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THE APPEAL TO EXPERT OPINION IN CONTEXTS OF POLITICAL DELIBERATION AND THE PROBLEM OF GROUP BIAS[1]

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Abstract

In this paper, I will try to answer the question: *How are we supposed to assess the expert's opinion in an argument from the position of an outsider to the specialized field?* by placing it in the larger context of the political status of epistemic authority. In order to do this I will first sketch the actual debate around the problem of expertise in a democracy and relate this to the issue of the status of science in society. Secondly, I will review how Douglas Walton's pragma-dialectical approach offers a practical procedure to assess the expert bias from a nonprofessional's perspective. Thirdly, I will introduce the problem of group bias using insights from Bohman and Fischer and show how Walton's solution does not address this specific type of bias. Lastly, I will try proposing a revision of Walton's solution in order to address this problem. In order to make the explanation more easy to follow I will use a case study concerning the medical expertise in the public debate on second-hand smoke.

Keywords: expert opinion, deliberative democracy, democracy, pragma-dialectics, presumptive form, argumentation theory, social epistemology, group bias, fallacy.

I. Introduction

Living in a democracy implies that we, the citizens, delegate the right to decide on public matters to the politicians we elect. A similar type of transfer takes place when we delegate knowledge to the experts (Bohman, 1999, 590-607) because it is assumed that we will not question the experts at each step or decision, although in specialised knowledge we maintain our right to do so from time to time. Because we live in a society where the amount of general is so immense that nobody is expected to know it all, we need some form of "cognitive division of labor." (Bohman, 1999). Therefore, we expect certain people to become specialized in narrow fields and we take their opinion in the respective field as being as close as possible to the common ideal of objective knowledge. Nevertheless, there is always the possibility that an expert could

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abuse this power of specialized knowledge because experts are hard to verify by the laypeople. How are we then to assess the expert's opinion in an argument from the position of an outsider to the specialized field? The answer to this interrogation depends on what sides we take on a larger issue regarding the place of the expert in a democratic and political deliberation. Democracy has generalised the practice of using expert panels in order to decide controversial issues – be it in tribunals or policy forums. Even though experts are asked for their opinion, the decision makers (judges, politicians, managers) are usually non-experts in those fields and the final decision hinges a lot not only on the credibility of the experts, but on how people have been accustomed to deal with experts: will they trust blindly the experts or will they question their judgements? What are we expected to do normally in a democracy: question the experts all the way in the name of our rational autonomy or bow with silent respect?

In this paper, I will try to answer the research question by placing it in the larger context of the political status of epistemic authority. In order to do this I will first sketch the actual debate around the problem of expertise in a democracy from an epistemic point of view, and relate this problem to the debate about the status of science in society, which is an ongoing debate in social epistemology. Secondly, I will review how Douglas Walton's pragma-dialectical approach offers a practical procedure to assess the expert bias from a nonprofessional perspective. Thirdly, I will introduce the problem of group bias using insights from Bohman and Fischer and show how Walton's solution does not address this specific type of bias. Lastly, I will try proposing a refinement of Walton's solution in order to address this problem. In order to make the explanation more easy to follow I will use a case study concerning the usage of medical expertise in the public debate on second-hand smoke.

II. The Problem of Expertise in a Democracy

Political deliberation is, in what Mansbridge et al. call the "classical paradigm", a rational debate among people with conflicting opinions in which self-interest should play no part (Mansbridge, 2010, 66). However, Mansbridge et al. argue that we should abandon this ideal for a more realistic deliberation because self-interest, even if it might seem to introduce an emotional dimension to the discussion, is essential in understanding the other side's motivations and instrumental for reaching an agreement. "Including self-interest in deliberative democracy reduces the possibility of exploitation and obfuscation, introduces information that facilitates reasonable solutions and the identification of integrative outcomes, and also motivates vigorous and creative deliberation." (72-73).

The "classical paradigm" excluded self-interest from the deliberation because it was seen as a way of introducing "irrational" elements in a discussion

that should remain governed by reason alone. However, since most debates are about issues that affect personally the parties involved, openly revealing what is each ones' self-interest will lead to a more clear starting point for negotiations because only when we know why the other party asks certain things, we can find alternate ways to reach the same results but through different policies or actions. In addition, a debate anchored only in the sphere of reason alone will leave behind the democratic assumption that there is not one single common good, but a plurality of goods (68) that need equal consideration.

Nevertheless, if political deliberations are centred on the self-interested parties, how are experts to be employed in such settings? Ideally, in a democratic debate each side should have access to an expert's opinion to defend its own self-interest. However, even if both sides use an equal number of experts, this does not solve the problem of the authority of the expert's opinion in a democracy. How much should the expert's opinion weigh as a premise in a general debate? What is the role of the expert in a democratic debate?

Depending on our views of the social role of science, there are multiple answers possible, ranging from the empiricist view to the constructivist model seen as extremes of a spectrum. We could see the expert either as an objective and incontestable source of truth, or as a member of a community of consensus who builds theories in accordance to the social needs of his setting.

II.1. The Objective Expert

In the empiricist framework, the expert is seen as an unbiased person that looks sincerely for truth while working under the assumption that there is an objective truth out there and that it can be found. This is what Collins et al. would call the "first wave of science" (Collins, Evans, 2002, 235-296), which had its peak around 1950s-1960s. At that time the experts were very highly esteemed and "it was inconceivable that decision-making in matters that involved science and technology could travel in any other direction than from the top down" (239) therefore it was not the place of the laypeople to question the expert from their bottom-up perspective.

The problem with experts that work in this framework is that they do not see any reason for including the public's views in any debate because they see the technical matters as being too complicated and hard to explain to the laymen. A feeling of esotericism emerges from this attitude about scientific expertise that survives even today. Cook et al. performed a study in 2004 in which they found by analysing the language of experts in the case of genetically modified (GM) organisms, that the experts thought of the public's opinions on the issue of GM as being only of an emotional nature, and that "this characterization of public opinion appeared to free the GM scientists we interviewed from having

to engage with public disquiet." (Cook, 2004, 439). The scientists working under an empiricist assumption of science see themselves as educators and their engagement with the public as only one-sided, with the expert speaking and educating, while the public listens respectfully and learns. A two-way dialogue seems impossible unless the public gains the same level of expertise, which is unlikely to happen.

II.2. The Expert in a Constructivist Paradigm of Science

In the constructivist paradigm, the focus shifts from the empirical practice to the way in which "scientific knowledge is used in social institutions such as schools, courts, policymaking agencies, and public deliberations. These investigations focus on the issue of how expertise has emerged, how it is socially constructed, and how it gets taken up by various institutions" (Fischer, 2009, 140). In this paradigm science will be "reconceptualised as a social activity" primarily while making scientific truth seem relative and just another type of discourse which tries to gain authority while competing with other discourses. Scientists are not regarded as objective searchers of truth anymore, but rather people who construct the truth in closed communities of consensus. This position on science is a radical extreme of a more nuanced spectrum, yet we should keep in mind the possibility of a group bias in which the individual expert acts as sincerely and honest as possible, without being aware of the larger context in which his science unfolds.

III. Douglas Walton's Solution to the Problem of Expert Bias

In this section, I will present Douglas Walton's approach to dealing with the possibility of a fallacious appeal to expert opinion and his 5-questions method for establishing the reliability of the expert. His approach comes from a pragma-dialectical perspective and I will use this method in the following pages.

III.1. Pragma-Dialectics

Pragma-dialectics is a method developed by the Amsterdam School authors Van Eemeren and Grootendorst who proposed that we assess arguments by looking primarily at the dialogue setting in which arguments appear natively. Thinking about pros and cons in one's head is not really an argument, according to this school of thought, only by engaging in a debate with an opponent the real argument can unfold. Dialogue is primarily "a means of resolving differences of

opinion which must operate within particular rules for critical discussion."
(Groarke, 2013). Consequently, a good counter-objection has no value if it was
not included at the time of the dialogue, because what is taken into consideration
are only the utterances, commitments and concessions one makes in the
dialogue with the opponent – these are called "externalised commitments." (van
Eerman, 2007, 3). This means also that one is responsible for "what one has put
forward, either directly or indirectly, and for what one, explicitly or implicitly,
has committed oneself to." (2).

A dialogue has four specific stages in this theory: "confrontation, opening,
argumentation, and closing"[3] with each stage ruled by specific constraints. A
fallacy in the pragma-dialectic approach is understood as a "violation of the
rules for critical discussion."[4] Walton and Krabbe proposed that we group
dialogue types according to several criteria: goals, rules, initial situation, and
the aims of the participants. They distinguish six possible main types of
dialogue that can, in turn, be mixed and combined (Walton, 1995, 66). For the
purposes of this paper, I shall look only at the deliberation dialogue, which
seems to be the most relevant for the political debates that are the focus of this paper.

Deliberation dialogue has mainly a practical purpose that is coming to an
agreement in solving a certain problem, according to Walton (Walton, 2010, 13-24).
This is a collaborative type of dialogue and the result will be a proposal that is
"optimal for the group may not be optimal for any individual participant." (16).
There is no hidden information in this type of dialogue, because each participant
has to share what her interests and preferences are in order to reach a common
agreement and withholding a personal interest would lead to no visible
advantage (16). The deliberation takes place in eight stages: "open, inform, propose,
consider, revise, recommend, confirm and close." (16). There is no actual burden
of proof in the deliberation dialogue, explains Walton, because "the central aim
is not to prove something but to explain something that the questioner claims to
fail to understand." (16). However, a similar function to the burden of proof can
be seen in the requirement to justify one's proposal, Walton calls this a "burden
of defending or justifying a proposal" (16) because the participants have to
show how their own proposal actually leads to achieving a common goal.

III.2. The Presumptive Argumentation Scheme

Whenever we delegate knowledge in theoretical or practical matters to
someone else, we appeal to expert opinion. There are two possible types of authority
according to Walton epistemic or cognitive, and prescriptive – meaning any

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[3]   Groarke, "Informal Logic."
[4]   *Ibid.*

person with power that can make us do something (Walton, 1997, 77). Authority, taken in a larger sense, applies to anyone with "judicial or administrative power" and in the narrower sense, "someone with epistemic access to something we would normally not have." (84).

Appeal to expert opinion in a dialogue occurs when one of the interlocutors cannot explain directly the facts that motivate his proposal, but instead cites the opinion of an expert in the field that also holds that assertion to be true. This appeal is by no means decisive for the entire discussion, but it does "shift the burden of proof" (133) from the proponent to the opponent who has to justify why he cannot accept the expert's opinion.

What makes the argument from expert opinion interesting from a dialectical point of view is the nature of the argumentation scheme. The argument from expert opinion does not use a deductive or inductive form to draw conclusions from the premises, rather a presumptive scheme. According to Woods and Walton, the defeasible argument has the following form:

> "1. X is a reliable authority in domain K.
> 2. p pertains to K
> 3. X asserts that p.
> 4. is coherent with relevant information obtained from other factors.
> ∴ p." (Woods, Walton, 1974, 146).

A presumptive argument is defeasible in the context of the dialogue that generated it. This type of argument appeals foremost to the plausibility of the reasoning articulated in the dialogue context and it should be accepted only temporary, until new evidence appears, while it remains open to future criticism. Even if the opponent accepts all the premises of the argument, he is not bound to accept the conclusion – as it was the case with deductive arguments. It is a type of argument used in contexts of insufficient information: when people ask an expert's opinion, they are in a state of insufficient information, but this state is not permanent because the non-expert has always the option of asking the advice of other experts, or just of challenging the internal coherence of the expert's argumentation.

When we accept a person as an expert in a certain field, this implies that we think that the expert's opinion in that particular field is "worth having – but not infallible." (Walton, 2010, 101)[5] Even when all critical inquiries have been successfully answered by the expert, "the argument could still be defeated if new evidence comes into the case that provides a rebuttal to the original argument." (Walton, 1997, 78). The expert's warrant premise has the form of "a Toulmin warrant" which, according to Walton, means that "it does not hold universally, but only subject to exceptions or countervailing instances that may

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[5]   In "Types of Dialogue and Burdens of Proof".

arise." (Walton, 2006, 750). However, in the case of political decisions which result in new policies, there is no way of coming back and revising the expert opinion, the conclusions of the expert are taken to be fixed and unchangeable from a practical point of view.

III.3. The Examination Dialogue

The dialogue in which the expert can be asked to present and justify his professional statement is called an "examination dialogue" by Walton and usually takes place in a court setting. (746). By testing the expert's reasons through an examination dialogue, the examiner accomplishes two goals: first, he finds out the raw information needed, and secondly inquires the expert regarding the reasons for his statement (746). The second goal is more important from an argumentative point of view. The main question Walton tries to answer is how does one critically question an expert from the position of an outsider to the field of expertise?

The examination dialogue is a "species of information-seeking dialogue" (2006, 746) which shifts at some point into a persuasion dialogue as the examiner asks to be persuaded by the expert of the truth of a certain claim. Walton names this shift in dialogue a "dialectical shift" which is a "transition during a sequence of moves from one type of dialogue to another." (756). Such a transition should be avoided in formal dialogues but Walton argues that "in any real case of natural language argumentation, such shifts are extremely common." (756). The information-seeking dialogue is a non-adversarial exchange, the main goal of one participant being to gather information while the other participant, easily identifiable with the expert, wishes to share the information. (Walton, 2010, 13)[6].

In an examination dialogue the burden of proof typically shifts "back and forth, from one side to the other, during the course of a dialogue" (Walton, 2006, 752)[7] because, just as the expert is expected to motivate his claims, so does the examiner who needs to explain why he chose to question a certain premise. Once the expert has explained satisfactorily a premise, the burden of proof passes on to the examiner who has to show why that proof is insufficient.

In such a dialogue there are three forms of valid inquiry (757): the first one requires that the expert clarifies what he means by certain terms (for example one could ask the expert "what do you mean by [technical term] x in common language?"); the second one regards the logical form of the expert

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[6]   In "Types of Dialogue and Burdens of Proof".
[7]   In "Examination Dialogue: An Argumentation Framework for Critically Questioning an Expert Opinion".

testimony (for example if it seems to the layman that the expert is contradicting himself in two different assertions, he can ask the expert to clarify this.) (757). At the third level of inquiry, the examiner may ask different questions that draw on previous established points in order to make the examiner reveal a possible internal consistency of his beliefs. The third level acts as a test, but it is not a mere fact-checking test, but rather an internal consistency check (761) which verifies what are the reasons that the expert has for holding certain views. At this level, the examiner may question the values, beliefs or biases of an expert.

> "At the third level, the findings of the first two levels are processed, and conclusions are drawn in the form of hypotheses. The third level comprises a critical discussion of the findings of the first two levels." (759-760).

According to Walton, there are 6 types of questions that an examiner might ask an expert in order to assess the credibility of the expert opinion regarding his assertion A:

> "1. Expertise question: How credible is E as an expert source?
> 2. Field question: Is E an expert in the field that A is in?
> 3. Opinion question: What did E assert that implies A?
> 4. Trustworthiness question: Is E personally reliable as a source?
> 5. Consistency question: Is A consistent with what other experts assert?
> 6. Backup evidence question: Is [E]'s assertion based on evidence?" (Walton, 1997, 232)[8].

For a broader perspective on this questionnaire, we can turn to Goodwin (Goodwin, 2010, 138) who re-frames the six criteria in terms of the principal/agent problem. Thus the six questions would fall into two main groups: 1-4 are the ones that assess whether the expert is biased (the adverse selection) and 5-6 would try to find out if, during the testimony, the expert is not acting in his full capacity (the moral hazard problem which appears when an expert tries to employ as little effort as possible or just says what the laymen want to hear) (Goodwin, 2010, 138). This is a more clear explanation of what exactly we want to know about the expert before accepting him in this role, and it helps us understand what the purpose of the questions selected by Walton is. Goodwin also proposes that we take into consideration the community opinions about an expert (through forums and public websites) as supplementary ways of checking the expertise from the position of the outsiders of the field.

According to Walton, the appeal to expert opinion is a fallacy only when it does not fulfil one of the six criteria quoted previously, in other words when the expert quoted is not reliable as an expert, does not act in his full capacity as an expert, has a personal bias, or when the expert opinion is used deductively instead of inductively by the one who quotes it. In the following pages, I will try

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[8]   In *Appeal to Expert Opinion: Arguments from Authority*.

to show that the question of the expert's bias is more complicated than Walton's initial assessment and that an appeal to expert opinion can fulfil all the formal criteria proposed by Walton and still be fallacious.

IV. The Problem of Group Bias

Returning to the initial question on how should experts act in a democracy, Bohman[9] shows that the delegation of knowledge to experts poses a fundamental problem to democracy. By dividing the epistemological tasks and delegating to experts a certain piece of knowledge which we could not come to learn even in principle, we risk supporting the formation of an elite of knowledge (Bohman, 591). This requires that we find a way in which we make science "more democratic." (591). Bohman proposes that we chose a pragmatic solution to this problem by adopting Habermas's model of a "critical interaction" between the expert and the public (597). In this habermasian model, the public would be mediating between the experts and the politicians (597), and this would place the larger public on an equal footing with both sides because the public would have a crucial role in every debate. The expert's knowledge would be then placed in "the context of public accountability and testing of credibility" (604) and we would need institutions that would allow for a public inquiry of the experts in a democratic way. One notices that Bohman's proposal is in accord with Mansbridge's ideal of deliberation, because both take into account the public self-interest as a valid basis for inquiry. "The question for the democratic division of labor is not whether science is a "democratic" and "communal" institution (…), but how to establish credibility across communities of inquiry, each with their own interests and intersecting, but often conflicting criteria of relevance and judgment" (599).

According to Fischer, an "epistemological disjunction" divides the "scientific reason of the technical community and the practical reason of the public sphere." (Fischer, 161). This implies that even if we take the experts' propositions at their face value, a dilemma of practical reasoning remains: what to do with this knowledge? More precisely, can we incorporate the expert's interests in the democratic debate on the collective interest? Fisher points out that the expert does not necessarily have a personal interest in the debate (the so-called personal bias) but that his position as a scientist representing a community of scientists might pose a bias in itself:

> "Whereas science was accepted in earlier periods as a disinterested pursuit of truth, it is today also seen by many – not altogether wrongly – as an interested group advancing its

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9   In "Democracy as Inquiry, Inquiry as Democratic: Pragmatism, Social Science, and the Cognitive Division of Labor."

own status, both materially and socially. This results in various ways from the central role conferred on it in politics and policy, both wittingly and unwittingly. (...) For example, as science has become more and more dependent on public largess for its research projects, the scientific community's advice about funding projects is intricately bound up with the advance of the community's own interests." (Fischer, 153-154)

To counteract this danger, Fischer proposes that experts should act only in the role of "epistemic translation," that they translate for the lay public what a certain policy decision would imply for their lives.

Types of public expertise can be roughly categorised in two types: normative and substantive. When the issue at hand is of a normative nature, usually a question requires only a yes /no answer such as "should we legalize same-sex marriage?" Most of the time, the organizers of the debate will identify the supporters of the two opposing sides and invite an equal number of experts for each side of the debate. This implies that we know in advance each expert's allegiance to a particular side and the question of bias becomes then merely secondary to other concerns.

In the substantive case however, when the expert is neutral and supposedly does not take any side before the discussion, we should always have in mind the possibility of expert bias. If the expert is not present and someone else quotes the expert's opinion, we should inquire whether there is a fallacy at some point. How can one question the expert in the matter at hand in order to reveal his biases? Walton's questions deal mostly with the authenticity of the expert. The consistency question does not help us much if there are two sides of the debate and there is already another contradicting expertise. In the rare case that expert E is the only one in the field maintaining that A is the case, then he can be rejected as an expert because he does not fulfil the consistency criteria. Nevertheless, what if an expert is trustworthy in his field and he asserts that A together with other fellow experts, yet the assertion that A is very helpful for a certain company that has been funding research in that area? A good example are the studies over the carcinogenic effects of second-hand smoke funded by tobacco companies[10].

V. Case Study: Environmental Tobacco Smoke (ETS)

In a study done by Francis et al. on expert testimonies in court related to ETS, they found out that expert witnesses for the defence used a common tactic when confronted with epidemiological studies about the effects of second-hand smoke: they emphasized the "limitations of epidemiologic research, raising methodological and statistical issues, and disputing biological plausibility."

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[10]   Also called industry-funded reports.

(Francis, Shea, 2006, iv 68). In this way, the experts were practically asking for "an unachievable standard for establishing the mechanism of disease." (Francis, Shea, 2006, iv 68). For example, when experts were confronted with the statistics that people married with smokers have a 25% more chance of getting lung cancer than those married with non-smokers, the experts called this figure as relatively low compared with the 2000% chance for smokers themselves of getting lung-cancer. Although a 25% risk is small compared to a 2000% risk, the risk-assessment cannot be left only in the hands of the experts because it is not the expert's place to say whether a certain risk is acceptable, rather it concerns the stakeholders, the people who actually have to face this risk.

Another argumentative tactic by the expert witnesses was to say that the epidemiological studies who outlined the 25% increase in lung-cancer risk were showing nothing but a correlation and then they cited the well-known Humean view that correlation is not causation. Francis et al. call this stance an *unrealistic standard*. In addition, when saying that we cannot explain how exactly second hand smoke affects the lungs, the experts ask for a level of evidence "in terms of mechanistic understanding that cannot be reached." (Francis, Shea, 2006, iv 74). These questions of a general philosophical relevance are misplaced in a public debate where a decision has to be reached in a limited amount of time. Sometimes the financial ties of the experts and the tobacco industry are revealed and their testimony loses legitimacy, but this cannot be always the case. Can we then, based on a pragma-dialectic approach alone, discover this hidden bias of the expert?

The 6 criteria proposed by Walton function only inside the empirical framework which analyses testimonies looking for logical consistency and evidence in the real world. However, the expert bias is more complicated than just using unsupported data or misinterpreting it. It regards what kind of scientific standards are acceptable for the expert called to testimony and for the public involved in the debate. Because this is a highly controversial and technical debate, its assumptions are almost never brought explicitly into question.

I have identified so far three ways in which the expert opinion can be questioned:

First, inside an empiricist framework, we should look if an assertion A is justified in itself, unrelated to the expert that has uttered it. This can be done either by looking for the evidence on which the expert bases his claim, or for internal coherence in the expert testimony. This would correspond to the third level of inquiry in Walton's classification. (Walton, 2006, 757)[11].

Secondly, inside a constructivist framework of science, we can test the expert's objectivity by looking whether expert E is a recognized expert in his

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[11] In "Examination Dialogue: An Argumentation Framework for Critically Questioning an Expert Opinion".

field, or if there are other experts who claim the same thing. The result of the inquiry would reveal who is the community of scientists that backs up our expert and, if we ourselves agree with that particular community's views on science, we can view this to be an "objective" truth.

Thirdly, in a true postmodernist setting, we could ask ourselves what kind of science we want to accept as reliable, what criterions are good-enough inside for our science and what are the common goals that we want the scientific inquiry to serve. Because we, the public, decide what type of science serves best out interests, we can be involved as an equal partner with the expert in the debate because at this level, all interests are equally legitimate and the expertise loses its superior epistemic status.

Let us examine the following example of a dialogue in which we could question an expert:

Proponent: We should not ban smokers from restaurants because second-hand smoke is not harmful. (S)

Opponent: Why do you say that? (why S?)

Proponent: Because professor E says that S and ***E is an expert in medicine (T)***. (T, T->S)

[Assumption accepted by both at this stage: S belongs to the set of medical sentences in which E is an expert]

From here, there are four possible tactics of challenging this inference.

Tactic 1: questioning the expert's reasons

Opponent: Why does E say that second-hand smoke is not harmful?

Proponent: Because epidemiological studies show negligible risks. (R)

Opponent: Why are these risks negligible?

Proponent: Because expert E says that R and E is an expert in medicine

Opponent: However, the R statement does not belong to medicine, but rather to risk assessment, which should be established by the public, so E has no authority in this particular matter. [because R does not belong to the set of expertise]

Proponent: I concede.

Tactic 2: questioning the expert's authority

Opponent: Why do you say that E is an expert?

Proponent: Because he is well recognized by his colleagues, and has published in peer-reviewed journals in his field.

Opponent: Is E the only expert who says that S?

Proponent: No, there are a few other scholars who say that S.

Opponent: I provisionally accept S until new evidence appears.

[the expert opinion was accepted under the presumptive reasoning scheme]

Tactic 3: questioning the expert's bias

Opponent: Does E have any personal interest to say that T is the case?

Proponent: I do not know. Why does it matter?

Opponent: If a tobacco company sponsors his work, then expert E might have a reason to favour certain studies and ignore other relevant studies.

[At this point, neither the proponent nor the opponent have enough information to assess the expert's bias. The dialogue may go in any direction according to the level of information they have on the expert.]

The expert's personal bias can be questioned in more than one way: "Is the expert E in a position to benefit personally if we accept that A is the case?" A second way could be "Is the expert E in a position to benefit as an authority-figure if we accept him as being an expert?" and, related to this, "Is the expert's field of expertise likely to benefit/enlarge if we accept his authority in the matter at hand?" For example when we ask an expert in geology to advise whether we should mine in a certain area. His expertise is not just about the mere facts which indicate whether there are pockets of oil or not, but it becomes a prescriptive expertise, telling us what to do if there is oil there. However, this decision should belong to the stakeholders only, and should be taken only after all the interests have been laid out on the table. An epistemic expert acting out more than a consultant in the values-interests deliberation level is surpassing his expertise.

Tactic 4: questioning the expert's scientific standards

Opponent: Are expert E's standards unrealistic for an epidemiological study?

[At this point, the dialogue turns into a deliberative debate in which the participants decide what the common accepted scientific standard is for their personal interests. Only after these personal interests have been made explicit, the expert's authority can be accepted.]

VI. A Revised Questionnaire

In the light of the four examples mentioned above, I propose that we improve Walton's questionnaire and add to it 4 more types of questions in order to assess the social bias and the group bias of the expert. The initial 6 questions were the following:

"1. Expertise question: How credible is E as an expert source?
2. Field question: Is E an expert in the field that A is in?
3. Opinion question: What did E assert that implies A?
4. Trustworthiness question: Is E personally reliable as a source?
5. Consistency question: Is A consistent with what other experts assert?

6. Backup evidence question: Is [E]'s assertion based on evidence?" (Walton, 1997, 223)[12].

One can easily notice that questions 1-4 are about the expert's person, question 5 places the expert in the field and works also under a constructivist assumption of science, while question 6 functions in an empiricist framework.

In order to extend this set of inquires I propose that we add the following questions:

7. Is the expert offering a prescriptive advice when he was appointed only for fact checking?

8. Does the expert E have a personal interest in the matter at hand?

9. Does the expert E have a group interest in the matter at hand?

10. Is the type of science promoted by the expert consistent with the public interests of the society at this point in time?

Question 7 will cover the normative/factual distinction and prevent experts from overstepping their boundaries.

Question 8 takes into consideration the cases when an expert is paid by a company or has some emotional reason to support a certain cause.

Question 9 takes into account the group interest of the field of experts; such a group may want to extend their authority over matters that do not concern them in order to gain social status or funding.

Question 10 is the most difficult to answer and might be seen as a meta-question that frames the previous 9 questions. In the case of the tobacco smoke, it was obvious that the standards required by the experts for scientific explanation were unrealistic. Depending on the time and place of a society, people may accept the risks associated with a nuclear reactor near their homes or not. Before the Fukushima disaster, the risk assessment on a possible accident was in acceptable limits for the locals, and thus was part of a socially accepted standard of science. After Fukushima however, our ways of assessing risk underwent a radical transformation. It is not that the risk of a nuclear catastrophe increased worldwide, just that the global context changed and people did not accept previous levels of risk anymore. Depending on the stakes at hand and on the community's guidelines on what constitutes reliable scientific standards, an expert may or may not be accepted as an authority figure.

VII. Conclusion

Experts do not appear in a vacuum. They fulfil a certain role in a society and their status depends on the degree of trust that a society delegates to them. The question about how much authority should an expert have is not a detached pondering about the objectivity of science, rather a matter that concerns us all. This issue should be settled like many other issues in a public deliberation where all interests, including the expert's, have been laid out in the open.

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[12]   In *Appeal to Expert Opinion: Arguments from Authority*.

Appeal to expert opinion, when used in a political deliberation, could become a fallacy in at least three different situations. Walton described how the expert's authority could be used in an unjustified way, just by name-dropping, or by making unjustified claims. The expert can also have a personal bias in the issue and this is harder to uncover by examination dialogue alone. However, Walton's questionnaire does not cover the more general type of bias associated with the position of expert itself. Depending on the views we, as a community, have on science, we can take an empiricist approach and trust experts blindly, or we can be constructivist and question their standards. However, either way, if we approach the matter from a pragmatist perspective, we should take into account the self-interests of all the stakeholders involved and consider the expert just another interested party in the debate at hand, with no special authority claim.

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