

Why Arguments from Expert Opinion are Weak Arguments

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Abstract: In this paper, I argue that arguments from expert opinion, i.e., inferences from “Expert *E* says that *p*” to “*p*,” where the truth value of *p* is unknown, are weak arguments. A weak argument is an argument in which the premises, even if true, provide weak support—or no support at all—for the conclusion. Such arguments from expert opinion are weak arguments unless the fact that an expert says that *p* makes *p* significantly more likely to be true. However, research on expertise shows that expert opinions are only slightly more accurate than chance and much less accurate than decision procedures. If this is correct, then it follows that arguments from expert opinion are weak arguments.

Résumé: Dans cet article, je soutiens que les arguments fondés sur l'opinion des experts, à savoir, les inférences de "Expert *E* dit que *p*" à "*p*", où la valeur de vérité de *p* est inconnue, sont faibles. Un argument faible est un argument dans lequel les prémisses, même si elles sont vraies, fournissent un soutien faible ou aucun soutien du tout pour la conclusion. De tels arguments sont faibles à moins que l'affirmation d'un expert que *p* rende *p* significativement plus susceptibles d'être vrai. Cependant, la recherche sur l'expertise montre que les opinions des experts ne sont que légèrement plus exactes que les opinions énoncées au hasard et beaucoup moins exactes que les procédures de décision. Si cela est vrai, il s'ensuit que les arguments fondés sur les opinions des experts sont faibles.

Keywords: appeals to authority, arguments from authority, expertise, expert opinion

1. Introduction

Most (informal) logic and critical thinking textbooks include a chapter or section on arguments from authority. For example, in *Introduction to Logic* (10th ed.), Copi and Cohen (1998: 165) write:

When we argue that a given conclusion is correct on the ground that an expert authority has come to that judg-

ment, we commit no fallacy. Indeed, such recourse to authority is necessary for most of us on very many matters. Of course, an expert's judgment constitutes no conclusive proof; experts disagree, and even in agreement they may err; but expert opinion surely is one reasonable way to support a conclusion.¹

In *Essentials of Logic* (2nd ed.), Copi, Cohen, and Flage (2007: 51) write:

You believe most of what your professors say. When they're speaking within their areas of training and research, it is reasonable to do so. They are authorities in their fields. This doesn't mean they're always right—everyone occasionally makes a mistake—but there is good reason to believe that they're right the overwhelming majority of the time.

And in *Logic*, Baronett (2008: 304) says that “The appeal to expert testimony strengthens the probability that the conclusion is correct, as long as the opinion falls within the realm of the expert's field.” In what follows, I will challenge these claims about arguments from authority. I will argue that we do argue fallaciously when we argue that p on the ground that an expert says that p . In other words, I will argue that arguments from expert opinion, i.e., inferences from “Expert E says that p ” to “ p ,” where the truth value of p is unknown, are weak arguments. A weak argument is an argument in which the premises, even if true, provide weak support—or no support at all—for the conclusion. Such arguments from expert opinion are weak arguments because the fact that an expert says that p does not make p significantly more likely to be true. As research on expertise shows, expert opinions are only slightly more accurate than chance and much less accurate than decision procedures.

My overall argument, then, will run as follows:

- (1) Arguments from expert opinion are weak arguments unless the fact that expert E says that p makes it significantly more likely that p is true.
- (2) [As empirical evidence on expertise shows] the fact that E says that p does not make it significantly more likely that p is true.

¹ See also Rudinow and Barry (2008: 22) and (2008: 342-344); Kahane and Cavender (2006: 48-52); Vaughn (2008: 129-136); Fogelin and Sinnott-Armstrong (2005: 385-389).

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- (3) Therefore, arguments from expert opinion are weak arguments.

In the following sections of this paper, I defend the premises of my overall argument. But first, a few clarifications are in order. More explicitly, I need to explain in some detail what arguments from expert opinion are.

First, there is a common distinction in argumentation theory between two kinds of authority. For example, according to Walton (1992: 48):

One can distinguish between two kinds of authority—administrative authority on the one hand and cognitive authority on the other—even though these two kinds of authority may be combined in the same individual in some cases. For example, a physician may be a cognitive authority, that is, an expert in the field of medicine, and an administrative authority whose standing as a licensed physician makes his or her rulings authoritative and binding on some questions. Usually the textbooks in logic have cognitive authority in mind when they cite cases of the fallacious *argumentum ad verecundiam*.²

Throughout this paper, then, I will not be concerned with administrative authority (i.e., the authority that puts forward imperatives), but rather with cognitive authority (i.e., the authority that puts forward statements). As Goodwin (1998: 268-269) puts it:

The [latter] looks for the auditor to take what is stated as true and believe it, or at least give it weight. The [former] looks for the auditor to take what is commanded and make it true, by making it what is decided, chosen, intended, willed—in short, for the auditor to do it (cf. Friedman 1990).

In that respect, it is important to note that, although it might be the case that administrative authority and cognitive authority are often deeply interconnected, this link can be ignored for present purposes. For present purposes, it is enough to recognize that they can be treated independently. For example, one might believe an expert's advice that one should invest in real-estate, rather than bonds, without actually following this advice.³

² Other authors seem to use a variety of terms for an intuitively similar distinction. See, e.g., Fox 1972, 'theoretical'/'practical'; Wilson 1983, 'cognitive'/'administrative'; De George 1985, 'epistemic'/'executive'.

³ For more on appeals to administrative authority of expertise, see Mizrahi 2010.

So, for the purposes of this paper, the following is an instance of an argument from expert opinion:

Expert: It is better to invest in real-estate than in bonds.

Non-expert: Why?

Expert: Because I say so, that's why! (See Goodwin 1998: 271; Goodwin 2011: 292)

Alternatively:

Expert: It is better to invest in real-estate than in bonds.

Non-expert: Why?

Expert: Because Expert *E* say so, that's why!

Put more schematically, this exchange looks like this:

- (1) Financial expert *E* says that investing in real-estate will yield more profits than investing in bonds.
- (2) Therefore, investing in real-estate will yield more profits than investing in bonds.

It is important to distinguish between arguments from expert opinion in which the appeal is to one's own expertise and arguments from expert opinion in which the appeal is to someone else's expertise. In both cases, however, the force of the argument is the appeal to *E*'s expertise.

Second, for present purposes, the "authority" in an argument from authority is what Walton (1997: 78) calls *de facto* (epistemic) authority. As Johnson and Blair (1983: 144) put it:

[The "authority" in an argument from authority is] someone whose expertise in a particular area makes his assertions reliable—more likely to be true than false (Cf. Walton 1997: 85).⁴

In other words, the appeal to authority is an appeal to *expertise* or *expert opinion*, as distinguished from appeals that are based on commands and appeals that are based on dignity (Goodwin 1998). The fact that one is an expert, then, is supposed to make one's assertion *p* significantly more likely to be true. Any argument from authority makes this implicit assumption. Another way to put it is to say that any appeal to expert opinion assumes that "being asserted by expert *E* is an indication that [*p*] is true

⁴ See also Ericsson 2006: 3.

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or acceptable” (Wagemans 2011: 335). Throughout this paper, then, I will not be concerned with authority of command or authority of dignity, but rather with *authority of expertise*.

For present purposes, then, an argument from expert opinion is an argument that looks like this:

- (1) Expert *E* says that *p*.
- (2) Therefore, *p*.

Accordingly, I will argue that such arguments from expert opinion are weak arguments. A weak argument is an argument in which the premises, even if true, provide weak support—or no support at all—for the conclusion. In other words, I will argue that such appeals to expert opinion are likely to fail us more often than we might expect, since the fact that an authority is an expert on a certain subject matter does not make it significantly more likely that what s/he says about that subject matter is true.

Finally, I should say that I am not interested in appeals to authority in which the expert in question is simply reporting what the majority of experts about subject matter *S* accept or what is considered to be common knowledge in a specific domain of knowledge by virtue of being privy to this knowledge. In these cases, the ground for accepting *p* is actually agreement among experts, not expertise *per se*. That is:

- (1) Most experts on subject matter *S* agree that *p*.
- (2) Therefore, *p*.

Although the expert in question may not mention agreement among experts explicitly, the force of the argument is not expertise *per se*, but rather agreement among experts, to which the expert in question is privy. In this paper, I am not concerned with arguments from authority of this sort. Rather, I am concerned with arguments that cite the mere fact that an expert says that *p*—as opposed to the fact that that *p* is common knowledge in a particular field or that the expert in question is reporting that most experts in the field say that *p*—as the *only* reason to accept *p*. In other words, as far as this paper is concerned, an argument from expert opinion is an argument one makes when the truth value of *p* is unknown and the only reason to accept *p* is the fact that an expert says so. I will argue that such arguments from expert opinion are weak.

Since arguments from expert opinion are not supposed to be deductive arguments (i.e., the premises of such arguments provide probable support, rather than logically conclusive sup-

port, for their conclusions), the question for present purposes is the following: is the inference from “Expert E says that p ” to “ p ” strong (i.e., does the premise make the conclusion more likely to be true than false)? In what follows, I will argue that premises of arguments from expert opinion do not make their conclusions significantly more likely to be true than false (cf. Grennan 1997 and Groarke 2011).

2. Why arguments from expert opinion are weak

Arguments from expert opinion, as I have characterized them in Section 1, are weak arguments because the mere fact that an expert says that p does not make it significantly more likely that p is true. By way of illustration, consider the following case. In 1989, Dr. Martin Fleischmann and Dr. Stanley Pons, both electrochemists working at the University of Utah at the time, announced that they had found a way to create nuclear fusion at room temperature. Suppose, then, that, shortly after their announcement, a non-expert puts forward the following argument from expert opinion:

- (1) Electrochemists Fleischmann and Pons say that nuclear fusion can occur at room temperature.
- (2) Therefore, nuclear fusion can occur at room temperature.

In this case, a true premise in an argument from expert opinion leads to a false conclusion. For, as it turns out, nuclear fusion cannot occur at room temperature. This shows that the mere fact that two electrochemists say that nuclear fusion can occur at room temperature is not a particularly strong reason to accept the claim that nuclear fusion can occur at room temperature. As it turned out, when other experts tried to replicate the results reported by Fleischmann and Pons, they could not do so.

Numbers do not matter here. Even if a professional association, rather than one or two experts, asserts p , that is still not a particularly strong reason to accept p . For example, the FBI has estimated that “U.S. businesses lose \$200-\$250 billion to counterfeiting on an annual basis.”⁵ If a non-expert thinks of the FBI as an authority on crime, including its effects on society and

⁵ Sarah Jacobsson, “Government Says Data Estimating Piracy Loses is Unsubstantiated,” *PCWorld*, April 14, 2010: http://www.pcworld.com/article/194203/government_says_data_estimating_piracy_losses_is_unsubstantiated.html.

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business, he or she might be tempted to put forward the following argument from expertise:

- (1) The FBI says that U.S. businesses lose \$200-\$250 billion to counterfeiting on an annual basis.
- (2) Therefore, U.S. businesses lose \$200-\$250 billion to counterfeiting on an annual basis.

Like the previous argument about cold fusion, this argument is also weak. Indeed, the article goes on to say that the FBI “has no record of source data or methodology for generating the estimate [which] cannot be corroborated.”⁶ This makes it clear that accepting the claim that U.S. businesses lose \$200-\$250 billion to counterfeiting on an annual basis solely on the ground that the FBI says so would be to accept a claim on a rather shaky ground, for the FBI’s estimate could very easily be off, given the fact that it “cannot be corroborated.”⁷

I can discuss many additional cases in which arguments from expert opinion fail, but I think the point is clear. These arguments often fail and lead to false conclusions. This shows that the mere fact that an expert says that p does not make p significantly more likely to be true. If this is correct, then it follows that arguments from expert opinion are weak arguments.

3. Why experts are wrong more often than you might think

It might be objected that it is not surprising to find that arguments from expert opinion sometimes fail. After all, they are meant to be defeasible arguments, not conclusive arguments. That is, they are supposed to provide probable support, not logically conclusive support, for their conclusions. So, to support the claim that arguments from expert opinion are weak arguments, we need more than a few counterexamples. We need a principled reason for thinking that such arguments are weak. In this section, I provide such a reason.

There is a growing body of research which shows that experts are wrong more often than one might expect. If this is correct, then it bears directly on the strength of the inference from

⁶ Ibid.

⁷ The argument in this case can also be construed as an argument from agreement among experts: “Most experts on crime agree that p ; therefore, p .” As I explained in Section 1, this argument is different from an argument from expert opinion, since the force of the argument is the appeal to agreement among experts, rather than expertise *per se*.

“Expert E says that p ” to “ p .” Indeed, many studies on expertise suggest that the fact that an expert asserts p does not make p significantly more likely to be true. For example, Philip Tetlock (2005) conducted a long-term study of numerous predictions made by experts from various fields, including academics, economists, policymakers, and journalists. He found that the experts were only slightly more accurate than chance and much less accurate than decision procedures. To say that experts were only slightly more accurate than chance is to say that they might as well have been guessing. As Tetlock puts it, most of the experts he studied did no better than “a dart-throwing chimpanzee.”

Moreover, Freedman (2010) compiles the results of several studies on expertise which include the following: (a) approximately two-thirds of the findings published in top medical journals are rejected after a few years; (b) there is a 1 in 12 chance that a physician’s diagnosis will be wrong to the extent that it could cause significant harm to the patient; (c) most studies published in economics journals are rejected after a few years (i.e., the results of the studies are subsequently considered to be incorrect); (d) tax returns prepared by professionals are more likely to contain errors than tax returns prepared by non-professionals (see also Stewart 2009).

Other researchers have conducted studies that confirm the aforementioned results. For example Dawes (1994) has found that, as far as the outcomes of therapy by clinical psychologists are concerned, experts perform no better than non-experts. Similarly, Camerer and Johnson (1991) have found that experts’ decisions are often no more accurate than non-experts’ decisions and are much less accurate than decision aids (e.g., decision procedures).⁸ And Yates and Tschirhart (2006: 434) cite a study by Wilson et al. (1997), which shows that attending physicians caring for elderly patients were no more accurate at predicting patients’ preferences for end-of-life care than interns, despite the fact that the attending physicians spent much more time with their patients than the interns did.

Since the research on expertise shows that experts are only slightly more accurate than chance and much less accurate than decision procedures, it supports the second premise of my overall argument from Section 1, which is that the fact that E says that p does not make it significantly more likely that p is true.

⁸ See also Bolger and Wright 1992. A decision procedure is a step-by-step process that terminates with a decision or judgment (e.g., yes/no, true/false, 0/1, etc.). For an example of a simple decision procedure for evaluating natural language arguments, see Mizrahi 2012.

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Together with the first premise of my overall argument from Section 1, which says that arguments from expert opinion are weak arguments unless the fact that E says that p makes it significantly more likely that p is true, it follows that arguments from expert opinion are weak arguments. In support of the first premise, consider the following: Would you trust a watch that gets the time right 55% of the time? Would you trust a thermometer that gets the temperature right 55% of the time? I suspect the answer to these questions is “no.” Similarly, a method of reasoning, such as appealing to expert opinion, is trustworthy only if expert opinion is significantly more likely to be true. Since, as the research on expertise shows, the fact that an expert asserts p does not make it significantly more likely that p is true, appealing to expert opinion doesn’t seem like a trustworthy method of reasoning.

To put it another way, since the accuracy of expert opinion is a matter of degree, the level of confidence we put in expert opinions should vary in direct proportion to their accuracy. On the one hand, arguments from expert opinion are stronger the higher the accuracy of expert opinion. On the other hand, arguments from expert opinion are weaker the lower the accuracy of expert opinions (See Figure 1).

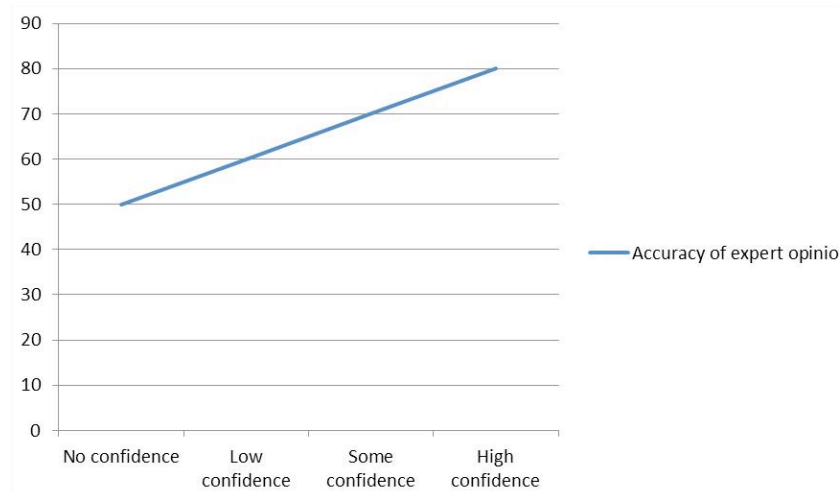


Figure 1.

A direct proportion between accuracy of expert opinion and level of rational confidence.

Now, given that research on expertise shows that expert opinions are usually no more accurate than guessing (i.e., roughly 50%), it follows that we should put very low confidence, if at all, in the opinions of experts.

4. Objections and replies

In this section, I consider eight objections to my overall argument outlined in Section 1. The first objection goes like this: From a practical point of view, we must rely on the opinions of experts, since they are more likely to be true than the opinions of non-experts. In other words, appealing to expertise is the best we've got; even if expert opinions are accurate only slightly more than chance.

In reply to this (first) objection, I would like to make two points. First, in this paper, I am concerned with the strength of arguments from expert opinion. It may be the case that appealing to expertise is the best we've got, but that doesn't mean that appealing to expertise is a strong form of argument. Just as induction may be the best we've got but that doesn't mean that induction is a reliable method of reasoning, appeal to expertise may be the best we've got but that doesn't mean that it is a reliable method of reasoning. In practice, we may need to appeal to expertise, given time constraints and the like. But that doesn't change the fact that, in principle, appealing to expertise is an unreliable method of reasoning, as unreliable as a watch that gets the time right only 55% of the time.

Second, I don't think that appealing to expertise is the best we've got. I think that we can do much better than that. For example, at Cook County Hospital, the chairman of the hospital's Department of Medicine wanted to find out if his emergency room staff make more accurate diagnoses of chest pain patients when they rely on their own judgments or when they follow a decision procedure. He found out that the accuracy of his ER staff's diagnoses of patients who were complaining about chest pain but were not having a heart attack was 70% better when they were following a decision procedure rather than relying on their own judgments. Moreover, following a decision procedure, the ER staff diagnosed patients who complained about chest pain and were having a heart attack with 95% accuracy. When they relied on their own judgments, rather than a decision procedure, the accuracy of the diagnoses made by the ER staff was only 75% (Gladwell 2005; see also Kahneman 2011).⁹ In other words, when the experts reasoned as follows "In my expert judgment, p ; therefore, p ," they were more likely to get the diagnosis wrong than when they reasoned as follows "By following this step-by-step procedure, I got p ; therefore, p ."

⁹ For more on failures of accuracy, see Ericsson et al 2006.

The second objection goes like this: My overall argument to the effect that arguments from expert opinion are weak arguments flies in the face of the history of science and technology. There has been progress in many disciplines, so the objection goes, and that is a reason to think that appealing to expertise is a reliable method of reasoning. Even if the experts don't get things exactly right, they are making progress at least, and thus get increasingly closer to the truth.

In reply to this (second) objection, I would like to make two points. First, note that scientists themselves rarely, if ever, establish scientific conclusions by appealing to expertise. For example, Fleischmann and Pons didn't argue that cold fusion can occur at room temperature by claiming that they are experts in electrochemistry. Similarly, Einstein didn't argue for the theory of special relativity by appealing to his expertise in theoretical physics. Rather, scientists usually appeal to observations and experiments, among other things, not to expertise. Moreover, scientists, for the most part, don't have to appeal to expertise to justify their trust in the instruments that they use because (a) respectable scientists probably know how to test the instruments they are using, so they could test those instruments themselves, and (b) it doesn't matter *who* made the instruments but rather *how* they were made (e.g., following certain protocols, etc.). In this paper, then, my concern is just arguments from expert opinion and my overall argument, as outlined in Section 1, is aimed at such arguments.

Second, the question of scientific progress is an open question in philosophy of science and addressing this question here will take this paper in a very different and long direction. For present purposes, it is enough to say that the notion of making progress by approximation to the truth (or verisimilitude) is very controversial, since it is not even clear how to make sense of it. For example, suppose that the time is 15:30 and the temperature is 25°C, which of the following statements is closer to the truth: (a) "The time is 15:25 and the temperature is 26°C" or (b) "The time is 15:24 and the temperature is 29°C?" (Bird 2007: 75). To make sense of the notion of progress in terms of approximation to truth, we need to be able to answer such questions.

The third objection goes like this: Construing arguments from expert opinion as inferences from "Expert *E* says that *p*" to "*p*" is too simple. Arguments from expert opinion are more complicated than that. For example, Walton (2006: 750) construes argument from expert opinion as follows:

Source Premise: Source E is an expert in subject domain S containing proposition A.

Assertion Premise: E asserts that proposition A (in domain S) is true (false)

Warrant Premise: If source E is an expert in subject domain S containing proposition A, and E asserts that proposition A (in domain S) is true (false), then A may plausibly be taken to be true (false).

Conclusion: A may plausibly be taken to be true (false).

This construal of arguments from expert opinion is more nuanced than a simple inference from “Expert *E* says that *p*” to “*p*.”

In reply to this (third) objection, I would like to make three points. First, note that the aforementioned counterexamples apply to Walton’s construal of arguments from expert opinion as well. For example:

Source Premise: Fleischmann and Pons are experts in electrochemistry containing the proposition that nuclear fusion can occur at room temperature.

Assertion Premise: Fleischmann and Pons assert that nuclear fusion can occur at room temperature.

Warrant Premise: If Fleischmann and Pons are experts in electrochemistry containing the proposition that nuclear fusion can occur at room temperature, and Fleischmann and Pons assert that nuclear fusion can occur at room temperature, then the proposition that nuclear fusion can occur at room temperature may plausibly be taken to be true.

Conclusion: That nuclear fusion can occur at room temperature may plausibly be taken to be true.

If one were to reason in this way, one would be taking as true a claim that is false.

Second, Walton’s construal of arguments from expert opinion is more complicated than my simple construal (i.e., “*E* says that *p*; therefore, *p*”). But is it better? Should we prefer Walton’s construal over mine? I don’t think so because Walton’s Warrant Premise strikes me as rather implausible. Arguably, the reason why one would think that the Warrant Premise is plausible is because one thinks that the fact that an expert says that *p* makes it significantly more likely that *p* is true. However, as we have seen, research on expertise suggests that it is not the case that *p* is significantly more likely to be true when asserted by an expert. If this is correct, then the Warrant Premise

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seems unwarranted. I take it that similar considerations have led Walton (2006: 750) to append the following critical questions to his argumentation scheme:

- (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?

I suppose there could be reasonable disagreements about the credibility and trustworthiness of Fleischmann and Pons, as well as the FBI. However, I think that the important questions, for present purposes, are (5) the Consistency Question and (6) the Backup Evidence Question, which bring me to the third and final point I would like to make in response to the third objection. I take it that these are supposed to be yes/no questions (Cf. Wagemans 2011: 334). In that case, suppose the answer to the Consistency Question is "no," i.e., A is inconsistent with what other experts assert. In that case, it seems to me, we would be less inclined to take A as true, despite the fact that E asserts A, because A is inconsistent with what other experts say. On the other hand, suppose the answer to the Consistency Question is "yes," i.e., A is consistent with what other experts assert. In that case, it seems to me, we would be more inclined to take A as true, not just because E asserts A, but also because there is an agreement among experts that A is true. But then the grounds for taking A as true are no longer expert opinion alone but also agreement among experts. So, in any case, we would not accept A *just because* E says so.

Similarly, suppose the answer to the Backup Evidence Question is "no," i.e., E's assertion is not based on evidence. In that case, it seems to me, we would be less inclined to take A as true, despite the fact that E asserts A, because A is not based on evidence. On the other hand, suppose the answer to the Backup Evidence Question is "yes," i.e., E's assertion is based on evidence. In that case, it seems to me, we would be more inclined to take A as true, not just because E asserts A, but also because there is evidence that supports A. But then the grounds for taking A as true are no longer expert opinion alone, but also the fact that there is evidence for A. We might need E to explain the evidence for us, if we are not experts in the subject matter at

hand, and if the evidence is highly technical. But that is different from accepting A just because E says so. So, in any case, we would not accept A *just because* E says so.

The same dilemmas can be raised with respect to Wagemans' (2011: 337) "scheme for argumentation from expert opinion."

1. O is true or acceptable.
 - 1.1 O is asserted by expert E.
 - 1.1.1a E is an expert in the relevant field F.
 - 1.1.1b Source S proves that O is asserted by E.
 - 1.1' Accepting that O is asserted by E renders acceptable that O is true or acceptable.
 - 1.1'.1a E is personally reliable.
 - 1.1'.1b E is able to provide further evidence for O.
 - 1.1'.1c O is consistent with what other (types of) experts on F assert.

If (1.1'.1b) is true, then why would we accept O just because E says so? We can accept O because there is evidence for O and because O is asserted by E. We might need E to explain the evidence for us, but that is different from accepting O *just because* E says so. Similarly, if (1.1'.1c) is true, then why would we accept O just because E says so? We can accept O because O is what most experts on F say, not *just because* O is asserted by E. We might need E to tell us what most experts say, but that is different from accepting O *just because* E says so.

Like any other construal of arguments from authority, Wagemans' scheme also assumes that the fact that an expert asserts p makes it significantly more likely that p is true. As Wagemans (2011: 335) puts it:

- 1.1' Being asserted by expert E (=Z) is an indication of being true or acceptable (=Y).

Wagemans (2011: 335) then says that the critical question that needs to be asked with respect to his account of argumentation from expert opinion is the following: "Is being asserted by expert E indeed an indication of being true or acceptable?" As I have argued above, I think that the aforementioned research on expertise suggests that the answer to this question is rarely, if ever, "yes."

For the sake of clarity, let me sum up the aforementioned dilemmas:

First dilemma:

- (1) E 's assertion that p is either consistent or inconsistent with what most experts say.
- (2) If E 's assertion that p is consistent with what most experts say, then we would accept p not just because E says that p but because E says that p and p is consistent with what most experts say.
- (3) If E 's assertion that p is inconsistent with what most experts say, then we would not accept p just because E says that p , since " p is inconsistent with what most experts say" seems to be a stronger reason to reject p than " E says that p " is a reason to accept p .
- (4) Therefore, in any case, we would not accept p just because E says that p .

Second dilemma:

- (1) E 's assertion that p is either based on evidence or it is not based on evidence.
- (2) If E 's assertion that p is based on evidence, then we would accept p not just because E says that p but because E says that p and p is based on evidence. (We can appeal to the evidence directly and cut the middleman, so to speak, although we might need the middleman to explain the evidence for us. If, for some reason, we don't have access to the evidence, not even through the middleman, the fact that there is evidence for p , independent of the fact that E asserts p , can still be an independent reason to accept p .)
- (3) If E 's assertion that p is not based on evidence, then we would not accept p just because E says that p , since " p is not based on evidence" seems to be a stronger reason to reject p than " E says that p " is a reason to accept p .
- (4) Therefore, in any case, we would not accept p just because E says that p .

These dilemmas, if sound, show that, in cases where p is either consistent or inconsistent with what most experts say, and p is either supported or not supported by evidence, we would not accept p just because E says that p . In other words, once we take into account considerations of evidence for p and whether or not p is consistent with common knowledge in a field, then an argument from expert opinion is no longer just an appeal to expert opinion. Rather, it is an appeal to expertise, evidence, and agreement among experts. In that case, however, why call such an argument "appeal to expert opinion"? In fact, as the afore-

mentioned dilemmas show, considerations of evidence and consistency take precedence over mere expertise.

The fourth objection goes like this: From a practical point of view, even if arguments from expert opinion are weak arguments, they can still be used to tilt the balance so as to make a proposition acceptable. For example, according to Goodwin (2011: 293), “the appeal to expert authority is a blackmail and bond transaction (Goodwin 2001) that brings the background norm of respect for expertise to bear in a particular situation.”

In reply to this (fourth) objection, I would like to make two points. First, if it is granted that arguments from expert opinion are weak arguments (i.e., they are arguments in which the premises, even if true, provide weak support—or not support at all—for the conclusions), then I don’t see how it would be reasonable to appeal to them (even to tilt the balance so as to make a proposition acceptable)? For, as I see it, a bad reason to accept p is no reason at all. It would seem unreasonable to say that appeals to pity are weak arguments but they can still be used as tie breakers so as to make a proposition acceptable. To me, it seems equally unreasonable to say that in the case of arguments from expert opinion.

Second, Goodwin (2011: 293) says that an argument from expert opinion “brings the background norm of respect for expertise to bear in a particular situation.” But why should one have “respect for expertise” in the first place? I suppose that “respect” here means “epistemic respect.” In other words, it is assumed that the fact that an expert says that p makes p significantly more likely to be true. That is why one should have “respect for expertise.” As we have seen, however, this assumption is unwarranted. Research on expertise shows that it is not the case that p is significantly more likely to be true when asserted by an expert. If this is correct, then why have “respect for [epistemic] authority”? This claim requires support independent of any account of arguments from expert opinion.

On her account, Goodwin (2011: 293) argues:

the audience can reason, “the expert would not risk his reputation for expertise unless he was confident; therefore I can trust what he says.” This sort of “he would not risk...so I can trust” reasoning is widespread in other situations where people are trying to communicate in the face of information asymmetries.

Even if this sort of “he would not risk...so I can trust” reasoning is widespread, it doesn’t follow that it is good reasoning. Wishful thinking is also widespread, as evidenced by the popularity

of *The Secret*, but it is clearly not a good way to reason. Moreover, this sort of “he would not risk...so I can trust” reasoning strikes me as very weak. It clearly fails in so many cases. Experts, especially those appearing in the media, risk their reputations all the time. And, as we have seen, they often get things wrong. Consider, for instance, the case of the host of CNBC’s *Mad Money*, Jim Cramer, who said that Bear Stearns stocks are doing well, just before Bear Stearns went bankrupt. In fact, one could argue that experts have incentives to risk their reputations, since those who do so get more media attention, sell more books, etc.

Pons and Fleischman, as well, risked their reputation by announcing a groundbreaking discovery (or so they thought) only to find out that they were wrong. Indeed, one could argue that the “publish or perish” mentality in academia creates a pressure to risk one’s reputation because the potential payoff is high. If this is correct, then we cannot trust experts to be cautious and make modest claims, which are more likely to be true, because there seem to be incentives to make bold claims, which are less likely to be true.

The fifth objection goes like this: Arguments from expert opinion are widely recognized as defeasible arguments. So my argument to the effect that arguments from expert opinion are weak arguments is not new.

In reply to this (fifth) objection, I would like to make two points. First, to say that an argument is weak is not the same as saying that an argument is defeasible. A weak argument is a fallacious argument; it is an argument in which the premises, even if true, provide merely weak support—or no real support at all—for the conclusion. On the other hand, to say that an argument is defeasible is to say that it is not deductively valid. In a good defeasible argument, the premises support the conclusion, even though it is possible that the conclusion is false even if the premises are true. In other words, the relationship of support between the premises and the conclusion can be defeated by further evidence. If my overall argument is sound, then arguments from expert opinion are not merely defeasible, they are weak (i.e., fallacious). Why? Because the fact that expert *E* says that *p* does not make it significantly more likely that *p*. Why? Because expert opinions are only slightly more accurate than chance and much less accurate than decision procedures.

Second, my overall argument, if sound, shows that “Expert *E* says that *p*” is irrelevant to “*p*,” *statistically speaking*, in much the same way that “If you don’t accept *p*, you will burn in hell” is irrelevant to whether or not *p* should be “taken to be

true” (to use Walton’s terminology). If you will really burn in hell for not accepting p , then it might be in your best interest to take p as true. But that is a pragmatic reason to act *as if* p were true, not an epistemic reason to accept p , which is why it is irrelevant to whether or not p should be “taken to be true.” If this is correct, then arguments from expert opinion are not just defeasible, they are weak (i.e., fallacious).

The sixth objection goes like this: Some might worry that my argument undermines the scientific enterprise, since science is characterized by a division of cognitive labor (cf. Kitcher 1990). If so, then arguments from expert opinion must be accepted as legitimate ways of reasoning.

In reply to this (sixth) objection, I would like to make three points. First, as I have argued above, scientists themselves rarely, if ever, establish conclusions by appealing to expertise. Instead, scientists usually appeal to observations and experiments, among other things, not to expertise. It is non-experts, rather than experts, that rely on appeals to expertise. So I don’t think that my argument poses any threat to the scientific enterprise.

Second, as I have argued in Section 1, it is important to distinguish two kinds of seemingly related arguments: appeals to agreement among experts (i.e., “most experts on S agree that p ; therefore, p ”) and appeals to expertise (i.e., “ E says that p ; therefore, p ”). If scientists rely on any of these arguments, they probably rely on the first, not the second. My argument is about the second kind of argument, not the first. So, again, my argument poses no threat to the scientific enterprise.

Third, suppose, for the sake of argument, that scientists do rely on appeals to expertise. So what? The following reasoning strikes me as fallacious: “Science cannot be done without appeals to expertise; therefore, arguments from expert opinion are strong arguments.” Even if X is a necessary requirement for doing Y , it doesn’t follow that the X requirement is met. So, even if it is the case that scientists rely on appeals to expertise in order to do science, they could still be using an entirely unreliable method of reasoning. The fact (if it is a fact) that scientists rely on method M doesn’t mean that M is a good method.

The seventh objection goes like this: All the accounts of arguments from expert opinion I have considered so far in this paper are inadequate. A better construal of arguments from expert opinion is the following:

- (1) If you accept that E is an expert on subject matter S , then you ought to accept what E says about S .

- (2) You accept that E is an expert on S .
- (3) E says that p about S .
- (4) Therefore, you ought to accept p .

Presumably, the advantage of this argument form is that the acceptance of p is conditional on the acceptance of E 's expertise.

In reply to this (seventh) objection, I would like to make two points. First, why is it that if one accepts E 's expertise, then one is obligated to accept what E says about S ? I suppose that the idea here is something like what Goodwin (2011: 293) means by "the background norm of respect for expertise." That is, if one respects expertise, then one ought to show proper respect for experts by accepting what they say. As I have argued above, however, it is not clear why one should have "respect for expertise" in the first place. Suppose that E is an expert on S insofar as E has studied S closely, has an advanced degree in S , conducts active research on S , publishes on S , lectures on S , teaches S , and so on. How do these facts about E oblige one to accept what E says about S ?

Some might think that these facts about E oblige one in an instrumental (or hypothetical) manner, rather than an intrinsic (or categorical) manner. That is, one ought to accept what E says about S if one wants to know about S , or have true beliefs about S , or succeed in an S -related activity, etc. But then the question is whether these facts about E make it significantly more likely that one will gain knowledge about S , or have true beliefs about S , or succeed in S -related activities, etc. In other words, the question is whether the fact that E is an expert makes it significantly more likely that one will gain knowledge about S , or have true beliefs about S , or succeed in S -related activities, etc. So, the question remains: does the fact that E says that p makes p significantly more likely to be true than false? That is why—and this is my second point in reply to this (seventh) objection—this construal of arguments from expert opinion does not fare better than the others.

The eighth objection goes like this: Some might be tempted to interpret my citing of experimental studies on expertise in support of the second premise in my overall argument outlined in Section 1 as an argument from expert opinion. That is, some might think that I argue as follows:

- (1) Experts on expertise say that the fact that E says that p does not make it significantly more likely that p is true.
- (2) Therefore, the fact that E says that p does not make it significantly more likely that p is true.

And thus, some might protest, by arguing that arguments from expert opinion are weak arguments, I am thereby undermining my support for the second premise in my overall argument, and thus my overall argument itself.

This interpretation of my support for the second premise in my overall argument outlined in Section 1, however, is mistaken. My argument for the second premise in my overall argument is not “Experts on expertise say that expert opinions are unreliable; therefore, expert opinions are unreliable.” Rather, my argument is that the *empirical evidence* shows that expert opinions are unreliable. Granted, I did not conduct any experimental studies on expertise. Luckily, I don’t have to. Others have done the hard work already. I may even need those who have conducted the studies to *explain* the results to me. But that doesn’t mean that I am appealing to the *expertise* of those who have conducted the studies. Explanations and arguments are not the same thing. Instead of appealing to expertise, I am appealing to the empirical evidence itself regardless of *who* conducted the experimental studies. In other words, my argument for the second premise in my overall argument is the following:

- (1) Empirical evidence gathered from experimental studies on expertise shows that the fact that E says that p does not make it significantly more likely that p is true.
- (2) Therefore, the fact that E says that p does not make it significantly more likely that p is true.

That is how I support the second premise in my overall argument. And since arguments from expert opinion are strong only if the fact that E says that p does make it significantly more likely that p is true, it follows that arguments from expert opinion are not strong arguments (i.e., they are weak or fallacious arguments).

5. Conclusion

In this paper, I have argued that arguments from expert opinion, i.e., inferences from “Expert E says that p ” to “ p ,” where the truth value of p is unknown, are weak arguments. Arguments from expert opinion are weak arguments unless the fact that an expert says that p makes p significantly more likely to be true. However, since research on expertise shows that expert opinions are only slightly more accurate than chance and much less accu-

rate than decision procedures, i.e., that “Expert E says that p ” is statistically irrelevant to whether p is true or not, it follows that arguments from expert opinion are weak (i.e., fallacious) arguments.

Acknowledgments

A version of this paper was presented at the *Long Island Philosophical Society* conference in Molloy College (April 2012). I would like to thank Glenn Statile and the audience for their useful feedback. I am also grateful to an anonymous reviewer of *Informal Logic* for helpful comments on earlier drafts.

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