive to minimize or eliminate the non-epistemic values from their research (Reiss *et al.* 2020). This proposal has been criticized as unattainable, due to the unavoidable presence of non-epistemic values in determining the level of error in acceptance or rejection of hypotheses. If the inductive risk argument is valid (and we believe it is), then assigning trust to scientific experts also requires lay people to trust the value judgments that are inherent to experts *qua* experts. Some authors remark (Wilholt 2013) that sharing the same value judgments in the set of utilities used to weigh the outcome of research is what constitutes the difference between epistemic reliance and epistemic trust, at least for what trust between scientists is concerned. This element allows us to underline the fact that the topic of epistemic trust has been treated, in the analysis carried out within the context of social epistemology, as something that is chiefly needed to ground the knowledge *within* the boundaries of the scientific discourse, i.e. in the dialogical exchange between experts of different disciplines. An extension of the discussion that would also involve the experts-laypeople relationship started as a topic belonging to different research programs, such as the "Strong Program" of sociology of science (Latour 1986), or the initiatives aimed at increasing the level of Public Understanding of Science (Short 2013). However, the epistemic relationship between experts and non-experts has increasingly received interest from epistemologists as well. Alvin Goldman's (2001) stands out as a normative analysis of what he calls the *novice/2-experts* problem, where a person who is not an expert confronts a situation where two different putative experts diverge in their claims. To ground a form of discernment, Goldman proposes a set of criteria for identifying the most trustworthy expert, even without having specific expertise (we elaborate on these criteria in Section 4).

Communication as a socio-epistemic practice seems to deserve particular attention when it comes to its role in shaping trust relations between different epistemic communities. Quite surprisingly, however, communication between experts and laymen has not often been explicitly thematized for its role in epistemic trust. In particular, we would like to follow McCraw (2015) in the idea that "there must be something about [an expert] that communicates the content of [a] belief [...] to [a layperson] so that [that layperson] can have the belief in question. Thus, there must be some kind of communication component here to explain or ground how the truster comes by his/her belief" (McCraw 2015: 8). Communication is indeed a tricky business, but one full of consequences for the assignment of epistemic trust. Trusting someone's word leaves one open to vulnerability, in terms of "deception, incompetence, or false assertions" (2015: 10), as well as miscommunication, ambiguity, and simple misunderstanding. Expanding the discussion over what features should show effective lay-expert communication is central to the aim of the next sections, where we provide an account of epistemic public trust.

3. *Criteria for epistemic public trust*

In the light of what has been said so far on epistemic trust (ET), we are ready to discuss more systematic attempts at normatively capturing it in its public dimension. We take the public dimension of epistemic trust to be accounted for by the epistemic asymmetry that occurs between the trustor and the trustee, and the nature of the object of trust. In its most simple form, the trustor can be understood as a layman, the trustee as an expert, and the object of trust as an expert testimony of public interest. However, this representation will often be too simplistic. In a stronger and more relevant sense of the qualification "public", the trustor can also be an expert while the trustee is a layman, as it is clear in cases where citizens possess some form of specialized relevant knowledge.[4] Public trust is also better described as a social rather than an individual matter, where groups of citizens trust groups of experts (as the very title of Contessa 2023 says: *it takes a village to trust science*), and vice versa. Furthermore, the public is not to be considered as a homogeneous entity (cf. Resnik 2011; Irzik *et al.* 2019). Rather, depending on the case at hand and the interests at stake, there will be a relevant community identified as the target audience.

For the sake of simplicity, but with these considerations in mind, we will focus on the more individual dimension of epistemic public trust (EPT), devoting most of our discussion to the layman-to-expert direction of this relation.

[4] On the matter of the bidirectionality of trust, see Barrotta and Montuschi (2019) and footnote 8.

In doing so, we are also confident that the normative demands that will emerge will be generalizable to the social dimension, despite not fully accounting for it.

For such a framework to be normative, requirements need to be set both for experts' trustworthiness and laypeople's warranted assignment of epistemic trust. A systematic attempt at providing such a normative account of EPT can be found in Irzik and Kurtulmus (2019). In the next pages, our considerations and remarks are going to build and expand on their proposal, which we will use as a starting point for our discussion. At the core of their account, there are six criteria for what they term "enhanced" warranted epistemic public trust, which are the following:[5]

(1) E believes that *p* and honestly communicates it to L.
(2) L takes E's testimony *p* as a (strong but defeasible) reason to believe that *p*.
(3) *p* is the output of reliable scientific research carried out by E.[6]
(4) L relies on E because she has good reasons to believe that (3).
(5) When public welfare is at stake, in making methodological decisions regarding the distribution of inductive risks with respect to *p*, E makes those decisions in agreement with L's assessments of the inductive risks in question.
(6) L has reason to believe that (5) is satisfied.

According to Irzik and Kurtulmus, then, "the relevant public will be said to invest warranted epistemic trust in [E] as a provider of [*p*] when a sufficient number of its members invest warranted epistemic trust in [E] as a provider of [*p*]" (2019: 1150).

The structure of these criteria is symmetrical. On the one hand, criteria (1), (3), and (5) provide requirements for expert trustworthiness. In particular, (1) and (3) respectively account for honest communication and reliability of the testimony. For this account to be generally valid, more fundamental assumptions need to already be in the background. For example, the competence component is only accounted for by (3), which takes into account the reliability of the process that gives *p* as an output. However, nothing is said about *E* being epistemically well-placed with respect to *p*, e.g. by being a genuine expert in the field *D*.

[5] The criteria listed have been slightly modified for consistency and clarity. "Enhanced" is opposed to "basic" epistemic public trust, which only comprises criteria (1) to (4).

[6] As rightly pointed out by one of the reviewers, this criterion appears to be too restrictive, as it does not allow an expert to rely on other experts' knowledge. We will commit to a more charitable interpretation of this criterion, and understand it as follows: "*p* is the output of reliable scientific research carried out by E *or by the community of research to which E belongs*".

To explain criterion (5), Irzik and Kurtulmus (2019) recur to the following example. Imagine a teacher submitting a test to her students. They are split into two rooms, and in each one there is a teaching assistant supervising. At the end of the exam, both TAs come to the teacher to report that one of the students in their room was caught cheating. Now, the teacher is aware that the first TA is very cautious, and would hardly ever falsely accuse someone of cheating if they were unsure. On the other hand, the second TA is known for being very strict about not wanting anybody to get away with cheating, even if it happens at the cost of falsely accusing someone who was just behaving ambiguously. As a teacher, you will be more inclined to assign epistemic trust to one or the other TA, according to your values and the nature of the risks you are willing to take. In the analogy, the TAs are the experts while the lay citizen is the teacher. At the core of this criterion there is then the idea that experts and lay citizens need to come to an agreement on the risks at stake in falsely taking the content of a testimony to be true.

On the other hand, (2), (4), and (6) are criteria for the layman's assignment of trust. In all of these cases, the assignment is *warranted* if *L* has "strong but defeasible reasons" to deem the expert trustworthy in the relevant aspects that qualify her as such. What is deemed as a normative requirement for experts' trustworthiness (criteria 1, 3, 5) shall symmetrically have a counterpart that accounts for lay reasons for trusting experts. Irzik and Kurtulmus (2019) do not explore what those reasons are, but research in social epistemology displays a full range of them, in the form of various indicators and sociological proxies. The nature of these reasons is a matter of more detailed discussion in the next sections.

4. *Second-order evidence for trusting experts*

Since the lay public cannot, by definition, judge expert testimonies firsthand, they will have to resort to external indicators and sociological proxies. Reliability indicators tell something either about the testimony or the source of that testimony. Indicators at the testimony-level are primarily related to the consensus of the relevant scientific community (Anderson 2011); conversely, the existence of expert disagreement counts as a higher-order level of evidence working against *p* (Sosa 2011). However, there are some practical issues that can undermine the success of consensus as an indicator of the reliability of *p*. The main one is that, except for historically consolidated scientific evidence (which is rather uncontroversial), dissent is a physiological and healthy component of scientific discourse. Luckily, useful proxies of source reliability are generally easier to retrieve and assess. So, although the public is generally expected to accept (or reject) the particular testimony *p* as part of their beliefs,

their evaluation will usually focus on the reliability of the sources providing it (the primary source being the expert), and will then generalize it to the testimony *per se*.

Therefore, a hierarchy of characterizing features and proxies of expertise comes into play when laymen are called to evaluate testimonies. Consistently with the dimensions of epistemic trust just seen, the competence and honesty of experts are the two macro-categories found in the philosophical and sociological literature discussing expertise for source-level assessments (e.g., Goldman 2001; Croce 2019; Martini 2019; Watson 2020; Collins *et al.* 2019; Walton 2010). Another dimension, epistemic responsibility, is introduced by Anderson (2011), and will be more extensively discussed later on.

Whether a scientist *qua* scientist is competent and honest will depend on how reliable the social mechanisms of science in general, and/or of the particular scientific field of interest, are in selecting competent and honest scientists: a sovra-ordinate dimension of trust in these social mechanisms is therefore critical for source-level reliability assessments (Contessa 2023). Connected to this dimension is, for example, the reliability of scientific journals, where first-hand "intra-scientific" testimonies (Gerken 2022) are reported. Also dependent on the social mechanisms of science is the epistemic status of the disciplines to which the experts belong. Crucially, this accounts for the different reliability of two alleged epistemic authorities, both honest and equally competent in their respective fields, where one is a quantum physicist, and the other an astrologist. Only the former belongs to a discipline that has earned a respectable epistemic status within the institutional mechanisms of science. On the other hand, in the latter case, we would not want to qualify the honest and competent astrologer as an expert instead.

The honesty component of an expert can be evaluated through their disclosed conflicts of interest, any history of academic misconduct, and their personal integrity as observed in their previous public dealings. As for competence, the educational background and academic credentials of an expert, ranging from bachelor's degrees to PhDs and further academic advancements, are easily accessible to the general public.

Goldman (2001) proposes evaluating an expert's past track record when their testimony's truthfulness is verifiable by novices within a reasonable timeframe, as with certain predictions in astronomy, meteorology, or finance. However, this approach is mainly applicable to fields where expertise is predominantly about making accurate predictions. Goldman further recommends seeking the opinion of another expert or a meta-expert to assess the reliability of the initial expert. This strategy is especially relevant in cases of "epistemic trespassing" (Ballantyne 2019), where legitimate experts offer testimonies out-

side their area of specialization. However, this approach reintroduces concerns about the second expert's competence and honesty.

The entire field of *scientometrics* is devoted to developing metrics that can serve as indicators of scientists' productivity and influence (e.g., the *h-index*), or of how impactful the journals where they usually publish are (e.g., the *impact factor*). In this case, it is thought that laymen can get a good idea of how to interpret these metrics and implement them in their reliability judgments with little information. However, this is rarely the case, as these metrics are largely variable across and within disciplines, and can only be meaningfully interpreted within the relevant scientific community. On top of that, the existence of these metrics has often been criticized for privileging quantity over quality and fostering the "publish or perish" culture in academia. According to this line of argument, the current incentives for publishing are detrimental to the very process of trustworthy reliable scientific research (Fanelli 2010). Moreover, scientific journals are not the common source from which the public comes to know expert testimonies, which are usually mediated by reporting sources (media, scientific journalists, politicians, etc.). This intermediation in turn raises the issue of the reliability of second-order sources, again running into problems of competence and honesty. This necessitates the use of additional proxies and indicators, further complicating and obscuring the process.

5. *From epistemic responsibility to the role of public communication*

So far, we have explored the requirements for an expert to be considered trustworthy, focusing on honesty (criterion 1) and competence (criterion 3). Additionally, we have discussed valid reasons for laypeople to place their trust in experts, specifically through second-order evidence of the expert's competence and the reliability of the scientific process, as required by criteria (2) and (4).

However, the dimensions of competence and honesty do not fully account for the definition of EPT found in Irzik and Kurtulmus (2019). The last pair of criteria (5 and 6), which are at the core of the public dimension of ET, are clearly not entirely reducible to either the honesty or the competence dimension. This opens the way for the third dimension of expert trustworthiness that has only been briefly mentioned so far: epistemic responsibility, as identified in Anderson (2011).

Often overlooked, this dimension is indeed quite relevant when considering aspects like experts' openness to change their minds, to listen to lay people's needs and concerns, and their willingness to share relevant information accordingly. In Anderson's words, "the mark of epistemic responsibility is responsive accountability to the community of inquirers" (2011: 146). Being "ac-

countable" to the community of inquiry, broadly conceived as a community of experts and lay people working together to solve public problems, is crucial when the interests and values of the community itself are at stake.

How can this dimension emerge in the form of second-order evidence for lay people? Irzik and Kurtulmus (2019) provide answers that are only partially convincing: they propose that lay people should examine the design of decision-making forums, and prefer testimonies emerging from hybrid forums. In settings like consensus conferences, for example, the dialogue between experts and non-experts takes place by design (on consensus conferences, see Solomon 2015). A further reliable indicator can be the diversity within expert committees. Building on Douglas (2009), Irzik and Kurtulmus (2019) argue that decisions made by groups diverse in gender, ethnicity, and class are likely to be more objective. However, considering the infrequency of consensus conferences and the unclear impact of diversity in addressing particular community problems, it may be useful to explore more compelling second-order reasons.

Our claim is that a major part of what constitutes evidence for epistemically responsible experts is grounded in their argumentative conduct in the relevant settings of public communication. In the accounts of trust so far considered, communication has only appeared collaterally. In criterion (2) the expert is required to honestly *communicate* what she believes; even more importantly, the central point of criterion (5) is the *agreement* between E and L on the inductive risks in question. The process that allows this agreement to be reached is also relevant for the warranted assignment of epistemic trust and part of what makes an expert epistemically responsible, and still needs to be accounted for in the framework of Irzik and Kurtulmus (2019). An improper use of the expert's epistemic (and political) power to underestimate or even silence legitimate lay concerns, or the absence of recognition of relevant forms of lay expertise in solving the public problems at stake, will instead hamper this process. Therefore, the account provided in Irzik and Kurtulmus (2019) not only calls for a public setting where experts and lay citizens exchange their reasons: more fundamentally, it requires rules that govern this exchange of reasons in order to reach an agreement. These, we claim, will have to be part of the criteria for the "responsive accountability" that allows to preserve and enhance EPT, and whose rationale is rooted in the dimension of epistemic responsibility.

We propose to assess the argumentative conduct of an expert-lay dialogue according to the following general criterion, which is meant as an ideal prosecution of the six criteria provided in Irzik and Kurtulmus (2019):

(7) When public interests are at stake, E's argumentative moves should not hamper the public discussion in the relevant community of inquiry.

What is entailed by this broad formulation is a well-established idea in the pragma-dialectical approach to argumentation theory (van Eemeren *et al*. 2004). According to this view, fallacious arguments in a discussion are moves that hamper the resolution of the disagreement between the discussants. Applied to public settings, with this criterion we want to suggest the idea that experts ought to abide by rules of reasonable argumentation when discussing with non-experts. How to operationalize this criterion in the unusual setting of expert/layman dialogues?

Once again, Goldman (2001) and Anderson (2011) come to our aid. Linking it to the dimension of competence alone, Goldman thus addresses the indirect argumentative justification of experts as a possible criterion:

> Whenever expert E_2 offers evidence for her conclusion, expert E_1 presents an ostensible rebuttal or defeater of that evidence. On the other hand, when E_1 offers evidence for her conclusion, E_2 never manages to offer a rebuttal or defeater to E_1's evidence. Now N is not in a position to assess the truth-value of E_1's defeaters against E_2, nor to evaluate the truth-value or strength of support that E_1's (undefeated) evidence gives to E_1's conclusion. For these reasons, E_1's evidence (or arguments) are not directly justificatory for N. Nonetheless, in "formal" dialectical terms, E_1 seems to be doing better in the dispute. Furthermore, I suggest, this dialectical superiority may reasonably be taken as an indicator of E_1's having superior expertise on the question at issue. It is a (non-conclusive) indicator that E_1 has a superior fund of information in the domain, or a superior method for manipulating her information, or both (2001: 95).

So, according to Goldman, experts' argumentative support to their testimonies and compliance in meeting the burden of proof can serve as fallible proxies of their competence.

On the other hand, Anderson ties the criterion of "dialogic irrationality" to epistemic responsibility. She characterizes it as "continuing to repeat claims after they have been publicly refuted by others, without responding to the refutations" (2011: 147). She imagines an evolution denialist arguing with a paleontologist on the existence of transitional fossils. In the discussion, the evolution denialist does not respond in a meaningful way to the paleontologist, but merely repeats what they had previously stated, thus leading the discussion to a forced stalemate.

In both Goldman's and Anderson's views, argumentative conduct is a relevant criterion for choosing between two disagreeing experts. Building on these considerations, we hold that this criterion can be further elaborated to be beneficial for a wider range of cases: not only expert disagreements but, more importantly, also discussions between experts and lay citizens. Such interactions are not uncommon, as they occur in settings like television talk shows,

courtroom proceedings, medical consultations, government hearings – among others. These settings are of course characterized by an epistemic asymmetry; however, this does not mean that all the relevant information is on the experts' side. Lay people have privileged epistemic access to their values and interests, to their personal attitudes toward risk, and may have some relevant form of local knowledge and lay expertise (Wynne 1996; Barrotta *et al.* 2018).[7] Most importantly, lay people can also have access to testimonial evidence, i.e. what other experts have said. Naturally, the report of an expert testimony by a lay man will not be as strong as first-order evidence directly reported by relevant experts. Nonetheless, weak evidence should still be allowed in the "public court" if the stakes are judged high enough by the relevant public.

Let's consider an example of such interactions in relation to our criterion. The following dialogues are taken from an Italian talk show during COVID-19 pandemics, where an expert (Andrea Crisanti) and a politician (Claudio Borghi) disagree on lockdown policies:[8]

(a)

E: Lockdown works and saves lives.
L: Professor Ioannidis, the top expert on epidemiology, tells us that lockdown in all countries showed little to no benefit.
E: The nullity of what you said speaks for itself.

(b)

L: You are not a relevant expert. You are an expert on the Anopheles mosquito, but not on human viruses.
E: I am a relevant expert. I know exactly what genetic and environmental factors contribute to transmitting the disease. This is because the epidemic is independent of the pathogen. The epidemic, whether it is malaria, cholera or influenza, has ecological characteristics that have nothing to do with the agent that transmits them.

[7] Barrotta *et al.* (2018) discuss the case of the Vajont disaster, where almost 2000 people were killed by a massive landslide in northeast Italy in 1963. One of the tallest arch dams in the world was constructed there in 1959, despite the fact that locals cautioned scientists about the instability of the valley slopes. Their local knowledge and perception of risk were disregarded by scientists, who consequently made an epistemologically unsound judgment that led to disastrous consequences.

[8] Piazza Pulita, 22.04.2021. The dialogue is here reconstructed and modified for simplicity. It can be retrieved at: https://www.la7.it/piazzapulita/video/lo-scontro-a-piazzapulita-tra-borghi-e-il-prof-crisanti-preferisco-sentire-i-massimi-esperti-al-22-04-2021-376930. Interestingly, a response from Prof. Ioannidis was prompted after a week by the same TV program, and the expert corrected what Borghi attributed to him. This clearly shows the role that journalists can play in fostering EPT: https://www.la7.it/piazzapulita/video/lintervista-integrale-al-prof-ioannidis-che-risponde-a-borghi-sui-lockdown-29-04-2021-378242.

In case (a), the layman brings forward some testimonial evidence (viz., expert I's testimony that *p*). E does not address the testimony reported by the layman, and in doing so he makes a sort of appeal to the layman's ignorance (an argument along the lines of: since you are not an expert in *D*, what you are saying is not true). This move is fallacious in that it does not support the disputed standpoint with a relevant reason, forcefully halting the exchange of reasons on that point, thus hindering the continuation of the public discussion. In case (b), there is again disagreement between E and L, but E provides reasons to back his claim. Only this latter case provides the layman with second-order reasons to trust the expert. Not only does it serve as an indicator of expert competence (the expert shows that they know what they are talking about, as they can provide reasons for it), but also (and more crucially) for their epistemic responsibility (as conceived by Anderson in terms of "responsive accountability"). By providing reasons to accept (or reject) *p* in the public forum, experts also expose themselves to the risk of being contradicted not only by other experts, but also by the lay citizens, who can in turn report the testimony of other experts as (weak, but depending on the inductive risk involved, also potentially strong enough) evidence.

Providing reasoned, rather than categorical, testimony allows citizens to bring different experts into dialogue, even if that dialogue never takes place officially. When expert A asserts "*p*, because *q*", and expert B asserts "*not-p* because *r*", lay people will have critical questions to pose both to A (*What about r? Is q coherent with not-p?*) and B (*What about q? Is r coherent with p?*). This creates new burdens of proof to be met, solicits additional reasons, creates further interactions among heterogeneous epistemic agents, and therefore allows the public discussion to move forward. Without reasoned testimonies, lay citizens would only be left with unqualified disagreement (*p* versus *not-p*), that does not allow for further progress in the discussion, creating a stalemate situation.

One way our criterion can be operationalized is then to require that expert testimonies have the form "*p*, because *q*". Mind that this does not require lay citizens to fully understand *p*, nor *q*, nor the causal link between *p* and *q*, as far as they can *use* them as testimonial evidence. This idea will then be in line with Feyerabend's suggestion to always *use* experts, in a way that accounts for lay people's role as legitimate interlocutors in public epistemic settings. It is by using them that experts can prove to be trustworthy and be, eventually, trusted.

6. *Conclusions*

Stemming from Feyerabend's cautionary stance on lay people's reliance and trust in experts, our examination of epistemic public trust offers a way toward

enhancing the dialogue between experts and the lay public. The argumentative dimension of public communication is not conceived here as an internal quarrel among disagreeing experts, nor is it merely about transferring information, but rather about cultivating a participatory dialogue where questions and criticisms are valued as essential components of knowledge development in the resolution of public problems. Part of the experts' trustworthiness will consist in recognizing and addressing through a public exchange of reasons the lay citizens' values, concerns, and knowledge – thus aligning scientific practices with societal needs and ethical standards. Thus understood, public communication settings can then allow trust and (mild) forms of skepticism to coexist productively.

Building upon Irzik and Kurtulmus' (2019) comprehensive proposal, we argue that to maintain and enhance epistemic public trust, experts must ensure they do not obstruct public discussions, especially when public interests are involved. This criterion can be operationalized by requiring experts to provide reasoned testimonies instead of categorical assertions. These testimonies will be then used as some kind of evidence by lay people, allowing public discussion to be carried on. Furthermore, adhering to this non-hampering criterion demonstrates experts' epistemic responsibility in a way that lay people can readily evaluate, thereby making it significantly relevant to public discourse. By demonstrating responsive accountability, experts can mitigate the risk of inappropriate epistemic dominance, aligning with Feyerabend's insights and concerns into the interplay between science and society. Echoing Feyerabend's advice, we suggest that trusting experts begins with the ability to effectively use them. However, unlike Feyerabend, we believe that this trust can be justified in meaningful ways.

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